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# Music Technology

THE WORLD'S PREMIER HI-TECH MUSIC MAGAZINE

JANUARY 1992

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of the  
synth



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*Tascam M2524  
Automated Mixing Desk*

*MOTU Performer  
Mac Sequencing Software*

*C-Lab Creator/Notator  
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### KURZWEIL K1200

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Simply *posing* the question suggests that Yamaha's SY99 must be a pretty significant new synthesizer – particularly when the questioner is Sound On Sound Editor Paul Ireson, in the September copy of the magazine.

But when reviewer Martin Russ answers in the same issue saying that the instrument "is closer to 'the perfect synthesizer' than any I have ever seen" and that "the SY99 is now my all time favourite" – well then you know that is one new keyboard you *have* to check out.

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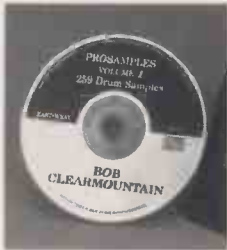
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### FACTS

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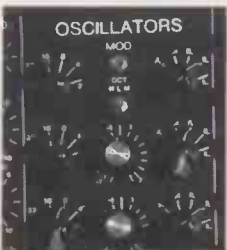
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# GOING LIVE?

I HAVE A problem with live music. Perhaps I should say I have a problem defining the dividing line between live music and non-live music. A couple of guys thrashing guitars, a drummer trashing a drum kit and a singer screaming himself (or herself) hoarse sit pretty comfortably in the "live" category. Equally, a stage full of hi-tech keyboards designed to distract you from the fact that what you're hearing is actually coming out of a DAT machine backstage is just my idea of a con trick. But replace the DAT machine with a sequencer, add a few live keyboard lines and a live vocal and I'm not so sure. Andy McCluskey's description of a four-track tape machine backing up a couple of active keyboard players, bass and vocals gave me no trouble in last month's MT. If the tape replaced the keyboards and bass I'd have felt it was the wrong side of the line, but if a sequencer had taken the place of the tape machine, I'm not so sure. You see, for me it's not just a case of saying "if it's not the result of fingers on an instrument, it's a fake".

History bears me out on this one; "live" tape manipulation has taken its place in the catalogue of live performance, as has the live sequencer manipulation of the likes of Tangerine Dream. Somehow none of this helps. Do I have your sympathy?

This isn't a new concern for me, but it was recently revived by the "new look" *Top of the Pops*. In an attempt to give the show fresh appeal, the producers have chosen to run more live material - sometimes it's a whole band, sometimes it's just a vocal. And it sounds infinitely worse. Watching the programme, the pleasure of the "told you they couldn't play their instruments" posse is almost tangible.

But it's more than that. I was present at the recording of the first series of the *Up The Junction* independent TV series. On the bill were, amongst others, Mica Paris and Beats International. Mica - on first - sang live while

her band mimed to backing tapes. The performance was competent but uninspiring. Large sections of the audience were bored to tears. When Beats Int took to the stage with a singer, two rappers and a pair of turntables, they took the place by storm. Watching the show broadcast on TV I saw Mica Paris put in what appeared to be a polished and professional performance, while Beats International sounded ragged and gutless. The camera often lies. (Incidentally, Beats recently put in another tasteful set for the current series.)

The fact is that live performance precludes any of the production techniques which we've all come to expect from recorded music. If you're in the audience for a live show, any shortcomings are made up for by the volume, the atmosphere and so on (that's the theory, anyway). None of this communicates itself via the television.

A video called *The Lost James Brown Tapes* has just been released by BMG. It's archive footage from JB's comeback in '79, which has previously been withheld from release for legal reasons - and it's good stuff. After the concert sequences there's a short interview sequence that was conducted directly after the show. At one point in this, the Godfather of Soul explains how he performs differently for the television cameras - for the reasons I've stated above.

Back in the *TOTP* studio they've now got the worst of both worlds: they're transmitting partly-live performances of music which is expected to be polished to perfection, and they're doing it without the atmosphere of the concert hall. Even with my own personal dilemma over what does and doesn't constitute live music, I've got to ask if there isn't a case for "keeping music taped". If nothing else, the performers would have the opportunity for posing as well as they know how without the inconvenience of having to sing or play at the same time. *Tg*

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Hybrid Arts' UK distributors Atlantic Audio are pleased to announce the January '92 launch of Hybrid's Digital Master, a complete hard disk recording system retailing at under £4000. The system includes all you need to get up and running - computer (Atari) with 4Meg of RAM, 100Meg hard drive, mouse, software, hardware and monitor. Comprehensive facilities on offer include 16-bit stereo sampling with 64X oversampling, MIDI and SMPTE interface, non-destructive editing, recording time of up to 14 hours, sound effects, cue page, AES/EBU digital interface, time compression and song play list capabilities. Hybrid are also building on the considerable

## MASTER OF ARTS

success of their ADAP digital recording system, with ADAP IV available now. The new version of the system can handle an impressive 14 hours of digital recording and offers 32 internal tracks with unlimited mixing. The system also multitasks, dispensing with the need to constantly open and close different applications. ADAP IV software incorporates the Custom Hybrid Arts Sound File System - "extremely fast" waveform display, non-destructive editing and the Sound Librarian, which keeps track not only of files currently "on-line" but also those

stored off-line on DAT or other removable media. The file system also allows hidden and locked files and directories and includes a text editor which is used to annotate each file's text scratch pad. The ADAP system's popularity is demonstrated by its extensive range of production credits for big-budget American films - including, to name but a few, *Honey I Shrunk the Kids*, *The Doors*, *Die Hard*, *Jean De Florette* and *Friday the 13th Part 8* - and TV, with *The Cosby Show*, *Falcon Crest* and *Poirot* being just three of the programmes featuring the ADAP

system's ability to manage sound effects.

On a slightly more down-to-earth level, Atlantic have also asked us to let you good people know about the current availability of the new version of Hybrid Arts' generic synth editor, GenEdit v2, which is, according to Atlantic, "probably the best in the industry". Watch out for a review of v2 in the near future. Still on the software front, the EZ-Score Plus v1.2 scorewriter is now available, as is SMPTETrack Gold v6.01.

More info on any of the above can be obtained from the friendly and helpful Atlantic Audio, 2nd Floor, St Mark's Building, 16 Chillingworth Road, London N7 8QJ. Tel: 071-272 8944. **Dp**

## CREATING CHAOS

Fractal music programs are becoming increasingly common and one of the newest to be generally available is Fractal Music Composer, from Fractal Music Ltd of Hornsey, London.

The program was written by Hugh McDowell, cello player with the Electric Light Orchestra, and runs on the Atari ST. All music created with Fractal Music Composer can be saved to disk in standard MIDI File format, allowing it to be used in conjunction with other music software. Mandelbrot set and Julia set fractals are used to create music

according to user-defined rules. The program also allows the creation of original fractal images which can be saved to disk and/or printed out. Simultaneous generation of music and images is also featured.

What does all this mathematical magic cost? To you, £65 plus £2 p&p, though authorised educational establishments can obtain the program for £45 plus p&p. There's also a demo disk available for seven quid post free.

Get yours from Fractal Music Ltd, PO Box 1938, Hornsey, London N8 7DZ. **Dp**

## ATARI BABY

Good news for Atari addicts - there are three new Atari ST models being unleashed upon the world as you read this. Guilty of letting the grass grow under their (musical) feet in the past, Atari have finally acknowledged the importance, not only of the musical applications of the ST, but also wider business applications (such as DTP) with the launch of three up-market STE models.

The Mega STE series comprises the Mega STE1, Mega STE2 and Mega STE4. All machines feature a faster processor at their heart - clocked at 16MHz rather than the old 8MHz rate - 16Megs of cache memory and a blitter chip. Benefits

for musicians include double the speed of support for the (ever present) onboard MIDI ports, but the machines generally are intended to be more robust and reliable than previous STs. Development Manager Robert Moffat claims the move to represent "professional series machines intended for long-term use". The new STEs should be available in quantity from January onwards and costs are as follows: Mega STE1, £695, Mega STE2, £995, Mega STE4, £1095. All prices exclude VAT. Watch for more info in MT soon.

More from Atari Corp (UK) Ltd, Atari House, Railway Terrace, Slough, Berkshire SL2 5BZ. Tel: (0753) 533344. **Tg**

## JAM TODAY

If you read last month's very positive review of Heavenly Music's Dr Beat Volume I MIDI drum patterns, you might be interested in Heavenly's new offering. RamJam is a collection of ten professionally-programmed pieces in MIDI File format, in styles ranging "from funk to fusion", specially designed for you to jam with. The whole "band" is there, so to speak, for you to chop up and rearrange as required, change keys, tempos, and so on, or

simply use as they are for practice. There's also a useful ReadMe file to help you get the best from the disk. Volume 1 is now available from Heavenly at the extremely reasonable price of £12.95 including p&p, with Volumes 2, 3 and 4 to follow. Also note that Dr Beat Volume II has recently been completed and will be available by the time you read this.

More info from Heavenly Music Ltd at 39 Garden Road, Jaywick, Near Clacton, Essex CO15 2RT. Tel: (0255) 434217. **Dp**

## TOOLED UP

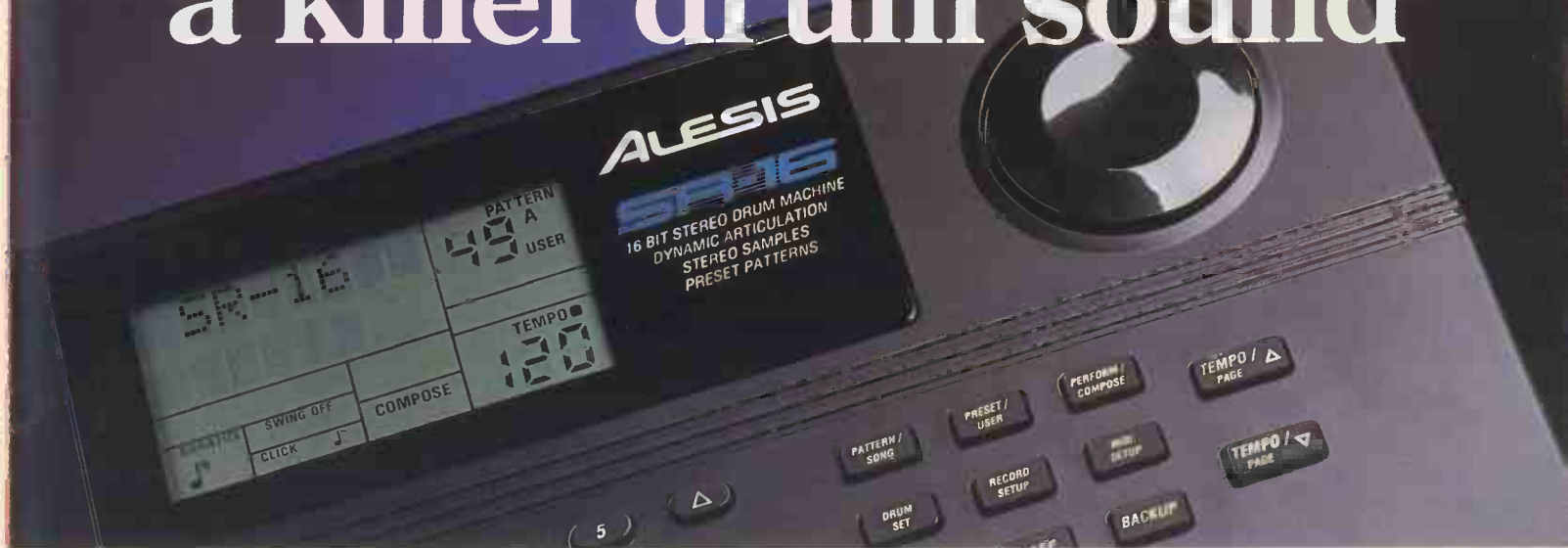
You can organise your M1 sounds for a song with Quinsoft's M1 Toolkit. For a mere £34.95 you get fast graphic operation, Programs and Combis, internal and card operation, up to 500 patches in memory, name editing, MIDI and disk utilities, standard BNK file format for use with sequencers, library printouts, name sorts "and more". The Pocket Toolkit is a

desk accessory librarian which uses only 60K of memory and offers many of the features of the main program, including Combi operation. The Toolkits run on Atari STs in colour or mono, and a demo is available to let you try before you buy.

Quinsoft distributors Patchworks have further information and will be pleased to hear from you at Frederick House, 211 Frederick Road, Hastings, East Sussex TN35 5AU. Tel: (0424) 436674. **Dp**



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## ON THE CASE



If you're at all interested in drawers (ooh no missus) then I've got a bit of news to interest you. CP Cases have introduced a new low-cost lockable rackmount drawer which fits into the standard 19" rack. Called the Road Drawer, the new unit will happily house tools, manuals, headphones, cassettes, CDs, connectors, adaptors, and all the little things you need in a studio but haven't got a place for,

in the safety of your 19" rack.

The Road Drawer is made in 2, 3 and 4-unit heights from 1.6mm sheet steel, with a black epoxy powder coat matt finish, a stainless steel finger-pull key lock and fully-extending quick-release drawer sides for easy removal. The 2U-high Road Drawer costs just £54.93 plus VAT.

Other racking items are available from CP Cases, including a conversion kit which provides cross-members for racking equipment less than standard width or height, such as CD players or cassette decks.

More info from CP Cases at Worton Hall Industrial Estate, Worton Road, Isleworth, Middlesex TW7 6ER. Tel: 081-568 1881. Fax: 081-568 1141. CP Cases welcome trade and distribution enquiries. **Dp**

## LA GEAR

In the wake of their successful 16-channel MIDI Gate, LA Audio are launching the MIDI Mute.

As the name suggests, it's a MIDI muting unit for automated muting of audio signals. LA advise

The MIDI Mute offers 32 channels of MIDI muting in a 1U-high, 19" rackmount package, and provides a full 106dB of attenuation per channel. Also featured are fully assignable MIDI channel and note ranges, 128 internal patch memories and a useful "call" facility to enable you



that quite apart from finding a home in your studio for use in recording, the MIDI Mute also has applications in live use for recording mutes which can then be played back via a sequencer or the unit's own internal patch memory.

to set up your mute patch configuration and then drop-in with a single key-press.

More info from LA Distribution, 15 Cam Square, Wilbury Way, Hitchin, Herts SG4 0TZ. Tel: (0462) 421919. Fax: (0462) 421171. **Dp**

## HARD TIMES

Active Sound UK of Hemel Hempstead are pleased to announce that they've been appointed distributors for the new Spectral Synthesis hard-disk recording and editing system for IBM PC and compatibles. The system offers up to 16 tracks of real-time recording and playback, 256 virtual tracks and

comprehensive editing facilities. As an example of the likely cost involved, a four-track system, including 80486 IBM-compatible computer, hi-res monitor, well-specified sampler with 4Mb of RAM, hard drive and all software, will weigh in at around £11,500 (ex VAT). Typical recording time for such a system would be around half-an-hour per track, though time may be

## SAMPLE GAJITS

Manchester software house Gajits Music have announced a new range of software for the Commodore Amiga. The Sample Series is a collection of reputedly high-quality digital sound samples, which can, according to the press info, help to turn your Amiga into a "formidable music machine, capable of emulating many real instruments".

The Sample Series comprises a wide variety of samples, ranging from pianos to drum sounds and special effects, and comes conveniently sorted into five separate volumes - 1. Percussion & Effects; 2. Guitars & Strings; 3. Brass & Woodwind; 4. Synth & Vocals; 5. Piano & Keyboards.

Each volume contains a comprehensive collection of samples in IFF (Interchangeable File Format), which is standard format on the Amiga, and can be used with Gajit's Sequencer One and most other Amiga music programs which support samples. As a demon-

stration of what can be done with the Sample Series, each volume also includes a specially-commissioned Sequencer One-format song which shows off the samples in that volume.

More news from Gajits is that Sequencer One will no longer include The Hit Kit composition program, which was thrown in free with Sequencer One for a limited period. However, an expanded version of The Hit Kit will soon be available as a separate program for use with Sequencer One. The Hit Kit, according to its manufacturers, can help create professional-sounding drum tracks, basslines, arpeggio patterns and even complete pieces of music. A wide range of styles, including ballad, blues, disco, house, latin and reggae, is possible.

You can get more info on any of the above from Gajits at I-Mex House, 40 Princess Street, Manchester M1 6DE. Tel: 061-236 2515. Fax: 061-236 4044. **Dp**

## BITS ON THE SIDE

It's the regular MT AMG spot again - this time with tidings of new sampling CDs from MasterBits. Sampling Collection 900, due for release this month, is the fifth in MasterBits' Sampling Collection series, and features samples of the E-Mu Pro/cussion, Roland JD800 and Korg O1/W, as well as a host of other instruments. It costs a mere £29 including VAT and delivery, or you can be the proud owner of the whole set (five CDs) for £125.

Next up is something rather special in sample CD terms - the Klaus Schultze sampling CD, a limited edition item confined to 999 CDs; no more than this will ever be

made. It features samples from the library of one of the pioneers of electronic music, including samples of many rare synths. Some of the samples on this CD have also been RSS treated. Price for this one is yet to be confirmed.

Last for this month is the MasterBits Sound Show CD, featuring music created using sounds from the MasterBits and HitSound CD ranges and Valhala's International Gold cards. The CD is available from January and costs £10.

More info, as always, from AMG at Hurst Lane, Privett, nr Alton, Hants GU34 3PL. Tel: (0730 88) 383. Fax: (0730 88) 390. (I bet that one's engraved on your brain by now. I know it is on mine.) **Dp**

dynamically allocated to suit your needs. A similar system with eight-track recording should cost around £15,500. Spectral works under the Microsoft Windows 3 graphic environment and was designed from scratch to be a multitrack system. It has "its own digital audio buss which can carry more than 100 simultaneous channels of real-time digital audio", which are routed via

the on-screen digital patchbay. Other facilities available include MIDI-controllable digital effects, non-destructive cross-fading and ten levels of undo.

More information on the Spectral Synthesis system is available from Active Sound (UK), 2 Austins Place, High Street, Hemel Hempstead, Herts HP2 5HN. Tel: (0442) 217624. Fax: (0442) 69426. **Dp**

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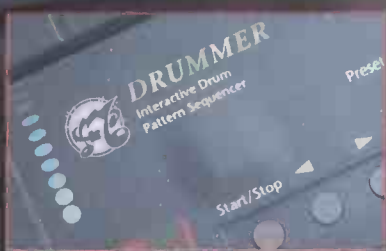
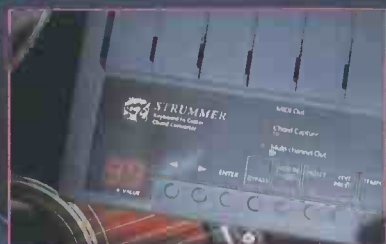
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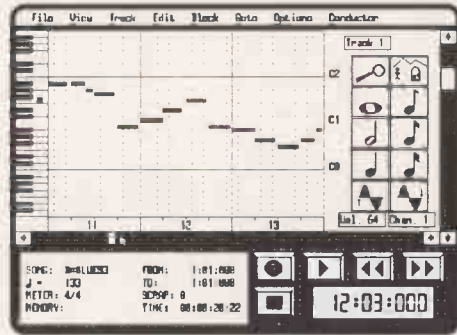
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## show stopper

I've never had cause to write to *Communiqué* before, but now I feel that I must - to complain about the recent Music Recording & Technology show which Music Technology sponsored.

Am I complaining about the exhibitors? No.

Am I complaining about the staff? No.

Am I complaining about the surroundings or layout? No.

What got me was the number of people walking about drunk (to put it politely) trying to operate tens of thousands of pounds worth of equipment and the amount of people who didn't really seem interested in the equipment at all.

These people seemed to be using the exhibition as a day out for the family - I don't object to them having a day out, but why can't they go to Alton Towers or Butlins? I know these people bring money in but it spoils it for people like myself, who are genuinely interested in music technology.

Here's one example of what happened to me: I was having a go on a Roland JD800 when, all of a sudden, this little brat came along and started yanking the modulation wheel as hard as his mits would let him. I told him to go away, but he continued to be a destructive little bastard. The synthesiser is a piece of solid-state wizardry and it should not be open to destruction by infants who are more likely to treat it like a Woolworth's toy.

This and a few other things spoilt what looked like being a promising event. This isn't an attempt to criticise the exhibition in general, basically what I'm saying is "if you're not interested in music technology or recording, get the hell out of here!"

**Nic Hancock  
Hereford**

*Sorry about my drunken relatives, Nic, they promised to stay away but. . . You know how it is. As for the destructive bastard - I suspect you've just seen ace MT reviewer Simon Trask in action.*

*Seriously, the only drunk I noticed was me, and the only children belonged to musicians whose faces I was very pleased to see. Obviously not everyone*

*attending the show takes their technology as seriously as you, and there are bound to be problems getting hands-on time on some of the gear. But that, as they say, is show business. Tg*

## photo opportunity

Could you please send me some photographs of the French musician "Jean-Michel Jarre"?

**Stephen Toole  
Liverpool**

*Only if you can send me some of the English actress "Diana Rigg". Tg*

## letters from the cutting edge

Well, you fell for the joke parts hook, line and sinker! If anyone is paranoid it's you. If you still think that keyboards are the only controllers available then you are living in the past. There are now a wealth of different controllers, even the Buchla lighting system. Just imagine raising your hand and music springing forth. I still do not see any proof besides reviews that you have ever featured except one percussion article (sic) of many years ago, that touched a little on the idea of using such string controllers a (sic) realtime percussion controllers. . .

We play many different styles from rock to Latin from blues to new age to new jazz and musics beyond (sic) and what's wrong in that approach to making music? To quote the Valcun (sic) philosophy: "IDIC", infinite (sic) combinations from infinite (sic) diversity. . .

The reference (sic) to vodka are not in my books a good sign of health (sic) living. A true musician does not drink alcohol nor smokes or does drugs. Healthy living produces good music. . .

**Martin Howard Naylor  
aka Martin Howard  
Wembley  
21/10/91**

Well you fell for the joke parts hook, line and sinker! If anyone is paranoid it's you. . .

Please try to have an open mind to other ways of playing electronic instruments. As for the argument about intuitive ability, it's more to do with timing than that idea. That is how fast does a MIDI guitar respond. A (5ms) is the best followed (sic) by class B (20ms) and class C (30ms and over). Instruments that are class A or B are good instruments with the GR50 scoring B but its older brother the GM70 scoring B+! A rather strange result. Class instruments are rare and are museum pieces. But MIDI guitars bring (sic) forth the

principles of musicianship in the form of practice, music theory and performing. They also make good compositional tools.

So there are different techniques to play MIDI guitar but in fact (sic) there's (sic) only one with variation for each instrument and what's (sic) wrong with learning (sic) technique or new ideas or do I hear the old acid of "technique spoils my music". The lack of music theory and technique has been responsible for the bad music in the charts bar the former No. 1 and any new tracks by established rock acts like Genesis, the Pet Shop Boys etc. House music circa 1990/91 is a product of musical illiteracy and bad A&R. . .

As I said I will not police you. In other words the theory of non-intervention will take place. I leave you to make up your own mind. Accept or ignore us. The choice is yours.

**Martin Howard Naylor  
aka Martin Howard  
Wembley  
21/10/91**

So you fell for the joke letter and exposed your true attitudes which leave a lot to be desired. The reference to spandex came from your advertisements for the Music Recording & Technology Show. Since when do guitarists (sic) wear spandex? I certainly do not, as you well know. I choose to wear a suit, but other guitarists including MIDI guitarists choose to wear different clothing on stage. Each to his own taste. . .

My offer stands, Tim, buy a copy of *MIDI Guitarist* and see what you are missing. Do you really think I police you lot? I have better things to do like write articles (sic) and distribute PD software etc! If you can not take a joke then you must be a bitter person at heart. As for Dan's argument, it holds no ground as I and quite a few others can prove to you. The real problem is timing. . .(sic)

**Martin Howard Naylor  
aka Martin Howard  
Wembley  
25/10/91**

*Keep me informed. Tg*

# competition

# FAMILY AFFAIR

SO CHRISTMAS IS over for another year. You've had enough turkey, enough alcohol and enough TV repeats to last you at least another year - well, maybe not enough alcohol. On top of this you've broken the Spirograph, spilt guacamole on your new Air Jordans and "someone" has crippled your faux Rolex with a magnet from a Christmas cracker. Most of all, if you never had to see certain members of your family again, it would be a fortnight too soon. So what the hell, you ask, do you need with another brother?

Well, this brother isn't the one who wrecked your Rolex, gagged on the guacamole or shagged the Spirograph. Instead, this brother will record 21,000 notes of your latest musical composition in real- or step-time, quantise and transpose them to perfection, allow you to edit them with ease, and simultaneously save and load songs and SysEx information. Not to mention being able to store the results of your labours to an onboard 3.5" disk drive. This brother is the Brother PDC100 sequencer, worth over £350.

Now that we're talking music rather than relations, here are a few more of the PDC100's virtues: it supports a tempo track, holds 32 tracks, each using MIDI's full 16 channels, and employs a 32-character backlit display to tell you what's going down - read all about it in MT's review coming next month.

But you don't get a new brother for nothing. (Ask your mum.) And here's what you're going to have to do for yours. The following questions relate to brothers in music; all you have to do is identify the group which contains the brothers in the question.



## Q1

Steve Jansen & David Sylvian

- a) Dolphin Brothers
- b) Asia
- c) Japan

## Q2

Paul & Shaun Ryder

- a) The Happy Mondays
- b) The Sundays
- c) The Saturday Night Band

## Q3

Brian & Carl Wilson

- a) The Bhundu Boys
- b) The Beach Boys
- c) The Beastie Boys

QUESTIONS ANSWERED, IT'S time to pick up the phone and call the MT Competition Hotline on **(0898) 100768**. You should call in your answers no later than Monday, 20th January, 1992 (calls cost 36p per minute cheap rate and 48p per minute at all other times). Please speak clearly and remember to leave your name and address with your answers. Readers guilty of making multiple entries will be sentenced to further time spent with their relatives.

*Our thanks go to Fausto Fabi at Bluebridge Music for this month's competition prize. For more details about the Brother PDC100 sequencer, contact Bluebridge on (0787) 476631.*

# The DPM<sup>®</sup> 2



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## LONDON SAMPLE WORKSHOP SAMPLING CD

### Poolside Drums

The London Sample Workshop's Poolside Drums project had made quite a splash in industry circles long before they became available in any form. Originally the talk was of creating the "ultimate" collection of drum and percussion samples by using nothing but the best recording and sampling gear and getting a "real live" drummer to hit "real live" drums in a "real live" acoustic environment. The samples were to be painstakingly edited and presented on disc for use by the most discerning of samplists. Although the LSW's intentions were admirable, the Poolside Drums could have become a sampling status symbol - an elite collection for

at just over an hour's worth of drum and percussion sounds recorded in the swimming pool of the Janet Adegoke Leisure Centre (formerly the White City Swimming Pool, as the sleeve notes advise us) to obtain a rich and completely natural reverb. Five hours of material were recorded using Sennheiser, Shure and AKG mics, a Neve broadcast mixer and a Sony PCM2000 DAT recorder. From there the material was sorted and edited on Digidesign's Sound Tools system.

What we're presented with on CD is 20 tracks of stick, snare drum, kick drum, hi-hat, tom, temple block, clap, Rototom, Octoban, boobam, cow bell, bull whip and cymbal samples. Each sample is recorded not in true stereo, but as a "mono pair" where each side of the stereo image is slightly differently mic'd to give greater flexibility of the recorded sound. Generally, the left-hand channel is a little drier than the right. While this arrangement *can* be used to give a stereo pair, it also gives you more choice in your sampling.

Predictably, the recorded sounds come as single strikes of single drums. Typically a drum will appear as five strikes ascending in velocity to give you a variety of sounds to choose between and also to provide the necessary material for building velocity maps.

There are also rims, rimshots, damped strikes and so on. Some of the sounds are offered gated and with digital EQ applied. In addition to single strikes, the Poolside Drums are littered with fills and other, less scripted, audio events. Recorded by accident but deliberately left unedited are drum stool squeaks, dropped drum keys, and snatches of speech ("OK", "Can I just move this mic?") - all the material you could ask for if you wanted to create the impression of a session with a real drummer doing what real drummers do best (some of it, anyway). And it's here that the Poolside Samples kick off. . .

While the LSW team have put in a lot of time on the selection and editing of the material here, we're not looking at the tidy, readily-usable collection of samples found on most sample CDs. In fact, if you didn't realise quite what the

LSW had set out to do, you could be forgiven for thinking that the disc is a mess - there's reverb everywhere, there are false starts, squeaks, distorted strikes. . . But there are meant to be. What the LSW have refused to become is arbiters of what constitutes musically valuable material and what doesn't. That's up to us. So where I might discard the squeak of a drum stool or an odd paradiddle (of which drummers are so fond), you may find a use for them. It's a clever approach to sampling - but not one which will find favour with everybody.

Another area where Poolside Drums differs from every other sampling CD I've come across is in the amount of work it requires you to put in. This isn't a convenient way of making music, it demands some heavy decision-making on your part, followed by a considerable investment of time and concentration. Choosing the actual combination of sounds which will make up your "drum kit" isn't significantly different from doing the same job on many current synths, but the type of decisions you're having to make about the sounds themselves is closer to working with a real kit than a box full of electronics.

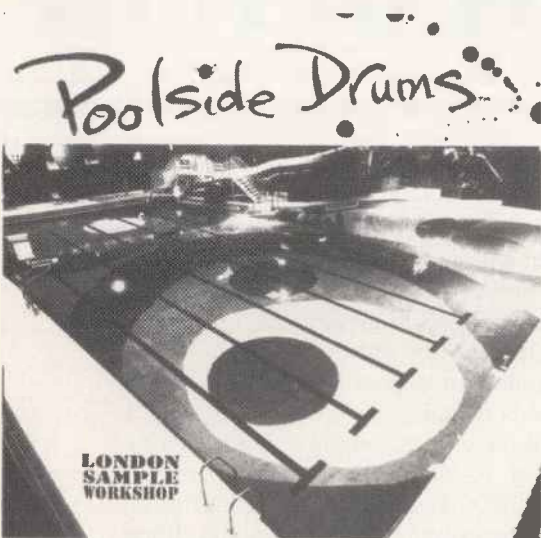
One of the main features of the Poolside Drums is the natural ambience of the swimming pool. While there's no doubt that this makes the sounds very impressive, it has to be treated with care. If, for example, you want the biggest-sounding drum kit since Phil Collins discovered gated reverb, you'll get it off this CD. But be careful how much sample memory all that reverb is eating up. Similarly, you can build up some wonderfully realistic dynamics using velocity crossfades, but you'll need the Kbytes to do it.

Fading the reverb away with your sampler's filter is the easiest compromise to make, but I got a lot of mileage from gated sounds too. However you approach the reverb, a useful trick is to add a touch of artificial reverb to smooth the edges in the mix. It sounds ridiculous after the trouble the LSW went to to get you the real thing, but it works.

If you want big drums, you'll look a long way before you better these samples. If you want to convince the world that you're not using samples, you'll do it with this CD. If you want to be sure that nobody else's sampled drums sound like yours, try Poolside. . . Just don't expect to get it on a plate. ■ **Tim Goodyer**

**Price** £49 including recorded delivery in the UK, £54 worldwide.

**More from** London Sample Workshop Ltd, PO Box 1929, London NW10 4SW.



elite producers and musicians. Happily for you and me, once all the hard work of recording and administrating the project was in hand, it became obvious that the samples could be released as a sample CD for use by the masses.

Now, the London Sample Workshop aren't your average bunch of profit-hungry businessmen. Led by some-time MT contributor and master sample merchant Tom McLaughlin, the LSW put the interests of music and musicians above such trivia as fame and riches. Part of the reason for the Workshop's existence is to create a system through which musicians providing material for sampling receive a royalty on a similar basis to that operated by the record industry. But that's another story.

Coming back to the Poolside CD, we're looking



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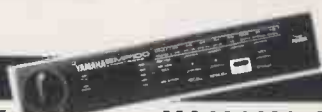


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# ON THE

# BEATBOX

## Part 26

**TAKE AWAY THE TIME-KEEPING FUNCTION OF A DRUM PATTERN AND YOU'VE GOT A RHYTHMIC CATASTROPHE, RIGHT? WRONG, YOU'VE GOT THIS MONTH'S BEATBOX PROGRAMMING FEATURE. TEXT BY NIGEL LORD.**



ONE OF THE most attractive aspects of South American and African music for me is the fact that rhythm is seldom employed simply as a time-keeping device - as it is in so much Western music. As should have become clear during our investigation of rhythmic form from both these parts of the world, it occupies a far more pivotal role in the structure of the music, and more often than not, has a marked influence on the harmonic and melodic considerations of a given song.

This realisation led me to consider just what could be achieved using contemporary rhythm programming methods if the constraint of time-keeping was removed. This isn't to suggest I was interested in producing rhythm patterns designed to be replayed at fluctuating tempi (although I might be tempted to look into it before this series is through). Rather, I simply decided to find out what could be achieved if the usual time-keeping reference points in a pattern



GRAPHY: TIM GOODYER

(bass and snare drums and hi-hats) were given a less prominent role - or a different function altogether.

I also decided that I had to achieve my objectives without recourse to rhythms which were in any way ethnic in origin (I concede that *The Beat* has, at times, begun to appear like a WOMAD-sponsored section of MT). And although I did allow myself the use of a number of instruments (primarily Latin) which could be described as "ethnic", few, if

any, would be outside the usual array of voices found on most current machines.

In many ways, I suppose you could describe these as the kind of rhythms which drummers ought to play when unaccompanied, but seldom do. Having said that, however, like many patterns we've looked at in this series, most of these examples would prove difficult, if not impossible, for one person to play on conventional instruments. Indeed, the more elaborate patterns would, I

think, prove taxing for a drummer and a full percussion section.

Anyway, the fruits of my labours can be seen in Patterns 1 to 7 and "experienced" with the aid of a couple of fingers and moderately well-equipped drum machine. More than most rhythms, these patterns lend themselves to experimentation and positively cry out for individual interpretation. Remember, their primary purpose is to sound good in their own right; though they can obviously be used as rhythm tracks within a song or piece of music, they are intended to take centre stage and not be compromised in any way by other instruments - quite the reverse, in fact.

As usual, space prevents me from including variations on each pattern, but this is what you should be striving to achieve - perhaps chaining a number of them together to provide a rhythm which shifts around a central axis. This can be achieved by naming certain instruments as the static elements of the pattern and others as being more "nomadic". As ever, the choice is yours, but bear in mind the cyclical feel of these patterns and the different role of the bass and snare drums.

The highly eclectic nature of all seven patterns precludes a detailed description of any one of them (the way I see it, if you can program them, you can categorise them). But don't forget how much variation can be achieved simply by using drier, tighter sounds or heavy, more ambient ones - or combining the two. This is particularly true of the dual snare drum parts in Patterns 2, 6 and 7 which should be assigned radically different voices if an effective contrast is to be achieved (follow the guidelines laid out in October's *On the Beat*).

As you'll see, I have stuck to 4/4 time sigs throughout, and none of this month's patterns involve triplets, so programming really couldn't be more straightforward. Just remember that achieving the right mix between instruments (something which cannot

➤ be notated on the grids) is of comparable importance to choosing the right voices - particularly when programming the more complex Patterns such as 1, 4 and 7. Remember, too, the importance of pitch in creating a degree of separation between voices - particularly the cymbal/bell combinations and the bongos/congas. Generally speaking, it's better to sacrifice the selection of the optimum pitch for an instrument when played on its own, than risk it being muddled by other instruments when played in concert. ■

PATTERN: 1d		TEMPO: 105-115BPM			
BEAT:		1	2	3	4
Clsd HiHat	◇	◇	◇	◇	◇
Open HiHat			◇		◇
Triangle	◇		◇	◇	◇
Cowbell			◇	◇	◇
Hi Agogo	◇		◇	◇	◇
Lo Agogo		◇	◇		◇
Snare Drum				◇	◇
Hi Bongo	◇	◇		◇	◇
Lo Bongo		◇		◇	◇
Hi Conga		◇	◇	◇	◇
Lo Conga			◇	◇	
Hi Timbale				◇	◇
Lo Timbale	◇		◇	◇	◇
Lo Tom			◇		◇
Bass Drum	◇	◇		◇	◇
TIME SIG: 4/4	BAR 4				

PATTERN: 2a		TEMPO: 110-125BPM			
BEAT:		1	2	3	4
Clsd HiHat	◇	◇	◇	◇	◇
Open HiHat			◇		◇
Ride Cymb	◇		◇	◇	◇
Claves			◇		◇
Cowbell	◇	◇	◇	◇	◇
Side Stick	◇	◇	◇	◇	◇
Snare Drum 1				◇	◇
Snare Drum 2				◇	◇
Lo Tom					◇
Bass Drum	◇			◇	◇
TIME SIG: 4/4	BAR 1				

PATTERN: 2b		TEMPO: 110-125BPM			
BEAT:		1	2	3	4
Clsd HiHat	◇	◇	◇	◇	◇
Open HiHat			◇		◇
Ride Cymb	◇		◇	◇	◇
Claves			◇		◇
Cowbell	◇	◇	◇	◇	◇
Side Stick	◇	◇	◇	◇	◇
Snare Drum 1				◇	◇
Snare Drum 2				◇	◇
Lo Tom					◇
Bass Drum	◇			◇	◇
TIME SIG: 4/4	BAR 2				

PATTERN: 2c		TEMPO: 110-125BPM			
BEAT:		1	2	3	4
Clsd HiHat	◇	◇	◇	◇	◇
Open HiHat			◇		◇
Ride Cymb	◇		◇	◇	◇
Claves			◇		◇
Cowbell	◇	◇	◇	◇	◇
Side Stick	◇	◇	◇	◇	◇
Snare Drum 1				◇	◇
Snare Drum 2				◇	◇
Lo Tom					◇
Bass Drum	◇			◇	◇
TIME SIG: 4/4	BAR 3				

PATTERN: 1a		TEMPO: 105-115BPM			
BEAT:		1	2	3	4
Clsd HiHat	◇	◇	◇	◇	◇
Open HiHat			◇		◇
Triangle	◇		◇	◇	◇
Cowbell			◇	◇	◇
Hi Agogo	◇		◇	◇	◇
Lo Agogo		◇	◇		◇
Snare Drum				◇	◇
Hi Bongo	◇	◇		◇	◇
Lo Bongo		◇		◇	◇
Hi Conga		◇	◇	◇	◇
Lo Conga			◇	◇	
Hi Timbale				◇	◇
Lo Timbale	◇		◇	◇	◇
Lo Tom			◇		◇
Bass Drum	◇	◇		◇	◇
TIME SIG: 4/4	BAR 1				

PATTERN: 1b		TEMPO: 105-115BPM			
BEAT:		1	2	3	4
Clsd HiHat	◇	◇	◇	◇	◇
Open HiHat			◇		◇
Triangle	◇		◇	◇	◇
Cowbell			◇	◇	◇
Hi Agogo	◇		◇	◇	◇
Lo Agogo		◇	◇		◇
Snare Drum				◇	◇
Hi Bongo	◇	◇		◇	◇
Lo Bongo		◇		◇	◇
Hi Conga		◇	◇	◇	◇
Lo Conga			◇	◇	
Hi Timbale				◇	◇
Lo Timbale	◇		◇	◇	◇
Lo Tom			◇		◇
Bass Drum	◇	◇		◇	◇
TIME SIG: 4/4	BAR 2				

PATTERN: 1c		TEMPO: 105-115BPM			
BEAT:		1	2	3	4
Clsd HiHat	◇	◇	◇	◇	◇
Open HiHat			◇		◇
Triangle	◇		◇	◇	◇
Cowbell			◇	◇	◇
Hi Agogo	◇		◇	◇	◇
Lo Agogo		◇	◇		◇
Snare Drum				◇	◇
Hi Bongo	◇	◇		◇	◇
Lo Bongo		◇		◇	◇
Hi Conga		◇	◇	◇	◇
Lo Conga			◇	◇	
Hi Timbale				◇	◇
Lo Timbale	◇		◇	◇	◇
Lo Tom			◇		◇
Bass Drum	◇	◇		◇	◇
TIME SIG: 4/4	BAR 3				

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PATTERN: 2d		TEMPO: 110-125BPM			
BEAT:		1	2	3	4
Clsd HiHat		◇	◇	◇	◇
Open HiHat			◇	◇	◇
Ride Cymb			◇	◇	◇
Claves			◇	◇	◇
Cowbell		◇	◇	◇	◇
Side Stick		◇	◇	◇	◇
Snare Drum 1			◇	◇	◇
Snare Drum 2				◇	◇
Lo Tom					◇
Bass Drum		◇			
TIME SIG: 4/4		BAR: 4			

PATTERN: 3d		TEMPO: 100-115BPM			
BEAT:		1	2	3	4
Clsd HiHat		◇	◇	◇	◇
Open HiHat			◇	◇	◇
Side Stick		◇	◇	◇	◇
Cowbell		◇	◇	◇	◇
Snare Drum				◇	◇
Lo Tom					◇
Bass Drum		◇	◇	◇	◇
TIME SIG: 4/4		BAR: 4			

PATTERN: 3a		TEMPO: 100-115BPM			
BEAT:		1	2	3	4
Clsd HiHat		◇	◇	◇	◇
Open HiHat			◇	◇	◇
Side Stick		◇	◇	◇	◇
Cowbell		◇	◇	◇	◇
Snare Drum				◇	◇
Lo Tom					◇
Bass Drum		◇	◇	◇	◇
TIME SIG: 4/4		BAR: 1			

PATTERN: 4a		TEMPO: 105-120BPM			
BEAT:		1	2	3	4
Clsd HiHat		◇	◇	◇	◇
Ride Bell			◇	◇	◇
Cowbell			◇	◇	◇
Claves			◇	◇	◇
Side Stick		◇	◇	◇	◇
Snare Drum			◇	◇	◇
Hi Bongo		◇	◇	◇	◇
Lo Bongo				◇	◇
Hi Timbale				◇	◇
Lo Timbale		◇	◇	◇	◇
Hi Tom		◇	◇	◇	◇
Lo Tom					◇
Bass Drum		◇	◇	◇	◇
TIME SIG: 4/4		BAR: 1			

PATTERN: 3b		TEMPO: 100-115BPM			
BEAT:		1	2	3	4
Clsd HiHat		◇	◇	◇	◇
Open HiHat			◇	◇	◇
Side Stick		◇	◇	◇	◇
Cowbell		◇	◇	◇	◇
Snare Drum				◇	◇
Lo Tom					◇
Bass Drum		◇	◇	◇	◇
TIME SIG: 4/4		BAR: 2			

PATTERN: 4b		TEMPO: 105-120BPM			
BEAT:		1	2	3	4
Clsd HiHat		◇	◇	◇	◇
Ride Bell			◇	◇	◇
Cowbell		◇	◇	◇	◇
Claves			◇	◇	◇
Side Stick		◇	◇	◇	◇
Snare Drum			◇	◇	◇
Hi Bongo		◇	◇	◇	◇
Lo Bongo				◇	◇
Hi Timbale				◇	◇
Lo Timbale		◇	◇	◇	◇
Hi Tom		◇	◇	◇	◇
Lo Tom					◇
Bass Drum		◇	◇	◇	◇
TIME SIG: 4/4		BAR: 2			

PATTERN: 3c		TEMPO: 100-115BPM			
BEAT:		1	2	3	4
Clsd HiHat		◇	◇	◇	◇
Open HiHat			◇	◇	◇
Side Stick		◇	◇	◇	◇
Cowbell		◇	◇	◇	◇
Snare Drum				◇	◇
Lo Tom					◇
Bass Drum		◇	◇	◇	◇
TIME SIG: 4/4		BAR: 3			

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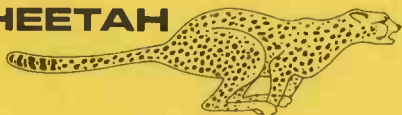
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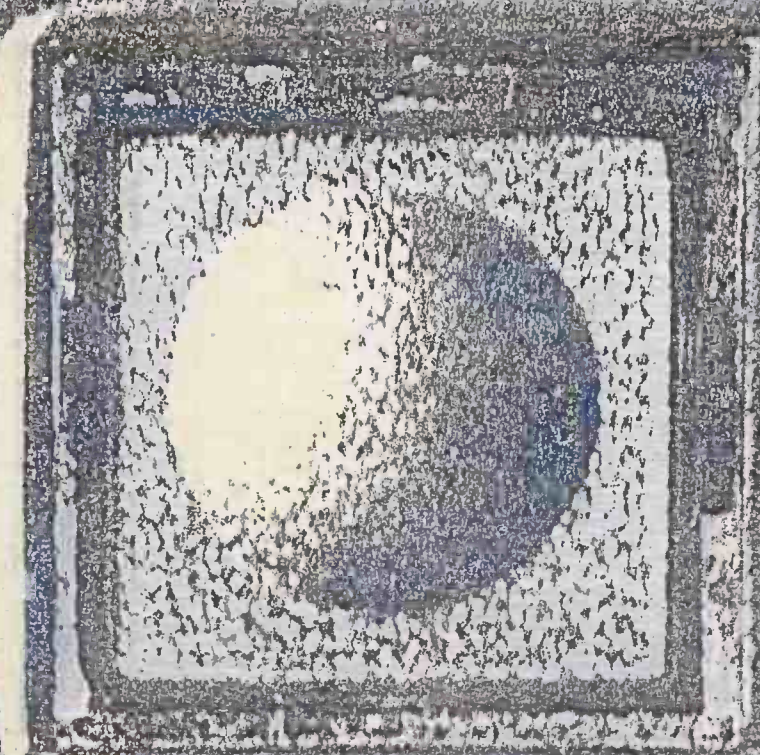


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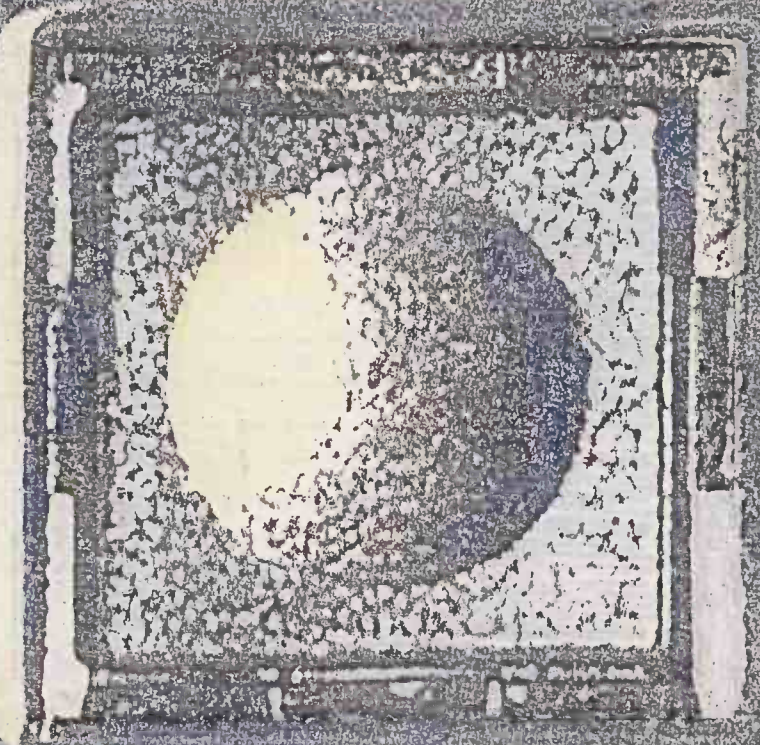
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BANK

PATTERN: 4c		TEMPO: 105-120BPM			
BEAT:		1	2	3	4
Clsd HiHat		◆	◆	◆	◆
Ride Bell			◆	◆	◆
Cowbell					
Claves		◆	◆	◆	◆
Side Stick		◆	◆	◆	◆
Snare Drum			◆	◆	◆
Hi Bongo		◆	◆	◆	◆
Lo Bongo					
Hi Timbale				◆	◆
Lo Timbale		◆	◆	◆	◆
Hi Tom		◆	◆	◆	◆
Lo Tom					◆
Bass Drum		◆	◆		◆
TIME SIG: 4/4		BAR: 3			

PATTERN: 5b		TEMPO: 115-130BPM			
BEAT:		1	2	3	4
Clsd HiHat		◆	◆	◆	◆
Open HiHat					◆
Crash Cymb					
Side Stick		◆	◆	◆	◆
Snare Drum			◆	◆	◆
Lo Timbale		◆	◆	◆	◆
Hi Timbale					
Bass Drum		◆	◆	◆	◆
TIME SIG: 4/4		BAR: 2			

PATTERN: 5c		TEMPO: 115-130BPM			
BEAT:		1	2	3	4
Clsd HiHat		◆	◆	◆	◆
Open HiHat				◆	◆
Crash Cymb					
Side Stick		◆	◆	◆	◆
Snare Drum			◆	◆	◆
Lo Timbale			◆	◆	◆
Hi Timbale				◆	◆
Bass Drum		◆	◆	◆	◆
TIME SIG: 4/4		BAR: 3			

PATTERN: 4d		TEMPO: 105-120BPM			
BEAT:		1	2	3	4
Clsd HiHat		◆	◆	◆	◆
Ride Bell		◆	◆	◆	◆
Cowbell		◆	◆	◆	◆
Claves		◆	◆	◆	◆
Side Stick		◆	◆	◆	◆
Snare Drum			◆	◆	◆
Hi Bongo		◆	◆	◆	◆
Lo Bongo			◆		
Hi Timbale				◆	◆
Lo Timbale		◆	◆	◆	◆
Hi Tom		◆	◆	◆	◆
Lo Tom					◆
Bass Drum		◆	◆		◆
TIME SIG: 4/4		BAR: 4			

PATTERN: 5d		TEMPO: 115-130BPM			
BEAT:		1	2	3	4
Clsd HiHat		◆	◆	◆	◆
Open HiHat				◆	◆
Crash Cymb					
Side Stick		◆	◆	◆	◆
Snare Drum			◆	◆	◆
Lo Timbale		◆	◆	◆	◆
Hi Timbale					
Bass Drum		◆	◆	◆	◆
TIME SIG: 4/4		BAR: 4			

PATTERN: 5a		TEMPO: 115-130BPM			
BEAT:		1	2	3	4
Clsd HiHat		◆	◆	◆	◆
Open HiHat				◆	◆
Crash Cymb		◆			
Side Stick		◆	◆	◆	◆
Snare Drum			◆	◆	◆
Lo Timbale			◆		
Hi Timbale				◆	◆
Bass Drum		◆	◆	◆	◆
TIME SIG: 4/4		BAR: 1			

PATTERN: 6a		TEMPO: 115-130BPM			
BEAT:		1	2	3	4
Clsd HiHat		◆	◆	◆	◆
Open HiHat			◆	◆	◆
Ride Bell			◆	◆	◆
Cowbell				◆	◆
Side Stick			◆	◆	◆
Snare Drum 1		◆	◆	◆	◆
Snare Drum 2			◆	◆	◆
Bass Drum		◆	◆	◆	◆
TIME SIG: 4/4		BAR: 1			



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PATTERN: 6b		TEMPO: 115-130BPM			
BEAT:		1	2	3	4
Clsd HiHat		◇	◇	◇	◇
Open HiHat			◇	◇	◇
Ride Bell			◇		◇
Cowbell		◇		◇	
Side Stick			◇	◇	◇
Snare Drum 1	◇	◇	◇	◇	◇
Snare Drum 2		◇	◇	◇	◇
Bass Drum	◇	◇	◇	◇	◇
TIME SIG: 4/4		BAR 2			

PATTERN: 7b		TEMPO: 105-120BPM			
BEAT:		1	2	3	4
Clsd HiHat		◇	◇	◇	◇
Open HiHat			◇	◇	◇
Cowbell			◇	◇	◇
Claves	◇		◇	◇	◇
Side Stick	◇		◇		◇
Snare Drum 1			◇	◇	◇
Snare Drum 2			◇	◇	◇
Hi Bongo			◇		◇
Lo Bongo	◇	◇	◇	◇	◇
Hi Conga	◇		◇	◇	◇
Lo Conga			◇	◇	◇
Lo Timbale			◇	◇	◇
Hi Timbale			◇	◇	◇
Bass Drum	◇	◇	◇	◇	◇
TIME SIG: 4/4		BAR 2			

PATTERN: 6c		TEMPO: 115-130BPM			
BEAT:		1	2	3	4
Clsd HiHat		◇	◇	◇	◇
Open HiHat			◇	◇	◇
Ride Bell			◇		◇
Cowbell		◇		◇	
Side Stick			◇	◇	◇
Snare Drum 1	◇	◇	◇	◇	◇
Snare Drum 2		◇	◇	◇	◇
Bass Drum	◇	◇	◇	◇	◇
TIME SIG: 4/4		BAR 3			

PATTERN: 7c		TEMPO: 105-120BPM			
BEAT:		1	2	3	4
Clsd HiHat		◇	◇	◇	◇
Open HiHat			◇	◇	◇
Cowbell			◇	◇	◇
Claves	◇		◇	◇	◇
Side Stick	◇		◇		◇
Snare Drum 1			◇	◇	◇
Snare Drum 2			◇	◇	◇
Hi Bongo			◇		◇
Lo Bongo	◇	◇	◇	◇	◇
Hi Conga	◇		◇	◇	◇
Lo Conga			◇	◇	◇
Lo Timbale			◇	◇	◇
Hi Timbale			◇	◇	◇
Bass Drum	◇	◇	◇	◇	◇
TIME SIG: 4/4		BAR 3			

PATTERN: 6d		TEMPO: 115-130BPM			
BEAT:		1	2	3	4
Clsd HiHat		◇	◇	◇	◇
Open HiHat			◇	◇	◇
Ride Bell			◇		◇
Cowbell		◇		◇	
Side Stick			◇	◇	◇
Snare Drum 1	◇	◇	◇	◇	◇
Snare Drum 2		◇	◇	◇	◇
Bass Drum	◇	◇	◇	◇	◇
TIME SIG: 4/4		BAR 4			

PATTERN: 7d		TEMPO: 105-120BPM			
BEAT:		1	2	3	4
Clsd HiHat		◇	◇	◇	◇
Open HiHat			◇	◇	◇
Cowbell			◇	◇	◇
Claves	◇		◇	◇	◇
Side Stick	◇		◇		◇
Snare Drum 1			◇	◇	◇
Snare Drum 2			◇	◇	◇
Hi Bongo			◇		◇
Lo Bongo	◇	◇	◇	◇	◇
Hi Conga	◇		◇	◇	◇
Lo Conga			◇	◇	◇
Lo Timbale			◇	◇	◇
Hi Timbale			◇	◇	◇
Bass Drum	◇	◇	◇	◇	◇
TIME SIG: 4/4		BAR 4			

PATTERN: 7a		TEMPO: 105-120BPM			
BEAT:		1	2	3	4
Clsd HiHat		◇	◇	◇	◇
Open HiHat			◇	◇	◇
Cowbell			◇	◇	◇
Claves	◇		◇	◇	◇
Side Stick	◇		◇		◇
Snare Drum 1			◇	◇	◇
Snare Drum 2			◇	◇	◇
Hi Bongo			◇		◇
Lo Bongo	◇	◇	◇	◇	◇
Hi Conga	◇		◇	◇	◇
Lo Conga			◇	◇	◇
Lo Timbale			◇	◇	◇
Hi Timbale			◇	◇	◇
Bass Drum	◇	◇	◇	◇	◇
TIME SIG: 4/4		BAR 1			

# MIDI TIME PIECE



PHOTOGRAPHY: JAMES CUMPSTY

Whether you're getting into computer sequencing for the first time or upgrading to a Mac, you'll need a MIDI interface, sync unit, patchbay. . . You might even need MIDI Time Piece.

Review by Vic Lennard.

**W**HILE THE ATARI ST computer has built up a reputation for being the music computer for the UK and Europe (mainly by virtue of its onboard MIDI sockets), many of those who can afford the move are swapping their STs for Apple Macs. The main incentives of such a move are improved reliability and better-quality software; one of the main drawbacks is that the Mac requires an external MIDI interface. While these are available from around £60 (for a single MIDI In) this invariably leaves you needing a MIDI patchbay to work with your other MIDI devices. Synths, drum pads,

keyboards and so on, all require patching via their MIDI Ins or Outs, or both. If you want to input MIDI Clock or MIDI Time Code while continuing to use a keyboard with your sequencer, or if two MIDI controllers are to be used at the same time, then you'll need a MIDI merge box of some sort too.

If you're working with a multitrack tape recorder, then you'll also need a SMPTE-to-MIDI clock or SMPTE-to-MTC converter to synchronise the software you're running with the recorder. It's yet another piece of hardware you have to buy.

Mark of the Unicorn are well known for their Performer/Composer software for the Mac. Their



MIDI Time Piece interface fits all the above requirements by being a MIDI interface, an eight-input/eight-output MIDI patchbay, SMPTE generator and SMPTE-to-MTC converter - in one box.

## HARDWARE

IN KEEPING WITH most professional rackmount units, MIDI Time Piece (or MTP) is black and takes up 1U of rack space. Panel lettering is in the distinctive orange of Mark of the Unicorn.

The front panel contains LEDs to show you what is currently going on within the unit. There are eight LEDs for each of the MIDI Ins and MIDI Outs, and two more for SMPTE lock and MTC Full Frame message. The latter also doubles as the power-on LED.

In the centre of the front panel is a mode switch.

16 MIDI system. Consequently, the LEDs on the front panel have dual numbering; 1/9, 2/10 and so on. A further switch lets you select between on/off, 1-8 and 9-16 settings for this reason. Finally, MIDI In and Out 8 are on the front panel. The MIDI Out duplicates the rear-panel socket, while the MIDI In appears on the front panel only. It's a convenient provision - the last thing you want to do is to have to hunt around the rear of a racking unit for a MIDI In and Out when someone provides you with an extra MIDI controller or module during a session.

MTP's rear panel is completely filled with sockets: eight MIDI Outs and seven MIDI Ins, quarter-inch jack socket Audio In and Out for SMPTE and a 9V external PSU socket. There are also three Mac DIN-8 sockets; the first of these connects to either the modem or printer port on the rear of the Mac, the second



With this you can select standard 1MHz async, which all Mac sequencer software accepts, or Fast 1X which is specifically for MOTU's Performer. This setting transmits MIDI data to and from the Mac at the fastest speed the Mac in use can handle - typically this can be four times the standard MIDI rate. As eight independent MIDI Ins and Outs are supported, with up to 128 independent MIDI channels of data on output, this faster rate will cure the problems of MIDI choking (where data is audibly slowed down). Hopefully other sequencer software manufacturers will support this facility in time. The mode switch also has a third position for straight-through connection to either a printer or modem, depending on which port on the Mac has been used.

Two MTPs can be linked together to provide a 16 x

provides a direct-through connection to the device which is supposed to be connected to the Mac serial port in use (modem or printer), and the third is the Network Out for connection to a second MTP or another MIDI interface.

Included in the package is the PSU and a couple of eight-foot DIN-8 cables; one for connection to the Mac and the other to either your printer or modem on the through port.

## SOFTWARE CONFIG

INCLUDED WITH MIDI Time Piece is a disk containing a Mac desk accessory. This allows you to configure the MTP to harmonise with your particular setup, and to then save the settings. Consequently, ➤

**“If you're sequencing with Performer, you have to consider buying MIDI Time Piece - the facilities are little short of excellent for the price.”**

➤ you only need to configure the unit once.

The desk accessory appears on the menu bar and checks the modem and printer ports for MTPs, warning you if it can't find one (this usually means that you haven't turned the unit on). The MTP menu heading then pops up, under which there are seven headings.

The first of these is Network Configuration, which shows you how your Mac and MTP system is currently connected. The rear of the Mac is shown, as is the rear of any MTPs that have been found, along with the connections, which also show precisely which ports are connected. If you change anything about the configuration, like changing the front panel switch from 1MHz to Fast, a click on the Status icon re-checks the system and then redraws the configuration. The diagram for a single MTP is quite simple, but as you can connect four MTPs in total (two each to the modem and printer ports) it's important to check that the system is configured as you intended.

Next menu option is Cable Routing. This displays a 16 x 16 grid to represent the 16 possible MIDI Ins and Outs of two MTPs. Unfortunately, the desk accessory doesn't "grey out" Ins and Outs 9 to 16 when you have only one MTP connected - it would make the setting up of the cabling grid easier. There are two additional rows and columns for the input and output to the Mac and the Network Out on the MTP. The latter is so that you can determine whether some of the MIDI connections are to go to another MIDI interface. You might want to use this in conjunction with your existing interface, especially if you're using a large number of handshaking connections. This may be the case if you're dealing with System Exclusive in the form of parameter changes within a sequence or bulk dumps to a patch librarian.

The third option is for Channel Mapping. Here you can channelise MIDI data on both input and output. Initially, this appears to be a daunting task; you're presented with a 16 x 16 grid from which you can set a destination MIDI channel dependent on the incoming MIDI channel for each MIDI In. There's a second 16 x 16 grid for re-channelising MIDI data from the MIDI Outs. There are various reasons why you might want to do this. Some MIDI devices, like the first DX7, operate on a fixed MIDI channel. Admittedly, you could rechannelise via the soft Thru of most sequencers, but remember that MTP is operating here as a MIDI patchbay.

Fourth is Event Muting, which brings more 16 x 16 grids. Two, to be precise; one for input and the other for output. You can select for each MIDI In and Out precisely which type of MIDI data is to be filtered (why not call it Event Filtering?). It's nice to see Active Sensing given a slot of its own - it's frequently grouped together with the other System Real Time messages like MIDI Clock, Start, Stop and Continue. The remainder of these are in a single group termed Realltime. It's a shame, though, that all MIDI

Controllers are in a single group; there's a lot to be said for being able to mute certain of the Channel Mode messages which co-habit in this group. For example, All Notes Off cannot be filtered without filtering out all MIDI Controller data.

MIDI Sync lets you dictate the format to which incoming SMPTE is converted. MIDI Time Code (MTC) and Enhanced Direct Time Lock (DTLe) are the two options (DTLe is for use with Performer). There's no support for MIDI Clock, but apart from Trax, all Mac sequencers support MTC. You can also transmit MTC or DTLe from any combination of outputs; stripe MIDI starts the SMPTE generator in motion; select the frame rate, Start and Stop times along with the actual output level of the SMPTE tone - cheaper units certainly don't offer this. Finally there's a SMPTE Reader which shows the frame rate, format and incoming port.

Since you'll spend quite a few hours setting this lot up, MTP also offers a Save To Disk option so that you can reload your settings in the future. You can also save a default set to the MTP's own internal memory; this is battery backed-up, so it's advisable to also save to disk.

## VERDICT

BEFORE ASSESSING MIDI Time Piece you have to consider what you're getting for your money: SMPTE read/write interface, Mac interface and 8 x 8 MIDI patchbay. You certainly couldn't buy those individual items for the asking price of MTP.

The unit isn't without its flaws, however. Firstly, the multiple 16 x 16 grids are rather user unfriendly. There's no naming of MIDI devices, which means that you either have to know your MIDI system well or keep everything written down on paper. Secondly, only Performer supports all of MTP's features. If you're using Cubase, for example, you can access the eight MIDI Outs but can't edit the interface via its menu options, as Cubase takes over the port connecting the Mac to the MTP. Consequently, the default settings have to suffice - this severely restricts use of the MIDI patchbay. This is probably also true with other non-MOTU software, although I was unable to check this. If you have other software, it's worth checking with the distributor as to how far that software is compatible with the MTP.

If you're using Performer, then you have to consider going for MIDI Time Piece - the facilities it offers are little short of excellent for the price. However, if you aren't using Performer or don't actually need 128 different MIDI channels (or already have a MIDI patchbay), then it's also worth considering something like JL Cooper's SyncLink, which costs less than a third of the price and still offers 32 distinct MIDI channels, SMPTE read/write and MTC conversion. The choice is yours, as they say. ■

**Price** £495 including VAT.

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**YOU'VE PROBABLY ALREADY HEARD THE BUZZ ABOUT ROLAND'S "REVOLUTIONARY"  
RSS 3D SOUND SYSTEM, BUT WHAT DOES IT PROFESS TO DO AND HOW?**

**TEXT BY VIC LENNARD.**

ONE OF THE major developments in the history of sound reproduction was that of stereo. With it came a fresh set of possibilities - not just in the novelty of hearing someone apparently "walk" from one speaker enclosure to the other, nor from the abundance of stereo effects that take advantage of this two-enclosure system, but from such things as the placement of instruments to create the impression of the physical presence of their players. Essentially, stereo was a huge step forward in recreating the sounds of the real world.

The sounds of the real world, however, are more complicated still than those available from a conventional stereo system. The logical line of development was to use more speakers. In the '70s the Hafler system, two amplifier/speaker pairs were used - to the left and right were the left and right stereo images as usual, while in front was the sum of the stereo images and at the rear, the difference.

Consequently, the front speaker emphasised sounds that the two stereo speakers had most in common while the rear speaker provided ambience, or audio information at the edges of the stereo image. While it offered a more natural sound image than stereo from a conventional stereo source, this system had various drawbacks. The main one of these was that it required two amplifiers, two sets of speakers and a large listening area.

Another alternative system uses the IMX Stereo Expander (which can be found on many cheap Tandy graphic equalisers). This uses a mixture of in-phase and out-of-phase signals to give a spacious quality on playback, with the balance between the two phases dictating the depth of the effect. Again any sound source can be used, but the result is quite disappointing. Spacey, yes, but in a directionless manner.

Neither of the above methods are

capable of "placing" a specific instrument or part of a sound; instead they affect the entire stereo image. To be able to locate, say, a piano in the stereo image requires the encoding of the original recording in some way.

An alternative approach to that of multi-speaker systems is to "encode" sounds to be replayed on a stereo system such that they sound to human ears as if they exist outside the stereo field. While it can be argued that it's scientifically impossible to create a true 3D image from just two loudspeakers, the success of systems which attempt to do this vary from person to person.

Some time ago, Roland embarked upon a line of research and development intended to provide a more realistic image from an electronic piano using a built-in pair of loudspeakers. The culmination of the years of research which followed is the Roland Sound Space system - RSS.



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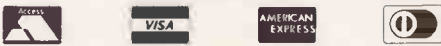
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## BACKGROUND

THE ORIGINAL STEREO recording technique involved a pair of identical microphones crossed at 90 degrees. While this process records the ambience of the recording environment, it's often too imprecise to locate specific instruments. Better localisation is obtained by individually recording each instrument - as in present multitrack practice. The recording then has to be treated with reverberation to recreate the ambience of a "real" acoustic environment. This is necessary because the panning of each instrument only moves it around within the stereo image; the "depth" of that image has to be artificially created.

Over 30 years ago, the idea of accurate binaural recording was investigated. Analysis was made of the way in which the human ear responds to sound by the use of a dummy head with microphones inserted where the ears would be. This facilitates faithful sound recording as long as reproduction is achieved using headphones. One exponent of this technique was Hugo Zucherelli, who used a dummy head fitted not only with microphones for the ears, but also with transducers to pick up the vibrations through the skull's bone formation. "Holophonics", as he called his technology, was used on various early 1980s recordings from Pink Floyd and the Cure. However, there were problems in getting binaural recordings to sound correct on a loudspeaker system, which is why the idea never really caught on.

In part this is due to "transaural effects". These occur only when you listen to sound via loudspeakers; due to the dissipation of sound in the air, your right ear not only gets the signal from the right speaker but also part of the signal from the left speaker. With a binaural recording, this crosstalk destroys the integrity of the image, which is dependent on the correct component of the signal being heard by each ear.

While the use of a dummy head allows reasonable accuracy in the recording of data for the creation of binaural recording, using humans gives more accurate results (due to our composition and the manner in which we absorb sound). By locating microphones in the ear canals it's possible to analyse the results using a Fast Fourier Transform (FFT) and to create a database of characteristics of sound depending on the position of the sound source.

Roland's solution to the transaural problem is to transmit an out-of-phase

version of the right-hand signal from the left-hand speaker with a compensating time delay, and a delayed, out-of-phase, right-hand signal from the left. Without delving too far into the technical aspects, the attributes of the binaural database are programmed into a Digital Signal Processor (DSP) chip which, along with the transaural compensation processor, then alters incoming sound to produce the RSS psychoacoustic effect.

One shortcoming of RSS, and indeed any binaural system, is that to receive the full effect of the recording, there is a specific listening position at which the recording will be most graphic in its aural illusion. This position is on the bisection of the lines of the speakers, and such that there is an angle of 60 degrees between the speakers. At this point the time delay for the transaural compensation is optimised. Acceptable results can be heard at most other positions on the bisector, but results are less convincing if the listener is off this line.

## ROLAND RSS

THE COMPLETE SYSTEM comprises three elements; the RSS-8048 Sound Space Processor, two ADA-8024 analogue-digital-analogue converters and SCC-8004 Sound Space Controller. The RSS-8048 is capable of processing up to four independent signals, each of which then require stereo outputs; consequently, the ADA-8024 has two analogue inputs, one output and two input digital (optical) connections and two pairs of stereo analogue outputs with rear-panel switches for emphasis on/off and sampling frequency selection (44.1kHz/48kHz). They also offer the best digital quality currently available, with 18-bit linear analogue-digital and 20-bit linear digital-analogue conversions. The RSS-8048 is also on the leading edge of current technology with 24-bit signal processing. The simplicity of the front panels of both the processor and converters bely the power within - only input level meters and status LEDs for the sampling rate and emphasis are visible on the ADA-8024, while the RSS-8048 simply has the remote channel number.

Control over the power within the system is exercised through the SCC-8004 remote controller, a most futuristic-looking device which can actually control up to 16 different RSS-8048s by the use of different remote ID numbers.

The way in which RSS is used to facilitate full control over the positioning of the processed signal can be considered

as follows: if you imagine that you are seated at the centre of the earth, you need control over two aspects of the sound position. The height of the source above or below you puts the signal onto a circle (effectively latitude) around which it can travel, so you also need to know its position on that circle. The height is termed Elevation while the position within the circle is the Azimuth; there are four sets of rotary controls for these on the controller, one set for each channel.

As rotaries go, these are the business. Perfectly smooth in rotation, they are unlikely to be mechanical, especially bearing in mind their accuracy; I'd be prepared to bet that they are operated by optical vanes. They resemble large alpha wheels - a Roland speciality - around which there are 36 LEDs split between red and green; the colour shows when you have changed the sense of movement. In the case of Elevation this will be from top to bottom, while for Azimuth this shows change from front to rear. The actual position of the wheel is far more accurate; a change of position is transmitted to the processor every three degrees, giving 120 possible positions.

Above each channel is an accurate, 12-segment bar meter showing the operating level in dBs below clipping. While the four channels can each be run independently, it's also possible to work them in stereo pairs with either of the controls acting for both. For instance, you could take a stereo drum image and effect both sides of the signal by rotating one or other of the pair of controls. This is true for either the Azimuth or Elevation rotaries. This stereo facility is brought into operation by pressing the Link button. There is also the facility to have the rotaries acting in different directions; one clockwise, the other anti-clockwise. This is activated by pressing the Mode button while using the Link function.

## RSS AND MIDI

THE ONLY OTHER button of real interest on the remote is the Send button. This transmits the current positions of all eight rotaries via MIDI. While RSS operates in the digital domain, all movements of the rotaries - and hence the position of sounds in the three-dimensional sound field - can be recorded on a MIDI sequencer, which then recreates their movements on playback. Roland have decided to use a feature which is rarely used on MIDI devices; Polyphonic Aftertouch. Few keyboards transmit this, and even fewer sound modules recognise

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WARNING: DATAFILE ONE was the world's first dance sample-CD (released May '91). At  
least one other sample CD has appeared containing stolen original ZERO-G  
samples. Do not fall into the trap of buying the same samples twice!

➤ it. Polyphonic Aftertouch allows different values of aftertouch for individual notes, as opposed to Channel Aftertouch, which usually averages the total pressure currently being exerted on notes being played.

The MIDI Note number corresponds to the Azimuth position, with the 120 notes between C-2 and B7 being used, while the pressure value is used for Elevation, with values between 0-119 being used here. The use of 120 values of MIDI information means that the resolution of the rotary controls is kept on playback of movements via MIDI - an important point. The system requires a two-way (handshake) MIDI connection; the return of the MIDI data from the sequencer via playback or a "soft" Thru is used to show the current rotary positions via the LEDs; without the MIDI return connection to the Controller, the LEDs don't light up.

There is a fundamental problem regarding the use of poly aftertouch in this manner; you can't individually record Azimuth and Elevation on separate takes of the sequencer. Both sets of information for one channel have to be recorded via MIDI in one take. And with the high resolution of the rotaries, this is awkward to say the least. It would have been more sensible to have either used a couple of undefined MIDI Controllers or, even better, Non-Registered Parameter Numbers which exist specifically for this kind of situation. Perhaps Roland will change this in the future.

## IN USE

AS ALL MONITORING systems are different, there is a setup procedure to follow when first installing RSS into a system. Using a hidden mode, a continuous sound playing back from the speakers is used to set the Level of Effect and Crosstalk Cancellation Angle. The former adjusts the level of direct signal, while the latter is used to fix the outer limits of the Azimuth. Once completed, the settings are sent to the Processor and remain in memory until changed again. The RSS system is then ready for use.

RSS is certainly mixer-channel hungry, requiring four sends and eight returns. The sends can be via auxiliary outputs or individual channel direct outputs, the input and output levels of the ADA-8024 being set at +4dBm. Having set the returns on the desk, it's then a matter of fishing through the audio signals to find those on which RSS has the required effect. This may be a dramatic result, such as moving a sound around a complete circle with the Azimuth control, moving a solo instrument

through a figure of eight using Link and Mode or simply a widening of the stereo image by lifting the Elevation a little and setting the Azimuth to create additional width beyond the speakers.

Different types of sound respond to RSS treatment in different ways. To my ear, those with high-frequency content tend to work least well - hi-hat, cabasa, cymbals and the like can be disappointing. Kerry Hopwood - engineer for Tim Simenon (whose single 'Winter in July' was recently used to premiere RSS on BBC's *Tomorrow's World* programme) - suggested that it was the more harmonically complex sounds which gave him problems.

Whatever your impression of RSS-treated material, the effects are due to the fact that the treatment changes the tonal colouration of a sound as it moves it around; the greater the high-frequency content, the more I become aware of that tonal change. This type of change does occur in real life, however. If you stretch an arm above your head and click your fingers and then slowly bring your arm down in an arc continuing to make the same sound as you go, you'll find that the tone of the click changes. Roland have attempted to duplicate this effect, but the tonal changes are currently too severe for my tastes. This is an area which is being investigated; if Roland can get this right, then RSS may well be able to manipulate all types of sound with equal success. However, it's worth bearing in mind that a severe change in tone only occurs when RSS is being used to its extreme; the same can be said of aural exciters and other enhancers, although I'm not implying that such devices could synthesise the RSS effect.

RSS seems to be at its most effective when operating on sounds free of reverb or other effects. This could be because the reverb effect is restricted to the normal stereo image and so attempts to pull the sound back into the stereo image. One interesting effect is to put the reverb from a sound through two channels of RSS, one side moved to the furthest left while the other is just pulled slightly to the right. This assymetrical placing is quite off-putting and certainly enhances the stereo image effectively. A similar effect on a piano or other stereo-panned instrument is equally dramatic.

Slowly-moving sounds benefit most from RSS; you can clearly visualise a position associated with the movement. However, the precise positions of movement are very much down to individual interpretation. Some will clearly hear a sound moving behind them, while others will just hear it moving over their shoulder. Either way, the

sound certainly moves outside of the confines of the stereo image. When I first heard a demonstration of RSS, I heard a buzzing sound coming some metres from behind my head - and then realised that my back was against a brick wall. . .

The MIDI side of RSS is in many ways a bonus. The ability to be able to concentrate on a particular part of a mix, record it to a sequencer and then continue, safe in the knowledge that the movements just made will not need to be recreated at mixdown, is reassuring to say the least.

Finally, RSS appears to playback well via a monophonic system, and it is this aspect which augurs well for its future TV and radio usage.

## VERDICT

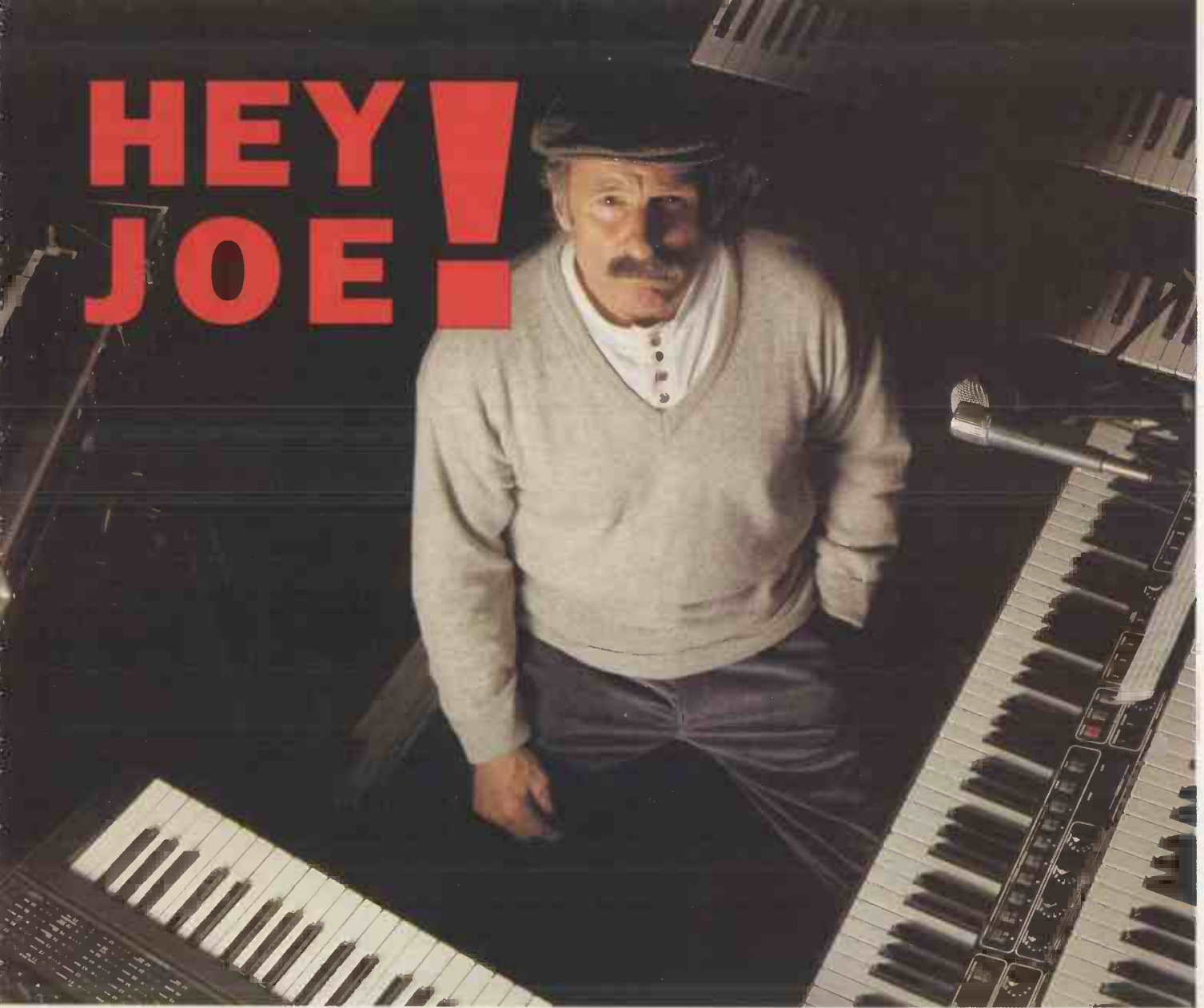
THE COST OF the complete RSS system hasn't been mentioned. It's £25,300 (if you need to ask whether this includes VAT, you can't afford the system; actually the price is exclusive of VAT). I don't think many studios will be adding RSS to their armoury, but a day's hire for RSS to be used on a final mix isn't out of the question. The current system is very easy to use; you can be connected and up and running within an hour.

You should soon be able to decide how well the system works for yourself - if you haven't already. There are now several recordings available which have used RSS and these include Bomb the Bass' 'Winter In July'. The b-side of the follow-up, 'The Air You Breathe', is called 'Liquid Metal' and RSS is heavily used on this too. 'Spiritual High' by Moodswings featuring Chrissie Hynde, uses RSS, while on the album side there is *Cooltide* by John Martyn, *Flashpoint* by the Rolling Stones (their producer, Chris Kimsey, was one of the first people to use the 1990 prototype) and the forthcoming Swing Out Sister album. Perhaps the best opportunity to check out the musical uses of RSS for yourself is on the sample CD *Pascal Gabriel's Dance Samples* (reviewed MT, December '91), which has a section of treated sounds which you can sample and try in the context of your own songs.

With a company like Roland behind RSS, it's likely to have a healthy future. With stereo TV receivers quickly becoming a domestic standard, film soundtracks may be one of the beneficiaries of RSS. Three-D radio adverts are another realistic possibility for the near future - the next time you think that the rear speakers in your car are performing particularly well, just remember that you haven't actually got any. ■



# HEY! JOE!



PHOTOGRAPHY: JAMES CUMPSTY

***For 15 years, keyboardman Joe Zawinul was the driving force behind Weather Report; today he's leading The Zawinul Syndicate and still master of the synthesiser.***

***Interview by Simon Trask.***

**SYNTHESISERS.** COUNTLESS MUSICIANS USE 'em, but relatively few have managed to establish their own unique, instantly-identifiable voice on them. One musician who long ago managed to do just that is Joe Zawinul, co-founder with saxophonist Wayne Shorter of perhaps the greatest fusion group of all time, Weather Report. "The music is a soundtrack for your imagination and head", Zawinul was quoted as saying in the sleeve notes to the very first Weather Report album (back in 1971), yet if the group's music was ever cerebral it was never wholly that. What has always made Weather Report's music special, and given it its lasting impact, has been its ability to communicate on a deeply emotional level - to touch not only the mind but also the body, heart and soul of the listener. Where so much fusion is about cleverness and surface gloss,

leaving you with the feeling that the music's only purpose is to demonstrate the technical prowess of the musicians playing it, in Weather Report's music technical prowess has always been subservient to a deeper meaning - the conveyor of the message rather than the message itself.

Zawinul's evocative synth textures were at the heart of Weather Report's music in more ways than one, providing both its musical and its emotional mainstay. In truth, any instrument is no more than what you make of it. Emotion and authenticity can only come from the musician to be transmitted through the instrument to the listener; in the right hands, a synthesiser is no less effective a conduit than any other instrument. No-one has proved this more effectively than Joe Zawinul.





➤ Although Weather Report made their last forecast in 1986 with *This Is This*, their 15th album (16th if you count the Japanese-issue *Live In Tokyo* double album from '72), Zawinul didn't hang up his famous skullcap, switch off his synths and opt for a life of leisure. Instead, he led the touring band Weather Update for a while, then formed a new band The Zawinul Syndicate and released *The Immigrants* and *Black Water* in '88 and '89. Work on a third Zawinul Syndicate album was put on hold while he produced Malian singer Salif Keita's latest album, *Amen*, but recording has since been completed, with just the mixing left to be done - apparently, Zawinul is going to bring in Roland's RSS 3D sound imaging system - and then the finished album, to be titled *Patriotism*, should be released in March.

In June '91, Zawinul and the band proved themselves a live force to be reckoned with when they flew into London and played a couple of storming nights at the Jazz Cafe. A return two-night engagement in early November as part of a lengthy European tour provided an opportunity to meet up with the man who has been an inspiration to so many synth players over the years - and whose music is now being discovered by a new generation of musicians armed with samplers.

Zawinul greets me at the door to his hotel suite

with a firm handshake. In person he's a stocky, muscular figure, medium height with a gravelly voice and a warm but intense gaze matched by a warm but intense manner. He looks in good shape - you wouldn't believe he will be 60 years old this year.

As we settle down to chat, I start by asking him what he thinks of the notion of the synth hero.

"I don't relate to this at all, and I don't care about it", he replies. "I like when people like my music, and that's all I need. All I want is that the music is being interpreted correctly and then everything is going to be fine. I don't have to be no hero or nothing, it doesn't mean anything to me."

Well, that's that one sorted. So how does Zawinul view the instrument which has been his chosen medium of expression for almost 20 years?

"I don't overrate the synthesiser", he replies. "It's nothing but a tool, like a trumpet is a tool. The synthesiser is always put in the category of the piano just because of the keys, which I think is absurd, because it is not more related to a piano than any other instrument. It's a totally different instrument, only it's triggered by something that maybe a piano player might understand better than a trumpet player, say.

"I never was one to translate what I would play on an acoustic piano to a synthesiser, and I think the fault of many synthesists today is that they do just that. They only use the synthesiser for the curiosity of a sound, they don't phrase for that sound. They still phrase like they would play the acoustic piano, and therefore they sound funny, comical at times, because it doesn't make it. Even the good synthesiser players, even the famous ones, I hear that often they sound stiff on different sounds because they look at the keys and play more like they're keyboard players, but you cannot do it, because the tool changes the moment the sound changes. You must move from a hammer, maybe, to some pliers.

"I have for instance developed a violin sound on the T8 which will knock everyone out. Period. It's all on touch sensitivity. But you've got to play it like a violin, not as if you're playing it on a keyboard. You've got to feel it. You've got to feel every sound and you've got to practice every sound, 'cos every sound is to be played differently.

"Let me tell you something. I've played many instruments. Synthesiser is by far the most difficult instrument, when you really want to play it well, because you've got to live with each sound, you've got to become that sound. It doesn't mean you have to change personality all the time. It's like a decathlon, where you have to go from the high hurdles to the discus throw to the hammer to the shotput to the pole-vault. You've got to be quick, and when I play I'm very quick. For me, growing up with an instrument which did that, the accordion, it was no problem."

Zawinul began playing the accordion when he was five years old, back in his native Austria, and has returned to it in recent years, using it on a track from *Black Water* called 'Medicine Man', and also on Salif Keita's album.

Listening to 'Medicine Man', it's striking how well the sound of the accordion fits into the characteristic



Zawinul sound world. He was once quoted as saying that the accordion was the original synthesiser. So did the instrument influence his conception of the synthesiser?

"I think so, subconsciously", he replies, "because also then I made my music according to the sound. On an accordion you have different registers, meaning whenever you hit one of those registers it gets another sound up, you can change the sound."

Zawinul also discovered a more unorthodox means of changing the accordion's sound: "I had arranged a piece of music called 'The Caliph of Baghdad', but the tone I had on the accordion was not quite what I needed, so I took the soundboard off and glued in some material which changed the sound to a nasal type of sound, almost a double-reed instrument. The closest I would say I came to it with the synthesiser was the ARP sound on the melody of 'Black Market', a nice mellow tone and yet you couldn't miss it. So yes, I'd say the accordion was without a question the real father of the whole synthesiser movement!"

In the past few years, Zawinul has been playing a MIDI controller instrument which goes by the endearing name of Pepe. Don't be surprised if you haven't come across it in your local music emporium, however, as there's only one in existence. Conceptually a cross between a wind instrument and an accordion, it was designed by Zawinul and built - reportedly at a cost of \$40,000 - by Korg. Playing it involves blowing into one end of what looks like a microphone gooseneck while pressing buttons on the main body of the instrument to select the notes and to change registers. It does look a little unusual, but Zawinul is fluent on it, and uses it at the Jazz Cafe to play saxophone solos, triggering a sax sample on his Korg M1R.

"By having the breath control I can do many things with it", he says. "If you blow into a saxophone you get a tone, and then what you *do* with this tone is what's happening. The notes you play are important, but also what you do with the sound of those notes. And with Pepe I have it right there in front of me."

In case you're wondering how Korg came to be producing the instrument, Zawinul has been involved with the company informally since 1977.

"They came to me when I was in Tokyo with Weather Report and I met this man, Ryo Takahashi, a very kind human being", he recalls. "They were fans of my music and they said how much they were interested if I would try out their instruments and tell them what could be made a little different and a little better. Nothing was ever signed. I just felt they were very sincere in making good instruments, and that was good enough for me."

As you'll see from the equipment list at the end of this interview, Zawinul uses a lot of Korg gear on stage. He also uses a mixture of analogue and digital synths. In fact, at the Jazz Cafe he divided his time mostly between the M1 and the T8. The Wavestation, being the most recent addition to his setup, was used sparingly but tellingly, always making an impact when it came in. The 707, which sat atop the T8, was used primarily as the MIDI input for the vocoder, but came through very effectively at one point with a harmonica

sound. The two DSM1s appeared to be confined to occasional orchestral hits.

Courtesy of a MIDI routing box which was custom-designed for him by one of his former keyboard techs, Jim Swanson, Zawinul is able to route any of his keyboards to any of his expanders. Another feature of the Zawinul live setup - one which he has made use of for many years - is a semi-circular spread of 11 volume pedals, each one of which is labelled with the name of the instrument it's plugged into. Using these pedals in conjunction with the routing of the MIDI box, he's able to spontaneously layer and balance sounds on different combinations of instruments.

"It's good because you're working with your dynamics. Sometimes something a little louder is good, and you bring it in softly and you can just deal with it. Or you can bring something in and out very quickly. It's not for everybody. You have to be really coordinated. I forgot one change last night."

Zawinul seems to be able to get the results he wants out of any synth, whether it's analogue or digital. But where does he stand in the eternal analogue versus digital debate?

"Well, I tell you something, man, I still use my old instruments. The Prophet T8, the Rhodes Chroma Expander, the Oberheim Xpander. . . These are my three main analogue instruments that I have used for years. For me it's analogue, because analogue has that little uncleanliness, and for me that's part of music. No natural instrument in the world is totally clean. None. And that makes music, that's part of the ambience, for me. Often when I have a sound, I create a little growl thing in there, I can maybe just put a little noise on it to give it that humanity."

So which synth out of the many he has used over the years would Zawinul say is his favourite?

"Of all the instruments I ever had? The T8 is my favourite instrument, because for me it's the most simple instrument", he answers. "My technical expertise has been overrated. I'm pretty dumb when it comes to a knowledge of electronics, frankly speaking. I mean, I have to admit this. But I know the T8 inside out. If you asked me now what is written under the second knob, I wouldn't know, but I know by *feeling* what these things do. I have about 154 sounds in my T8, because it's been modified for me so I can have another bank. I have really good sounds in there."

**IN HIS HOUSE IN MALIBU, CALIFORNIA,** Zawinul has a music room where he records whenever he's at home. Rather than just work on tracks specifically for an album, he records all the time, and has a massive library of tracks stored away on cassette.

"I can do ten tunes in a day", he says. "If I say I have two thousand cassettes full of music, and actually useable music, I would say I'm not overdoing it. 'Cos I've been doing this shit for 20 years, you know? I have rows of organised cassettes, and there's an hour-and-a-half on each cassette. Symphonic music, all kind of folks' music. . ."

Zawinul describes himself as an instinctive musician who doesn't need to think about things like what harmonies he's using - whatever comes into his head >

**"Analogue has that little uncleanliness, and for me that's part of music - no natural instrument in the world is totally clean. None."**

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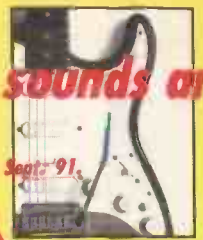
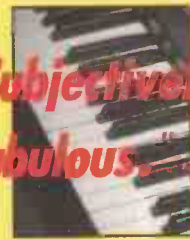
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two thousand  
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of music, and  
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useable music,  
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not overdoing  
it. 'Cos I've  
been doing this  
shit for 20  
years."**

> he's able to transfer straight onto the keyboard. He sees the roles of player, composer and orchestrator as one.

"All my compositions are improvisations, and they all come out of sounds", he explains. "I like that original idea which comes through your mind. I don't know how it comes through and I really don't care to know, but I try to preserve it as close as I can. I have found this in my music life: of all the songs I have written which have been recorded, the most successful were those which came closest to the original improvisation, and that shows me that it is the right way."

The spirit of the original. . .

"Cannot be beaten. And all those songs, like 'A Remark You Made', that was one improvisation from A to Z. And that's the way we interpreted it. And 'Birdland'."

When his band are learning a new track, he gives each of them a cassette of his original improvisation.

"I want them to learn about the original because that's what I'm always going back to, to the original feeling, how the tune was perceived."

So how does Zawinul set about creating a track?

"I set myself up maybe a click track and put a little rhythm together", he replies. "I don't want to waste too much time on programming a drum machine, because while that rhythm is going on I'm recording already. I'll start fiddling with the tone on one of my analogue instruments, maybe the T8. I like to feature my analogue sounds. I'm really quick at finding a sound I like. Boom! I play something, then maybe in the middle I don't like the sound as much any more so I tweak it a little bit and keep on, and there all of a sudden is a song, it don't take no time."

Although these days he uses Hybrid Arts sequencing software for recording, in many respects he treats the sequencer as if it were a tape machine.

"I play everything live, man, and I don't like no quantisation", he says firmly. "For my music, quantisation doesn't work."

However, there are some features of MIDI sequencing which he is happy to make use of.

"With the sequencer I can get takes from other recordings which I like. I might think 'That would be a nice drum line, but I don't want it played by a drummer, I want this drum middle played by a cello'. It's just a magic game, it's a beautiful game."

And he isn't averse to bringing pre-MIDI sequencing into play every now and then. "I do sometimes use an old ARP sequencer that I have. I connect the Oberheim Xpander to it and I have some crazy programs with the six oscillators playing different sounds. I'll trigger them in a random way, or maybe accentuate the first and third notes in an eight-note, 16ths pattern and take the middle one out. It's really like an African band, where all the different timbres make up little rhythm patterns. They're not melodic sequences, it's just to add something to the flavour, give you something to play on. Then I put a bassline on top of it, a melody line and an accompaniment and the tune is finished, man."

Zawinul sums up his attitude to working with his synths thus: "It's fun, it's just fun. I call it 'games

synthesisers play', you know? If you're intelligent and if you are musical and don't let this stuff overwhelm you. . . If you get trigger-happy then you will never play nothing on the synthesiser, because the possibilities are so vast."

Zawinul's musical career stretches back past Weather Report and synthesisers. Born in 1932 in Vienna, he began his musical studies at the Vienna Conservatory aged seven, where he learnt piano and studied European classical music. It wasn't something he enjoyed greatly.

"I hated it", he recalls. "I hated that horizontal approach, and number two I didn't like the material. I found it to be awfully boring playing Mozart Sonatas and Bach Preludes."

After the war, he played in American servicemen's clubs in France and Germany for a while, discovering the Hammond B3 organ in the process. During much of the '50s he was part of a popular music trio in Austria, playing the accordion most of the time. However, in 1959 he moved to New York in search of the jazz life, and soon found himself playing in Maynard Ferguson's big band. Later that year he landed the job of piano accompanist to singer Dinah Washington, then in 1961 he joined saxophonist Julian 'Cannonball' Adderley's band as keyboard player, remaining with the band until he and Shorter decided to form Weather Report. Steeping himself in the jazz tradition, he also used to play informally with two giants of the saxophone, Ben Webster and Coleman Hawkins; a 1963 album on the Riverside label, *Soulmates*, brought Webster and Zawinul together on record, and provides an opportunity to hear Zawinul the traditional jazz pianist in action.

While with Adderley, Zawinul not only composed classic tunes like 'Mercy, Mercy, Mercy' and 'Country Preacher' but also introduced the sound of the Wurlitzer electric piano to jazz music. It was his use of the Wurlitzer which first turned Miles Davis on to the sound of the electric piano. Then in the late-'60s he played Fender Rhodes on such classic Davis albums as *In A Silent Way*, *Bitches Brew* and *Live-Evil*.

Synthesisers didn't appear until the third Weather Report album, *Sweetnighter*. But even before then he was always after new sounds, delving into the innards of the acoustic piano, or processing the sound of the electric piano with effects like ring modulation.

With the death of Miles Davis a few months ago, I couldn't let the opportunity pass to ask Zawinul, a long-time friend of the trumpeter, for some words on the great man - for instance, what did he feel he personally had learnt from Miles Davis?

"I learned number one not to talk about music", he replies. "We hardly ever talked about music, Miles and me - or Wayne and me. Wayne and me worked together for 15 years in Weather Report, and the times we actually talked about music were very rare. We were not, let's say, occupied with music. Most young musicians I hear, that's usually what they do talk about, music. But we played it. Talks were used for ideas in general. Political views, views about life - things and ideas rather than people and music."

"I think I picked up also from Miles a certain sense of business. Always regardless of how the situation is,

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 Oberheim Xpander  
 Rhodes Chroma Expander  
 Roland M24E Mixer  
 Sequential Circuits Prophet T8

you always have to know who you are, and represent your music with great respect and honour. He took his music very, very seriously. I don't know, what can you say, he was a very, very good friend, I always had great admiration for his artistry in every way. He had it. Some people have it and some people don't, and he had it. He was interested in things, and that made him interesting. He had a way of drawing people to him without being obnoxious. As a human being he made noise around him without making noise, to get attention without doing all that much.

"To me, when I give you an overall view of Miles Davis, I'd say... maybe the best musician I've ever played with in my life. Not just a musician, but an artist who made music. There's a difference. There are a lot of great musicians but very few artists, and he was one of them. A real artist."

As people have been discovering, Weather Report's albums provide a rich source for jazzy sample loops. Is this something that Zawinul is aware of - and how does he feel about people using extracts from his music?

"People do this on my music a lot", he replies. "You know what I think about it? I think it's good, but it's only good if the original people (a) get credit for it, and (b) get paid for it. That's only fair."

He goes on to relate one example of an American group who used '125th Street Congress' from the *Sweetnighter* album. In this instance, the group's management contacted Zawinul and asked him what it would take for them to be able to use the track; the end result was that Zawinul and the group shared the

publishing, and he got credited on the record. "This is OK with me, it's fine", he says.

To explain what is not OK with him, he gives another example, in this case a track by MC 900ft Jesus called 'The Truth is Out of Style' - an appropriate title, perhaps - which uses 16 bars of 'Cucumber Slumber' from the *Mysterious Traveller* album as a loop through the track.

"They never contacted me. See, this to me is illegal. Herbie Hancock got me with this guy who is one of the greatest detectives of things like that. He got Herbie back \$175,000 dollars for one song. I mean, this is serious money being made. Some of these groups are getting No. 1 hit records using your ideas as a fundament."

So, samplers watch out, the detective's on your trail. I wonder if he's discovered 'Butter', a track on A Tribe Called Quest's *Low End Theory* album which samples the opening bars of 'Young And Fine' from *Mr Gone*?

For Zawinul, it's not sampling but live playing which gives him the greatest buzz in his musical life. Years of touring haven't diminished his enthusiasm for placing himself in front of an audience.

"I love it, man. For me it's the whole ball-game. I like to work at home in the studio, of course, but in general I like to be out there playing for people, because that's the true feeling, where your musicianship... I think for every good musician the greatest thrill is to play in front of people, live. No bullshit, everything is like it is, no hiding, no running. There you are, naked, and that's what I like." ■

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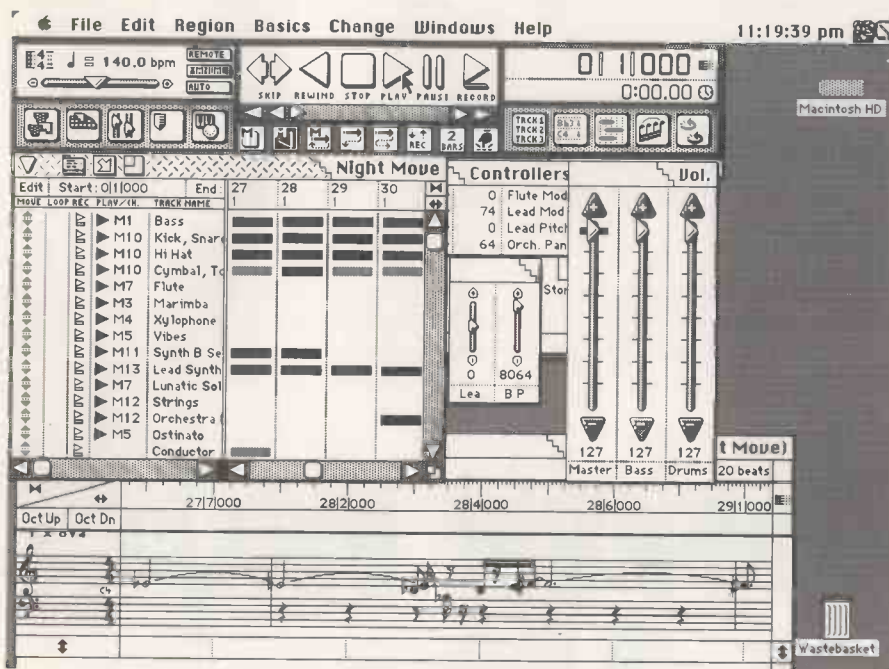
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# PERFORMER

After six years in the field, Performer has had another of its regular updates - does it still live up to its claim of being "The Professional's Sequencer"?

Review by Ian Waugh.



Minimum specs apart, if you're serious about using a Mac you really need a hard drive and if you've half an eye on System 7 you want at least 4Meg of RAM, never mind what the quoted minimum requirements are. The Classic II with 2Meg of RAM and a 40Meg hard disk costs £1200 while a 4Meg RAM/80Meg hard disk version costs £1550. Hardly the ST bashers the original Classic aimed to be. All that power and only an 9" monitor, too.

If you already have a Mac you'll probably be aware that Mark of The Unicorn's Performer has been fighting it out with Opcode's Vision for number one place in the Mac sequencing arena. Just to confuse matters, they've now been joined by Cubase (although this has set itself apart from the competition by being considerably more expensive).

Performer goes all the way back to 1985 and MOTU have updated it regularly. Its last appearance in MT was in April 1990 although it was given a major update to v3.5 later that year. As many readers will not have followed the Mac music market but may now own or be contemplating the purchase of a Mac, we'll look at Performer in its entirety rather than just as an update.

## KEY INSTALLATION

INSTALLATION IS RELATIVELY easy although the program uses a key disk for protection. You can do a hard disk install which means the program fits itself into a cosy corner of your hard disk from where it will run quite happily. If you mess with it, however, it will cease to function. The other option is to copy the program to your hard disk in the normal way, in which case the program will ask for the master disk each time you launch it.

OK, so the guys have a right to protect their interests but you're only given one hard disk install. Which is fine until your Mac crashes, something it can do through no fault of the program it's running. And then what do you do in the middle of your session! I've suffered at the hands of hard disk installs before and quite simply don't trust them.

I opted for the Master disk option. The program was reviewed on a Mac IIsi running under MultiFinder ➤

**S**OME SAY THAT the professional's choice of computer for music in the '90s is the Apple Mac. But until late '90, the cost of a Mac had been prohibitive to all *but* the pros. The launch of the Classic (at £895), however, put that to rights, and the Classic II followed at the end of 1991.

The minimum hardware requirements to run Performer (review v3.61) is a Macintosh Plus with an 800K external disk drive and two megabytes of RAM. However, the manual warns that running it even on a basic SE may cause irregularities in timing during playback (although only under duress).

## BIG MACS

THE MORAL OF the story is that although the Classic may be the affordable face of the Mac, for serious work you still need a more powerful machine. The Classic II looks set to replace the SE/30 even though it's not as well specified, but it's based around a 68030 CPU running at 16MHz so it looks like one of the cheapest "power" options.

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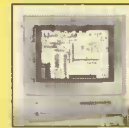
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➤ 6.07 along with a word-processor, and the machine did hang a few times. Although I'd hesitate to blame Performer, I'm glad I didn't install it on my hard disk. If it had gone down you would have been reading this review *next* month.

The Mac has a reputation for user-friendliness and attracting non-protected software. Passport have recently dispensed with their copy protection; will MOTU follow suit?

## LOCKED TIGHT

TO THE PROGRAM. The first thing you'll notice is the manual - all 500 pages of it. There's a Getting Started section, after which all the functions are explained in considerable detail, most with the aid of diagrams, although there is some forward referencing.

Performer is SMPTE compatible and MOTU have their own MIDI/SMPTE interface called MTP (MIDI Time Piece) which comprises an eight-In, eight-Out

MIDI interface with MIDI patch routing supporting up to 128 MIDI channels. Power users can network up to four MTPs for a total of 512 MIDI channels.

Performer offers improved SMPTE sync with DTL (Enhanced Direct Time Lock), an advanced version of DTL supported by earlier versions of Performer. Instead of one frame advance message per SMPTE

frame, DTL consists of four frame advances and you can achieve lockup while the tape is rolling.

DTL never caught on in the UK (although it was big in America) and few devices support it. With v3.5, however, Performer included MTC (MIDI Time Code) so you can sync using the format to suit your equipment.

Performer supports Apple's MIDI Manager, too. This lets you run more than one MIDI program simultaneously under MultiFinder, synchronise them to each other and swap MIDI data. But I wouldn't advise this with anything less than 4Meg of RAM and you still may have to be economical.

## INTERFACE

AS WE ARE talking state-of-the-art here it makes sense to gloss over the more mundane sequencing functions and see what makes Performer so outstanding. Its user-interface is an "enhanced" version of that already familiar to Mac users. The program is based around a number of windows and most of these contain a secondary Mini Menu which holds commands of particular relevance to that window. A Pushdown box sends a window to the back of the screen and there's a Zoom box to

automatically resize the window (although this insists on putting it in the top left of the screen).

Transport controls are housed in the Consolidated Controls Panel, which also includes the tempo and meter controls and offers direct access to most of the main windows - Chunks, Song, Sliders, Markers, MIDI Configuration, Tracks, Event List, Graphic Editing and Notation Editing. You can split the Consolidated Panel into its separate sections if you wish.

There are yet more windows, which are accessed from the Windows menu. Remote Controls permits assignment of MIDI messages and Mac keyboard alternatives to most of Performer's operational functions. You could, for example, control the transport functions entirely from a MIDI keyboard, although MIDI controls aren't restricted to notes. They can be controller data, program change numbers - any MIDI data, in fact.

The MIDI Monitor window displays incoming MIDI data broken down by port, MIDI channel and data type. The Input Quantise window is used to quantise incoming data.

## TRACKS

PERFORMER HAS A resolution of 480 ticks-per-quarter-note and supports an unlimited number of tracks - you simply add them when required. These appear in the Track Window along with their MIDI channel/port assignment, patch name (if any) and comments (very useful). There's a separate Conductor track which holds tempo data and you can drag tracks around to re-order them.

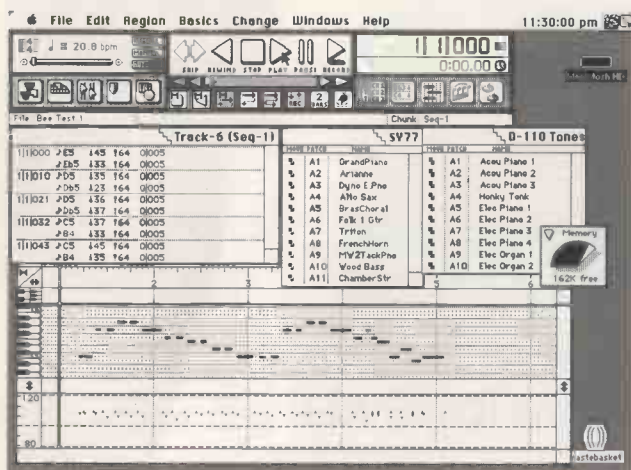
To the right of the tracks list is a Tracks Overview window which displays the tracks in equal-length segments which can be anything from 30 ticks to 16 bars long. You can zoom in and out to alter the amount of time each segment represents.

The shade of each segment shows the density of MIDI data in it and selective filtering of unwanted types of data is available. For example, you could elect to see only program changes and the Overview window would then only show segments containing program change messages. Only data selected for viewing will be edited, too.

## CHUNKY SONGS

SEGMENTS CAN BE selected with the mouse and turned into Chunks for arranging in the Chunks window. A Chunk can be either a sequence (a collection of tracks) or a song (a collection of sequences). You can build an entire song from other sequences by chaining and stacking Chunks in the Song window, simply by clicking and dragging. It's akin to the method used by other sequencers of linking Patterns into Songs, although Performer's Chunks are generally rather more sophisticated and powerful - and requiring a corresponding degree of understanding, too.

The distinction between songs and sequences is important. You can only save sequences in MIDI File format, for example, but having constructed a song you can convert it to a sequence.





## HIT THE MARK

THE MARKERS WINDOW is used to display and edit the markers for a Chunk sequence or song. A marker is basically a name attached to a specific location in a Chunk. They appear in the Edit windows and can be recorded in real time. They are particularly useful when working with video as you can use them to mark hit points in real time and then use the Marker window as a cue sheet. You can adjust tempos to automatically align musical cues to the hits.

The Markers window also supports MOTU's post-production device, the Video Time Piece, which can superimpose graphic images on a video picture, including streamers - a solid white bar which travels across the screen to reach the right-hand side at an exact hit point.

Performer supports event chasing to ensure the correct playback of a piece from any point. You can select which events should be chased. Recent additions to v3.6 enable you to perform most editing functions during playback, too.

You can filter out unwanted MIDI data during recording and the Multi Record option lets you record from several different MIDI channels simultaneously. A track can be assigned up to 31 channels for playback.

Step-time recording is well handled. You select required note durations, including tuplets, from a pop-up box and play the pitches on the keyboard. You can select two or more durations at the same time and you can erase the last step should you make a mistake.

The Record Beats function lets you record a piece out of time and add bar lines to it later. This ain't easy. If you record a piece out of time you then have to tap along to it *in time* in order to insert the bar lines in the right places. I'll stick to recording in time and making tempo changes later.

## EDITING

TO VIEW AND edit the data in a segment you double click on it and, depending on what key you're holding down on the Mac keyboard, up pops the Event List, Graphic or Note Editor.

There are time rulers at the top of the editors and a pointer co-ordinates box tells you exactly where the mouse pointer is as you move it across the window.

View Filter lets you select the types of data (a choice of 16) you want to see. You can display the timings in bars, real time (minutes and seconds) and frames.

I suspect many musicians will be quite at home with the Graphic Editor which not only shows notes (as bars on a grid) but also displays controller data, including velocity, graphically beneath the grid. You can alter a note's pitch, duration and position by clicking and dragging and you can insert notes, too. Controller data can be edited in a similar way and a Tempo Change grid unsurprisingly lets you draw in tempo changes.

The Note Editor is a reasonable alternative for those who like to play with the dots. A window can

only show one track at a time, however, and the smallest display resolution is 1/16th notes, which may be fine for 90% of mainstream music but occasionally even heavy metal musos have been known to pen a 1/32nd. Working with classical music is likely to be more problematic. Notes are easily edited by clicking and dragging and you can insert notes and other events, too.

Performer can handle SysEx dumps, too, and you can place them into a track.

## FUNCTIONS

QUANTISATION IS REASONABLY comprehensive and you can set offset, sensitivity, strength and swing options as a percentage. The Smart Quantise option is principally designed for use with MOTU's scorewriter program, Professional Composer.

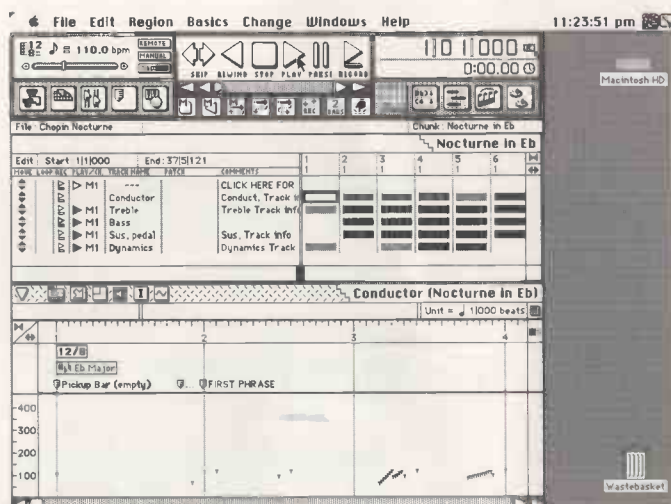
There is a DeFlam command which looks for close groups of notes and makes their attack times the same. With the Change Velocity function you can smooth out irregularities and create smooth velocity changes - an alternative to drawing changes in on the graph with the mouse although if it's volume changes you want it may be better to use the sliders (coming up). You can scale, limit, thin and and remap continuous data, too.

Performer has some excellent note manipulation functions: Invert, for example, flips notes around a specific axis. Retrograde and Reverse Time reverse the order of events, effectively turning a tune backwards. There is a slight difference between the two, Retrograde producing a result closer to how you would expect a backwards tune to sound. Scale Time, meanwhile, expands and compresses the duration of events.

Transpose is largely self-explanatory but Performer's transpose options go further than most. You can transpose by interval but also diatonically to create harmonies - brilliant, this - although you may still need to edit the odd note. You can also change mode and map each pitch to any other - this is useful for transferring drum parts between machines. You can save customised Transpose maps for future use.

## DECISIVE DEVICES

THE MIDI CONFIGURATION and Patch List windows let you access "virtual" MIDI devices which you can assign to tracks. This "assignment by name" is quite a feature on Mac software (other developers take note) and preferable to using MIDI channels and program change numbers, especially if you're



**“You can transpose by interval but also diatonically to create harmonies - brilliant, this - although you may still need to edit the odd note.”**



## FILES

▶ running several instruments and making use of Performer's ability to access 128 - or 512 - MIDI channels.

A Device is a reference for a particular piece of MIDI equipment, such as a synth, which you can refer to by name within the program. It can store a sound list for the synth much like a patch librarian and from the Patch List window you can transmit patch changes, even on the fly.

Device configurations are supplied for a wide range of Yamaha, Roland, Kurzweil, Kawai and Korg synths plus the Proteus. However, it's also easy to create your own Devices. You can specify the number of banks and the numbering format, too.

Devices can also handle System Exclusive dumps so you can store individual voices or the entire contents of the synth. If your synth doesn't have a Bulk Transmit function you'll have to enter a SysEx Bulk Dump request message in the Device editor. A Play Bulk Dumps command in the Track editor's Mini Menu lets you set up your gear ready to carry on from where you last left off.

Unfortunately, the dumps don't transfer the voice names to the Patch List - a great shame - and these have to be entered by hand. If you keep changing the voices in your synth during song construction, it would seem to make sense to wait until the song is finished before naming the voices. However, you're most likely to want to select voices by name *during* recording. You still can't have everything.

Performer takes the Device concept a stage further with Instruments which are a group of Devices. For example, if you have created the ultimate string patch by layering sounds from several synths, you can bring them together under one Instrument. Neat.

## SLIDING CONSOLATION

ANOTHER INTERESTING AND useful feature of Performer is Consoles. These are groups of customisable sliders which can be used to control volume, pan position, modulation, pitchbend and other controller functions.

All the sliders appear in a window but you can split them up and show them individually or in groups in a vertical or horizontal orientation. A master slider can be appointed to a group (effectively making it a sub-group) so, having set the relative volumes of a group of tracks you can then adjust them all using one slider. Brilliant.

The sliders monitor their target tracks and change to reflect the value of the data. They can also record any changes you make to them in any track. You can control a slider from an external mod wheel, for example, or by the pitch of a note or with keyboard velocity. You can even use sliders to remap controller data in real time.

It can take a little while to get your head around all this, but it's a truly excellent function. You can perform a fairly thorough mix on a sequence, and having access to several sets of sliders at the same time means you don't have to mix volume first, say, and then pan data.

PERFORMER SUPPORTS MIDI File formats 0 and 1 and can save the tempo/metre map, expand loops and save the track names as text. You can specify the end of the sequence to be saved if you don't want to save it all. It can also save files in Professional Composer format for score editing and printing.

Having set up the program to suit your equipment and way of working, you can save the setup as a New Template. All new files you create will then start with that configuration.

## VERDICT

ANY SEQUENCER WITH such a comprehensive range of facilities as Performer is going to take a little while getting to know. Make no mistake, this is a heavyweight program. Even the Getting Started section involves many setting up operations. The wealth of options, windows and different keystrokes can, at first, be confusing, but after a little use the pieces start to fall into place. There is also a comprehensive on-line help system to prompt you if required.

I have niggles, albeit small ones. Performer doesn't give you an internal click on a II-series or SE/30 Mac (the budget-priced Deluxe Recorder does). Although mouse-clicks in conjunction with the Command, Option and Shift keys are common Mac operations, wouldn't it be useful to have total mouse control? And why do you have to use the keyboard to type in new values rather than use the mouse? The ability to have more than one file open at the same time would be useful, too.

Many of the features missing from earlier versions of Performer (MTC support, Loop Recording) have been implemented in this revision, although there's still no drum pattern editing or score printout option. To print scores you are directed to Professional Composer (MT review to follow).

This isn't a head-to-head and I've no intention of getting embroiled in the relative benefits of Performer and Vision (drag Cubase into it, too, if you wish). The fact is, both (all three) companies have shown an eagerness to upgrade their programs regularly (although Steinberg have the shortest track record here) and when one betters another, that one seems to come back with features to trump the first.

All three programs are being used by professionals, and other than a few facilities which may endear one program to a user more than another, I wouldn't like to be the man to single one out as best buy. Ultimately it's bound to be a very personal choice.

Performer has been a firm favourite with Mac users for over six years and it will now be particularly attractive to those involved in video work. It's easy to see why it has been dubbed The Professional's Sequencer. There's no doubt at all that it is a very professional piece of kit and well worthy of the name. ■

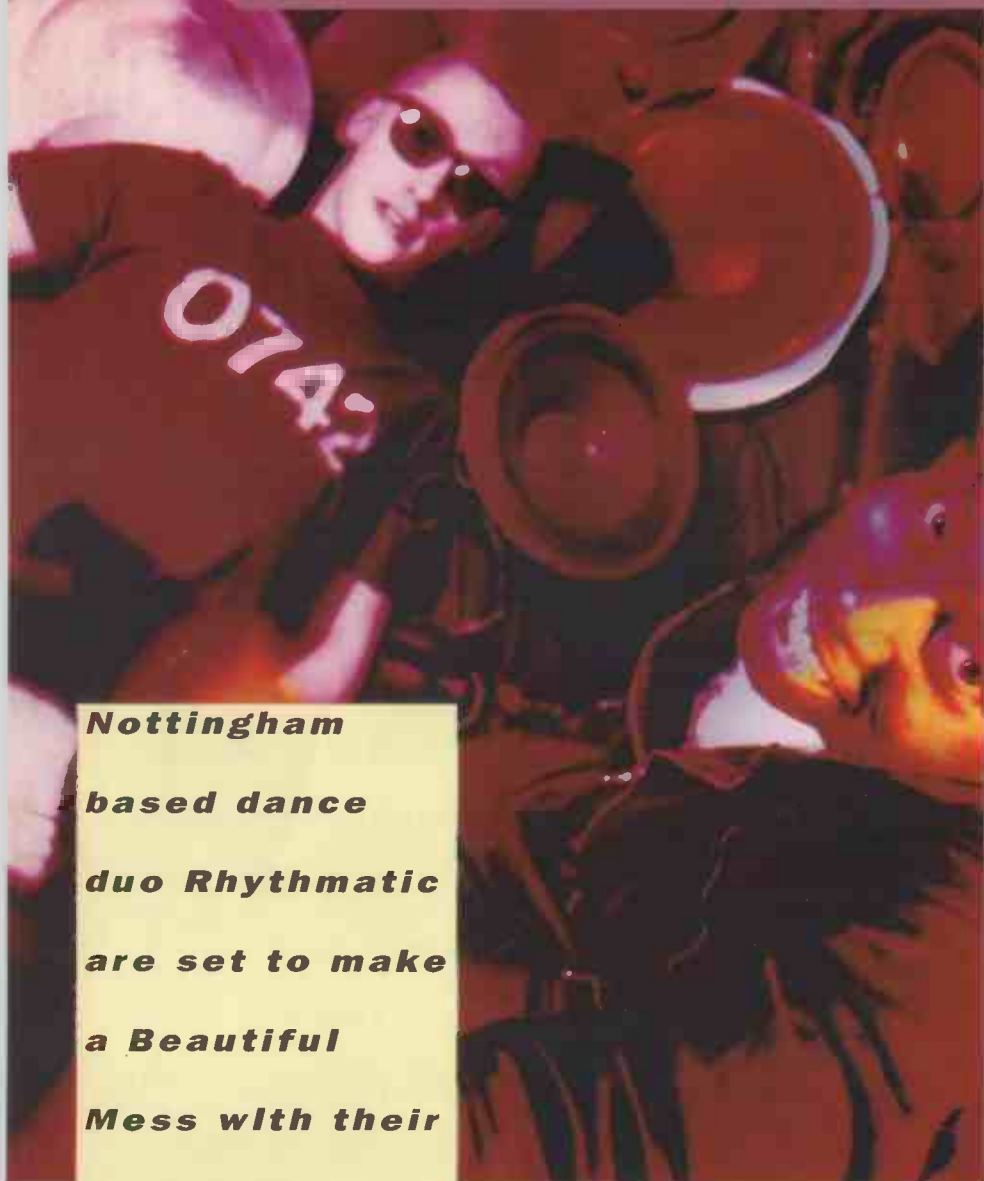
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**“Markers are particularly useful when working with video as you can use them to mark hit points and then use the Marker window as a cue sheet.”**

# THE RHYTHM METHOD



**Nottingham based dance duo Rhythmatic are set to make a Beautiful Mess with their debut album.**

**Yet "mess" hardly describes their approach to technology. . . Interview by Simon Trask.**

**QUESTION: WHEN IS A HOME STUDIO NOT** A home studio? Answer: when it boasts a collection of gear which would do a professional studio proud. Of course, if we're going to be literal about it, a "home studio" is simply a place in the home where music can be recorded - a definition which covers everything from personal multitrackers to 24-track setups. In general, however, the term still has certain less-than-professional connotation.

Rhythmatic's records certainly don't have "home studio" stamped all over them, yet they've all been recorded in group member Mark Gamble's home studio. To date, Gamble and partner Leroy Crawford have released three singles on the Birmingham-based Network label. A fourth single, 'NuGroove', is due out in the New Year along with the duo's debut album, the delightfully-titled *Splat! What A Beautiful Mess*. Gamble has also been compiling an album of Art Of Noise remixes done by the

likes of 808 State, LFO, Youth, Prodigy and, of course, Rhythmatic for China Records.

Rhythmatic's dynamic, inventive, exciting music is anything but a mess - beautiful or otherwise. Rather, it's characterised by a sharp, precision-tooled technological sound with a diamond-hard sparkle to it which fascinates even as it cuts into your mind. Tight and ever so clean, the Rhythmatic sound manages to be finely-detailed without ever being overly busy, thanks to a keen sense of space and balance and a sophisticated ear for orchestration on Gamble and Crawford's part. Time to pay a visit, then, to the place where Rhythmatic's music gets recorded.

To look at, there's nothing special about Mark Gamble's house in Nottingham, nothing to set it apart from the other houses which line the street. Inside, however, lurks the recording setup which prompted the opening question. If you cast your eyes down the equipment list at the end of this interview, you'll see what I mean: a proverbial Aladdin's cave of hi-tech goodies. Every home should have one, maybe, but I'm not about to knock on any other doors on the off-chance.

As I sit with Gamble amidst all this gear, he reveals that his first piece of electronic gear, bought some six or seven years ago, was a Casio VLtone. Talk about starting with the basics. But it was enough to get him enthused.

"I'd run home from school and play with this thing all the time", he recalls. "Then from there it was a Bontempi keyboard with the preset rhythms, which at least was polyphonic so I could play a few chords. Then me mum, I got her to buy me a Technics SXX200, which was the latest home keyboard in those days. That's when I started really getting interested in playing music, so I started a band with a couple of mates on guitar and bass and me playing this keyboard with drums on it. It was never a gigging band, we were just jamming, learning to play. It was basically rock stuff, with funky guitar - because I didn't know better."

Gamble didn't have the Technics for too long ("Thank God"), progressing to his first synth proper, a Juno 106.

"The 106 brought life into things - it was starting to sound like records", he says. "From there it was just adding bits and bobs until I got my first sampler, which was the X7000, and I was in love with that. It was a big jump from having one analogue sound to having any sound you wanted, and that opened up so many avenues."

Then house music came along, and Gamble found his musical direction: "Suddenly you didn't have to go into a 24-track and do a glorified full production with orchestras and a real band. You could do it at home with a computer and a drum machine - which is basically what I had."

Those of you who know your house history will be aware that Gamble was once part of a group called Krush, who had a chart hit with 'House Arrest' back in '87. The track began life as a demo that Gamble put together at home using his Juno 106, Akai X7000, Alpha Juno 2 >

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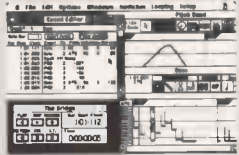
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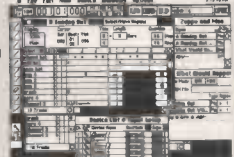


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**“Suddenly you didn't have to go into a 24-track and do a full production - you could do it at home with a computer and a drum machine - which is what I had.”**

➤ (“The last good Roland keyboard, as far as I'm concerned”) and a borrowed TR808. He gave a tape of the demo to a friend, who unbeknown to him took it around the record companies. FON picked up on it, got in touch with Gamble, and the next thing he knew he was working on the track through the Summer of '87 at FON studios with DJ Cassius Campbell and singer Ruth Joy - his first time in a 24-track studio. By September, they had a vocal version and a club 12-inch version. FON put out an initial club run, Phonogram picked up on it and got them to add more vocals and samples to the seven-inch version “to make it a bit more commercial”, and a couple of weeks later the track was No. 3 in the national charts.

Today, Gamble has a platinum single from the BPI, commemorating UK sales of ‘House Arrest’ in excess of 250,000 copies, on his studio wall. His first ambition, he says, was to achieve chart success. Getting interviewed by Music Technology, he goes on to reveal with a broad grin, was his second big ambition. Things can only get better from here on - an interview in *Hello* magazine, perhaps.

DESPITE THE SUCCESS OF ‘HOUSE ARREST’, Krush floundered on record company indifference with their next single, which did well in the clubs but never got a commercial release. In retrospect, it was probably for the best. The group got off Phonogram and found themselves with plenty of time on their hands, no record company pressures to deal with, and money “rolling in” from the success of ‘House Arrest’. Through '88 and half of '89, Gamble was able to build up his equipment collection (“I got an Akai MG1214 12-track, a Soundtracs T-series desk, an S1000, an S950 and things like that”) and work on new tracks with his Krush partners.

Eventually tracks were touted around the record companies. A few offers were made which the group didn't consider good enough, and all went quiet again. However, while they were in London remixing a Maureen track, ‘Don't Hold Back’, in the last quarter of '89, Gamble went out to a club and heard Unique 3's ‘The Theme’ for the first time. It was to set him off in a new direction.

“That track changed the whole sound, for me”, he recalls. “House had suddenly gone into a totally new, manic sound. I came back to Nottingham and I just had this buzz to do loads of tracks, and in about two weeks I'd done ten tracks which were more manic. I thought ‘It's time that you can do anything. Anything goes’.”

At this point Gamble's Rhythmic partner-to-be Leroy Crawford came along. In fact, the pair had released a single, ‘House Reaction’, under the name T-Cut-F on Kool Kat (parent company of Network) back in '87, around the time of ‘House Arrest’.

“Leroy came up with the name Rhythmic and suggested we go to Kool Kat, I said ‘Let's go for it’ and it all developed from there.”

SURROUNDED BY THE GEAR WHICH GAMBLE has collected over the years, you could be forgiven for thinking that he's more interested in collecting than making music - that he might even be . . . a gear bore. After all, how many synths and drum machines do you need in this era of digital samplers?

Gamble turns out to have a refreshingly down-to-earth attitude, being more interested in what he can get out of the technology than in technology for its own sake. Only too willing to ‘bend the rules’ in order to exploit the possibilities of the gear at his disposal, Gamble will happily use equipment in ways the manufacturers probably never foresaw, let alone intended. Ways such as (mis)using the digital EQ in Sound Tools to deliberately induce severe digital clipping of a recorded signal in order to create some mind-blowingly distorted sounds and concussive rhythmic passages, which he'll then add to his sample library as raw material for possible future use. Others such as taking advantage of a software bug in Ensoniq's EPS16 Plus sampler, whereby an extremely short sample loop produces all manner of weird and wonderful noises whenever you hold down a key. Again, these noises are sampled for possible future use.

“I actually made a track out of a 909 snare drum which I copied 50 times and made into 50 different sounds. Chord sounds, bass sounds, snares, bass drums, hi-hats, everything. Totally unbelievable.”

Unlike some hi-tech musicians, who get paranoid about divulging their sampling and sequencing secrets, Gamble is refreshingly open about what he gets up to. He happily gives me a practical demonstration of both of these rather wayward methods of creating new sounds, as he does of one way in which he uses his sequencing package of choice, Creator (“The ultimate dream in sequencing”). After quickly working up a spiky bass sound on his Jupiter 6, he plays a short riff into Creator, then selects the sequencer's edit list and starts altering the MIDI data at random, changing pitch, velocity and duration values and deleting some of the notes. Then he goes back to the main page, copies the edited track several times, sets different delay values for each copied track, merges the tracks, tries the result out in several different octaves, switches to the edit list for some more random editing, then returns to the main page again and adjusts the track's transposition parameter in real time while the track plays.

“Sometimes you'll have a track going and you'll just start messing around in real time with things, and it's like ‘Wow! I'd never have played that’”, he observes. “Creator's great for doing things on the spur of the moment like that.”

Gamble often records the results of his live manipulations into his trusty Yamaha QX5, as Creator won't record one track while another track's parameters are being altered.

“I was always a Yamaha sequencer fan”, he says. “In fact, I started off with a QX21, and it was solid, the timing was perfect. Creator's fine, but I still believe that the QX5 has the best timing of any sequencer in the world. A lot of the time, once everything's been sequenced on Creator, I'll transfer the drum parts into the QX5 and have it running alongside Creator. That way, Creator's freed from all the hi-hats and percussion and stuff, so it's got more time to concentrate on the rest of the music.”

Not that timing problems are always down to the transmitting end of things. There's the MIDI response times of the slaved instruments to consider - as Gamble is all too aware. He once bought an Emax I to use as his main sampler, but returned it to the shop after four days and swapped it for an S50 because its MIDI response didn't give him the tightness he wanted.

"If you want drums tight then get an S950, S900 or any Akai sampler", he contends. "The S1000 isn't as tight as the 950, but it's still good."

**GAMBLE LEAVES MOST OF HIS MONOSYNTHS** and drum machines casually strewn around another room, rather than have them clutter up the studio. He has no need to keep them connected up, because they rarely get used as instruments in their own right. Instead, they're used as sound or rhythm sources - Gamble likes to work up a sound on one of the synths, or perhaps a rhythm on one of the drum machines, and then sample it into one of his samplers, as he can then chop the start of the sample to get the tight attack that he likes.

One drum machine which he does keep in the studio is a recent purchase: a Yamaha RY30.

"They've got about 99% of the Voices usable, and even the ones that aren't can be with a little editing", he opines. "It's a powerful machine, and there's a hell of a lot of scope with that mod wheel. There's never a pattern goes by without the mod wheel getting spun. Also, you can get some very techno-y kind of effects out of it, mainly with the tambourine, using the resonance in conjunction with the filter cutoff and the decay. It's a crap resonance, but it's got its own sound. I'd rather have a proper resonance, though. It's an excellent machine - the best drum machine for a long time, definitely."

However, drum machines aren't Gamble's only source of drum and percussion sounds - he'll also sit down with his analogue synths and program percussive sounds on them.

"I did a really good kick drum on the Jupiter 6", he recalls, "a serious bass drum sound, like an old '60s bass drum."

Once he has a drum sound programmed, he'll sample it and use the sampler to give the sound a harder edge: "I'll go into the front of the sample a bit so that it clicks it, but it's a useable click and it gives the sound more power and punch."

Gamble's favourite sampler for getting creative with sounds is his Ensoniq EPS16 Plus.

"The onboard effects are absolutely stunning, really really powerful", he enthuses. "The volume it can pump out, as well, because once you've sampled you've got the boost, it goes through that and you can put it through distortion and it's like 20 times louder. Plus you can route that signal through wah-wah and control it from the pitch wheel. Amazing. I've used that for a few rave tracks."

He also takes advantage of the 16 Plus's resample-with-effect feature: "I'll bung a bass drum sample through reverb and distortion, resample it and do the same thing to the new sample, keep on building it up. You can get some amazing sounds. One problem with the machine is the amount of times it crashes, but I don't care, I think it's an excellent keyboard."

Gamble's main synths are all analogue Roland: Jupiter 6, Jupiter 8 and Juno 106. "My favourite at the moment is the Jupiter 6. It's harsher than the Jupiter 8, you can get a bright, buzzy sound out of it if you want. Creating bass voices, really hard-power sounds is easy. I use it a lot for hard, fast rave sounds."

"Every time I turn the Jupiter 6 on, I know that I'll get what I want out of it, whereas with the SY77 I'll be

flicking through maybe 200 sounds and thinking 'I'm not getting the right one here'. People make the mistake of wanting the latest keyboard with the latest sounds and getting rid of a keyboard they may have had for ages and were in love with, then finding they haven't got the sounds they want. I've made that mistake myself.

"The SY77 is great for sound effects and tinkly stuff, though, and for real sounds. I used the 'Tutti Frutti' orchestra sound the other day; it's a preset, but I don't mind, I'll use any sound. I do like creating sounds as well, but it is awkward on the 77; the only things I'll do are change the algorithms and the feedback amount. The good thing about it is that the parameters are MIDI-controllable using System Ex."

**IN ORDER TO ACHIEVE THE CLEAN SOUND** characteristic of Rhythmic, there's one processor that Gamble always turns to: "The Symetrix 511A is excellent for cleaning up a track. The only bad thing it does is to take off all the ambience and just leave a dry sound. But I really like that anyway, so I bung stuff through it all the time, unless it's a low volume track, then sometimes it's just too much. Sometimes it takes off the click at the front end of sounds, so I just take it off and leave the background noise going until the track's done, then solo each channel until I find the noisiest tracks, gate all the noisy tracks until I'm left with a reasonable output, then bung it through the 511A and it really cleans the whole thing up. You can turn the track up and it's like 'Where's the noise?'

"The 511A's also good for cleaning up noisy sounds, like the TX7's. You can get some really powerful bass sounds out of the TX7. One time I spent a whole day just programming different bass sounds in. There's one bass voice I did called 'Chonk' which is ultimately funky. One thing about the TX is that the envelope is tight, the front end is so tight it's beautiful. But it's crap for bass end, and the sounds are noisy, so what I did was bung 'em through the 511A to get rid of all the noise and then sample them."

It's a commonplace observation that the dance music world is fast-moving, but things are getting ridiculous. Gamble has apparently felt impelled to speed up the tracks on the Rhythmic album since they were recorded, simply to keep up with the expectations of the rave audience.

"At the moment the clubs are like 500 miles an hour", he explains. "And it's great, I get such a kick out of it. When I've been out in the clubs, I've noticed that the DJs will get a record and automatically put the varispeed on +8, which is strange when you hear it done to one of your own records, but the crowd don't care, they're just dancing. Eventually you're going to get tracks that sound like a tape being fast forwarded. That'll suit me fine, 'cos the faster it goes the better I like it."

Rave music has already been called 'heavy-metal house' - if the tempo gets much faster, perhaps it'll turn into trash house. Gamble likes the idea.

"I'd love to do a seriously heavy rock track rave-style", he enthuses. "I've got some excellent rock guitarists on-line for that. Rock rave, that would be something to work on. It's all about power and energy, how much power you can pack into five minutes."

Or five seconds, maybe. Rhythmic: fast forwarding into the future. ■

## EQUIPMENT LIST

### SEQUENCING

Atari Mega2 ST  
C-Lab Creator v3.1 Software  
Yamaha QX5 Sequencer

### INSTRUMENTS

Akai S950 Sample Module  
Akai S1000 Sample Module  
Cheetah MS6 Expander  
Emu Proteus/1 Module  
Ensoniq EPS16 Plus Sampler  
Oberheim Matrix 1000 Expander  
Oberheim Prommer  
Roland Juno 106 Synth  
Roland Jupiter 6 Synth  
Roland Jupiter 8 Synth  
Roland MC202 Microcomposer  
Roland MKS20 Piano Module  
Roland S330 Sample Module  
Roland SH101 Synth  
Roland TB303 Bassline  
Roland U110 Module  
Sequential Circuits Pro One Synth  
Yamaha CS15 Synth  
Yamaha SY77 Synth  
Yamaha TX7 Expander  
Yamaha TX802 Expander

### DRUM MACHINES

Alesis HR16B  
Kawai R100  
Oberheim DX Stretch  
Roland TR606 (x2)  
Roland TR707  
Roland TR727  
Roland TR808  
Roland TR909  
Sequential Circuits DrumTraks  
Sequential TOM (x2)  
Yamaha RY30

### RECORDING

AE Acoustic Energy Speakers  
Aiwa AD-F880 Cassette Deck  
Atari Mega4/Digidesign Sound Tools  
Dactari Hard Disk  
Denon DCD 1420 CD Player  
JSH DR323 Twin Channel Diversity Receiver  
Sony DTC1000ES DAT Machine  
Sony TCD-D3 DATman Portable DAT  
Tascam M3500 32:8:2 Mixing Desk  
Technics SL1210 Mk2 Turntable  
Yamaha AX900 Stereo Amplifier  
Yamaha NS10M Speakers

### ROUTING

Akai ME30P MIDI Programmable Patchbay  
Korg KMS30 MIDI Synchroniser  
Signex CP44 Audio Patchbay (x3)

### SIGNAL PROCESSING

Alesis Quadverb (x2)  
Alesis XT Digital Reverb  
Alesis XT:c Digital Reverb  
bel electronics BD80 Digital Delay  
bel electronics BD320 Digital Delay  
Boss Pro NS50 Stereo Noise Suppressor (x2)  
Drawmer DS201 Dual Gate  
Drawmer DL221 Dual Comp/Lim  
Drawmer DL231 Dual Exp/Comp (x2)  
ElectroSpace Time Matrix Digital Delay  
EMS Vocoder System 2000  
Klark Teknik DN71 Digital Time Processor  
Master Room Spring Reverb  
Roland GS6 Digital Guitar Sound System  
Roland SPH232 Phase Shifter  
Roland SRV2000 MIDI Digital Reverb  
Symetrix 511A Noise Reduction  
Symetrix 544 Quad Expander/Gate (x2)

# K1200 PROFESSIONAL

It's been too long since Kurzweil enjoyed a visible profile on the hi-tech scene, but finally they're back with a particularly fine keyboard: the K1200. Review by Simon Trask.

**D**URING THE '80S, Kurzweil built a reputation for themselves as purveyors of professional instruments to professional musicians at professional prices. Partly because the company's sample-based instruments oozed quality and class, partly because the company never attempted to cater for the budget end of the market, the Kurzweil name came to signify prestige and exclusivity.

But with the storm clouds of economic recession gathering in the late-'80s, the company should have been capitalising on their greatest asset - their samples, by diversifying downmarket with an affordable sample replay module. Instead they remained aloof, and it was left to another American company, E-mu Systems, to show how it should be done when they moved downmarket in 1989 with the

£899 rackmount Proteus/1 sample replay unit. In fact, Kurzweil had pioneered the concept of the sample replay module in 1987 with their 1000 Series expanders, but typically they were neither "downmarket" nor "affordable" and failed to capture the wider instrument-buying public's imagination.

While E-mu enjoyed success with the Proteus, Kurzweil struggled financially, and started discussions to find a suitable buyer for the company. In April 1990 they filed for chapter 11 bankruptcy, and the Kurzweil name, technology, and distribution and business rights were bought by South Korean piano manufacturers Young Chang Akki.

It seemed as if the Sequential/Yamaha scenario was playing itself out again. However, unlike Yamaha, Young Chang didn't let a much-valued name go to the wall, nor a valuable design team slip through their corporate fingers. Not only did the Kurzweil name





survive intact - albeit as "a product line of Young Chang America Inc" - but the South Korean company established the Young Chang Research & Development Institute in Waltham MA, USA (Kurzweil's old home) for the design and development of further Kurzweil products, and put in place there a 14-strong R&D team consisting mainly of people who had been with Kurzweil from the beginning.

As a result of the change of ownership, UK distribution of Kurzweil products has passed to Acrobat Music, who, as well as being existing distributors of Young Chang's Fenix range of guitars, are also a sister company of The Piano Warehouse, who have been distributing the Korean company's acoustic pianos for the past ten years. Whether Kurzweil equipment will now be better marketed and distributed in the UK than it has been in the past remains to be seen. We can but hope so, especially as Kurzweil (or should that be Young Chang?) could have a killer of an instrument on their hands with the forthcoming K2000 synth.

It also remains to be seen whether more affordable instruments will emerge under the Kurzweil banner. For the moment the emphasis appears to be on continuity, on not rocking the boat. The K2000 is the result of several years of development by Kurzweil's engineers - while with an expected asking price of around £2500 it's hardly going to dent Kurzweil's reputation for producing expensive instruments.

### THREE'S COMPANY

CONTINUITY IS ALSO apparent in the first Kurzweil instruments to be launched since the Young Chang take-over. The K1200 and Pro76 keyboards and the Pro 1 expander are basically improved versions of

Kurzweil's K1000 keyboard and PX1000 expander. In fact, owners of the older instruments can buy software/sample upgrades which effectively transform the K1000 into a Pro76 and the PX1000 into a Pro 1.

The K1200, Pro76 and Pro 1 share the same samples and the same spec, with the exception that the K1200 has 48K of RAM for storing user Programs and other data while the Pro76 and Pro 1 both have 24K. Aside from this difference, the only consideration in choosing between the three (apart from the small matter of money) is whether you want an 88-note or a 76-note keyboard instrument or a 19" rack-mount expander (incidentally, weighing in at 65lbs, 55lbs and 16lbs respectively). Of course, for this review I couldn't pass up the opportunity to get my hands on an 88-note keyboard, so the K1200 it was.

### ACTION REPLAY

THE K1200's 88-NOTE keyboard is sensitive to attack and release velocity and channel aftertouch, while the instrument can also respond to polyphonic aftertouch via MIDI. The weighted action lends the keyboard a feeling of substance without labouring the point, while the key release is neither sluggish nor bouncy but just comfortable. The key travel is a little too shallow to allow you to really dig into the keys, but not so shallow that you feel like you're skimming across the surface of the keyboard when you play. Personally I found it very satisfying to play, and I could happily settle for it as my main keyboard. If your idea of an ideal keyboard is one which manages to steer a middle ground between the "cream puff" lightness of many 61-note synth-style keyboards and the exaggerated "weightiness" which some

**"In one List you could have Programs ordered by instrument group, in another you could have the Programs for your live set, and in a third you could group sounds to conform to General MIDI."**



- manufacturers seem to think constitutes a piano-style keyboard action, then you could well find yourself feeling the same way.

## OVERVIEW

NO PRIZES FOR guessing that the K1200 is a sample-based instrument. At its heart are 152 Soundfiles (multisamples and waveforms) stored in 6Mb of ROM, offering a broad-based collection of sounds covering all the standard instrumental categories as well as more abstract sounds courtesy of the waveforms.

The K1200 can store up to 256 Programs, each of which can consist of up to four Layers. A Layer in turn consists of a Soundfile, various software-patchable audio and control-signal Modules for processing the Soundfile (but no filters), and various parameters providing overall control of the Layer. As each Layer can be given its own independent note-range, you can create keyboard multisplit/layer/overlap textures within a Program using up to four different sounds. Dynamic crossfading and switching between Layers and switching in and out of Layers are also possible, using a wide range of control sources.

For instance, you could set up an acoustic bass/acoustic piano split, layer a ride cymbal on the bass, and layer strings on the piano but program the strings Layer to be triggered only by notes with velocities above, say, 100. That's a fairly straightforward example; you can be a lot more sophisticated in the way you combine Layers, if you want - if you're prepared to delve into the parameters that the instrument provides for this purpose.

The K1200 can be cycled round Omni, Poly and Multi MIDI response modes by successive presses of the front-panel Mode button in Play mode. In Omni mode it responds to notes received on all 16 MIDI channels and plays the currently-displayed Program. In Poly mode it responds only to notes received on the currently-selected MIDI channel in the display, and plays the Program assigned to that channel. In Multi mode it can respond on all 16 MIDI channels at once, with each channel's notes playing a different Program. If there are any MIDI channels you don't want the K1200 to respond on, you can simply switch them out.

Selecting a channel using the front-panel Channel Up/Down buttons when in Multi mode automatically calls its Program onto the keyboard, as in the other modes. Anything you then play on the keyboard is automatically transmitted on the relevant MIDI channel, making it easy to flick through the channels and record multiple parts into a MIDI sequencer on their relevant channels.

The K1200 dynamically assigns its 24-voice polyphony across the active MIDI channels. However, you can program a polyphonic limit and select any one of four channel-stealing algorithms for each Program if you want some control over how voices are allocated. As always, it's worth bearing in mind the practical limitations imposed by an instrument's polyphony when you start thinking what you can do with 16-part multitimbrality and four-Layer Programs. Obviously, if you're playing six-note chords using a

four-Layer Program, the K1200 isn't going to be very multitimbral.

One welcome feature of the K1200 is its ability to hold sounds over Program changes; selecting a piano Program while sustaining a strings Program doesn't cut short the strings. Also, you can go in and out of Edit mode without interrupting active notes, which is more than can be said for some keyboards. While we're on the subject of laudable features, it's good to see parameter values which bear direct relation to what they're about - Hertz for pitch, decibels for volume, seconds and fractions of seconds for time.

Programmable Receive Velocity and Receive Pressure maps allow you to define different response curves for both keyboard and incoming MIDI performance. Making use of what are known as Bin Banks, you can switch between different responses at any time, to suit a different sound or a different slaved MIDI instrument.

The three buttons labelled A, B and C underneath the LCD allow you to call three different sets of Program, map and/or table assignments onto the 0-9 numeric buttons. For instance, if a song requires you to change to and fro between several Programs, simply group them together in one of the Bin Banks by assigning them to some of the numeric buttons, and then you can call them up with single button-presses. Similarly, you could assign a combination of Programs, velocity and pressure maps and intonation tables to another Bin Bank, allowing you to quickly switch between different tunings and velocity responses for different Programs. If three Bin Banks aren't enough, you can create several Bin Maps, each of which consists of three Banks, and call different Maps onto the buttons by pressing buttons 0 and 1 at the same time and then tapping in the relevant Map number.

The K1200 comes programmed with 17 Intonation tables including Just Harmonic, Werkmeister, Arabic, Bali/Java and Pythagorean w/aug4th along with, of course, Equal Temperament. You can create your own tunings by editing the tables; the pitch of each chromatic note within a master octave can be altered within the range  $\pm 1200$  cents, to single-cent resolution. Another parameter allows you to define a reference note for the table, so that you can play in any key with your selected tuning.

A MIDIscope mode, selectable at any time by pressing the Play/Edit, Channel Up and Channel Down buttons simultaneously, allows you to see in the LCD the (interpreted) data being generated by the K1200's keyboard or received via MIDI. It's both easy to follow and very useful.

When you Save a Program into memory, you have to assign it to a Program ID number (0-255). Then to be able to play the Program, you have to assign its ID number to a Program entry in one of ten Program Lists. When you select a Program from the front panel or via MIDI, you're selecting the entry in the current Program List; that entry (Program 10, say) may have Program ID number 254 tagged to it. If that was a Program called 'Down&Out', Program entry ten would read 'Down&Out'.

The idea is that you can order your Programs in up to ten different ways. For instance, in one List you ➤

**“To begin with, using the front panel is rather confusing and long-winded but after a while you realise that the front-panel organisation is actually fairly clear.”**

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could have Programs ordered by instrument group (in fact, the K1200 comes programmed with such a List), in another you could have all the Programs for your live set ordered as you need to call them up, and in a third you could group sounds to conform to the General MIDI spec, so that the right types of instrument will automatically be called up by a GM-compatible song disk. If you select Extended Program Change mode on the K1200, MIDI patch changes 100-109 select any one of the ten Lists while patch changes 0-99 select the Program entries within the currently-selected List. What happened to MIDI Bank Select, then?

Finally, Performance Setups allow you to program three independent keyboard zones, each of which can have its own Program and MIDI channel assignments; with each Program having up to four Layers, you can actually have 12 different sounds on the keyboard at once, organised in all sorts of split/layer/overlap configurations. Setups can be assigned to the Bin Banks, so you can quickly switch between completely different complex keyboard configurations and MIDI routings.

## PANELLING

THE K1200 HAS a minimalist front-panel layout, to say the least. There's a 2 x 16-character LCD with a rather pleasant soft green backlighting, a Volume slider, a Data slider which on our review model refused to have any effect on anything, the aforementioned A, B, C and numeric buttons, and an upper row of ten buttons which have different functions (clearly labelled) depending on whether the K1200 is in Play or Edit mode. To begin with it's all rather confusing and long-winded, especially as there are so many parameters to scroll through. After a while you realise that Kurzweil have made good use of the buttons, and that the front-panel organisation is actually fairly clear. They've also provided various helpful shortcuts, such as being able to step through selected parameters or values by pressing the relevant pairs of buttons simultaneously. But all the good organisation in the world can't make up for the fact that the K1200's front-panel layout is constricting for such a sophisticated instrument and makes life more difficult than it should - especially when it comes to editing and patching together the various software Modules. Surely Kurzweil could have been more generous on an instrument of this price.

The rear panel is similarly minimalist: MIDI In, Out and Thru, L and R stereo audio outputs and two globally-programmable footswitch/pedal inputs. On the subject of programmable controllers, the pitch and mod wheels can also be globally programmed to take on a variety of functions. The mod wheel also has a centre detent, and can be programmed with different up/down functions.

## SOUNDS

THERE ARE TWO important points to be made about the overall sound character of the K1200. Digital instruments are frequently criticised for lacking

warmth, but the K1200's sound has a wonderfully warm quality to it. It also has a lovely deep, rich, powerful bass end which works very well for the various basses and a number of the waveforms - not least the bog-standard sine wave, which seriously booms at the bass end. Bass sounds are among my favourites on the K1200, in particular, acoustic bass, which has a lovely warm, rounded quality to it and a sense of realism which almost convinces you that you're actually plucking the strings yourself.

The Soundfiles fall into the following categories: Acoustic Piano, Electric Piano, Acoustic Guitar, Acoustic Bass, Electric Bass, Electric Guitar, Drum Kit, Percussion, Synth Clavs, Percussive Synths, Lead Synths, Synth Bells, Synth Brass, Trumpets, Tenor Saxes, Synth Strings, Orchestral Strings, Pop Strings, Harp, Marimba, Vibes, Choir, Woodwinds, Organs and Synth Pads, together with various noises and a creditable number and variety of waveforms, ranging from standard synth favourites in several variations through to more digital, spiky metallic waveforms. Not all the instrumental categories are well represented and not all the samples are strong (saxophones, for instance, are disappointing on both counts). But on the whole the K1200's Soundfiles are impressive, and up to the standard that musicians have come to expect from Kurzweil, with a real vibrancy and presence to them. There are plenty of mellow and bright, soft- and hard-struck variations on samples (notably acoustic and electric pianos and vibes), which can be used very effectively in conjunction with Layering, crossfading and velocity splitting to create dynamic changes in timbre - particularly useful when you consider that there's no filtering on the K1200. Also, timbral changes are built into some of the Soundfiles, with attack velocity automatically switching between different samples of the same instrument.

Turning to the Programs, the standard Grand Piano is very classy, as you'd expect from a company who founded their reputation on the quality of their K250 acoustic piano sound. Also included are a brighter, more cutting acoustic piano, 'Hardstrike Piano', a suitably emotive 'Ballad Piano' and a jangly 'Honky Tonk'. Electric pianos include delicate, tinkling DX-type tones, rich, shimmering tones and hard-edged, fuzzy Rhodes-type tones. Wonderful stuff. There are plenty of punchy, tight basses, a 'Warm Organ' which really is warm (*I'll take your word for it - Tg*), some nicely grungy electric guitars, warm and chunky vibes, mellow breathy flutes, a lively and diverse collection of drum and percussion samples characterised by clarity and presence, plenty of string and choir pads, and some wonderfully evocative sounds which show what can be done with imaginative programming on the 1200.

## PROGRAMMING

FOR EACH LAYER within a Program you can select either Compiled or Modular effects. The former are effects which have been created by Kurzweil using the Modules, the idea being that you take advantage of the Modules without having to jump in and get your

hands dirty programming them. There are 12 Compiled effects: Vibrato, Delay Vibrato, Tremolo, Delay Tremolo, Leslie, Chorus 2, Tremolo 2, Vibrato/Chorus 2, Phaser 2, Leslie 2, Chorus 3 and Echo 3 (the numbers indicating how many Layers are used to create the effect). You also get a selection of programmable parameters with each effect - rate, depth, ramp and trigger for the Leslie effect. Again, these "shield" you from the actual underlying parameters of the Modules.

The best way to get into Modular programming is to select one of the Compiled effects then change to Modular effects, as you can then go in and look at the actual parameter settings which create the Compiled effect. Modules consist of two LFOs, two ASRs, two Mixers, two Inverter/Negators, Amplitude Envelope, Envelope 2, Envelope Control, Pitch Control and Amp Control per Layer, plus two global LFOs and two global ASRs per Program. All Modules except the Amplitude Envelope and Envelope 2 have one or two programmable trigger inputs, allowing all manner of patching between Modules. It's basically a very traditional analogue synthesis model, but implemented in software. For instance, you can have ASR1 modulating the rate of LFO1 and the depth of the Pitch Control and/or Amp Control, while LFO1 modulates the rate of the Pitch Control and/or Amp Control. In this way you can create anything from subtle to extreme changes in the rate of LFO modulation. And with a choice of 22 waveshapes for the LFO you can do a lot of playing around with the "shape" of the modulation.

Another useful modulation chain involves routing attack velocity to the attack control input of the Envelope Control and release velocity to the release control input. As the Envelope Generator is effectively hardwired to both the Amplitude Envelope and Envelope 2, you can control the attack and release times from velocity.

The K1200 has an extensive list of control sources which can be assigned to the trigger inputs of the Modules. As well as MIDI controllers 0-31 and 64-95 (opening up the possibility of pretty extensive dynamic control in conjunction with a MIDI sequencer), control sources include attack and release velocity, channel and polyphonic aftertouch, key number, local and global LFO output and phase, local and global ASR output, mixer and inverter outputs, amplitude envelope, two velocity triggers ("on" when velocity reaches a certain point), and even sample playback rate. "On" can be used to turn something on or to hold a parameter at its maximum value, while Off can be used to turn something off or hold a parameter at its minimum value.

It's possible to simulate echo quite convincingly by carefully-programmed LFO modulation of the Amp Control module, while reverb can be simulated by setting up an extra release segment in the Amplitude Envelope (which can have up to seven attack and seven release segments), dropping the release level to around 40% fairly quickly, and then letting the final release stage fade out from there. The result can be surprisingly convincing, though obviously it's not as flexible as real reverb processing. The advantage of

creating pseudo delay and reverb effects using the K1200's Modules is that each Level within each Program can have its own settings, if need be, and obviously when you use Programs multitimbrally they keep their own processing.

Other parameters which can be programmed per Layer include volume, transposition, detune, delay, pan position, touch sensitivity on/off, sustain pedal on/off, sostenuto pedal on/off, freeze pedal on/off, volume control on/off, soft range (amount of damping or boosting in response to the Soft pedal), dynamic range and bend range (from a quarter tone to a rather modest minor third each way, in quarter tone increments).

The K1200 allows you to control your keyboard textures dynamically, courtesy of the parameters Layer Enable and Layer Enable Sense. For instance, if you've got a bass/piano split and you want to double the piano with a brass sound on selected chords, you assign the brass sound to Layer 3 across the same note range as the piano, then assign, say, the sostenuto pedal as a control source for Layer 3's Layer Enable parameter. All you have to do now is depress the sostenuto pedal whenever you want to play piano and brass, and the brass sound switches in; release the pedal and you're back to piano only. If you only want the brass to come in on chordal stabs, choose VTrig 1 or 2 as your control source and set a fairly high velocity "trip" point. Then the brass sound will only come in when you play a note whose velocity exceeds that point. If you want to switch between two different Layers, select the same Layer Enable control source for both Layers and set the Layer Enable Sense parameter to Norm for one Layer and Rvrs for the other; that way, selecting one Layer automatically deselects the other. Thankfully, deselecting a Layer doesn't cut short any active notes which are playing its Soundfile; rather, they are left to play for their performed duration.

## VERDICT

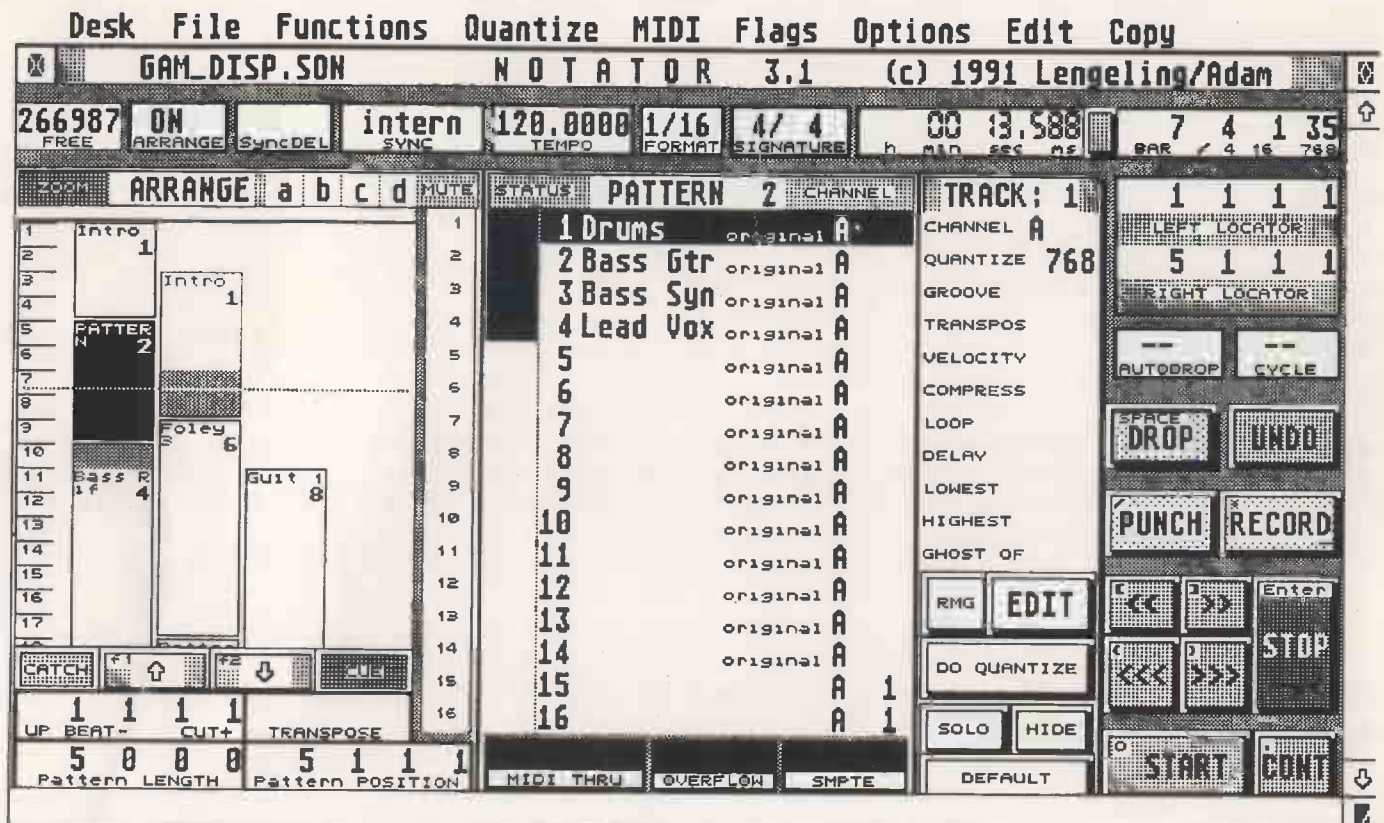
WITH THE K1200, Kurzweil have produced an instrument which is solidly professional in both sound and feel. Its 88-note weighted keyboard is a pleasure to play, its samples and waveforms present a versatile and well-rounded collection of instrumental and abstract sounds, and the Programs it comes with are eminently playable in a variety of musical contexts. It's not a workstation, it doesn't have onboard digital effects processing, it doesn't have filtering, its user interface isn't particularly user-friendly - but none of that prevents it from being one of the most deeply satisfying hi-tech instruments I've reviewed in a long while. Why? Because it sounds absolutely wonderful - that warmth, that deep, rich bass end - and musically it's an extremely responsive and extremely expressive instrument. I now know that there are 88, not seven, steps to heaven. ■

**Prices** K1200, £1899; Pro 76, £1786; Pro 1, £1529. All prices include VAT.

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**"Musically, the K1200 is an extremely responsive and extremely expressive instrument - I now know that there are 88, not seven, steps to heaven."**

# CREATOR/NOTATOR V3.1



One of the best-established and most popular sequencing and scorewriting packages has just had (yet) another facelift - where now, C-Lab? Review by Ian Waugh.

**I**F YOU'VE BEEN following the news releases, you'll have heard about the latest updates to Creator/Notator (v3.1) - the Graphic Arrange Mode, synchronisation with the Fostex recorders, a few new additions to the notation side of things and the ability to export scores to DTP packages, for example. There are other improvements, too. Many may appear rather trivial on their own but together they make a significant list of new features.

We'll start with the updates to Creator, as these are also found in Notator.

## LONE ARRANGER

GAM (GRAPHICS ARRANGE Mode) displays the arrangement as vertical bars in the Arrange window. Up to four beams can be shown side by side, representing the chains a to c. There's a bar list on the left-hand side of the window and Upbeats and Cuts are shown as grey areas. An SPL (Song Position Line) runs down the window during play and the current pattern is highlighted. It's easy to

see where you are and where the patterns are in relation to the song.

For fine tuning you can zoom into the window until it's filled with only two bars. At the other extreme you can cram 51 bars into it. The arrangement can be saved and loaded.

Naturally, you can move, copy, delete, insert and rename the patterns. By devious use of the Shift key and left and right clicking you can set up the Locators. A rather neat feature is GAM scrub which lets you drag the SPL back and forwards through the arrangement, listening to the MIDI playback in both directions.

## DOUBLE TRACKING

ANOTHER USEFUL ARRANGING feature is the ability to show 32 tracks in one pattern - sometimes 16 tracks just aren't enough. It shows the combined tracks of two adjacent patterns, although selecting, say, Pattern 2 will show the tracks in Pattern 2 and 3.

You need to take care when using 32-track mode. For example, it restricts you to two chains (a and c)

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> instead of four in the Arrange window. It's inadvisable to decide whether you want to use two chains of 32 patterns or four chains of 16 patterns before you begin work. Attempting a change-over may lead to problems.

Some pattern functions apply to all 32 tracks but others such as demix and mixdown, new pattern and multi-copy only apply to the half of the pattern in which the cursor sits.

Notator users can use 32 tracks to access more staves for their score.

## SYNC & MUTE

THERE ARE NEW mute functions which let you mute, demute, solo mute and mute invert the tracks. You can store ten groups of mute settings in the function keys

When you're scanning your latest masterpiece, it's worth knowing that patterns can now be deleted from the Pattern Overview window. If you're using a Fostex G16S, G24S or R8 with the MTC1 synchronisation unit and C-Lab's Unitor then you can control the

the Macro function which somehow slipped past them in v3 is incorporated in v3.1

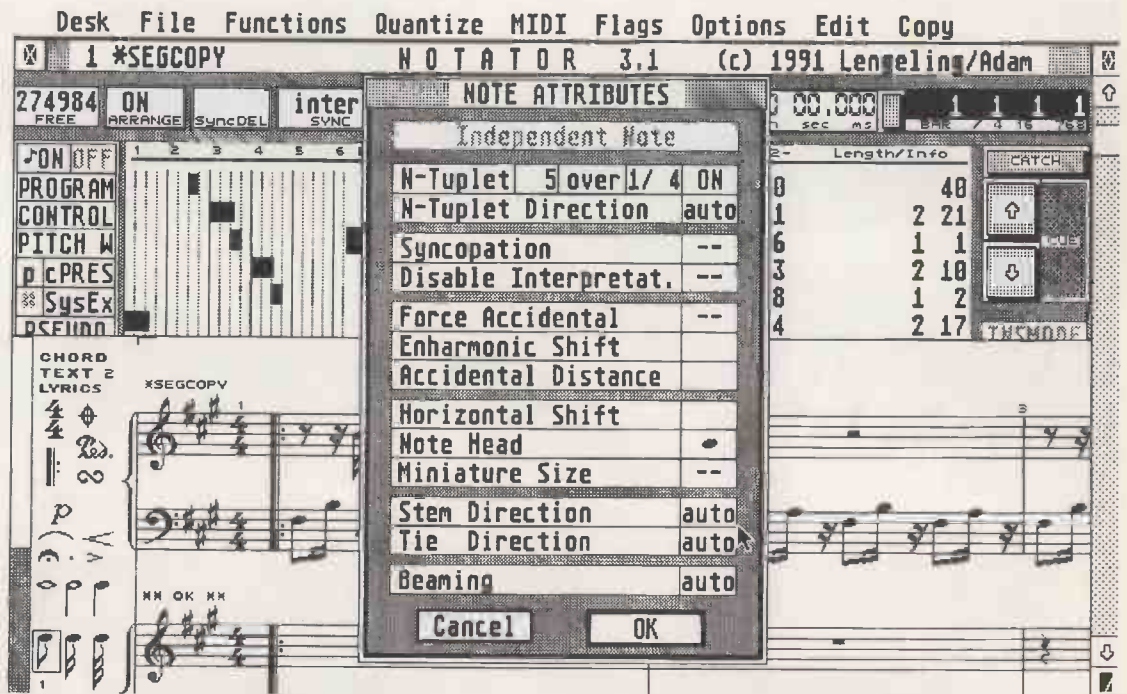
## NOTATOR

A LONG-OVERDUE UPDATE to Notator is the correct grouping of notes in 12/8 time - music doesn't rely solely on 4/4. The fudges I've had to do to get 12/8 to print correctly. . .

A single staff can now have three independent polyphonic voices. It's a bit of a faff but it works and it will be useful for transcriptions of some piano and vocal music.

The Note Attributes window has been considerably enhanced. You can now do things to notes no self-respecting publisher even thought of. For example you can create "independent" notes which can be placed anywhere, but which still continue to sound over MIDI. You can also insert "graphic" notes (such as grace notes) which don't play over MIDI.

You can disable Interpretation/Rest mode on a per-note basis to create a display which would otherwise be difficult or impossible to achieve. The direction of



recorder from Creator. One of the major advantages is being able to locate the tape position according to the bar and beat as well as via SMPTE.

The tie-up is probably as close as you can get between recorder and sequencer and the Fostex follows Creator's normal method of operation - clicking on Stop stops the recorder, clicking on it again rewinds the tape to the beginning. Clicking on fast forward or rewind "scrolls" through the tape and if the sequencer is playing you'll hear an audio cue. The manual suggests advanced users use the RMG to configure their own user-interface. It's a thought.

Sync support for C-Lab's Steady Eye VITC synchroniser can now be found under the Sync option, although this isn't mentioned anywhere in the manual.

Finally, Creator owners will be pleased to know that

a tuplet bracket and selection of the note head are available, as are options to make miniature notes and set stem and tie directions. As before, you are referred to separate sections of the manual for detailed explanation of each function.

## NOTE PROCESSOR

PROCESS NOTES ATTRIBUTES is an addition to the Functions menu. It calls up a window reminiscent of the Transform window and, indeed, works in a similar way. It allows attributes such as enharmonic shift, accents, staccato dots, note head and so on to be applied to or removed from all notes in a track or a segment thereof.

The selection criteria can include MIDI channel, note pitch, velocity and length. This allows you to



place accents on all notes with a velocity greater than 100, say, or a staccato mark on all notes whose length is less than 30 ticks. This is especially useful for music which has been recorded (correctly) in real time and could prevent a lot of time-consuming insertion of symbols.

There are a few new symbols in the music partbox - *sf* and *fz* dynamic marks, more Tempo = note symbols and an extra C clef (which is missing from the partbox diagram - the old partbox is still in the new manual pages). There's also a *.//.* sign (shorthand for repeat last two bars) which I personally hate when I'm sight reading. Lazy transcribers use it and I can't see the point when the full score is easy to copy on the computer.

You can now select styles (fonts) for page numbers and repeat endings.

Tracks in mapped drum mode can have a percussion clef and a one-line percussion stave is available. All good options to produce better notation displays and more accurate printouts.

## PRINTS CHARMING

THERE ARE A few additional print facilities, too, such as page number offset. Single tracks can be printed - useful for extracting parts from a score. You can determine where the time signature, clef and key signature are printed - nowhere, at the top of the first page, at the top of each page or on every stave. Another pet hate of mine is *not* having the key signature on every stave, another practice employed by lazy arrangers.

Jumping directly to any page is possible in Page Preview mode. The first time, through, you have to scroll through the pages as usual but once the program has constructed the pages, you can jump to any one of them. If you leave Page Preview, however, and enter it again, the construction starts from scratch.

Margins can be determined from Page Preview mode and altered by clicking and dragging. Flip Page lets you see the bottom of a page where the printer adaptation is for A3 or A2 paper. New printer drivers include the Cannon BJ-10e.

A new facility is the ability to export pages in .IMG format for loading into DTP programs such as Calamus. It's not quite as straightforward as clicking on a button - you have to load or create a special IMG printer driver depending on the resolution required. Pages are saved singly to disk and if you save more than one you have to change the file name to prevent overwriting. An automatic file name incrementer would have been useful here.

The next addition can only be a PostScript driver, surely?

## MUSIC LESSONS

A SURPRISE INCLUSION in the upgrade pack is a Tutorial disk for Notator which explains how to perform over 70 functions from editing notes and working with bar lines and braces to moving split points, working with polyphonic staves and drum maps.

Each example shows what the result should look like, what the "raw" data looks like and explains how to achieve the required result.

This is absolutely excellent and you can only wonder why no-one (it didn't have to be C-Lab) did it before. If you want to brush up on your Notator techniques, the tutorial alone is worth the price of the upgrade.

## VERDICT

THERE'S MORE TO the v3.1 upgrade than first meets the eye. The trouble is, much of it is hidden in the depths of the new pages. You have to know what you're looking for - and then go look for it.

A couple of pages explain what many of the new features are, but not all of them and in no great detail. For example, the fact that in external sync mode the "." key (Continue) puts you into internal sync is not mentioned, neither are some of the new printing features such as the ability to print single tracks, the inclusion of new printer drivers and the correction of the 12/8 display.

Many of the new features in the Note Attributes box aren't mentioned, although perhaps that's excusable on the grounds that once you look it up you'll find all the goodies. Creator users aren't told that Macros are now available to them.

This update makes Notator probably the most complex and feature-packed music program on the ST (I'm not complaining) but a blow-by-blow list would save us wading through the 100-plus replacement pages. Perhaps a small "u" could be placed next to new entries in the contents page and/or index. Just a thought for next time, guys. I would really like to see a good tutorial on the use of the Transform function, too. It can do your head in at times.

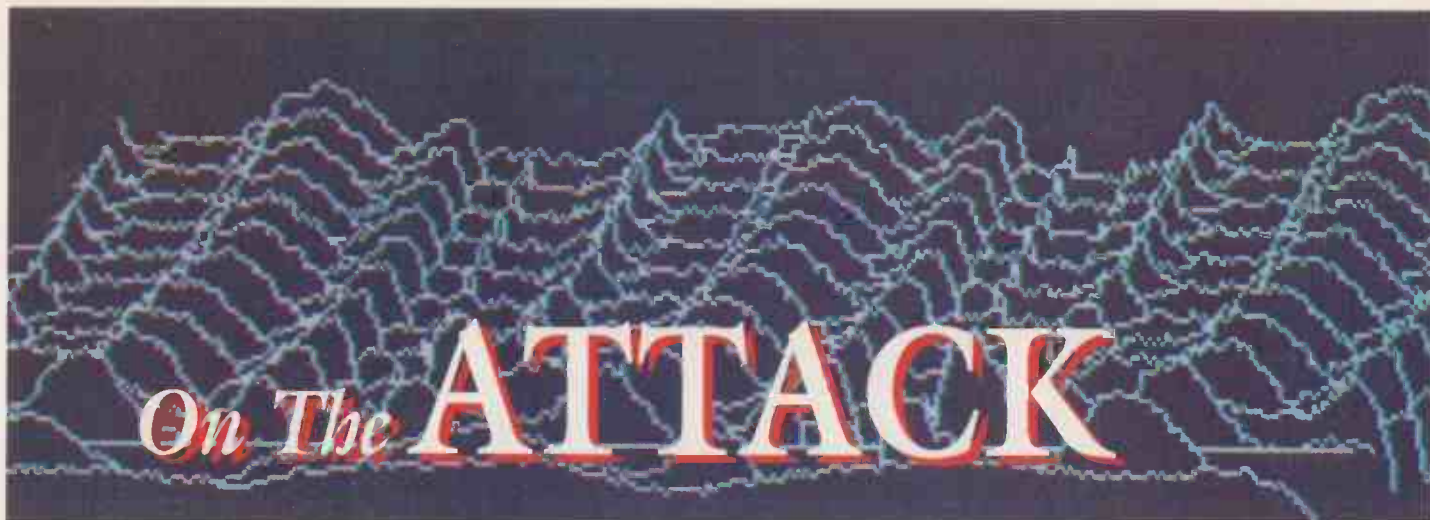
I suspect the main attraction of v3.1 Creator will be the GAM, the 32-track display and, for Notator users, the (at last) correct display of 12/8 time. The other notation enhancements give us even greater scope for tweaking and will be of major interest to those who produce printouts. (I know many musicians who simply like to edit on the stave and rarely print out their music.) We musn't forget owners of Fostex machines who will buy this as a matter of course. Now if someone would only loan me an R8. . .

There's no doubt that the upgrade is well worth the 20 quid although there are some users who still manage very well with v2.2 (I've heard some users are still with v2.1). I can understand that; if it does the job there's no point in upgrading. But having sampled the delights of v3 and v3.1 I would hate to go back. I wonder what's planned for v4? ■

**Prices** Creator/Notator Upgrade from v3.0 to v3.1, £20; from Pre-v3.0 to v3.1, £60

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

**"There's more to the v3.1 upgrade than first meets the eye, but much of it is hidden in the depths of the new pages."**



**IF IMITATIVE SYNTHESIS TOOK A MAJOR STEP FORWARD WHEN IT INCORPORATED SAMPLED ATTACK TRANSIENTS, WHY SHOULDN'T A SIMILAR APPROACH BE USED WITH SAMPLES THEMSELVES? TEXT BY TOM MCLAUGHLIN.**

WITH A LITTLE bit of time spent editing your existing sample library, it's easy to obtain more expressive samples - when you know how. Here, for those of you who don't, are a few pointers to put more *wellie* in your winds, more snap in your strings, and more bite in your brass. . .

It's generally accepted that the first few fractions of a second of a natural musical sound - that part which contains what are called the attack transients - tell the human brain a considerable amount about the sound. These transients tell us, for example, whether an instrument is being blown, bowed, plucked, struck, scraped and so on. Consequently, without them the brain has difficulty in differentiating between, say, a cello and a bassoon or a real trumpet and a synthesised one.

Roland's LA Synthesis, as found on the D50, D70, MT32 and so on, takes advantage of this by combining acoustic instruments' sampled attacks with synthesised sustain tones or short steady-state sample loops. Quite a variety of instruments' characters can be replicated in this way while using miniscule amounts of RAM. Those familiar with the range of Roland's LA sounds will agree that it works, and that even LA's worst examples

can still sound infinitely more convincing than imitative synthesis as performed on most "pure" synthesis systems.

An additional point - and one which forms the basis of this editing technique - is that the amount of attack transients, when considered in relation to the sustain portion of an acoustic instrument sound, gives us information as to how loud it is being played. Loud bowed strings are accompanied by more bow scrape on the way into a note, woodwinds and brass more lip, reed or breath noise.

Although the character of an instrument's attack changes drastically with dynamics, there are things that can be done to many of your existing samples that can add extra expression to them. All you need is a sampler that allows you to layer one sound upon another and increase the loudness of one as MIDI velocity increases.

This sample editing trick seems to work most effectively on bowed strings, brass and woodwind - sounds in which the attack transients are considerably softer than their sustained portions. I've tried this on plucked and struck strings and mallet percussion but the effect is not as pronounced. It's worth a try, though; you might just come up with something interesting.

## EDITING

THE TECHNIQUE IS quite simple. All it involves is isolating the attack portion of a sample (maybe the first  $\frac{1}{10}$ th to  $\frac{1}{4}$  second of the sound), saving this as a separate sample, then layering it with the original sample in a keyboard "map". With velocity response set up so that the louder you play, the more the attack transient sample comes through, you'll find additional expression can be had from otherwise meek or timid samples. Playing a keyboard hard will add more bite to the front end of a note.

To avoid any phasing problems, don't mess around with either sample's start

points unless any changes made are identical to both. Of course, since your attack samples will be "one shot", make sure loops are turned off.

## PROFESSIONAL TOUCHES

THOSE OF YOU with the appropriate facilities will want to maximise attack samples' amplitude to their fullest for the best signal-to-noise ratio and fade their endings so that there isn't an abrupt change in level as your attack samples reach their end (although you might decide you like this effect - try it).

With attack samples maximised, you'll probably not want them to be louder than 25% the volume of the "straight" sample when played at full MIDI velocity, but let your ears be the judge as to the ratio most suited to your needs.

When dealing with multisamples, keep in mind that lower notes generally take longer to reach their steady state than higher notes, and this must be taken into consideration when making your attack samples - lower-pitched samples' attacks will probably need to be a bit longer than the higher ones.

The only pre-requisite to this simple but effective and little-used technique is that something has to be there to work with in the first place. For example, many bowed string library samples are little more than sustain loops with no bowed attacks anywhere in sight. Instead they rely upon amplitude envelopes to fade them in from nothing and die away in the same manner. But for those samples that do have attacks present, using this technique you'll find the additional chuff of flutes and piccolos, "burps" of bassoons, oboes, clarinets and saxophone reeds, and lip "blurts" of brass instruments really will help these samples come across as more punchy and poppy in your music the louder you play. Check it out. ■





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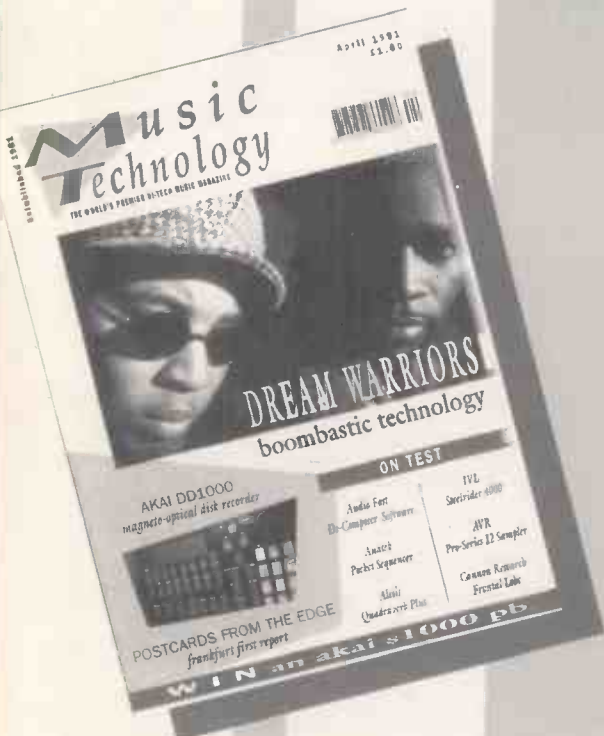
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# M2524 MIXER



PHOTOGRAPHY: JAMES CUMPSTY

The choice of budget mixing desks continues to expand with the arrival of Tascam's M2524 and M2516 - studio facilities complete with MIDI automation. Review by Tim Goodyer.

**I**T'S NOT SO very long since MIDI automation on a mixing desk was regarded as a rare luxury. A luxury, that is, to those of us who were taking MIDI seriously enough to recognise that it had applications beyond instrument sequencing and patch dumping. Outside this far-sighted (some would say idealistic) group, MIDI mix automation was a novelty not to be taken too seriously.

The passage of a little time, however, has seen a meteoric rise in the importance of "budget" mixing desks. Prompted by advancing technology, a global

recession (which has made a significant impact on the music industry) and the familiar megalomania of the average musician, compact, well-specified desks have been appearing at prices that have made them affordable to growing numbers of pre-production studio operators as well as many serious amateurs. Not only this, but limited MIDI automation is becoming an increasingly common feature of the budget mixer. With this facility, the humble mixing desk can be integrated into a MIDI-controlled recording setup to permit levels of automation not available in many professional recording studios.

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*"Sequencer One on the ST takes some beating"*

*Ian Waugh, Music Technology, August 91*

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Sometimes the idealist's wishes can come true.

Before going any further with a review of Tascam's new M2524 - a budget mixer featuring MIDI automation - we need to qualify the kind of features found on one of this breed of desk, and the level of automation available. Typically then, we're talking about a 16- or 24-input desk with either four or eight group busses, and around four aux sends per channel. On the MIDI side we're looking at fairly modest (by SSL Total Recall standards) channel and possibly auxiliary muting.

Specifically, then, the M2524 follows the 24:8:24:2 in-line format and has a sister in Tascam's smaller M2516 (16:8:16:2) desk. Both have a MIDI-controlled channel/scene muting system that owes much, if not everything, to that found on the company's neat little MM1 20-channel, rack-mounting keyboard mixer (see review, MT November '89). The review that follows will concentrate on the larger of the two desks, but may be taken to describe the features of both.

## CROSSING THE CHANNEL

ONE OF THE easiest ways to get the general feel of a mixing desk is to run over the channel and master layouts. So, from top to bottom an M2524 input channel runs like this: each channel has a 30dB switchable attenuation pad immediately above the input trim pot. Beneath this is a button marked Flip, which switches between having the line/mic input on the main channel and the tape return on the

associated monitor, and having the tape return on the main channel and the line/mic signal on the monitor. Next comes the EQ section, which consists of a high shelf (10kHz) with 12dB cut or boost, swept mid (420Hz-13kHz) and swept low (42Hz-1.3kHz) each with 15dB cut or boost. Aux sends 1 and 2 are available as pre- or post-fade sends and are hard-wired to the input channel; Aux 3 and 4 can be used as post-fade sends from

the input channel or the monitor channel. This system uses a centre-zero pot with movement in either direction performing a different function - rotate Aux 1 left for pre-fade send or right for post-fade send, for instance. Moving down to the (in-line) monitor section, there are pots for the monitor level and stereo pan. Immediately below these are the input channel pan pot, Mute/Solo button (with "active" indicator LED) and PFL button (again, with LED indicator). In the final section of the input channel there's an overload LED, the usual routing buttons which select main stereo output buss or pairs of routing busses (1 & 2, 3 & 4, 5 & 6 and 7 & 8), and a 100mm-throw main fader. The last eight channels have an additional Group button in the monitor section which selects the corresponding group as its monitor source.

As the M2524 is an in-line as opposed to split format desk, there's no separate monitor section. To the right of the input channel faders there are the eight group buss faders and a single fader for the main stereo output. Above these faders are the effects returns controls, aux send masters, control room section and talkback section. Above these is the MIDI automation section and above this are the bargraph level meters - one per group and a L/R pair for the main stereo buss.

Coming back to the effects returns, the first two are stereo returns with level pots, routing buttons (group buss pairs and L/R stereo) and a Mute/Solo button. The second two are mono returns with similar level pots, routing buttons and Mute/Solo buttons, but with the addition of pan pots. The Aux send masters section, meanwhile, contains four master level pots and a Mute/Solo button. Two further buttons allow Aux 1 & 3 and Aux 2 & 4 to be internally summed.

The control room section contains a PFL level pot, headphone level pot, control room monitor level (marked CR) and the control room source select buttons: Mono, Aux 1-4, Ext (external source, such as a CD or DAT player), 2TR (mastering machine) and the stereo buss.

Finally on the main panel, the talkback section hosts an internal mic, mic level pot, Slate and TB routing buttons (Slate routes to all eight output groups, TB to the panel output marked studio), and On button for switching the studio outputs on and off.

Of course, a mixer would be of little use without some means of connecting it to the outside world. In the case of the M2524, all the connections are made via a recessed area at the rear of the main panel. While this doesn't make the mixer as pretty as one whose connections are tucked out of sight on the rear panel, it does provide easy access for re-patching. Given the type of studio the M2524 is likely to inhabit, I'd say that's probably no bad thing.

Additionally on the recessed area of the panel there's a global phantom power switch which pushes 48V DC through the mic XLRs for mics in need of phantom power. Handle with care.

Most of the connections are pretty self-explanatory: each input channel has sockets for Mic (XLR), line (mono jack) and tape inputs (phono), an insert point (stereo jack) and a direct out (phono; direct to your multitrack). Each group has an associated output (phono) and each aux send has an output (jack). The Control Room mix has a pair of outputs and the stereo buss has two (jack and XLR). All effects returns - two stereo pairs for 1 & 2, and two mono for 3 & 4 - are on jack sockets. The Two Track and Ext inputs are on pairs of phono sockets as are the Sub Inputs. These are used for "cascading" mixers and give access directly to the M2524's stereo buss.

The only remaining connection on this panel (the headphone jack is under the arm rest) is for a footswitch (Tascam's RC60P) which is used for incrementing and decrementing the mute scene number (more soon).

**"I couldn't fault the M2524's muting system - it's easy to operate, easy to incorporate into a sequence-based system and didn't glitch or lock up."**



RETURNING TO THE main panel of the M2524, we come to the MIDI control section. This consists of a two-character LED display, four status LEDs, MIDI Receive LED, numerical keypad and nine other buttons. The keypad can be used to enter a Scene number which is called into operation with the Recall/Store button. Alternatively, pre-programmed Scenes can be stepped through with a footswitch. Before going any further, it's worth remembering that we're talking about mute automation here - don't expect to be able to automate fades, pans or EQ changes; that's beyond the scope of a desk in this price range. Instead, we're using what Tascam call Scenes; there are 99 user-programmable Scene memories on the desk, each capable of remembering a "snapshot" of mutes for all the M2524's input channels, effects returns and the monitor master. If, for example, your drum machine occupies channels 1 to 6 of the desk and you've programmed Scene 1 to mute channels 7 to 24, recalling this scene will solo your drum part. Alternatively, un-muting effects return 2 during the verse could be made to add echo (preset on your effects unit) to the melody line in the chorus. You might want to use mute automation "creatively", as part of the arrangement of a song or as an alternative to using a gate to kill any hiss on unused channels. Either way, the M2524's MIDI muting will do the job for you. Furthermore, Scenes may be recalled over MIDI (as program changes), so you can incorporate them into a sequence rather than recall them by hand at the appropriate points in the song.

Obviously, to do this requires that you're able to set such MIDI formalities as Omni mode on/off and assignment of a MIDI channel to the M2524 - all this is available in this section of the mixer.

Now this Scene muting business is OK - even excellent - as far as it goes. If you're using the M2524 without the assistance of sequencing, for example, the ability to call up a complete set of mutes at the touch of a button is invaluable. But if you want to make the most of MIDI-controlled muting it presents you with one or two problems. The first, and greatest, of these is that you're limited to 99 Scene memories. Once they're full and you have to start overwriting them, you're going to find that the Scene numbers in your older sequences no longer match the mutes in the desk. Happily the M2524 - like the MM1 - offers you an alternative approach to MIDI-controlled muting.

The alternative to Scene muting uses MIDI note numbers (36/C2 to 64/E4) to identify each of the mixer's input channels and MIDI velocity information to mute (values between 64 and 127) and un-mute (values between 1 and 63) them individually. Using this method, you can enter mute commands off a controller keyboard or from the desk's mute buttons directly into a sequencer. This way you don't have to spend time organising the various Scenes needed in a song, and you'll never find yourself in the situation where your Scene memories don't match up with your sequences.

THE FIRST THING I noticed when familiarising myself with the M2524 was the way in which Tascam have dealt with the problem of fitting a lot of controls into relatively little panel space. Instead of using knobs that are big enough to "read" positions off but leave no room for your fingers, or knobs that leave room for your fingers but make a very unfriendly panel, Tascam's designers have got the best of both worlds by using relatively narrow knobs with a skirt around the base: these are both comfortable to use and to look at. This built confidence in the integrity of the M2524 which was subsequently borne out both ergonomically, in the general feel of pots, switches and faders, and in terms of build quality.

Once in use, the desk was physically big enough to get involved with, without being too large for a typical pre-production/home environment. It scored comfort points over Studiomaster's Pro Line and Soundcraft's Spirit in having a decent arm rest along its front. Of the three, only the Spirit offers a scribble strip, however - why is it that the simple things are so frequently overlooked?

One omission from the M2524 which almost certainly isn't an oversight is that of EQ defeat on the input channels (it's included on the Pro Line, but also missing from the Spirit). Personally, I find it very difficult to work without being able to A/B EQ'd and un-EQ'd signals. That said, the M2524's EQ really delivers the goods. It's smooth and musical (as they say) in use; the bass in particular never disappointed me. Something about its implementation makes it deliver the sort of bass control that the rock fraternity will love, and the dance fraternity will kill for. Anything I touched with it turned into "bass gold".

EQ is also conspicuous by its absence from the monitor channels. It's not an unreasonable economy for a budget desk, but it does mean that if you want to use the monitor channels as additional line inputs at any time (on mixdown, say) you're going to have to do it without onboard EQ.

The effects return routing I found particularly flexible - being able to determine the destination of the returns means, for example, that you can dedicate one pair of groups to effects levels instead of having to accept them as part of the effected signal or dedicate input channels to effects returns.

Less flexibility is offered by the absence of insert points on the desk's groups and - especially - stereo buss. There's a lot to be said for being able to patch a stereo noise gate across your completed mix to suppress unwanted noise - unless you can't do it.

Moving on to the automation, the M2524 is difficult to fault. OK, so we're talking about a fairly basic level of automation, but there's a lot that can be done even with channel and effects mutes. Practically speaking, you can count the muting system as being the equivalent of having 28 (manual) ➤

**"Something about the M2524's bass EQ makes it deliver the sort of control that the rock fraternity will love, and the dance fraternity will kill for."**

➤ noise gates at your disposal (a claim that cannot be made of muting sequencer tracks internally). Artistically speaking, I doubt whether the potential of such a system has been fully realised by anybody just yet.

If you're running a multitrack machine (anything from four tracks on cassette upwards) then you're probably already stripping one track of tape with sync code and locking your sequencer to it. If this is the case, then the M2524 will facilitate MIDI-controlled muting of both sequenced and recorded tracks - that includes your vocals and acoustic guitar. On top of this you're able to cut out or bring in effects treatments at strategic points in the course of a piece of music.

In performance terms, I couldn't fault the M2524's muting system. It's easy to operate, easy to incorporate into a sequence-based studio system and didn't glitch or lock up on me under any conditions. All this from a "budget" mixing desk.

## VERDICT

TASCAM'S NEW MIXING desk is a pleasure to use. The faders and pots feel smooth, the design of the knobs makes the panel roomy without making the desk too big, and the layout is at least as friendly as any comparable desk.

The inclusion of the MIDI muting system takes the M2524 from being a good-quality budget studio item to being ideal for integration into a MIDI studio environment. The use of both Scene muting and MIDI Note Number muting systems makes the desk's automation useful on a number of levels of MIDI complexity. If you simply want to devote a Scene to a song's verse, another to its chorus and another to its middle eight, the system will oblige; if you want to go into complex use of the desk's channels and effects facilities, it's with you all the way - or at least as far as a muting system currently allows. Even if you're not already a MIDI convert, the muting system could prove an invaluable aid to mixing.

Perhaps the one serious limitation of both the M2524 and M2516 is their lack of expandability. If, however, the M2524's maximum of 48 channels (24 input plus 24 monitor) or the M2516's 32 channels (16 input plus 16 monitor) are adequate, and you want to automate your mixing, then I'd recommend that you check Tascam's new children out. You'll enjoy it. ■

**Prices** M2524, £2299; M2516, £1699. Both prices exclude VAT.

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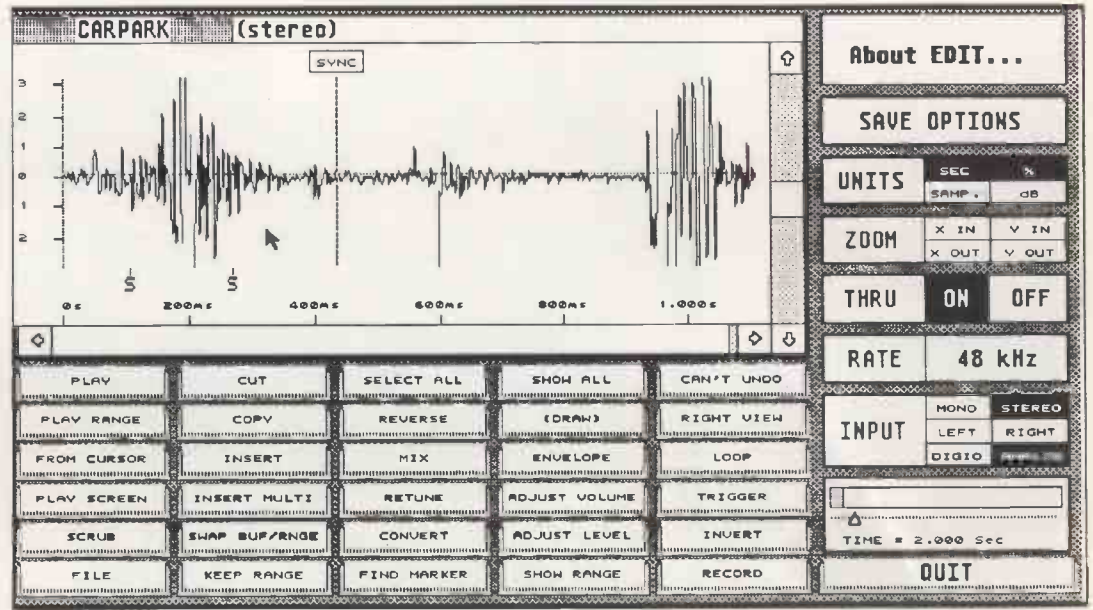
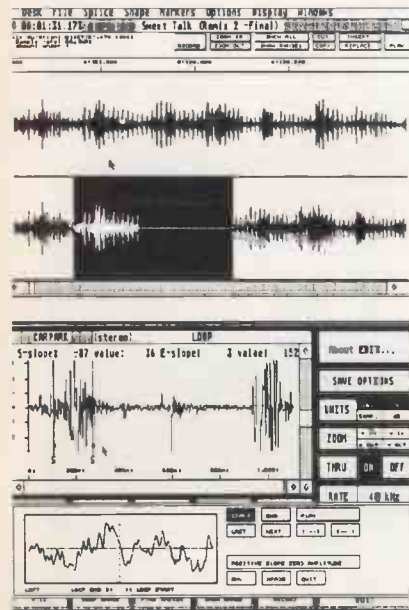
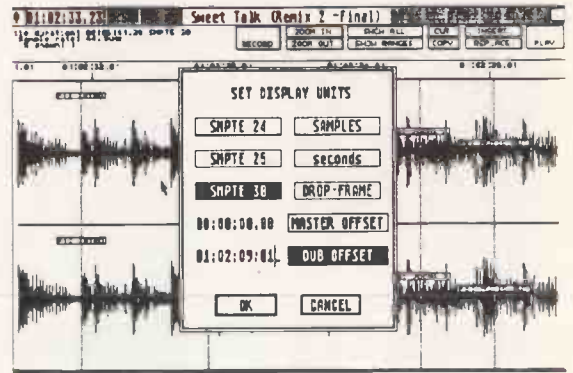


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**ATARI 520ST**, monitor + sequencer, Cheetah MS6, Akai EX70C + EX75N, cash paid. Clare, Tel: (0908) 584269.

**CIRCUIT DIAGRAMS** for electronic musical equipment, keybds, computers, amps, fx etc, will pay. Paul, Tel: 081-398 2543, answerphone.

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**OBBERHEIM CYCLONE MIDI** arpeggiator, in good cond, preferably w/manual, cash waiting, also swap Casio FZ1 sounds. Colin, Tel: 071-287 3033, days/(0932) 566473, eves.

**ROLAND D550**, RE3, A110, SBF325, M16C RAM cartridge, DEP3, RAM cartridge for TX802, cash waiting. Tel: (0734) 580764.

**ROLAND MT32**, plus GS6, Alesis MMT8 + Cheetah MK5V or similar touch sensitive remote keybd, cash. Alex, Tel: Milton Keynes 584269.

**ROLAND TR808** drum m/c, w/MIDI add-on. Rick, Tel: 071-229 6741.

**ROLAND TR808** or TR909 wanted, £160 offered, must be good cond, can collect. Eddie, Tel: 081-888 7537.

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**WANTED:** good piano sample for Casio FZ1. Jon, Tel: (02518) 3573.

**WANTED:** manuals or photocopy for Roland MT32. Tel: (0933) 273915.

**WANTED:** Roland TR909 drum m/c + Cheetah MS6 rack analogue synth module. Paul, Tel: 071-372 3959, days.

**WIND SYNTHS** wanted, especially Akai EV1 valve instrument, all other types also, perhaps your spare Lyricon or Synthophone! Tel: 091-528 2813, anytime.

**YAMAHA DOM30** expander. Peter, Tel: Stannick 225595.

**YAMAHA WX7** MIDI wind controller, Roland R8 drum m/c. Tel: 091-383 1075, answerphone.

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