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THE MUSIC TECHNOLOGY MAGAZINE

SEPTEMBER 1986

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UK FRESH

The Technology of Hip Hop

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Control Station; Dynacord Rhythm Stick;
Digidesign SoftSynth; Akai MIDI FX

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Nick Rhodes
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Photo: Dean Chamberlain



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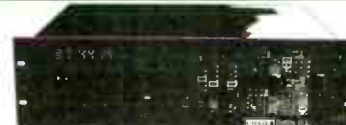
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FAIR ENOUGH

So that's the British Music Fair over for another year. I won't bore you with the details because I'd only be repeating the information relayed in our BMF Report (it starts on page 21). If you made it down to Olympia at some point during the show's six-day duration, you'll remember it as a busy, worklike show with an enthusiastic atmosphere and the occasional flash of good music.

There can be no question that the BMF is A Very Good Thing Indeed for the British music industry. It's a unique opportunity for manufacturers and distributors to show off their wares to the two most important groups of people in the business — those who sell musical instruments (the first three days), and those who play them (the next three).

Both groups benefit hugely from being able to see almost all the gear there is under one roof, in conditions that are reasonably conducive to doing business, and only marginally less so to making preliminary judgements about whether Product X is the one for them.

This year, the BMF was better organised, better supported, and more widely advertised than it had been in 1985. And it paid off: aside from a couple of dissenting murmurs during the trade days, no exhibitor I spoke to complained that attendance at the show had resulted in anything less than a big boost in interest and confidence. Not surprising, really, when you consider thousands of musicians passed through Olympia's doors, and that despite a relative lack of really new equipment, there was still plenty for them to drool over, play, program, and start thinking about taking out a bank-loan for.

From behind the Music Maker Publications stand (which sold more than a thousand magazines while the public were in, incidentally), it was obvious there was a proportion of hangers-on, kids, and peripheral visitors who'd strayed too far from the adjacent Saudi Arabian Experience show. But even among these, there were people who may have been sufficiently impressed by what they saw to consider taking up playing music as a new interest, no matter how much exhibitors moan about them.

So, the British Music Fair has established itself as *the* annual music industry event in the UK. It's successful, influential, and even quite fun to be involved with.

But where do we go from here? The BMF may have attained a position of great importance on a national level, but its international status is still light years away from that enjoyed by the Frankfurt Musikmesse, or either of the two American NAMM shows.

There's no real reason why this should be. These things take time, of course, but consider that the BMF is already the envy of those ultra-important shows in a number of respects. It's the only event that allows both dealers and musicians an equal amount of time to attend, without either group getting in the way of the other. It's the show at which demonstrations and concerts are presented in the most professional and musically interesting way. And it's the only show that takes place in the capital city of the nation that still sets the musical trends for the rest of the world to follow, and thus has more *musical* influence than any Frankfurt, Chicago, Tokyo or Anaheim.

But there are a few obstacles that stand between the BMF and world stardom.

First, it's a little on the small side. Obviously it's not going to get much bigger without more exhibitors taking stand space and more people coming through the doors, but there's no doubt the BMF feels cramped alongside the Musikmesse and NAMM; maybe a bit more aisle space would help here.

Second, and despite the new-found unity that saw keyboard, piano and music publishing exhibitors take space at Olympia for the first time, there are still some silly restrictions on the people who can exhibit at the BMF. E-mu and Sequential, for example, were told they couldn't take part in the show proper because they do not have British registered companies, and thus had to show off their new gear in nearby (or in E-mu's case not quite so nearby) hotels. Similarly, Rod Argent's Keyboards were barred from entry because they have a retail store in addition to being equipment distributors.

This situation is really rather bizarre: there's nothing any of the above companies are doing to damage the British music industry, and their attendance at the show could only have benefitted retailers and musicians alike.

If the Musikmesse organisers insist that all exhibitors had German-registered companies, few people outside the country would make the trip to Frankfurt at all.

But third, and perhaps more significant than either of the above points, the food at Olympia has got to be better. After BMF '86, I can't look at another sausage roll. ■ Dg

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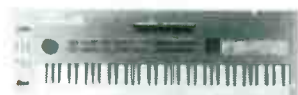
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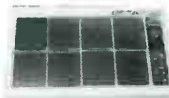


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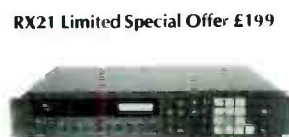
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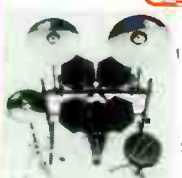
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COMPUTEC START BEETLE MANIA

A new company, Computec, will shortly be distributing a range of assorted hi-tech music goodies in the UK. Among the first batch of these is the Beetle PR7 programmer for Yamaha TX7, TX216 and TX816, which we mentioned some while ago in our report of the Winter NAMM show in California. The PR7 obviates the need for owners of modular FM synths to buy a DX7 for programming, by offering a duplicate of the DX7's front-panel controls in a free-standing module.

Also from Beetle is the QRI RAM disk drive, which extends the storage facilities of Yamaha, Roland and Casio synths without any modifications having to be made to the instrument itself. Linked up to a DX7, the QRI will store a total of 960 programs – or the equivalent of 30 standard RAM cartridges.

Computec have also taken on UK dealership of MIDI software from Italian company LEMI, which is good news, especially as the company – previously addicted to the Apple II – are now switching their attention to the Commodore 64, and have just put the finishing touches to some Prophet 2000 voice-editing software for same.

Also on Computec's books are the SynHance Voice Vault for the DX7, and a retrofittable IDI interface for the Prophet 5 polyphonic synthesiser, available by the end of September.

More from Bill Wilkinson, Computec, 24 High Street, Brookmoor, Brierley Hill, West Midlands DY5 3JA, ☎ (0902) 405100. ■ Dg

DIGISOUND DEFUNCT – BUT THE BEAT GOES ON

Following the demise of Blackpool-based DIY kit company Digisound, London enthusiast Tim Higham has stepped in to save the day and taken over the rights to the classic Digisound 80 modular synthesiser. All printed circuit boards will continue to be available, as will the front panels – though a change of colour scheme may well be in the offing.

To accompany the kit, there's soon to be a ready-built polyphonic synthesiser, while other developments such as extra modules for the Digisound 80 and a cheap sound sampler are currently under consideration.

More from Tim Higham, 16 Lauriston Road, Wimbledon, London SW19 4QT. ■ Tg

A FURTHER TASTE OF PARADISE

Paradise Studios, subject of a feature in E&MM November '85, have now boosted their hi-tech power with the purchase of a Fairlight Series III. They've also decided to keep their existing Series II, rather than trade it in, while other instruments currently in Paradise include a PPG Wave 2.3 plus Waveterm B, a DX7 and TX7, and a Prophet 5.

Now for the killer punch. For an introductory period, Paradise are pricing the whole package – 24-track studio plus all outboard gear and instruments – at 'less than some people charge for the hire of a Fairlight Series III on its own'.

More from Paradise, 01-747 1687. ■ St

TOO GOOD TO BE FORGOTTEN

If you've lovingly held on to a faithful Korg Polysix, patiently forgiving it its lack of MIDI because of its huge and distinctive character, then now's the time to breathe a sigh of relief. Korg have come to the rescue with a MIDI retrofit kit.

The modification, which is American in origin, also expands the synth's program memory to 120 sounds without outdating old 32 patch tapes, and includes a sustain pedal jack as a bonus. The retrofit is not yet available in the UK, but the Stateside price is expected to be around \$299 including fitting. ■ Tg

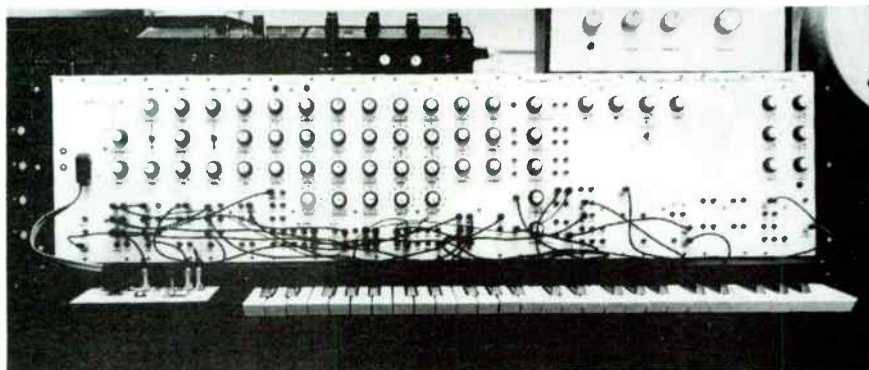
PACKAGING TO IMPRESS

Presstige are a new agency offering to appease the record company wolves with sweet packaging for hopeful musicians' demos.

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More from Presstige, 12 St Mary's Crescent, Netherthong, Huddersfield, West Yorks. ☎ (0484) 686799. ■ Tg





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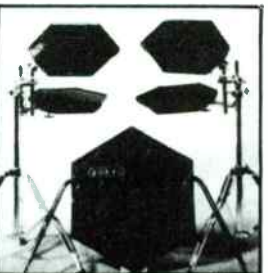
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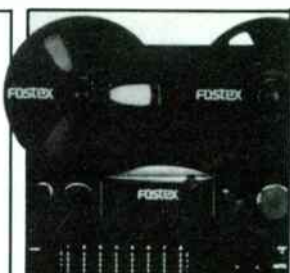
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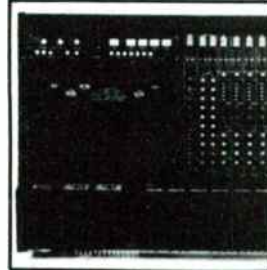
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CUSTOM DESIGNERS ON TAP

To anyone in need of a specialised piece of hardware not freely available on the music market, the arrival of Omegatech Designs may be welcome news.

Omegatech are a small group of designers just itching to design anything from trigger inverters to drum systems to full-scale music computers. Let them know what you need, and they'll sort out the problems.

More from Gary Lea, Omegatech Designs, Middle Mill, Stone, Nr Berkeley, Glos GL13 9JR. ☎ (0454) 260223 ■ Tg

AND THE WINNER WAS...

Seems some people just don't want to win E&MM competitions. Last month we announced the winners of the Toa Competition (April '86), but having sent a letter of congratulation to one of the runners-up only to have it returned unopened by the Royal Mail, we're having trouble contacting him.

So, if Phil Stollery of Salford could write and let us know his new address (and phone number if applicable), his prize of a pair of RS21M mini monitors will be delivered to his doorstep courtesy of Toa Electronics. If he doesn't get in touch with us, someone else will have to win it. ■ TmCg

ADVENTURE IN MANCHESTER

New in Manchester is Adventure, an eight-track recording studio offering a comprehensive selection of outboard gear, Yamaha keyboards and no fewer than two separate isolation booths. Session musicians, cassette copying and record pressing can be arranged should you require them.

More from Russell Harrison, 28 Stockton Road, Charlton Green, M21 1ED, ☎ 061-881 1888. ■ Tg

MIDI FOR SMALL ATARIS

For the Atari 400/800 XL and XE computers comes news of what we believe to be the first MIDI package available in the UK.

The DigiComm system is a 16-track polyphonic MIDI recorder with a 9000-plus event capacity, real- and step-time recording including velocity, aftertouch, patch-change, pitch-bend and modulation. Additional features include looping, transposition, automatic and manual editing, and parameter filtering.

More from DigiComm, 170 Bradwell Common Boulevard, Milton Keynes, Bucks MK13 8BG, ☎ (0908) 663708. ■ Tg

SEIKO LATEST

Further details have come through concerning Seiko's range of MIDI equipment, which we first saw at Frankfurt back in February.

The watch company's Digital Music Gear (DMG) system now embraces no fewer than six digital data processors.

To begin with, the DMG100 MIDI Channel Converter features three modes capable of merging MIDI channel numbers into a single channel, single channel conversion of one MIDI channel number to another, and multi-channel conversion of all MIDI channel numbers.

The DMG200 MIDI Signal Filter is capable of selecting or removing a choice of up to 15 types of data from a MIDI signal. Again, this can be effected on a specified MIDI channel or passages of specified messages.

The DMG300 MIDI Signal Mixer will combine up to three MIDI In signals to be amalgamated onto one MIDI Out. Filtering options are also available.

MIDI program data can be routed to up to four external systems using the DMG400 MIDI Switch Box, and there are 16 programmable patterns onboard the machine.

Those of you with itchy feet may find the DMG500 interesting. Again, 16 memory banks hold data that will be implemented when required. The DMG500 will perform such tricks as pitch-bending and modulation effects, pre-programmed bass notes and program changes.

Finally, the DMG600 Patch Box permits cross-patching of four MIDI Ins to four MIDI Thrus for easy signal routing.

More from Harman UK, Mill Street, Slough, Berks. ☎ (0753) 76911. ■ Tg

MORE BLANK THAN FRANK

Blank Software, US-based inventors of Sound Lab, a Macintosh editing and library program for the Ensoniq Mirage, have expanded its uses.

Now suitable for the Macintosh Plus and the rack-mounting Mirage MultiSampler, Sound Lab 1.1 features new waveform editing and processing, improved library functions and remote MIDI keyboard operation. Among its impressive list of facilities is a 3D time-domain waveform analysis display that appears to offer high-resolution editing, and the 1.1 update is available at no cost to owners of the 1.0 version.

Another new program from the same house

is Drum File, again run on the Macintosh. Drum File is for use with the E-mu SP12 sampling drum machine, and offers rapid transfer of samples into memory and file management routines, as well as compatibility with other sampling instruments. Worth investigating, especially now that Ensoniq UK themselves are handling distribution across the pond from Blank's offices.

More from Ensoniq UK, PO Box 806, London NW3, ☎ 01-435 2434. ■ Tg

HYBRID MAKE PROGRESS

After the success enjoyed by the Hybrid Music 500 BBC synth add-on, comes the new improved Music 5000.

Previewed at the Acorn User Show, the new 5000 features an advanced ROM-based AMPLE language nucleus, an easy-to-use master menu and provision for software extension modules. The unit is compatible with the BBC B+, B+ 128K and Master 128 computers. Hybrid also assure us that it is entirely software-compatible with the Music 500.

What's more, Music 500 owners can upgrade their existing systems with the Music 500 Upgrade Pack, which contains all the necessary software and documentation to bridge the gap between the two systems.

More from Hybrid Technology, Unit 3, Robert Davies Court, Nuffield Road, Cambridge CB4 1TP, ☎ (0223) 316910. ■ Tg

KURZWEIL UNVEIL...

A new rack-mounted expander for use with any MIDI-equipped keyboard was unveiled at the summer NAMM show by Kurzweil, the people behind the 250 keyboard. The Kurzweil 150 is a multi-timbral sound source equipped with 22 instrument voices. Retailing at \$2995 in the States, the 150 is intended to bring Kurzweil technology within the reach of a broader market.

Featuring both pre-programmed and user-programmable sounds, the 150 is capable of defining up to three independent sound layers simultaneously, each of which may take advantage of Kurzweil's 'Timbre Shift' method of overtone modification.

You'll see a full review of the 150 in E&MM as soon as we get our hands on one.

Meanwhile, Sound Blocks A, B and C are three new add-on resident sound blocks for the Kurzweil 250 and 250 Expander. Block A



boosts the number of instrument voices from 30 to 45 and includes vocal choruses, special effects and slap bass. Block B – endearingly titled 'Rock Block' – contains 26 rock instrument voices including lead guitars, electric pianos and Moog-style analogue synths. Block C, the 'Classical Block' contains ten recreations of acoustic orchestral instruments. These include solo violin, cello, bassoon, pipe organs, harp notes and a pizzicato string section.

A whole library of sampled Kurzweil sounds is also available on Macintosh disks. Each of the four volumes available contains ten disks, and all require a Macintosh computer, the MacAttach interface and file management program for their operation.

More from Syco, 20 Conduit Place, London W2 1HS, ☎ 01-724 2451. ■ Tg



Write to: **Communiqué, E&MM, Alexander House, 1 Milton Road, Cambridge CB4 1UY.**

Dear E&MM

School Synths

I'd like to question the way most children are taught music in schools. I am a teacher, though not of music, and have been associated with the world of music in both classical and pop/rock fields. Because of this, I have a keen interest in the opening of pupils' eyes to the different forms of music available to them in both passive and active roles.

I do realise many schools have synthesisers, funds permitting. But would it really cost so much more to make children aware of the background to the music industry? Of how records are pressed, how you get a band together in the first place, and so on?

Then perhaps, instead of going to a classical concert, pupils could be taken to a rock gig. And why can't they be allowed to try out different equipment in local music stores? Could the stores loan equipment to the schools? Surely children should be introduced to different kinds and structures of bands, as they are to the structure of orchestras?

Don't get me wrong. I am in favour of children being introduced to classical music, but why should they be restricted just to that? I don't have intimate knowledge of how all the music departments are run in Britain. What I do know is that the schools I've come into contact with are basically classically-orientated. In my experience, most of the pop/rock teaching comes from rural scientists and mathematicians (as opposed to music teachers) who may be members of bands, but have little idea about how modern music technology works and how it can be used.

I know there are courses available for budding electronic musicians at the London College of Furniture, and also a jazz course at the Guildhall School of Music, again in London. But what are the entry requirements for these courses? 'O'-levels, 'A'-levels or even degrees, all of them containing a dominant percentage of classical music in their syllabus.

Does anybody out there know of any other courses, or of any schools in which music technology has penetrated further than a synthesiser keyboard gathering dust?

■ Melanie Black
Shrewsbury

Dear E&MM

Noisy Affair

I wonder how many readers have ever arrived at their local musical equipment store on a Saturday morning, only to find it full of budding superstars. You know the sort – bashing away at anything with all the qualities of success: the same three chords, the first four bars of 'The Entertainer' and so on. Needless to say, one of them is hogging the particular piece of equipment you'd come to see.

If you find all this an annoyance, here's a calming thought – multiply this picture by a five-figure number, and remember the BMF '86.

■ P Gallant
Norwich



Dear E&MM

Parametric Control

In the final paragraphs of his 'Comment' piece in E&MM March, Dan Goldstein mentioned that in order to leap forward with music technology, manufacturers must take a couple of steps back. This made particular reference to analogue programming of synthesisers as being the most logical and effective way – absolutely true!

Digital parameter access is no substitute for the interactive facilities offered by massed pots, sliders and LED switch indicators when it comes to instant status indication during the programming of new sounds – full marks here to Roland for their add-on analogue programmers.

Now let's take the problem one stage

further: what about all the good old-fashioned, beefy, programmable analogue synths still lying around? Do people really want to be totally committed to new equipment that's currently trying to emulate the pre-MIDI sounds of Prophets, Hammonds and the Fender Rhodes? Or would they prefer to continue to use the old equipment in conjunction with this new technology?

What I suspect we should start to do is look at how older instruments may be used in conjunction with a MIDI system. We could then get down to the business of producing music in the most effective way, without all this unnecessary searching through 50 or more parameters, while simultaneously peering into a dim display the size of a box of Swan Vests. The ball's in your court, Yamaha, Casio...

■ Paul Urmston
Birmingham

Dear E&MM

Hitting Back

As a drummer with a new-found interest in electronics, I recently began reading your magazine. It's no secret (even from us skin-bashers) that drummers are generally, er, looked down upon by the rest of the musical fraternity.

But let me tell you this. Far from technology – drum machines in particular – ousting drummers from their traditional role, it's allowing us to fight back. I recently acquired a Yamaha DX100 and an Akai S612 sampler to keep my SDS9 company. Now I can play tunes, too.

I never really got on with my bassist anyway, and if my guitarist doesn't buck his ideas up soon he'll be back in the dole queue. And the only reason my keyboard player is still around is because he's got an Emulator and I fancy his girlfriend.

To further disprove the myth that drummers are an untelligent breed, I got my calculator out last night and worked out that with another 12.2 Simmons kits, I can cover a full five octaves with the rest of you.

■ Pete Lloyd
Bristol



ROLAND S-50



YAMAHA FB01 EXPANDER



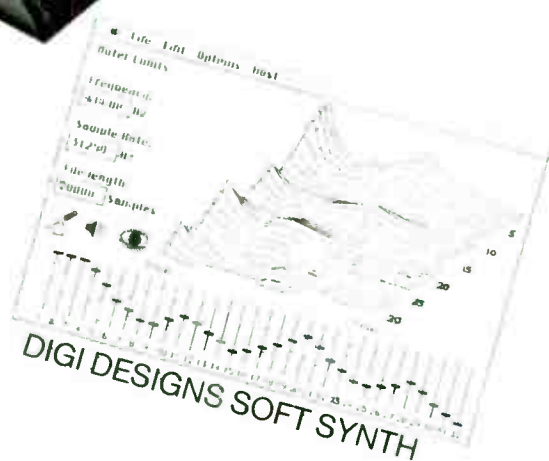
TECHNICS SX-PX7



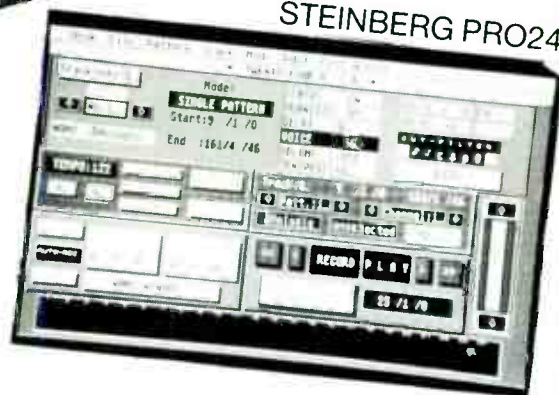
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ESQ1

CASIO

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CZ3000
CZ1000

YAMAHA

DX5
DX7
DX27

YAMAHA

DX27S
DX21
DX100
TX7

SEQUENTIAL

VECTOR VS

KORG

DW8000

DSS1

AKAI

AX73

RACK MODULES

ROLAND

MKS80
MKS70
MKS30
MKS20

YAMAHA

TX816

TX216

TX7

FBO1

KORG

EX8000

ELECTRIC PIANOS

ROLAND

RD1000
MKS20
HP450
HP350

HP5000

HP5500

HP2000

HP3000

YAMAHA

PF80

PF70

CLAVINOVA

ENSONIQ

PIANO SDP1

KORG

SAMPLING PIANO
TECHNICS

PX1

PX9

PX7

MIDI KEYBOARDS CONTROLLERS

ROLAND

MKB200

AXIS

MKB1000

MKB300

YAMAHA

KX88

KX5

AKAI

MX73

KORG

RK1000



SAMPLERS

ROLAND

HS10

HS50

EMULATOR

E MAX

ENSONIQ

RACK DMS8

KEYBOARD DSK8

AKAI

S900

MX 7000

S612

YAMAHA

VSS 100

CASIO

SK1

SEQUENTIAL

2000

2002

STUDIO 440

KORG

DSS1

GREENGATE

DS3

DS4

HOME RECORDING



RECORDERS

FOSTEX

E16 16 TRACK

A80 8 TRACK

E80 1/2" 8 TRACK

E2 MASTER

E22 MASTER

260 MULTITRACK

X15 CASSETTE

YAMAHA

MTIX 4 TRACK

MT44D

AKAI

MG614 4 TRACK

MIXERS

FOSTEX

450 8 TRACK

16 16 TRACK

SECK

18/8/2

12/8/2

SOUNDTRACS

ALLEN HEATH

DYNAMIX

Many others!



FUTURE MUSIC

SEQUENCERS



ROLAND
MC500 MSQ700

YAMAHA
QX1 QX5 QX21 QX27

KORG
SQD1

GUITARS



YAMAHA
SG2000, 3000
SE RANGE
BB500 5 STRING
BX1 HEADLESS
FULL ACOUSTIC AND
CLASSICAL RANGE

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BASE RANGE

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TR707
TR727
CR1000
DR220
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RX11
RX21
RX21L
KORG
DDD
CASIO
RZ1

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SERIES 4000
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TAMA
Many others!



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ROCKETTE 30
SG75 COMBO
FENDER
SIDE KICK RANGE
SIDE KICK CHORUS
ROLAND
JAZZ CHORUS
JC55 77 120
DAG 13 15X
CUBE 60K 100K
SUPERCUBES



CYMBALS

PAISTE
COLORSOUND
RUDE
3000 SERIES
2002
404
505

ZILDJIAN
'A' SERIES
'K' SERIES
'Z' SERIES
AMIR
IMPULSE
MEINL
DRAGON
PEARL
WILD 500

SABIAN
HH
AA
LEOPARD
B8
B8 PLUS
ROGERS
RED HOT
WHITE HOT
BLACK ROCK

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125 ALBERT ROAD
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ROLAND JUNO 2	£799.00	£399.00	£1,050.00	£150.00	£300.00	YAMAHA YRM502 FM VOICING	£399.00	£230.00	£480.00	BLAZER AND STANDS AND LEADS	£1,500.00	£500.00	
ROLAND PG300	£235.00	£175.00	£450.00	£50.00	£100.00	YAMAHA YRM503 MUSIC MACRO	£399.00	£230.00	£480.00	PROJECT 4 WAY LIGHT BOX	£1,500.00	£500.00	
ROLAND H560	£799.00	£495.00	£1,200.00	£150.00	£300.00	YAMAHA YRM504 MUSIC MACRO	£399.00	£230.00	£480.00	COMPR 2 DIGITISED SET OF 3 RED HEADS + STANDS UNOMAT	£1,500.00	£500.00	
CASIO C2300	£799.00	£495.00	£1,200.00	£150.00	£300.00	YAMAHA YRM505 MUSIC MACRO	£399.00	£230.00	£480.00	LIGHTS VIDEO LIGHT	£1,500.00	£500.00	
CASIO C2300	£799.00	£495.00	£1,200.00	£150.00	£300.00	YAMAHA YRM506 MUSIC MACRO	£399.00	£230.00	£480.00	GREAT WEST LIGHTING 12 CHANNEL	£1,500.00	£500.00	
CASIO C2100	£799.00	£495.00	£1,200.00	£150.00	£300.00	YAMAHA YRM507 MUSIC MACRO	£399.00	£230.00	£480.00	LIGHTING	£1,500.00	£500.00	
S. C.1 MULA TTRAK	£346.00	£275.00	£700.00	£85.00	£210.00	YAMAHA YRM508 MUSIC MACRO	£399.00	£230.00	£480.00	RIG + CAB	£1,500.00	£500.00	
KORG DW8000	£399.00	£310.00	£750.00	£90.00	£220.00	YAMAHA YRM509 MUSIC MACRO	£399.00	£230.00	£480.00	PROJECT 8 WAY PWSPT + FRAME	£1,500.00	£500.00	
KORG POLY 800 B	£575.00	£460.00	£1,100.00	£140.00	£350.00	YAMAHA YRM510 MUSIC MACRO	£399.00	£230.00	£480.00	EFFECTS PEDALS	£1,500.00	£500.00	
PROPHET VS	£1,895.00	£1,185.00	£2,900.00	£370.00	£900.00	YAMAHA YRM511 MUSIC MACRO	£399.00	£230.00	£480.00	BOSS CE3 CHORUS	£105.00	£265.00	
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YAMAHA DX27	£1,548.00	£940.00	£2,300.00	£290.00	£700.00	YAMAHA YRM513 MUSIC MACRO	£399.00	£230.00	£480.00	BOSS DP2 DISTORTION/FEEDBACK	£77.00	£190.00	
YAMAHA DX21	£748.00	£460.00	£1,100.00	£140.00	£350.00	YAMAHA YRM514 MUSIC MACRO	£399.00	£230.00	£480.00	BOSS DS2Z SAMPLE/DELAY	£200.00	£480.00	
YAMAHA DX100	£399.00	£230.00	£550.00	£65.00	£160.00	YAMAHA YRM515 MUSIC MACRO	£399.00	£230.00	£480.00	BOSS HC2 HANDCLAPS	£78.00	£190.00	
YAMAHA DX5	£348.00	£280.00	£680.00	£85.00	£210.00	YAMAHA YRM516 MUSIC MACRO	£399.00	£230.00	£480.00	BOSS HP2 FLANGER	£88.00	£215.00	
YAMAHA TX16	£1,899.00	£1,125.00	£2,800.00	£350.00	£850.00	YAMAHA YRM517 MUSIC MACRO	£399.00	£230.00	£480.00	BOSS HM2 HEAVY METAL	£88.00	£215.00	
YAMAHA X08B	£1,399.00	£850.00	£2,100.00	£260.00	£650.00	YAMAHA YRM518 MUSIC MACRO	£399.00	£230.00	£480.00	BOSS OC2 OCTAVER	£75.00	£180.00	
ROLAND EX101	£320.00	£270.00	£650.00	£80.00	£200.00	YAMAHA YRM519 MUSIC MACRO	£399.00	£230.00	£480.00	BOSS CE2 CHORUS	£100.00	£240.00	
MOOG SOURCE	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM520 MUSIC MACRO	£399.00	£230.00	£480.00	YAMAHA C1010M COMPRESSOR	£430.00	£1,000.00	
EMAM SPECTRUM SYNTH	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM521 MUSIC MACRO	£399.00	£230.00	£480.00	YAMAHA D1010M DISTORTION	£430.00	£1,000.00	
KORG MICRO-PRESET SYNTH	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM522 MUSIC MACRO	£399.00	£230.00	£480.00	YAMAHA D1010M OVERDRIVE	£430.00	£1,000.00	
KORG LAMBDA	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM523 MUSIC MACRO	£399.00	£230.00	£480.00	YAMAHA F1010M FLANGER	£59.00	£140.00	
KORG MS10	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM524 MUSIC MACRO	£399.00	£230.00	£480.00	YAMAHA G610M GRAPHIC EQ	£59.00	£140.00	
CASIO CT101	£300.00	£250.00	£580.00	£70.00	£170.00	YAMAHA YRM525 MUSIC MACRO	£399.00	£230.00	£480.00	FRONTLINE VOLUME PEDAL	£22.95	£55.00	
ROLAND MKS30 (RACK SYNTH)	£900.00	£580.00	£1,400.00	£70.00	£170.00	YAMAHA YRM526 MUSIC MACRO	£399.00	£230.00	£480.00	FRONTWAY WAW WAW PEDAL	£22.95	£55.00	
TECHNICS SK250	£375.00	£230.00	£550.00	£65.00	£160.00	YAMAHA YRM527 MUSIC MACRO	£399.00	£230.00	£480.00	YAMAHA PARAMETRIC EQ	£59.00	£140.00	
YAMAHA PS55	EX DEMO	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM528 MUSIC MACRO	£399.00	£230.00	£480.00	BIANEZ TUBE SCREAMER	£55.00	£130.00
YAMAHA MK100	EX DEMO	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM529 MUSIC MACRO	£399.00	£230.00	£480.00	LOC REVERB	£59.00	£140.00
YAMAHA YS5100	EX DEMO	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM530 MUSIC MACRO	£399.00	£230.00	£480.00	KORG DISTORTION	£59.00	£140.00
CASIO MT10	EX DEMO	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM531 MUSIC MACRO	£399.00	£230.00	£480.00	KORG OVERDRIVE	£65.00	£150.00
ROLAND SH09	EX DEMO	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM532 MUSIC MACRO	£399.00	£230.00	£480.00	KORG CHORUS	£69.95	£165.00
ROLAND JUNO 106	EX DEMO	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM533 MUSIC MACRO	£399.00	£230.00	£480.00	KORG PHASER	£69.95	£165.00
ROLAND JUNO 1	EX DEMO	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM534 MUSIC MACRO	£399.00	£230.00	£480.00	BIANEZ - COMPLETE RANGE IN STOCK AT SALE PRICE	£89.95	£200.00
ROLAND SIDA	EX DEMO	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM535 MUSIC MACRO	£399.00	£230.00	£480.00	DDO PEDALS HALF PRICE INC. FREE MAINS SUPPLY**	£110.00	£250.00
KORG POLY 61	EX DEMO	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM536 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX80 DELAY	£89.00	£200.00
ROLAND MKR200	EX DEMO	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM537 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX90 CHORUS	£89.00	£200.00
JVC K3303	EX DEMO	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM538 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX90 COMPRESSOR	£89.00	£200.00
CASIO PT50	EX DEMO	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM539 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO FLANGER	£89.00	£200.00
ULTIMATE 3 TIER STANDS	EX DEMO	£1,180.00	£720.00	£1,750.00	£220.00	£550.00	YAMAHA YRM540 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM541 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM542 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
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							YAMAHA YRM546 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM547 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM548 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM549 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM550 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM551 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM552 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM553 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM554 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM555 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM556 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM557 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM558 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM559 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM560 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM561 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM562 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM563 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM564 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM565 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM566 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM567 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM568 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM569 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM570 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM571 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM572 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM573 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00
							YAMAHA YRM574 MUSIC MACRO	£399.00	£230.00	£480.00	DDO FX75 STEREO REVERSE	£89.00	£200.00

Your questions answered by E&MM's resident team of experts. If you have a query about any aspect of music technology, or some information that might be useful to other readers, write to Interface at the editorial address.

Q I am currently converting a barn into a 16-track electronic music/songwriting studio. Originally there were two partners in addition to myself, but one of these has had to withdraw for family reasons.

Thus we're now looking for a musician to help provide finance to equip the studio as we wish. This person would have virtually unlimited use of a superbly equipped studio (including, for example, Yamaha DX7 and KX88, Prophet VS, Roland Super Jupiter and MKS20 modules, Greengate DS4-8, SCI Drum-traks, comprehensive sequencing and signal processing, and digital mastering). They would also receive financial return on their investment, approximately 30% of profits (which, in time, may be a substantial amount), and have the benefit of musical collaboration, if desired, with the other partners.

The studio is in the Cambridge/Royston area. If you're interested please ring Geoff on (076 384) 545 for a chat. This is a wonderful and rare opportunity, so please give it some thought.

■ Geoff Taylor
Barley

Q I'm saving up for my first synthesiser and should have around £550 by the end of the year. The problem is that (you've guessed it) there are so many different types of keyboard around, and I don't know which is the best suited to my needs.

What I would like is a synth that has as many of the controls of more elaborate synths as possible so that, when I progress, I'll be able to understand them more easily. I am also considering buying secondhand: would you recommend this?

■ Paul Stevens
Wrexham

A Answering your last point first, there's absolutely no reason to be afraid of buying secondhand gear – as long as you're careful. Knowing the particular piece of equipment before you look at a secondhand model will help you satisfy yourself it's all in good working order. Remember you have little comeback on anything once you've taken it away. Go through as many of the machine's facilities as you can before buying, and ask the seller the reason for the sale. If you're unsure of what you're doing, take along someone else who is.

Deciding which synth to go for is a question only you can answer. Get out to your local music shop, have a good look and listen to what's around – and don't be

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afraid to ask the salesman intimidating questions. Try to bear in mind that a synth will only sound as good as your own programming, and what may sound like a bad synth in the shop may just be suffering from a collection of lousy factory presets. Again, if you've got friends with synths, have a few words with them and get them to show you around any equipment they have themselves.

Everyone has their own personal favourites when it comes to instruments, and it's up to you to find out what yours are. Good luck. ■ Tg

Q Could you tell me what keyboards, samplers and effects Japan used from 1979 to 1981?

I want to try to create some of those sounds, but am unable to do so with my current keyboards and have only £1000 to spend. I don't mind buying secondhand and am prepared to sell off my present equipment, and have been advised to look at a Prophet 5 and an Akai S612 sampler. I'd appreciate a second opinion.

■ Jason Gibbs (age 15)
Twyford

A The short answer to your question is that the band used a Prophet 5 and Oberheim OBX. But things aren't quite as simple as that.

As David Sylvian himself says (see interview elsewhere this issue), programming is the most important part of using synthesisers. No amount of expensive equipment will solve your problems if you don't use it properly. Creative programming and thoughtful use of the sounds you've programmed will help you to make better music, and money can't buy either of those.

The difference between having influences and merely copying someone else's work lies in using the spirit of their creativity as a catalyst for your own. That way, you stand a chance of making a living without putting your credibility at risk. Oh and by the way, you'll have trouble controlling the S612 from the Prophet unless you've equipped the latter with a MIDI retrofit. ■ Tg

Q After struggling for about a year to get to grips with MIDI, I've finally managed a fair degree of success with my system of Yamaha DX21, Casio CZ101, Roland TRS05, EMR MIDI sequencing software and Boss KM60 mixer.

Now I'm about to invest in a Fostex X15 multitracker, but have been told I'll need a sync-to-tape unit. I've read plenty about these devices, but understand little about their applications, and hence whether or not I really need one. Can't I just record my sequenced parts onto one or two tracks of the

X15 via my mixer, and then record the vocals on the spare tracks along with any other overdubs? Where are the timing problems in that?

■ A Ashton
Luton

A Sync-to-tape isn't an essential requirement of your intended setup. You can record music quite happily in the way you describe without a sync-to-tape facility, but that's because you can rely totally on your own ears for accomplishing synchronisation. But there are other recording situations where a sequencer and/or drum machine needs to do some listening, and this is where sync-to-tape comes in.

A sync-to-tape facility allows you to record a signal on one track of tape which can then be read back (the 'listening' part) for synchronisation purposes. Some sequencers and drum machines have this facility built in, but if yours don't, you need a device that'll not only write a sync signal to tape and read it back, but also convert this signal into MIDI timing information and vice versa. Yamaha's YMC10 and Korg's KMS30 are examples of such units.

Sync information is recorded on tape either as pulses or as FSK (Frequency Shift Keying) signals; the latter consists of two alternating pitches, and is the more reliable of the two methods.

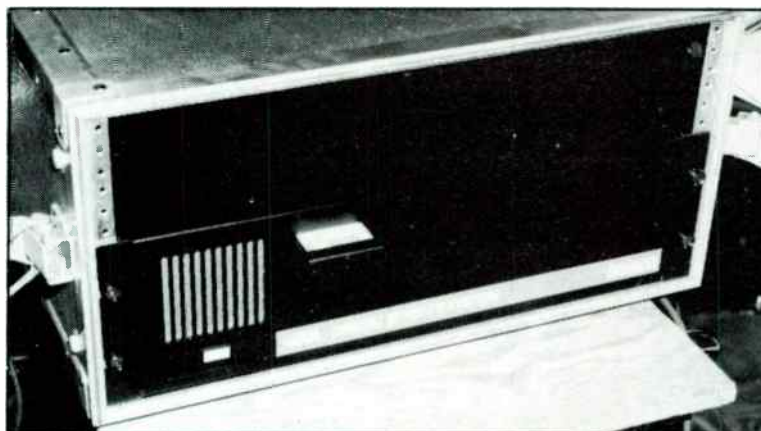
Incidentally, this kind of tape sync conveys timing information, but nothing about position; for that you need to work with SMPTE timecode, and that costs – though the gap is closing all the time.

Which situations require sync-to-tape? Well, if you want to record some sequenced parts onto tape at one time and then add some other sequencer parts later (so that you can record more than one sound from your CZ; for instance), you need a means of ensuring that your second set of sequenced parts will start and stay in sync with the parts already recorded on tape. Or you may want to add sequenced parts to non-sequenced parts already on tape (which you would have recorded to a guide part laid down in conjunction with a sync track).

Another possibility is that you don't record any of your sequenced parts on tape until the final mixdown stage, when they are mixed down along with the parts on tape. In this way it's possible to record more tracks than you might otherwise be able to, or at least minimise noise-inducing bounce-downs. By keeping your keyboard and drum machine parts sequenced until this last stage, you also have the advantage of being able to make changes to any of those parts (such as changing patches) which would otherwise necessitate re-recording.

You need a means of keeping your sequencer in a constant relationship to tracks that are on tape, and that's where sync-to-tape comes in. Whether you really need tape syncing comes down to the way you set about recording. ■ St

Lexicon 480L Effects System



You thought the Lexicon 224X was the last word in digital reverb? You thought wrong. In the sneakiest of previews at a Californian recording studio, we got our hands on what could prove to be an entirely new standard-bearer – though as it turns out, direct comparisons between the new 480L digital effects system and earlier Lexicon machines are of fairly limited value.

To start with, the 480L has four processors to perform its functions, which start with digital reverb but certainly don't end there. These are grouped into two stereo in/stereo out machines (A and B) internally, which can be run independently (giving you the power of, say, two 224Xs) or configured together in several ways to provide multiple effects. Perhaps the most exciting of these is the Cascade configuration, which takes the output of machine A and transfers it to the inputs of machine B on digital lines, so there's no need for the signal to be turned back to analogue, sent into the next signal processor and reconverted to digital (with the loss in signal quality that entails).

On the same lines, there's a PCMI610-compatible digital I/O (input/output) port which allows signals from digital multitrack machines like the Sony and Mitsubishi models to be processed through the 480L without leaving the digital domain. This is possible because the Lexicon's sampling rates (48kHz, 44.1kHz or 44.056kHz) can be slaved to an external clock.

The 480L's 16-bit system (18-bit analysis, 16-bit replay) can operate at a choice of 44.1kHz and 48kHz sample rate. Sampling time available is 1.5 seconds per processor, giving a total of six seconds for a mono sample, or three seconds for stereo. Typical dynamic range is said to be 100dB, with a 96dB minimum.

The 480L is controlled by the same remote as the 224X – the LARC (Lexicon Alphanumeric Remote Control). This will be good news for busy studio engineers, who rarely have much spare time to keep up with new programming processes. Both programs and parameters can be accessed and changed using the LARC.

Basically, there are (at the moment) three separate levels of programmable parameters, with complete access between levels possible at any time for each machine. If you want to, you can connect two LARCs to one 480L, so that, say, in a film studio application, the effects man can control machine A while the

music engineer uses machine B independently.

The programs stored in the demo 480L sounded very impressive. Besides the traditional collections of Halls, Rooms and Chambers, and more modern gated and reversed reverbs, there were a host of new signal-processing effects which rivalled the Yamaha SPX90 in their range, but had the extra quality afforded them by higher bandwidth and signal-to-noise specs. And just in case the range of facilities becomes too much for over-eager programmers, the entire program memory of the 480L can be dumped onto a RAM cartridge, allowing a library of effects to be built up.

Lexicon have also added their 'Dynamic MIDI' implementation (so successful on the lower-priced PCM70) to the 480L, which means that in addition to changing patches and controlling the pitch of samples from controlling keyboards, you can use varying amounts of velocity to introduce different degrees of treatment. You can also sequence parameter changes via a MIDI sequencer in an automated-style mix.

A brief glimpse inside the mainframe shows a neat plug-in modular system which allows plenty of room for expansion and should make servicing (or updating) a doddle. In addition, there'll be diagnostic routines controlled and displayed via the LARC, so identifying a fault and its location should be pretty straightforward.

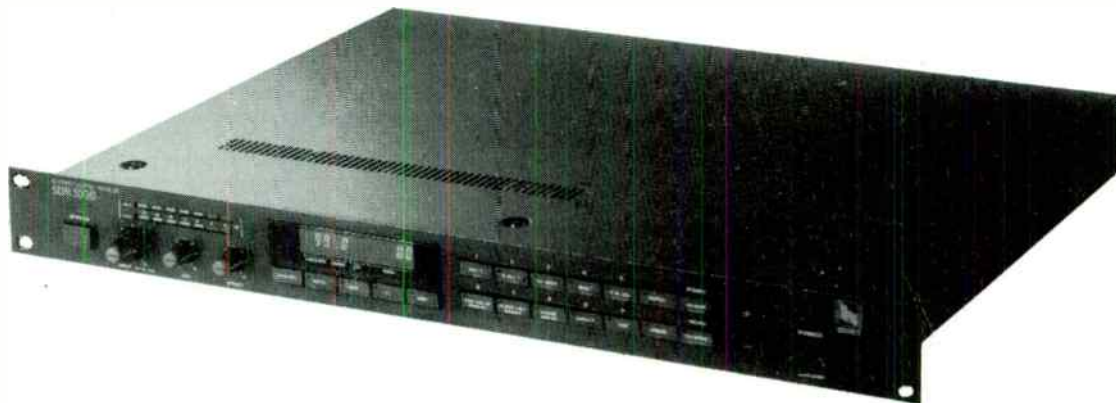
By the time of the 480L's official release (September 1), Lexicon plan to have the final basic version of the software finished, which will include new programs in the Single configuration which combines the power of all four programs (from both machines) to achieve powerful, complex audio effects. From there on, regular software updates should continue to expand the range of effects that the 480L can produce.

With this future expandability and a quality and flexibility that have already been proven by the 224X, the Lexicon 480L looks set to take its manufacturers further into unexplored areas of digital technology, and to take musicians and studio engineers/producers with them.

As soon as we have a production model, you'll know more. ■ *Paul Wiffen*

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Ibanez SDR1000 Digital Reverb



Reverb is one of the most important effects available today, and it's easy to see why. In real life, nearly everything we hear is reflected sound, so it stands to reason that sound engineers must have full control in this area if they're going to do their job properly.

To help them get that control, musical instrument manufacturers have developed digital reverb systems like this new Ibanez.

The machine conforms to the 19" rack-mounting format, and is styled along typical Japanese lines. It has a clearly laid-out front panel with an informative alphanumeric plasma display, and all its functions can be addressed with just a handful of buttons (which may or may not be a good thing, depending on your viewpoint).

What helps set the Ibanez apart from the competition is the fact that it can operate in true stereo; the channels can be used independently if required, and they don't even need to have the same reverb settings.

The effects the SDR1000 can produce are arranged as 30 factory presets, and the machine has the capability to store a further 70 treatments of the user's own devising. These effects are divided into eight modes: Hall, Room, Plate, Gated Reverb, Reverse Reverb, Dual Delay, Auto Pan and Dual Reverb. Most of these are recognisable as standard reverb effects, but the selection also includes delay programs and an interesting auto-pan facility. Also included within the programmable section is a four-band equaliser which can be applied to any effect, and the user-friendly operating system lets you compare any patch you've just modified with the original – before you commit it to memory.

User-variable parameters include Reverb Time, Pre-Delay, Early Reflection Time and Early Reflection Level. Additionally, you can alter the effect using a Room Size parameter, and in total, there are more than a dozen user variables, so there should be plenty of scope for experimentation.

It almost goes without saying that the SDR1000 has MIDI so that programs can be selected remotely, but an optional MIDI foot control unit means that this can be accomplished conveniently live as well as in the studio. It's possible to step through the programs using a regular footswitch, too, but the MIDI foot controller sounds more useful to me.

The inputs and outputs are on regular phone jacks, but Ibanez have thoughtfully included RCA-type pin

jacks as well. The effect bandwidth is 10kHz – which sounds plenty bright enough in practice – and the 16-bit linear sampling gives a high resolution with little noise or distortion. In fact, the dynamic range is quoted as being greater than 90dB with distortion being under 0.03%, which is mighty impressive.

It's sometimes easier to judge a good reverb by what it doesn't do than by what it does – it's all too easy for outboard machines like this to impose their character on the signals you put through them. This one, though, seems to score fairly heavily in all areas. It doesn't impart a metallic ringing to the program input (not even on percussive sounds), and the decay tail is smooth all the way, just as it should be.

Crucially, Ibanez seem to have got the early reflection part of the reverb treatment just right. This is the part that simulates those first few echoes that occur in an acoustic space before the density builds up to a dense clutter, and as it's these few echoes that pass on information which our brains interpret as room character, so they're hardly unimportant.

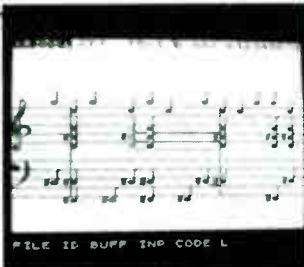
From the smallest room to the largest of halls, the Ibanez remains convincing, conveying an impressive sense of stereo perspective and depth. It's also a neat trick to be able to set the pre-delay so that it's slightly different on each channel, as this further enhances the stereo illusion.

As for the delay effects – which include chorus and flanging – and the panner, these are really to be considered as a bonus, and work fine.

I've made a point of listening to most of the digital reverbs currently available, and this one compares with the best. There are better reverbs, but only at the very top end of what is becoming a very tall market tree. It's easy to program, and the range of reverb and delay treatments it offers is comprehensive enough not to be limiting, even if you have wild production ideas.

We'll be looking at this machine in depth just as soon as we've had one long enough to assess it thoroughly. But in the meantime, I can say that initial impressions are definitely favourable. ■ Paul White

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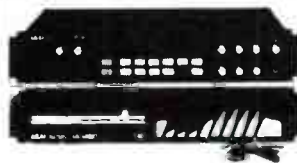


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THE SHOW GOES ON

The music industry may not be enjoying the biggest boom it's ever had, but huge crowds of enthusiastic musicians – and some stunning new innovations – at the British Music Fair point the way to a brighter future. Report *Dan Goldstein* Photography *Tim Goodyer & Matthew Vosburgh*



YOU MISSED THE BRITISH MUSIC FAIR? From where I was standing on the public days, I'd say you were one of the few. Bulging postbags, mountains of technical queries and a multitude of readers' demo tapes are enough to tell us that there are an awful lot of musicians in the UK (and beyond), and that some of them read E&MM. What they couldn't tell us is just how many of those musicians would make the trip – through some of Britain's least reliable summer weather – to Olympia in the first three days of August to see the British Music Fair.

This, as you probably know, was the second BMF in as many years that actually acknowledged the existence of musicians at all. Previously, the UK's

Korg section of Rose-Morris stand was quiet on this trade day, but hordes of tech-hungry musicians raided it for new sampling goodies during the BMF's three public days

Robot breakdancers assaulted journalists and threw a ton of bananas from Sound Technology stand during show, did good job of attracting attention to fine Alesis, Bokse and Oberheim equipment

Computer monitors presented product information on Ensoniq's imaginatively arranged stand, but factory sounds of new ESQ1 synth did all the talking that was necessary



only national musical instrument event had been a strictly trade-only affair, and suffered because of it. Last year, though, the public were allowed in for three days, and the BMF was a roaring success.

So this year, almost everybody who exhibited at the '85 Fair returned to Olympia – many of them with larger stand areas – while the sceptics who stayed away a year ago realised the error of their ways, and helped make BMF '86 a bigger show even before anybody had stepped through the front door.

The three trade days that preceded the punter invasion were tranquil and restrained – the calm before an almighty storm. Luckily, members of Her Majesty's Press are allowed free access to all the exhibitors' stands during the trade days, so E&MM people ▶



► were able to get a glimpse of the new instruments on show before they were played, programmed, broken, and (in a few cases) stolen by the public.

Truth to tell, though, this year's British Music Fair didn't spring a very large number of surprises on the new gear front. Certainly, there were fewer new goodies around this year than there were in '85, which may have disappointed any musicians who were hoping for a repeat performance. This summer, the music industry drew its breath and paused for a respite before plunging in at the deep end again in time for the New Year, and the world's two most prestigious shows – Winter NAMM and Frankfurt.

For all that, there was still a fair amount of new gear around, and this time almost all of it represented genuine innovation, not just the expansion (and glossy repackaging) of existing ideas.

Twelve months ago, for instance, few would have given credence to the idea of an invasion of new synthesisers from companies not normally known for producing them. Yet BMF '86 showcased a number of just such machines – like the Kawai K3, Elka's pair of new polysynths, and the Ensoniq ESQ1.

The Ensoniq was reviewed in last month's E&MM by Paul Wiffen, so I won't bore you with a rundown of its seemingly endless array of features. However, this was the first time I'd played an ESQ1, and my feeling – backed up by the impressions of other show attendees I spoke to – is that the synth stands out in three important areas.

First, it sounds great. The synth has clearly received some careful factory programming, with the result that its preset sounds cover a huge range of textures – breathy woodwind, soft strings, silly noises, you name it – and cover it well. Most significantly, the ESQ1 succeeds in sounding like an analogue synth and a digital one at the same time, inducing more 'best of both worlds' mutterings from players than any other synth I know.

Second, the Ensoniq's 10-zone fluorescent display is among the most useful currently available. At any stage of using the machine, 10 'slices' of information (patch names, sequencer tracks, MIDI channels, whatever) appear in the window, and a network of 'soft' buttons allows you to select from these at will. It's a step towards the kind of menu-driven systems used by computer software, and it certainly makes the ESQ1 a very 'immediate' instrument to use.

Third, of course, is the fact that the ESQ1 costs only £1080. That's astonishingly cheap for a machine capable of acting as a programmer's sound library, a songwriter's tool, and a performer's MIDI system centrepiece. Among the people I spoke to, no other instrument at the show aroused so much comment.

IF THE ENSONIQ benefits from good factory sounds, the Kawai K3 hasn't been so fortunate. The new synth, which uses what its makers call 'Free Wave' technology, looks on paper to be as versatile in the sound department as the best of them –

especially as one of its features lets you 'draw your own waveform'. Yet the demo machine I played sounded a bit hackneyed, perhaps because Kawai's programmers, anxious that their synth be identified as a 'professional' instrument, have been over-cautious and simply made the K3 sound like a lot of other synths, at least in its unedited form.

Expect big things from Kawai, though. They're a big company with years of experience making some of the most respected pianos in the business, and the K3 is by no means a one-off entry into the hi-tech field. The synth has a modular brother called the K3m, and there's a neat digital drum machine, the R100, which features 32 onboard sounds, velocity-sensitive pads, and programmable pitch and dynamics for each sound.

Kawai have had the technology to do all this for some while now, and the same is true of Elka. The Italian company's Synthex remains an unsung classic among programmable analogue polysynths, and the spirit of that machine has now been carried over to the EK22 and its digital counterpart, the EK44. Both machines are now in much more of a finished state than they were when we first saw them at Frankfurt back in February, but one factor has remained constant – they still sound impressive.

In fact, drawing a distinction between the two instruments is a mite tricky, partly because they both seem capable of sounding *unlike* other instruments that use similar methods of sound-generation (more 'best of both worlds' clichés), and partly because the Italians have chosen to use the same front-panel moulding for both machines, so they look very similar. Ultimately, though, my feeling is the EK44 should be able to produce sounds of greater clarity and complexity than its stablemate, hence the price difference between them: the EK44 will cost £1299 when it hits the shops, with the EK22 coming in at £999.

Again, look out for modular versions of both synths, along with some Elka digital drum machines, in the near future.

Just about the only other new synth at the show was the Casio CZ1. Essentially, this is yer average CZ machine with some neat additions that make it a more likely candidate for the position of Official Professional Musical Instrument than any previous Casio synth. Among the modifications are a keyboard sensitive to both velocity and aftertouch, a bigger memory with 64 patch locations and a further 64 slots for storing keyboard split/layer arrangements, and a host of smaller features like a backlit LCD, MIDI on/off switch and so on.

Elsewhere, the great electronic piano battle is proceeding apace, and is now divided into two price areas. The first, centering around the £1000 mark, has the Yamaha PF series, the Technics PX7 and PX9, and the new Ensoniq Piano as prime contenders. The Yamahas are already a known (and desirable) quantity, while the Technics range is exciting quite a number of people. The Ensoniq, sad to say, didn't really live up to expectations – though

maybe that's because I played it just after the ESQ1. We shall see.

In the upmarket division, the Technics PX1 is establishing a fine name for itself, but faces stiff competition in the shape of the Korg SG1 and Roland RD1000. Both of the latter sound excellent. The Roland is reviewed elsewhere this issue so I won't dwell, but it's probably the machine that would get my vote if I had to choose one of them, if only because its programmable memory allows musicians to impose something of their own personality on the machine. The Korg, though, has the advantage that ROM cards of new sounds can be slotted in – a vast library of these is promised – and that a more thorough MIDI implementation may make it a better controller keyboard than the Roland.

REAL ATTRACTIONS ON THE KORG stand, though, were the DSS1 sampling keyboard and DDD1 sampling drum machine. Korg call the DSS1 a Sampling Synthesiser, which is pretty accurate, seeing as it contains more than a DW8000 worth of voicing circuitry, a 'draw your own waveform' (getting fashionable, this) harmonic synthesis system, and two programmable DDLs, all of which can be mixed in with incoming sampled data.

The range of possibilities a machine like the DSS1 throws open don't really bear thinking about at a show like the BMF; everyone's too busy trying to get their hands on the bloody machine, and when they do, it's invariably a case of 'well, that parameter list looks nice and long, but this factory disk sounds terrible'.

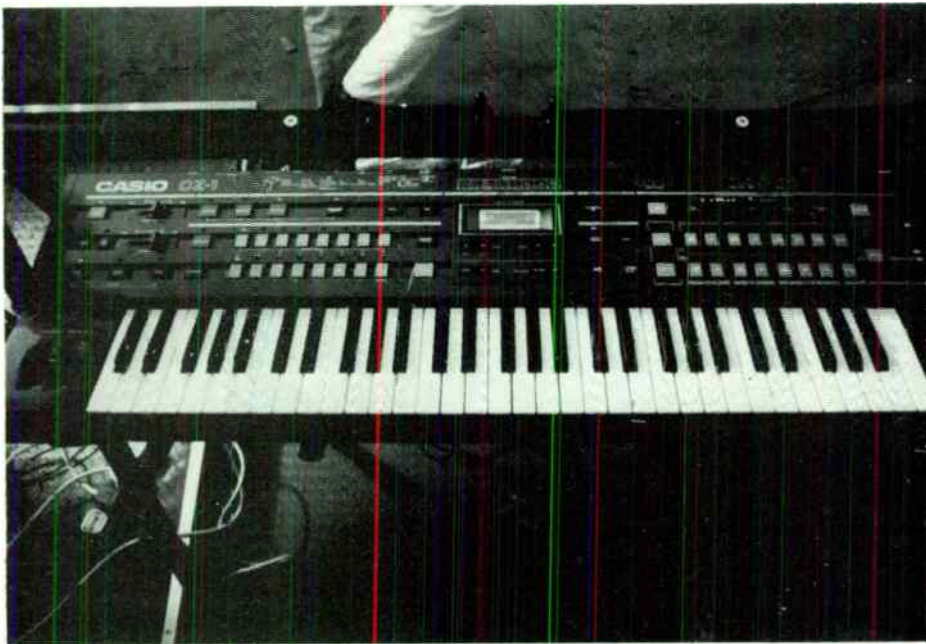
To be fair to Korg, though, the early DSS1 factory disks make impressive listening, and contain whole families of related samples, along with basic synth sounds and plenty of space to put your own patches into. As I write this, a DSS1 has just taken up residence (permanent, we hope) in the E&MM office, so look out for a comprehensive review.

Other samplers on show included Roland's S10 and S50, with the latter hooked up to an RGB monitor via its clever built-in interface: on-screen waveform editing and keyboard splitting, without the need to learn how to use a computer.

Then there's the Akai X7000, a sampling keyboard born from the S700 module, which was to have been little brother to the S900 until Akai decided a keyboard-equipped instrument would be a better bet in the £1000 area. Several different Akai 'X' samplers have been seen at different trade shows around the world, all of them prototypes, so it's not clear exactly which form the finished instrument(s) will take. Watch this space.

The other major sampling story unfolded outside the Music Fair proper. At a hotel up the road from Olympia, E-mu Systems were showing the new Emax to a crowd of interested dealers and inebriated press men. We previewed the machine in last month's E&MM, but in case you missed that, I'll just mention that Emax is a scaled-down (though not much) Emulator II that has a number of additional

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'Professional' Casio CZ1 looks much like other big CZs, but has more of what pro musicians need, like dynamic keyboard, bigger memory and backlit display, all for £999

features, a smart if unorthodox exterior, and a crazily low price-tag of (roughly) £1995. E-mu are in the process of setting up a dealer network in the UK, and my feeling is they'll need quite a number of outlets – the idea of an Emulator II for under two grand is going to be massively attractive to massive numbers of people.

Further down the road, but still outside the show proper, the Sequential Studio 440 was making its world debut. The 440 was mentioned briefly in E&MM August, but while that news piece described the machine as 'a studio-standard digital drum machine that also acts as a sampler and MIDI digital recorder', what emerged in the metal was little more than a drum voice storage unit. Definitely a case of those ol' Unfinished Software Blues – though when it appears, the 440 should answer a lot of programmers' and studio engineers' prayers.

In the same hotel as Sequential were Rod Argent's Keyboards, flying the software flag by showing off programs for that prestigious (if overpriced) industry standard, the Apple Macintosh. Argent's are now importing software from three US houses – Digidesign, Opcode, and Mark of the Unicorn – and all three were shown to impressive effect during the BMF. If these incredibly flexible but so far little-used packages are to gain wider acceptance among musicians, they need enterprising dealers like Argent's to handle them.

BACK INSIDE OLYMPIA (or Olympia 2, to be precise: the main bit was playing host to a 'come and see what Saudi Arabia looks like' freebie show), OSC were showing a plethora of new software packages from Steinberg Research (among them the Pro24 Atari sequencer reviewed elsewhere this issue), while Gateway E&MM SEPTEMBER 1986

Studios had the honour of being the only exhibitor at the show with a Fairlight Series III. It certainly attracted the crowds, which is good news for Gateway and, I reckon, for the industry as a whole.

Yamaha succeeded in occupying almost all of Level 2, plonking what they called The Yamaha Village in the middle of it, and giving everyone else an inferiority complex in the process.

I'll be quite honest with you and say that, interesting though some of Yamaha's new pro stuff (FB01 multi-timbral FM expander, QX5 sequencer) was, I was more taken with what I saw – and heard – over in the 'single keyboard' bit. For a start, there were people of all ages – on both trade and public days – getting endless fun from sampling each other's burps and splutters into the VSS100 (the same was happening on the Casio stand with the SK1). These ultra-cheap samplers may not bear much comparison, quality-wise, with the Emaxes of this world, but if one out of ten kids that buys one as a glorified toy later goes on to become a 'serious' musician, then the little Yamahas and Casios have done their job.

And what the VSS100 does for sampling, Yamaha's latest PSS series of home keyboards do for FM synthesis. The PSS360, 460 and 560 all include a cunning little device called simply 'FM Digital Synth'. This sits in the top right-hand corner of the keyboard in question, and comprises six sliders that are used to adjust the values of six synth parameters. The change in sound is instant, the controls simple, the educational value immense. 'If only you could buy a DX with this on it', I mused, looking disdainfully at the auto-accompaniment section of the PSS360 – my guess is that, within a year or two, you will.

But Yamaha aren't content merely to make FM technology more accessible. They've now developed an entirely new method of sound-generation, which complements, rather than replaces, Frequency Modulation. The system is called AWM (for Advanced Wave Memory), and although precise details about it are scarce, it's a fair bet that it's

a waveform analysis and resynthesis package similar in concept – if not in execution – to Roland's SAS.

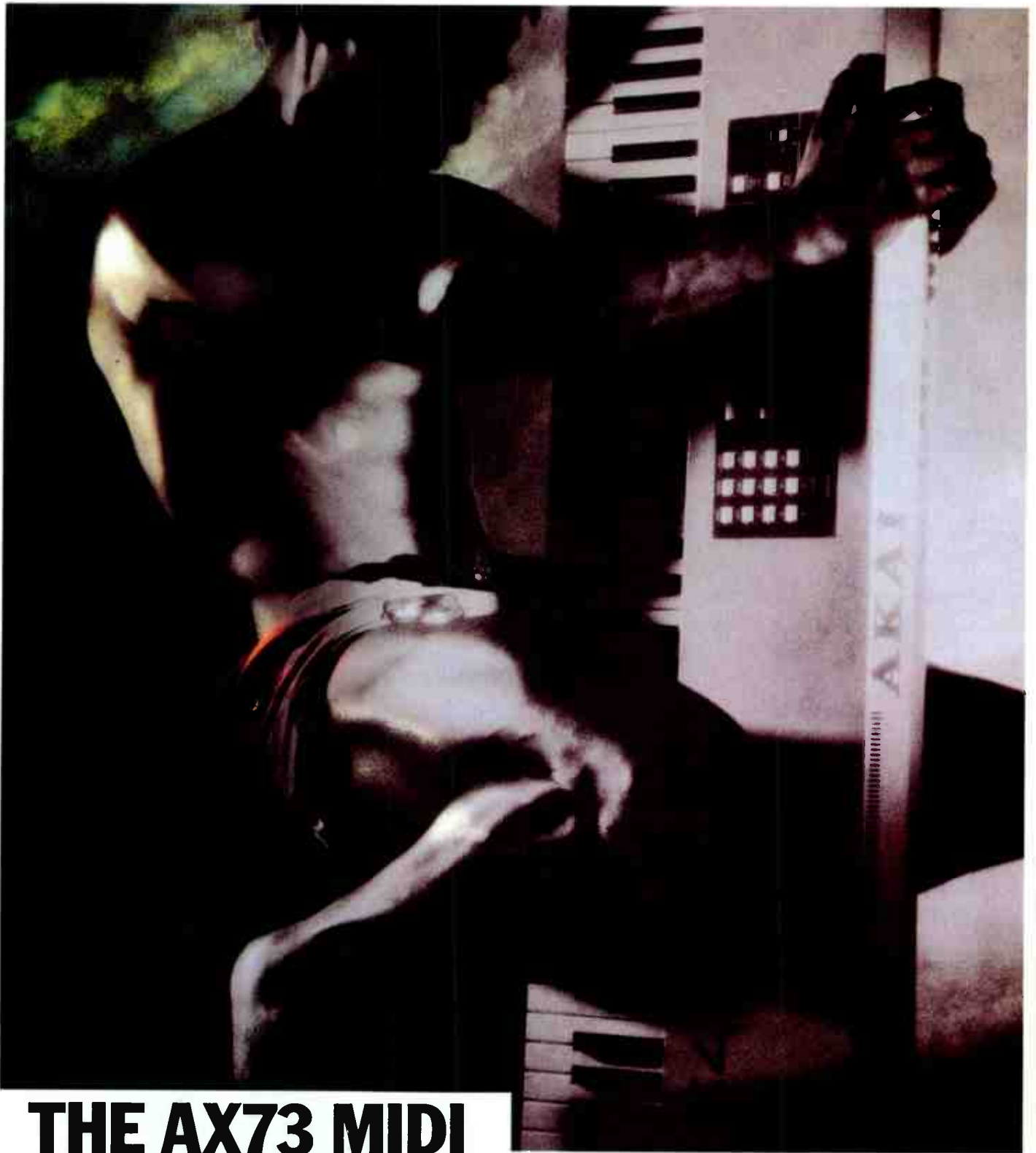
The first instrument to feature AWM sounds is Yamaha's astonishing new HX System, best described as a cross between a multikeyboard and the bridge of the Starship Enterprise. The HX is a modular system: you begin by mixing and matching the tone generator, dual keyboard, amp and pedalboard of your choice, before moving on to optional extras such as additional tone generators (FM or AWM) and multitrack MIDI recorders. Breathtaking stuff, but it's not cheap.

Back to FM, though, and the best demo I witnessed at this year's British Music Fair. It was that man Dave Bristow, almost inevitably, who delivered the goods in a brief 20-minute address to hordes of budding FM programmers in one of Yamaha's two demo rooms. 'There's no new gear at all', Bristow began, 'so now we've got a chance to discover a bit more about how to use the gear we've already got'. And discover we did, IRCAM's bearded wonder taking us through the different ways in which we perceive sound, and how psychoacoustics is probably more relevant to FM programming than conventional analogue synthesis. The jargon about harmonic structure and envelope characteristics may have clouded the issue for some, but Bristow's sounds spoke for themselves: a splendidly detailed Spanish guitar, a bell that became a choir when sustained, and the best distorted rock guitar sound I've heard any synthesiser produce.

LUCKILY, THE STANDARD OF DEMOS was pretty high overall. Honourable mentions here must include the regular Roland band, who played with vigour and conviction despite living in the shadow of the 'members of Marillion' gig on the Sunday, and did a much better job of actually showing what the gear can do; Danny Gottlieb, who did the best 'name drummer' demo – for Simmons – I've ever seen in the UK; Richard Young, whose tireless enthusiasm and disarming honesty will be sorely missed when he leaves Casio; and the guys from Tekke Music, a small London company intent on getting ethnic percussion the attention it deserves – their seminars were educational, intelligent and a lot of fun.

On a personal note, the Music Maker stand sold out of the latest E&MM (which had only just appeared), so I returned to Cambridge without a copy, and I still don't have one a fortnight later. There wasn't quite the intensity of alcoholism in the press and exhibitors' bars as there was in '85, but those journalists who ventured out of the show each evening under the guidance of a generous manufacturer or agent were well treated. I ate a huge barbecued Australian meal in the company of assorted E-mu and Sequential people on the Friday night, and was violently sick on Saturday morning. Some people never learn.

And yes, the whole thing will be going on again, same time, same place, next year. ■



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STRUCTURED SOUND



Avoiding all existing digital techniques, Roland's engineers have come up with a new process – Structured/Adaptive Synthesis – for the simulation of piano sounds. The first instrument to have SAS is the RD1000, but how does it compare with competing instruments that use established sound systems? Dan Goldstein

No musical instrument has been more frequently imitated than the piano. From difficult beginnings as a grudgingly accepted replacement for the harpsichord, the pianoforte has matured to become the inspiration for a thousand new forms of music, and is probably responsible for introducing more people to the world of music than any other instrument. Result? The joanna is in as huge demand today as it's ever been.

But several factors have conspired against the piano, and it's these factors that have spawned the instrument's imitators.

First, all pianos, whether they're of the grand or upright types, are large, bulky and awkward machines to move around. In today's highly mobile society, that doesn't bode well for the future of a musical instrument.

Second, the piano's inherently complex

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mechanical structure is becoming more expensive to produce as each day goes by, in terms of both material and labour costs. So, fewer people can afford new pianos than the manufacturers would ideally wish.

And third, the piano is still capable of producing just the one – admittedly immortal – sound, while today's hi-tech synths and samplers can have their sounds altered at will by the user.

To be successful, a modern alternative to the piano has to score over its predecessor in all the three areas just discussed. Electronic pianos have been more portable, more affordable, and more versatile than their acoustic counterparts for some years now. But until recently, they hadn't succeeded in fulfilling a fourth, crucial criterion: they didn't sound too much like a piano.

Specialist electric instruments – like the Clavinet

and Fender Rhodes – have become appreciated for producing a sound which is distinctly *not* piano-like, and these, too, have spawned their own legion of imitators. But so far, all attempts at replicating the original piano sound have failed in one way or another – usually several ways.

But here we are in the autumn of 1986, and the Japanese musical instrument industry – one of the major world centres of piano production – is preparing itself for a revolution in contemporary piano technology, with each company putting its money on a different system for re-creating the classic piano sound. ►

▶|Matsushita (Technics to you and I) are sticking to the PCM (pulse code modulation) technology they've been using in home multi-keyboards for some time, with the PX range of electronic pianos employing PCM to stunning effect. Yamaha are sticking by FM – the system that's made the DX7 synth such a worldbeater – with their recent PF70 and PF80 pianos; their realism isn't quite as great as that of the Technics range, but they cost a good deal less to buy. Korg, meanwhile, are using digitally-stored sampled piano sounds in their new SG1 (the SG stands for Sampling Grand, though the

Synthesis “The SAS study analysed the changes in harmonic structure that occur not only as pianists play along the keyboard, but as they play one note with different velocities.”

instrument doesn't actually sample), and Ensoniq – the only US company engaged in the great piano race against time – are doing the same with their new Piano.

But it's Roland, a company with a history of going the long way round a problem in order to come up with the best solution, who've embarked on the most rigorous development programme in the quest for The Perfect Piano Sound. Roland's engineers, with a wealth of knowledge in the PCM and sampling areas, have rejected both systems for the company's new range of digital pianos, despite the fact that they're used in other Roland instruments. PCM, they claim, is just right for drum voices, while sampling is good for tuned orchestral and rock band sounds like strings, brass, guitars and so on. But according to Roland, the piano deserves a new system of its own, so the company's engineers have given it just that – a new digital resynthesis system that goes by the name of Structured/Adaptive Synthesis, or SAS for short.

Initially, precise details about the workings of SAS have been difficult to get hold of outside Japan. Perhaps understandably, Roland's R&D people are being guarded about releasing the fine details of what the process does and how it does it.

What we do know is that, in developing SAS, Roland engineers have painstakingly sampled all 88 notes of several different makes of grand piano (Steinway included), and analysed the resulting waveforms on a mainframe computer. More important, the study then went on to analyse the changes in harmonic structure that occur not only as pianists play up and down the keyboard, but as they play one note with different velocities. In total, the harmonic structure variations at 128 different velocities – all the way from pianissimo to fortissimo – were analysed for each key. Which goes some way to explaining why it's taken Roland so long to come up with SAS...

Having created an advanced digital algorithm of the pianos' harmonic relationships, the design team then set about dedicating the information onto a single custom VLSI chip. They succeeded, and the result is a range of new instruments that utilise this chip. Included in the range are two domestic machines – what Roland call 'Contemporary Keyboards' – named HP5500 and HP5600, and two pro instruments: the RD1000 piano and its modular

counterpart, the MKS20. It's the RD1000 I'll be examining here, but if you're short of space/finances or you already have a good keyboard of your own, you'll be glad to know the MKS20 is identical to its keyboard counterpart in most important areas.

In the tradition of pianos, the RD1000 is no lightweight. It weighs in at a meaty 95lbs, with the pedal unit (housing soft and sustain pedals, and the power supply) adding a further 18lbs, and the stand adding 29lbs or 39lbs, depending on which model you go for. So much for portability, though it should be stressed that the RD1000 is still quite a bit lighter than the average acoustic upright (let alone a grand), and that most of its new digital rivals are no better in this respect.

And in any case, the Roland's massive weight and dimensions (nobody's yet found a way of condensing an 88-note keyboard without sacrificing playability) mean that it should stand up well to any abuse you, your roadcrew, or your fans can throw at it on the road.

That 88-note keyboard is made up of weighted, coated wooden keys, and feels softer and easier on the fingers than a normal acoustic keyboard. That will delight synth and organ players brought up on plastic keyboards, who at last have the chance to use a more responsive set of ivories, without having to go through a period of culture shock. It should also please hardened piano fans, even though it may take some a while to adjust to what is undoubtedly a 'looser' system than what they're used to.

Above the keyboard is a sleek control panel, sparse and attractively decorated in the contemporary idiom. Immediately obvious are a 40-character, backlit liquid crystal display (not as helpful as some, but then it doesn't have too much information to convey), and the Alpha dial, centrepiece of Roland's new – and much vaunted – system of parameter selection and value adjustment.

Parameter selection? Well, unlike most of its rivals, the RD1000 offers a number of programmable parameters, which can be used to tailor each sound to your own tastes and requirements. But more on these parameters later, once we've gone into what impression those sounds make on first contact.

Essentially, the RD1000 contains eight digital algorithms based on the harmonic characteristics of eight different sounds: three acoustic pianos, a harpsichord, a clavi (read Clavinet), a vibraphone, and two electric pianos (both fairly Rhodes-like). But these sounds – stored in ROM within the machine – provide only the starting point for further variations. In total, you can store seven edited versions of each sound in RAM, as the RD1000 arranges its voices in eight banks of eight. So, we have a total of 64 different sounds, eight of them preset, the other 56 user-programmable.

You can dump 64 of your own edited sounds to

Roland standard M16C memory cartridge (the socket's on the back panel), though you can't give them names as you can on many programmable synths, which could lead to some identification problems if you're going through a lot of cartridges.

The three acoustic piano voices are subtly different from one another, in much the same manner that you'd expect various makes of grand piano to sound different. The first represents what is, I suppose, most people's idea of what a concert grand should sound like, while the second is a closer, more intense version (like the effect to putting your head inside an acoustic grand), and the third gives a dirtier, Chas 'n' Dave saloon-bar impression, as though there were something (darts, pins, cigarette ends) inside the workings of the RD1000 that shouldn't be there.

All three piano banks display a fine sound balance, especially at the top end, where the hammer strike forms such a significant part of the sound on an acoustic piano. Mid-keyboard, things are still rich, vibrant and above all realistic – though there is a 'zing' to the output which I've heard some players describe as an 'electronic' element marring what is otherwise a splendidly natural-sounding acoustic tone. You can use the EQ controls to eliminate the offending zing, but at the expense of a little brightness. The same effect makes its presence felt at the bass end of the keyboard, too; it's almost as though, in an attempt to stress their new machine's realism, Roland's engineers have over-emphasised the characteristic buzz which pianos exhibit over their lowest couple of octaves.

But don't get this problem blown up out of proportion. It certainly didn't bother me when I was playing the RD1000, and my guess is that many players – especially anyone brought up on a Yamaha electric grand, which exhibits a similar but much more pronounced effect – won't even notice it.

The beauty of the RD1000's piano sounds lies in the realism with which their harmonic structure

Sounds “All three piano banks display a fine sound balance, especially at the top end, where the hammer strike forms such a significant part of the sound on an acoustic piano.”

alters subtly as you hit keys with varying degrees of velocity. It's something you can't put your finger on (pun not intended) until it's pointed out to you, but once you've played an electronic piano whose output changes the way the Roland's does, other instruments – including the RD1000's main competitors – start to sound lifeless by comparison.

Of the other five preset sounds, the harpsichord is bright and (my notes say) flavoursome, and of course not too sensitive to velocity – whoever heard of a harpsichord with a velocity-sensitive keyboard?

The clavi is similarly bright and lacks little in the realism department, though again, there's just the merest hint that an over-emphasis in the upper midrange deprives it of a little warmth. Close your eyes, though, and you'd be pushed to tell there wasn't a vintage Clavinet D6 in the room.

The vibraphone and electric piano sounds represent, for me at least, the RD1000's finest moments. The vibes, especially, are wonderfully

metallic without ever sounding brittle, and with the help of the built-in tremolo unit (see later), they leap out of the speakers with all the vitality of Gary Burton in overdrive. And you don't need to be a virtuoso vibes player, just a keyboardist with the minimum of dexterity and a moderate idea of how the vibraphone is played.

As I've said, both the electric pianos are close approximations of a Fender Rhodes, with the first sounding close and a little compressed, the second more open and vibrant. Like the acoustic piano sounds, they feature superb re-creations of the mechanics of the instrument being imitated. And,

taken the opportunity of fitting a programmable six- or eight-band graphic EQ to the RD1000. In some ways I still am, because there's no more precise – or more instantly visual – way of adjusting a frequency curve. But the Roland's three-band system is a little more versatile than it appears at first. Because although the bass and treble sections are set by simple shelf EQ controls with preset cutoff frequencies (100Hz and 10kHz respectively, with 10.5dB cut/boost variable in 1.5dB steps), the midrange gets a parametric EQ section with a centre frequency adjustable between 400Hz and 4kHz, the same cut/boost control as the bass and

information, the RD1000 can do neither for aftertouch. Now, that isn't so bad in the context of the instrument's own internal voices (well, do you want to apply aftertouch to a Steinway?), but it does diminish the piano's appeal as an all-purpose MIDI controller.

A further point against the RD1000 here is its inability to split its keyboard into zones, with each zone assigned to a different MIDI channel. This prevents you from, say, playing an internal piano sound at the bass end, and an external lead synth voice further up.



because nobody is going to object to an electric piano sounding a little non-acoustic, the RD1000's 'zing' doesn't intrude here at all. No matter how good an imitation of a Rhodes you've heard a DX7 perform, the RD1000 goes one better.

One of the problems with so many electronic pianos (both yesterday's and today's) is that they don't present the user with much opportunity to alter their basic sounds. It all comes down to the purist ethic – if you're trying to imitate a piano, why mess up the sound with a load more electronic gadgetry?

But as long as musicians are playing electronic pianos through graphic EQ units, digital delays, and psychoacoustic enhancers, there'll always be a reward for the enterprising manufacturer who sticks a set of user-programmable parameters on their piano.

That's just what Roland have done with the RD1000. The parameters are divided into two groups: those that govern the entire instrument (System Functions), and those that are programmable for each of the 64 voices (Voice Functions). The former include MIDI channel selection for reception and transmission (with a 1-16 range offered for both), and keyboard touch response; the RD1000 offers four values for this, labelled A, B, C and D. B is the default value, under which the shift in dynamics and harmonic structure increases in a linear way with the amount of velocity applied to a key. Under setting A, the increase in volume and tone is less pronounced, while settings C and D introduce a more dramatic alteration.

The voice-programmable section comprises an individual Voice Level control (variable from -13dB to +2dB in 1dB increments, with 0dB being the default value for all voices); the three-band EQ system; and Chorus and Tremolo modules, both with variable rate and depth (15 levels for each).

Initially I was disappointed that Roland hadn't

treble, and a separate 'Q' (or bandwidth) control, variable in eight arbitrary stages, with the highest value giving the narrowest bandwidth.

Programmers who've grown used to the idea of sending digital samples through analogue synth sections will be disappointed to find no filter or envelope controls on the RD1000, but these would have been prohibitively expensive to develop in software terms. And all in all, the existing range of programmable parameters is capable of inspiring a wide selection of different edited voices, and more than justifies the inclusion of programmable patch memories on the RD1000.

It's inevitable that, sooner or later (probably sooner), some players are going to want to use the RD1000 as a MIDI controller keyboard, taking advantage of that long, luxurious, velocity-sensitive set of ivories to manipulate external voices from other MIDI machines. And when they do, they'll find the RD1000 well equipped in many ways, but lacking in a couple of MIDI features that could have increased its flexibility as a controller.

On the positive side, the machine can receive patch-change data values 1-64, and transmit the same data in the range 1-128 (you use the Alpha dial to select a second 'bank' of external program changes). The RD1000 has two further controllers – an External Volume control next-door to the internal one, and an expression pedal that plugs into the pedalboard – which can be assigned, in six different permutations, to control three MIDI functions: Foot Control, Volume and Expression. The machine is capable of sending all three of these codes as they are, but converts them all to volume data when it receives them. The soft and damper pedals, tremolo and chorus settings are also received and transmitted by the RD1000, using their standard MIDI control change codes.

Less welcome than these features is the fact that although it both receives and transmits key velocity

Now is the time, I suppose, to mention that I'm not all that enamoured of the electronic piano as a species. As a synth player who thrives on the chance to manipulate sound in as many ways as I can think of, and who occasionally resorts to an acoustic piano for songwriting chores, I find most electronic pianos bland, predictable and sonically uninspiring.

But the RD1000 is none of these things. It's one of the few instruments I've come across that's stopped me from thinking about my job as a writer by making me think about music more than anything else. After 30 minutes with the new Roland, my head was full of new musical ideas, and my notebook was empty.

A lot of this has to do with the way the RD1000 sounds. Some may accuse SAS of producing a forced sense of naturalness, but my feeling is that, for pitched, percussive sounds of the kind the RD1000 is intended to reproduce, the system is a winner. The sense of dynamic and harmonic realism SAS seems capable of generating is intense, and

Editing "You can dump 64 of your own edited sounds to Roland standard M16C memory cartridge, though you can't give them names as you can on many programmable synths."

compared with sampling, it has the advantage of being relatively undemanding of memory: you don't need a mass of expensive chips to put SAS on an instrument, just plenty of patience at the development stage.

And although Roland's engineers are stressing that SAS has been developed specifically for piano applications, I for one eagerly await its adoption in other fields. Anyone for a fully programmable, SAS polyphonic synthesiser?

As a tool for making music, first and foremost, the RD1000 is worth every penny of its asking price. And in some contexts, an MKS20 module linked to a MIDI keyboard could be even better value.

It's the best electronic piano I've tried. End of story. ■

**Prices RD1000 – £2499, MKS20 – £1299; both RRP's including VAT
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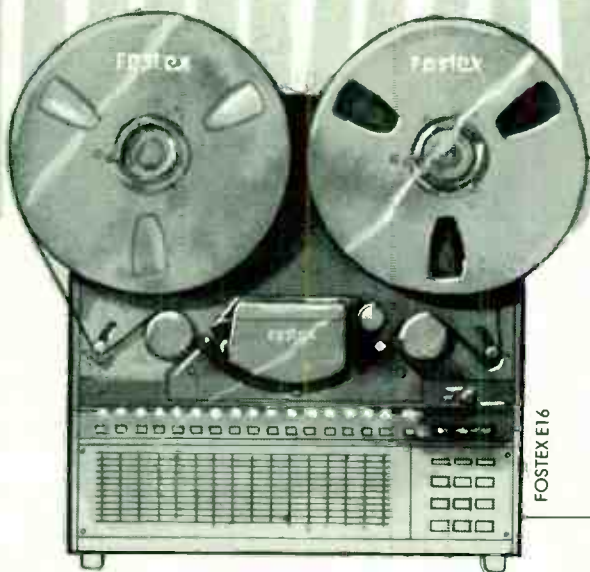


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S O F T W A R E T R A C K I N G

The computers have had the potential for some time, but only now are the Atari ST machines receiving the software support they need to get musicians interested. One of the first ST music packages to appear is Pro24, a multitrack MIDI recording system from Steinberg Research. *Simon Trask*

There's no doubt digital MIDI sequencing is having a profound effect on the way we record, and maybe even conceive our music. Nowadays it's possible to record extensively before even thinking of turning to tape, and it's a sobering thought that it'll soon be the physical limitations of tape that seem restrictive, as we judge everything against the capabilities of fully digital manipulation.

But that's not to say that there aren't enduring features of existing tape systems which most sequencers aim to emulate. Music being a time-based art, and being constructed of multiple parts which are (mostly!) coincident in time, that's understandable.

Steinberg Research have already made a good name for themselves with their Pro16 sequencer

for the Commodore 64 (reviewed E&MM February '86), as much for its accessible design as for its capabilities. Their latest sequencing package, written for Atari's 16-bit 520ST and 1040ST computers, takes full advantage of those machines' increased memory, increased processing power and user-friendly icon-driven graphics environment, without losing any of Pro16's accessibility in a flood of new features.

Pro24 is organised in a manner more akin to tape than its predecessors. It retains a pattern-based format, but each track is organised individually (unlike Pro16 and the C-Lab SuperTrack), and contains its own patterns rather than drawing on a common pool (unlike UMI and 10 Systems). A pattern can last for as little as a fraction of a beat, or for as long as the whole track.

So, whereas previous pattern-based sequencers

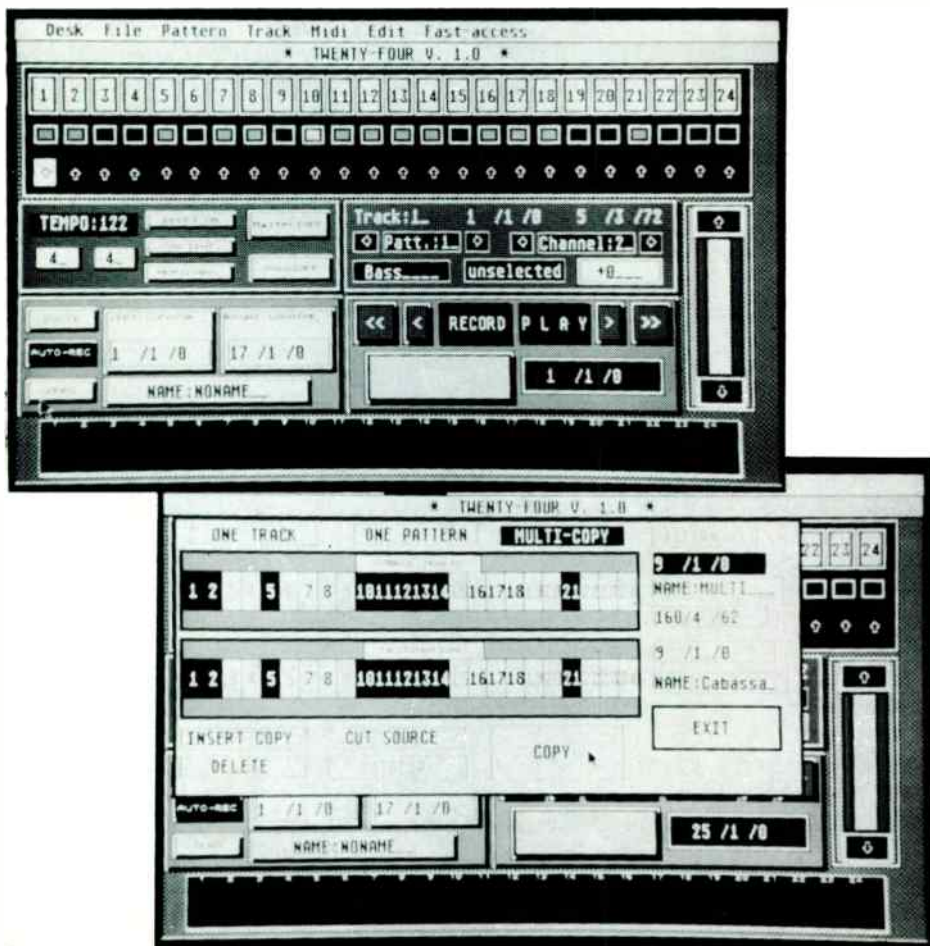
(Pro16 included) haven't been kind to musicians who want to record lengthy single performances, Pro24 accommodates this approach comfortably – yet still functions in a 'building-block' manner. And as you can copy any section of a track to any position on another track, you can retain that one brief but brilliant idea from an otherwise uninspired 15 minutes of keyboard doodling.

Each track can be up to 999 bars long. That's just over 30 minutes-worth of 4/4 bars at 120BPM – and with more than 80,000 notes to get through, you're unlikely to run out of steam.

Pro24 also includes a 'master track' which allows you to select tempi and/or time-signatures that control all 24 tracks, regardless of settings on those tracks. It's a useful means of controlling all the tracks simultaneously, and allows you to introduce multiple tempo changes. (Tempo as defined elsewhere applies for the duration of a track.)

Pro24 brings software closer than ever to the tape-recorder analogy with its Record, Play, Rewind and Fast Forward controls, and Steinberg have given the system added flexibility with two speeds for both Rewind and Forward. There's also a return-to-zero option, which is (as you might imagine) spot-on each time and virtually instantaneous.

In some ways it's useful to think of a 24-track tape when considering the way Pro24 functions, but no tape can move as fast as this sequencer. And for those of you still in the dark, it is MIDI data, not audio, that's being recorded here.



At all times, your current position is displayed below the controls in bar/beat/step format – the latter to a resolution of 96 steps per beat (that's 384 steps per 4/4 bar). Once you've selected your chosen track, you define the start and end positions within which you wish to record by means of the left and right locators in the lower left area of the main screen; these are defined in the same bar/beat/step format mentioned above. You can enter values for both locators directly from the ST's QWERTY keyboard, or via the fader-style up/down bar on the right-hand side of the display (QWERTY is usually quicker). You then set the current location to the position in the left or right

locator by an appropriate single keypress on the QWERTY keyboard. Good to see Steinberg haven't completely foregone the keyboard option for the delights of mouse control.

The top bar of the display identifies seven menus which can be 'pulled down' using the mouse. Each menu offers options which, when selected (again using the mouse), call up windows of various sizes. These windows, if you aren't already familiar with the Atari's graphics, are displays that partially overlay – rather than replace – the main screen. It's a very quick method (all the more so because of its standardised access) of listing and calling up a large number of features without cluttering the main screen and having to remember a large number of commands.

Beneath the top bar is a display which shows the status of the sequencer's 24 tracks; it's here that you can select individual tracks for recording and editing, and mute any combination of tracks. As on Pro 16, it's also possible to solo the currently selected track, a feature worth its weight in gold.

Incidentally, both Track Solo and Track Mute can be switched on and off while tracks are playing; this causes no problems when soloing a track, but mute leaves any notes that are playing at the time hanging – one for the update, chaps.

Partly because the controls are familiar (even if they are implemented in software rather than as physical controllers), and partly because the mouse is so user-friendly (maybe the mouse is man's best friend after all), you can be recording multitracked parts on Pro24 very quickly. And the on-screen friendliness of Pro24 – coupled with an excellent manual – leads you through all the sequencer's many facilities in a fairly painless way.

Format “Partly because the controls are familiar, and partly because the mouse is so user-friendly, you can be recording multitracked parts on Pro24 very quickly.”

Each of the Steinberg's 24 tracks can be allocated to any one of MIDI channels 1-16. A spot of arithmetic will tell you that's fewer channels than tracks, which may or may not be a problem, depending on your requirements.

Usefully, Pro24 allows you to select a MIDI mode and a note-off command for each MIDI channel; this can be useful for, say, putting a multi-timbral instrument into Mono Mode, and for minimising the chance of your instruments being left with hanging E&MM SEPTEMBER 1986

notes when you suddenly stop playback or recording.

A further window titled 'MIDI Definitions' allows you to choose whether a MIDI Thru facility is active (this allows a part being recorded to be passed on via MIDI Out to other instruments along with existing sequencer tracks), whether MIDI clocks are to be sent on MIDI Out, whether you want the MIDI clock signal to be slightly delayed (useful for coping with any syncing problems which might just possibly occur), and whether you want patch-change, control-change, pitch-bend or note-event data to be filtered on input to save memory.

All of these MIDI settings are stored, together with other settings such as tempo, master track on/off and MIDI Thru on/off, in a setup file called Def.Sng – this is automatically loaded off the program disk each time you load the program itself. You can, of course, overwrite the existing file with your own setup data. This is a valuable feature, but it could usefully be extended to include initial instrument patches and a list of instrument/track allocations, specific to each song.

When you've selected the track on which you want to record, and the position and duration of your recording (default is the first 16 bars of 4/4), you click your mouse/pointer on the Record box. After a two-bar count-in (a metronome beep emanates from the monitor), you're straight into Record. When the right locator position is reached, recording stops. You then have to 'rewind' in order to be able to play back your recording. As with tape, subsequent recording on other tracks is accompanied by existing recorded tracks, unless you mute them first.

Your performances are recorded in all their natural glory, ie. without quantisation (auto-correction). However, you can quantise each pattern individually for playback, to any value from a crotchet to a 32nd-note (including triplets). The Steinberg auto-corrects things in a 'non-destructive' way, so the actual recorded data isn't altered. But it's also possible to make definitive changes in Pattern Edit mode (more on that later).

Steinberg have included a 'Cycle' mode, which has nothing to do with the *Tour de France*, but constantly repeats whatever has been recorded between the currently-selected left and right locations. So now you can listen to those bum notes as many times as you want.

Speaking of bum notes, it's possible to drop in on a track at any point by selecting Record while the track is playing back. But a much more precise way of organising drop-ins is to pre-define them, which is done by setting the left and right locators to the appropriate locations, selecting auto-record, and then playing back the track from any point before the drop-in. The sequencer automatically drops in and out of Record mode at the locations you've chosen. If you don't want to work out the drop

points in figures, you can press selected QWERTY keys at the relevant points, and the sequencer will do the work for you. A vast improvement on Pro 16's approach.

Pro24 also includes several features which help you to keep track of where you are and how your song is shaping up. You can list the patterns in each one of the 24 tracks, complete with start and end locations for each pattern, while the aptly-named 'Where Am I?' facility lists the patterns and their start/end locations across all 24 tracks at your current position.

You can also call up a 'Track Info' box which overlays the 24-track display. This box allows you to step through all the patterns for a particular track

Facilities “You can quantise each pattern individually for playback, and the Steinberg auto-corrects things in a ‘non-destructive’ way, so the actual recorded data isn't altered.”

and set/read a number of pattern-specific parameters in the process. Thus you can name a pattern, turn it on or off, set a non-destructive quantise value, set a delay value (from a 64th-note to a minim), transpose a pattern up or down over four octaves, define a patch number and a MIDI volume level, shift velocity up or down or define a fixed velocity level, filter a maximum of six different types of MIDI information from the output, and set a MIDI channel split-point. Phew!

The split-point allows MIDI note data on a single track to be sent on two channels: the track channel and any other channel selected by you. And if you set the split-point appropriately, you can even have a different MIDI channel for each pattern in a track; this is a useful way of re-routing individual patterns.

Pro24 also has a number of functions designed to manipulate patterns and tracks. MultiCopy allows you to copy any section of a number of tracks to any position on the same or other tracks – obviously useful for copying a verse, say, to another position in your song. You can also copy any section of a single track to any number of other tracks, copy individual patterns to other tracks, erase whole tracks and delete any number of patterns within tracks. Further functions allow you to repeat, append and extend individual patterns.

So far we've looked at what this sequencer can do in real time, but as you'd expect from such a ►

► package, Pro24 also allows you to work in step time – entering both single notes and chords as well as rests – and to edit your music down to very fine detail.

All this takes place in something known as the Grid Manipulation display. Essentially, this is a list of 15 note events per screen, with position, note, velocity and length displayed (and editable) for each event, and a two-bar grid display which graphically illustrates both the position and duration of each note as a black block. You can summon up a small on-screen hand to help you change the length of any note and to move notes around the display; more fun than dealing with figures.

Other note-editing facilities allow you to quantise either the beginning or the end of all notes in a pattern, edit MIDI controller data (pitch-bend, modulation, volume pedal and so on), set a fixed length for all notes in a pattern, set a minimum and a maximum size for all notes, and double the speed of a pattern. If you OK any of these changes, they are irreversible.

So, the Grid Manipulation mode gives you a very fine degree of editing control over your music. But it's not that easy to keep track of where you are, especially as the display is static while your music

Conclusions “Pro24 is a well put-together package and takes full advantage of the Atari's graphics...and it's flexible enough to let you work in the way you want to.”

plays. Maybe I'm old-fashioned, but I'd have preferred a score-based display for editing and step-time input purposes – a kind of superior Scorewriter.

The good news, though, is that Steinberg are already at work on an extensive score-based Composer package which will be compatible with Pro24, and release is scheduled for the end of the year.

Ensuring your precious musical material is preserved for posterity is a simple affair: Pro24 allows you to transfer both complete songs and individual patterns between computer and disk. In the case of patterns, you can save and load a single pattern number as it occurs across any combination of tracks. You can also overwrite existing files and delete files, as well as catalogue a disk to find what's on it.

Synchronisation (MIDI only) may be set to off, internal or external. Pro24 responds to MIDI song pointers, which means it can be integrated into a SMPTE-controlled tape and sequencer system – so long as you have an appropriate SMPTE-to-MIDI converter.

In addition to the composer package just mentioned, Steinberg are also planning a SMPTE reader/generator unit, to be used either in conjunction with Pro24 or as a stand-alone machine. The module will also have two MIDI Ins (with Merge facility) and four MIDI Outs, together with non-MIDI sync facilities. It'll plug into the Atari's RS232 port – so much for built-in MIDI – and is scheduled for release this month.

The first update for Pro24 will include software allowing you access at SMPTE level – presumably for selecting things like autolocate points and SMPTE frame mode.

Pro24 can be bought separately (if you already have a suitable computer), or packaged with an Atari 520ST or 1040ST system, direct from your local music shop – a sign that Atari have realised the importance of music in their world domination plans.

Line the pockets of UK Steinberg importers OSC with the princely sum of £34.50, and you'll automatically receive any software updates that become available within a year of your purchase. And you won't find yourself having to send back existing disks. When you first buy the program you get a 'key' (otherwise known as a 'dongle') which

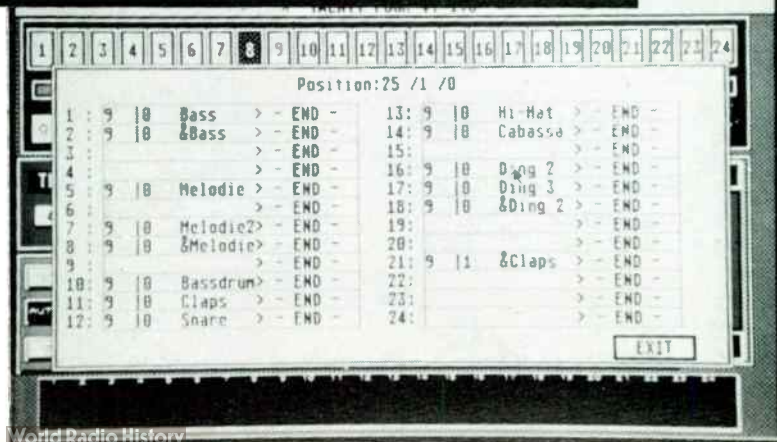
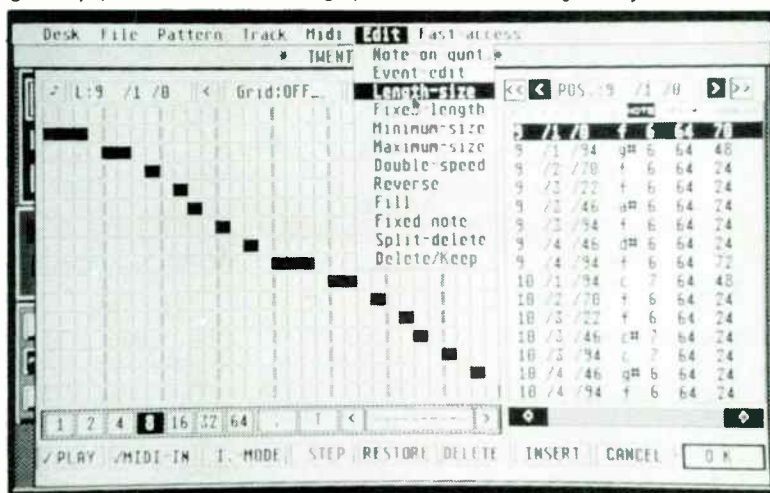
you plug into your ST's cartridge port; this is effectively your sole copy of Pro24, allowing you to make as many backups of the program disk as you want.

Drawing conclusions on Steinberg's latest sequencer is an easy business. Pro24 is an exceptionally well put-together package which takes full advantage of the Atari's user-friendly graphics, and gives you extensive control over your recorded music. And it's flexible enough to let you work with it in the way you want to. Finally, the prospect of the composer software and SMPTE reader/generator should be enough to whet the appetite of anybody who remains undecided.

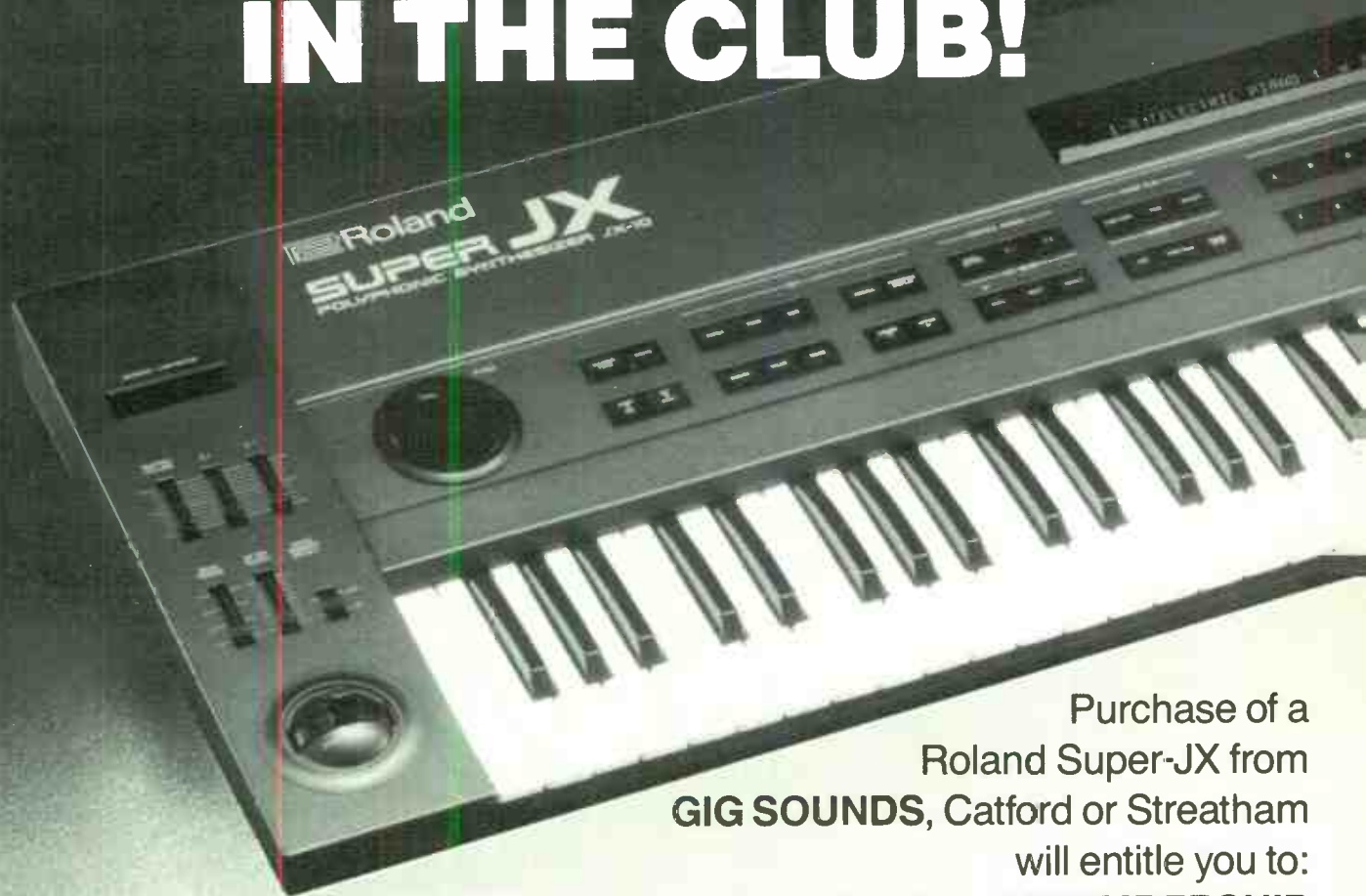
If you're in the market for a system as sophisticated as this, get down to your local music store immediately and ask for a demo. Afterwards, you'll be crying all the way to the bank. ■

Prices Pro24 £250; Atari 520ST + disk drive £450 (TV monitoring); Atari 1040ST (disk drive built-in) + B/W monitor £919; Atari 1040ST + low res colour monitor £1034; Atari 1040ST + medium res colour monitor £1149; all prices include VAT
More from OSC, 5 Gladstone Court, Gladstone Road, Headington, Oxford OX3 8LN. ☎ (08675) 5277

For background information on the Atari ST and its graphics environment, see EMM July '85 and January '86



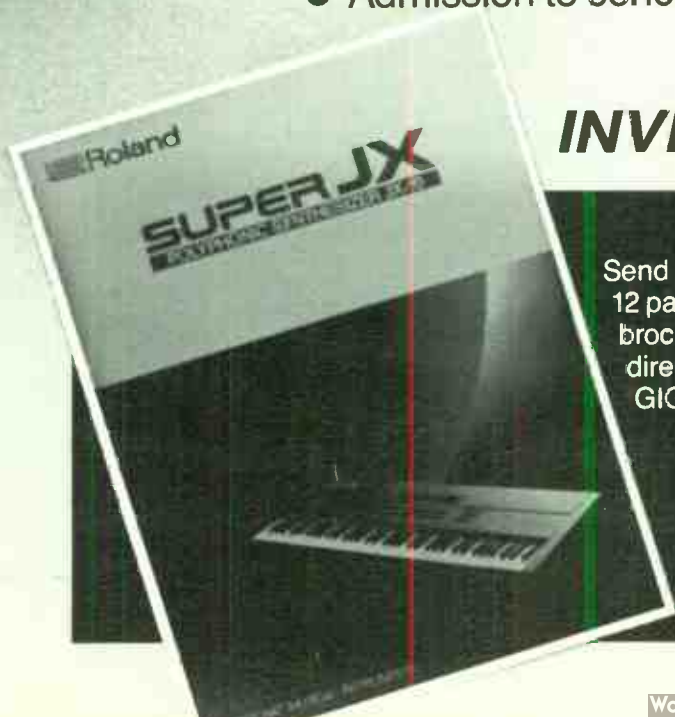
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IMMATERIAL

It's Immaterial are an oasis of innovation in the desert of today's pop scene. Their two chart singles – 'Driving Away From Home' and 'Ed's Funky Diner' – have fused unlikely ethnic instruments and cunning beat-box patterns with adventurous studio techniques, and now there's an album in the pipeline, too. Interview *Tim Goodyer*

IN ONE BRIEF, scathing, philosophical moment, a couple of young Liverpudlians once concluded the name you choose to give a band is immaterial. And as It's Immaterial, the same two Liverpudlians have proceeded to release two charting singles: 'Driving Away From Home' and 'Ed's Funky Diner' in the middle of 1986.

There's a little more to it than that, of course. Which is why I find myself sitting in a rented London flat with singer John James Campbell and musical/songwriting partner John Jarvis Whitehead, to talk about the success of their singles and a freshly completed album.

'Driving Away From Home' drew on the skills of a human drummer in its whimsical, tongue-in-cheek Wild West treatment of taking a joyride in a car. The narrative-style vocal set the only trend that was to be continued through to the reissued follow-up, 'Ed's Funky Diner', a more conventional uptempo pop thrash with the electronic rigidity of a drum machine (more characteristic of the band's sound) for a backbone. This inconsistency turns out to be less a case of uncertainty, and more a deliberate policy of diversification, as Campbell is quick to assert.

'We've purposely gone out of our way, each time we've written a song to use different rhythms, different types of instrumentation and different arrangements. We're striving to move into new areas and discover new things all the time.'

Tentatively titled *Life's Hard And Then You Die*, the debut It's Immaterial LP is just completed at the time of our conversation, and has yet to see general release. Campbell, however,

vary wildly between the force of 'Ed's Funky Diner' and the soothing waltz-time melodies of 'Lullaby'. The album also displays a wide variety of sounds and textures, and as it turns out, imagery plays a large part in an approach to songwriting which had (it seemed) long fallen into disuse in pop circles.

Whitehead: 'I look upon each song in a pictorial sense rather than a musical sense. We try not to get too involved in the musicalities of a song, and concentrate on the whole thing. The more we go on, the more we find that simple ideas work the best.'

Campbell: 'We work in a reverse manner sometimes as well. You need an

technician or anything. You can communicate with those people a lot better.'

But with all this emphasis on feel and warmth, why place a drum machine alongside the glockenspiels and bouzukis?

'We always had problems when there was a drummer in the band', explains Whitehead. 'The songs we wrote were constantly pinned down by his rock mentality, so we lost a lot of the subtleties of the rhythm. We ended up using drum machines because we could dictate exactly what accents we wanted and, although it sounds strange talking about a drum machine, what *feel* we wanted. We lost a bit of humanity, but

"We used drum machines because we could dictate what accents we wanted and what feel we wanted. We lost a bit of humanity, but we gained on being able to structure in our own way."

atmosphere for something so you search around for a sound and then create the part for it. It's a bit cock-eyed to do that, but different approaches supply a different feel to the track. We try a variety of approaches until something clicks.'

To this end, Campbell and Whitehead have turned their enthusiasm for unorthodox instrumentation into reality on most of the album's tracks.

'It's not a high-brow fascination at all', explains Campbell. 'It's just the warmth of those instruments pricks our ears up naturally, rather than as a second thought. We've been described as "eclectic" but it's not a deliberate policy. Bands that do that deliberately simply become interpreters of other people's cultures – there's none of themselves in the music they create.'

USING A VARIETY of instruments inevitably involves a number of additional musicians, though the band have kept this to a minimum, and not just because it works out cheaper.

Whitehead: 'Most of the time we try to get people we know involved rather than session musicians, though if there's a particular instrument or sound that we require and we don't know anybody that can help, obviously we'll use a session player. As long as they're competent, they don't have to be a great

we gained on being able to structure in the way we wanted.

'You can't stop anybody putting their own inflections into a piece. If you are going to stop them, you have to be quite strict and then you find you're no longer looking for a drummer.'

'But we don't just use a drum box rhythm and nothing else. The more you add to a rhythm with natural instruments, the more idiosyncracies it has – it seems to warm up somehow. The rhythm a lot of groups create with drum machines is very loud and brash. You'd never approach drums in that manner at all. A drum machine is there to supply a rhythm with any colouration you put on top of it.'

And despite advances in digital technology, it's an old analogue machine, the Roland TR808, that's proved to be the beat box best-suited to the construction of Immaterial rhythms.

'It's a wonderful machine', affirms Whitehead. 'I don't know why, but there's something unique about it. We bought a TR707 first and when we used that we were really disappointed – it sounded so mechanical, so black and white. The 808 seems to have rounded edges. It doesn't seem to have attempted to sound like a drum at all. It's got its own character.'

Campbell picks up the story: 'I don't think the 707's versatile enough. When

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“We’ve used backing tapes but we don’t see them as a great solution. It’s not very fulfilling to play live with a backing tape; the more you do live, the better it gets.”

you get something like the 808, all that machine is there for is to allow you to construct a rhythm with fairly abstract sounds. If you use digital samples, you tend to construct rock rhythms because the sounds that are sampled are all rock
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sounds. It’s taken for granted that everybody who uses that machine wants rock rhythms.’

Whitehead: ‘The TR727 sounds more interesting, but I can’t understand why Roland made both the 707 and

727. The 808 is a mixture of both – you can have a little bit of percussion and a bit of drums. With the 727 you have to fork out another £500 if you want the Latin sounds. It seems mad.’

But even the TR808 can’t provide all the answers, all the time.

Campbell: ‘We haven’t used entirely 808 sounds in the studio. We’ve used a live drummer and sampled snare and bass drum in places. It’s a real drummer on ‘Driving Away From Home’, not a drum machine. We sampled sounds and substituted them for the TR808 sounds. That’s probably the best use of sampling that we’ve come across. In some cases we’ve just sampled into an Emulator and played the rhythm on that to get the feel back.’

INITIALY, CAMPBELL AND WHITEHEAD had intended to make use of said Emulator in lieu of sundry instruments they were either unable to play or get their hands on. But as Campbell explains, current sampling technology has proved something of a disappointment in the recording studio...

‘From the technical point of view the samplers are very impressive, but they lack a tremendous amount of feel and they’re instantly recognisable in a recording.

‘Because there are only two of us in the group, samplers are going to be more handy for the live aspect. We’re going to sample some of the sounds we’ve recorded in the studio by getting in session musicians so that way we can recreate them live.

‘But we really prefer natural instruments to sampling because you can get the performance across. You can contain a sound in a synthesiser, but they’re not really very expressive.

‘Personally I’ve always had this attitude to any new development. It’s not a Luddite attitude, it’s just that I really like the performance and the warmth of an acoustic instrument. We’re just trying to come to terms with the technology which is around.’

And come to terms with it they will, especially seeing as, in the past, the only practical solution to the problems presented by the live stage has been the use of a tape machine.

Whitehead: ‘We’ve used backing tapes in the past but we don’t see them as a great solution. It’s not very fulfilling to play live with a backing tape; the more things you leave off tape and the more you do live the better it gets.’

But back to recording, and *Life’s Hard...* The album began life as a conventional eight-track demo, recorded at home in Liverpool. But rather than begin afresh in a London 24-track studio, Campbell and Whitehead made use of a sync track ▶



► they'd included in their initial efforts.

'We did the demos with a Roland sync code from the TR808 on one of the tracks, then transferred all that to the 24-track', explains Campbell. 'That was solely to get round the problem of not having a band. We wanted to get off to a good start, and that way we could put a guide track down, and then add and correct parts.'

'In many cases the rhythm part of a track would be totally overwritten, though some of the parts we used for four-track demos in Liverpool have ended up being used in the final recording. They'd been through about three generations of tape by the time they were used, but sometimes you do capture moments that you can't readily reproduce. It's worth the degeneration just to have that.'

Whitehead: 'In a 24-track studio it seems like such a big thing to put the first brush stroke on a blank canvas. If you've got something going that's dictating the tempo and the arrangement, a few things are already

starting to happen, and you've got something to interact with immediately.

'We also used a Walkman for some of the vocals, just for little bits of atmosphere. It doesn't matter about the syncing for that – it's hit or miss. You switch on and hope it just locks in, and it's surprising how many times that actually works.'

BUT IT'S NO USE WRITING a melody to complement a chord sequence if it's a beat late when you spin it in from a cassette machine. Or at least, that would be a problem if Campbell and Whitehead hadn't evolved another individual studio technique. The singer elaborates.

'We have a fascination with vocal narrative, rather than melody. With narrative you're not constrained by limitations such as rhyme, so you can actually tell a story... We slipped into it so we had more room to construct a story and put our personality over. On some of the songs the lyric is more

important than others – on the spoken ones it's quite important. It's not like anyone preaching at you – it's more like having a conversation that's quite intimate.

'A lot of the things that have happened have been asides whilst recording the vocal: once you get into the feel of the performance quite automatically, things spring off the top of your head and, because they're not premeditated, in many cases they encompass everything you're trying to say. We try to get really involved in what we're doing so that we're soaked in it, so that you can suddenly spring off at a tangent that you weren't even aware of yourself, but which makes sense. It's more honest and direct than a premeditated vocal.'

Whitehead: 'The LP's full of happy accidents. If you don't know what key you're in or what notes you're supposed to play, that's often better. You often stumble across things that if you'd had time to think about them and work them out you'd have played something completely different. Playing something by ear is so simple and direct.'

The results of all this philosophy are some quite unlikely pop songs. And as pop songs mean promotional videos, the video for 'Ed's Funky Diner' follows the same individual trains of thought as its musical parent – disjointed edits and visions of surreal characters at home in a bizarre bar-room setting.

'It is related to the song', Campbell insists. 'There's a surreal element to the song because of its roots. It was written about a sculpture by Edward Kleinholz called 'The Beanery', and the lyric evolved around the imagery of this bar full of strange people. There are a lot of images that you remember – like odd headlines in a newspaper – and the images are these just tumbling off the top of your head again. We didn't structure it any more than that. The lyric is just food for thought based on the idea of the surreal images of the sculpture.'

'I think there was always a disturbing element in the song. What we've done is quite mad instrumentally and vocally: once the song starts it rushes through to the end, so we had chorus sections where it becomes more ethereal, and the video became more dreamy. It was so that you could stand back from what was going on and try to understand it before you're sucked in again by the next verse. We try to do that with a lot of our songs: to have a very erratic phase and then a floater so that you get a harsh contrast between one section and another.'

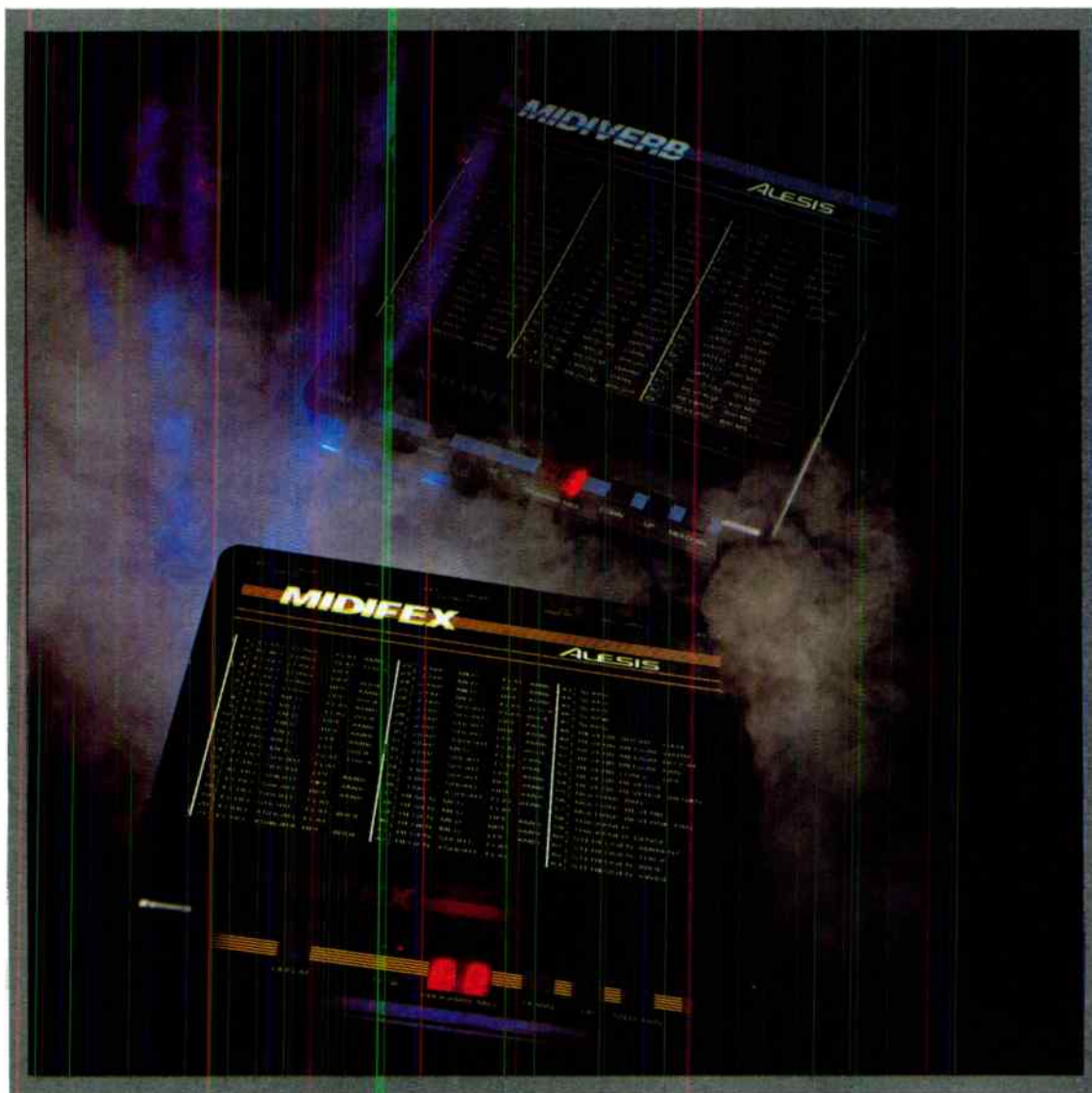
'The verses are where you can detach yourself and the listener from what's going on, and have a bit of a rest before you tax yourself again. We've done that quite a lot: verses that are quite disjointed or have a certain atmosphere about them, and then a vision that becomes quite clear in the chorus.'

Throughout our conversation, the television has been pouring silent images into the room. A curious sculpture appears on the screen, and is instantly identified by Campbell as being Henry Moore's 'Knife Edge'. A thoughtful silence ensues – inspiration for another song? ■

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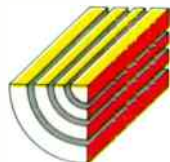
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HISTORY *of the* FUTURE



IN A TOP-FLOOR FLAT in London's Camden Town, sits a synthesiser composer who recorded some of the most influential electronic music albums ever made; who bought the first VCS3, the first Prophet 5 and the first Fairlight; and whose recording studio – Kaleidophon – has been a source of consistent musical and technological innovation for 17 years.

The composer's name is David Vorhaus, and if it isn't instantly familiar, it should be. Because in addition to all the above, his extensive technical knowledge has enabled him to design and build some unique devices, including the Kaleidophon controller, the Maniac sequencer and numerous electronic 'modules' that were way, way ahead of their time. And even today, his wealth of experience puts him in the rare position to comment objectively on the progress of musical technology so far, and on where current trends might be leading us.

Yet he is decidedly unsentimental about past synthetic glories, and instruments have come and gone from Kaleidophon over the years. The current equipment setup is modest compared to that of a well-equipped, modern keyboard-based studio, but underlying this situation is a philosophy Vorhaus stoutly defends.

At one point in our talk, Vorhaus mentions he is thinking of calling his next album 'History of the Future' because 'it describes quite well the way I work'.

This, I decide, will be no ordinary studio report.

Early on in David Vorhaus' career, it didn't seem that music was destined to be his means of earning a living; although he played double bass in the London Schools Symphony Orchestra, his real ambition was to be a physicist. He went on to study physics and psychology at Aberdeen University, and then moved to London to study for a postgrad degree in electronics, 'attempting to keep out of the big bad world of nine-to-five jobs'.

It was while studying for this degree, in early 1968, that Vorhaus attended a talk at Morley College which changed his life. The subject was electronic music techniques, and the talk was given by Brian Hodgson and Delia Derbyshire of the BBC Radiophonic Workshop.

'You have to bear in mind that nobody knew about such things at that time, including me', Vorhaus admits. 'I had no idea about tape editing and stuff like that. This was long before the synthesiser was invented, and the way it was done was by splicing bits of tape together. Brian and Delia explained how it was done.'

Hodgson and Derbyshire were two thirds of a group called Unit Delta Plus, the remaining member being Peter Zinovieff of subsequent EMS and VCS3 fame. The group split three days after the Morley College talk, and Vorhaus joined forces with Hodgson ►

Kaleidophon Studios is more than just a recording facility

with some synthesisers in it. It's been the sound laboratory

of one of Britain's best-known experimental composers,

David Vorhaus, for the last 17 years. Report *Simon Trask*

Photography *Matthew Vosburgh*

► and Derbyshire shortly afterwards.

Kaleidophon Studios began in 1968, with a commission to set up 'a modest electronic music studio complete with mixing facilities' for an electronic music composer who was writing music for a film called *Oedipus*.

'I remember we went out and bought all the equipment one day, wired it up the next, and then started work the day after', says Vorhaus.

This was in the aforementioned composer's Chelsea flat, but the studio subsequently transferred to Vorhaus' bedsit 'where some horrendous things happened'.

'We were working on a Ballet Rambert score which was very experimental for its time. We had some actresses from the Royal Shakespeare Company screaming, laughing and telling spontaneous stories of their first sexual experiences. We mixed these things and cut them all up – the tapes, not the girls. But it did sound like we were doing horrible things to the girls. We were playing these tapes at three in the morning, and suddenly the police were banging at the door and smashed their way in.'

A neighbour had phoned the police to say a girl was being raped.

Matters didn't improve when the landlady arrived and saw the state of her bedsit (Vorhaus was also building a mixing desk there at the time), and when two neighbours died within the following week ('one was very old and the other had cancer', Vorhaus insists), the intrepid experimenters were given 48 hours to quit. And you thought you suffered for your art...

VORHAUS AND HIS COLLEAGUES then chanced upon that top-floor location in Camden Town, and Kaleidophon Studios (together with Vorhaus) has been there ever since. Another stroke of good fortune came in the form of £3000 from Island Records' Chris Blackwell, who had heard some of their music and wanted them to make an album.

'The money financed building my first mixing desk and purchasing further Revoxes. The way multitracking was done was with four Revoxes in a row, each stereo and all locked together with one remote switch. That way we had four two-track tapes running together as an eight-track. Sometimes we'd even have a Brennel making 10 tracks, and an Akai making 12 tracks. It all worked fine and was the only thing that existed then, so we didn't complain that we had to rewind four or five machines separately and set them up each time.'

The resulting album was *White Noise 1* – Island's longest-selling record, according to Vorhaus. After a rather slow start, the record has sold over a quarter of a million copies, and is still bringing its composer healthy royalty cheques. Vorhaus also reckons

it should have a place in the *Guinness Book of Records* as the album with the most tape edits.

'It still sounds quite fresh', he says, 'because very few of the sounds have been made since – unique devices, special frequency shifters and feedback loops, and a lot of concrete sounds. Actually, a lot of it could be done with sampling machines. People think that sampling is something new, but we were using sampling machines in 1968. We had a machine which would sample for 90 minutes with very good signal-to-noise. It was called a tape recorder.'

Vorhaus is the first to contrast the healthy sales of *White Noise 1* with the much shorter lifespan of its successor, *White Noise 2 – Concerto for Synthesiser*, which sold 30,000 copies in its first week of release, yet was deleted a couple of years later. It was the first synthesiser album available in Europe (being recorded primarily on two VCS3s), and as such generated a great deal of interest. But then synthesiser albums became more common, new synthesisers came along, and the VCS3 (and *White Noise 2* with it) began to sound painfully dated.

Hanging from one wall of Vorhaus' studio are two VCS3s. The composer points to one of them. 'That was the very first synthesiser in Europe, the 001 VCS3, made in '72. It was all assembled on veroboards by David Cockerell's lillywhite hands. Every single component was hand-tested, and it's never gone wrong. The other one is off the production line. For a long time they were the only synthesisers in Europe.'

Yet far from being a techno-freak eagerly lapping up every 'innovation' the music industry can churn out, Vorhaus is a cautious man who remains adamant that only the big steps in technology are really important. And it's this attitude, strangely enough, that's kept him ahead of the pack while his contemporaries have been preoccupied with other, less significant developments.

'The big steps were the tape recorder, then the VCS3 which was monophonic and not programmable, then the Prophet 5 which was polyphonic and programmable, and then of course the Fairlight. Really, everything else that came out at each stage was essentially the same. It doesn't matter whether you're talking about Prophet, Oberheim or the Polymoog.'

'I only do a solo album once every five years, which isn't a case of laziness. The idea of doing them is that when there's a change in technology, I'll explore the new technology through doing an album.'

Thus, while the first Vorhaus album explored tape manipulation and the second album explored the VCS3, *White Noise 3* tackled the Prophet 5, with some Fairlight on one track. A subsequent album of library music was recorded solely on the Fairlight.

'The only way to discover how to really use something like the Fairlight',

Vorhaus says, 'is to do a whole album on it. You need time to discover what such an instrument is really good for, as opposed to just using it to create poor synthetic imitations of existing acoustic music. Working on a session, where you've got perhaps three days to come up with a specific result, you just can't do that.'

A CQUIRING THE LATEST SYNTH technology hasn't always been an easy process for Vorhaus, but when you've got to have it, there's always a way...

'I remember we had a rush-job commission from a Japanese record company to do an electronic version of Superman. They were going to pay us £4000 a week to do it. We really needed a polyphonic programmable synthesiser, and it so happened that the Prophet 5 had just come out, so we decided to go for it. Literally a week's work would pay for it.'

Trouble was, there was only one Prophet in the UK at the time, not to mention a six-month waiting list. But after some creative queue-jumping (over which we'll draw a discreet veil), Vorhaus had in his possession the very first Prophet 5 in the country.

'The Prophet allowed us to do in a day what would otherwise have taken us two weeks', he recalls. 'The VCS3 was monophonic, so to create chords you needed several tracks. And to get the sounds (which of course weren't storable) just right, you needed to make really critical fine adjustments. Once you'd got the sound just right on the Prophet, you could store it in memory for instant recall. I think that advantage applies even more to the DX7. Thank God for presets there – goodness knows what state we'd be in otherwise.'

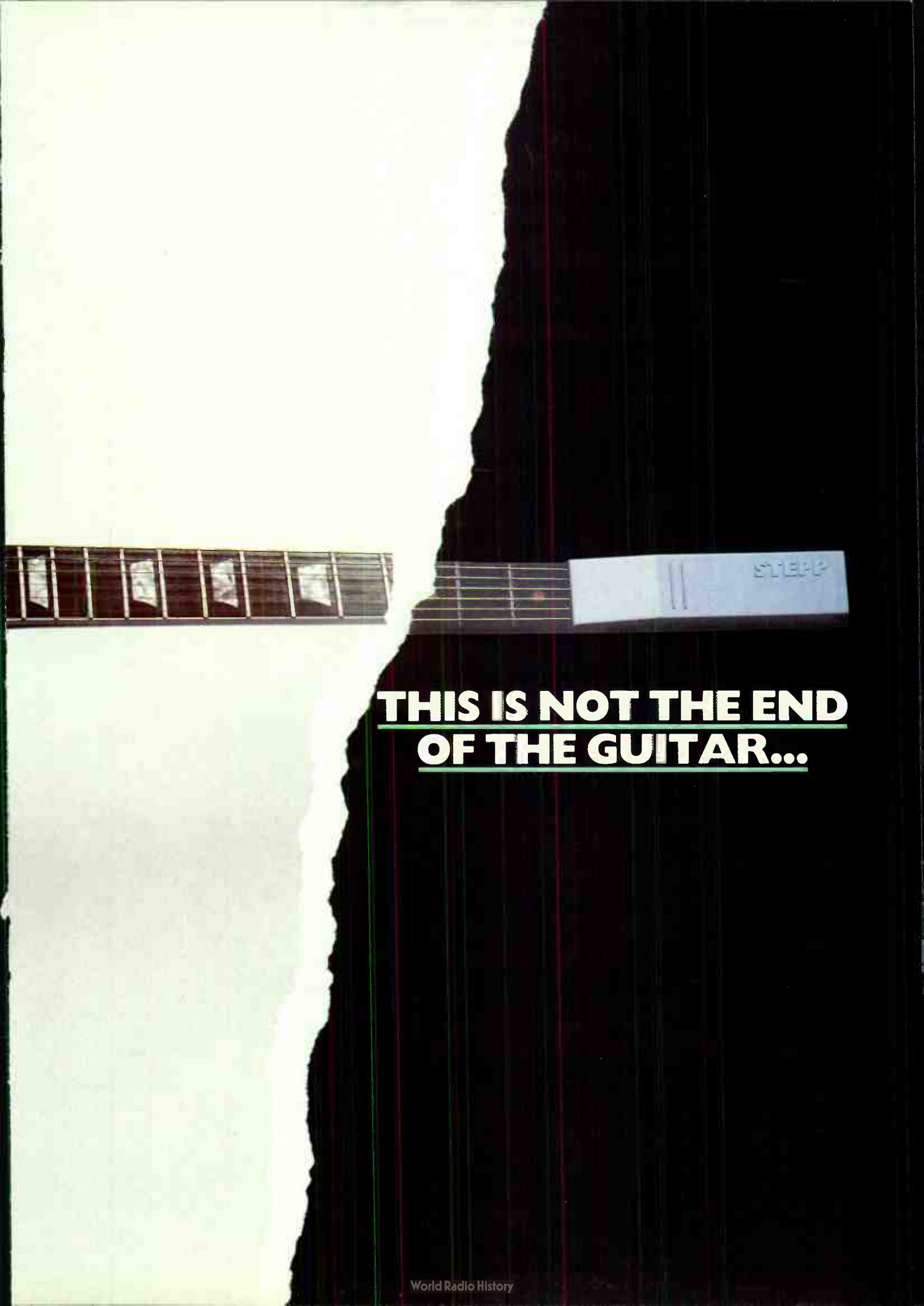
Vorhaus came into contact with the Fairlight through meeting the company's Peter Vogel at an Ars Electronica electronic music festival in Linz, Austria. Vorhaus was demonstrating his Kaleidophon controller and Vogel was demonstrating the Fairlight. The two of them ended up as joint winners, Vorhaus because the Kaleidophon was a new means of controlling sound, Vogel because the Fairlight was a new means of generating it.

Yet curiously, it was also at this time that Vorhaus decided his instrument-designing days were over.

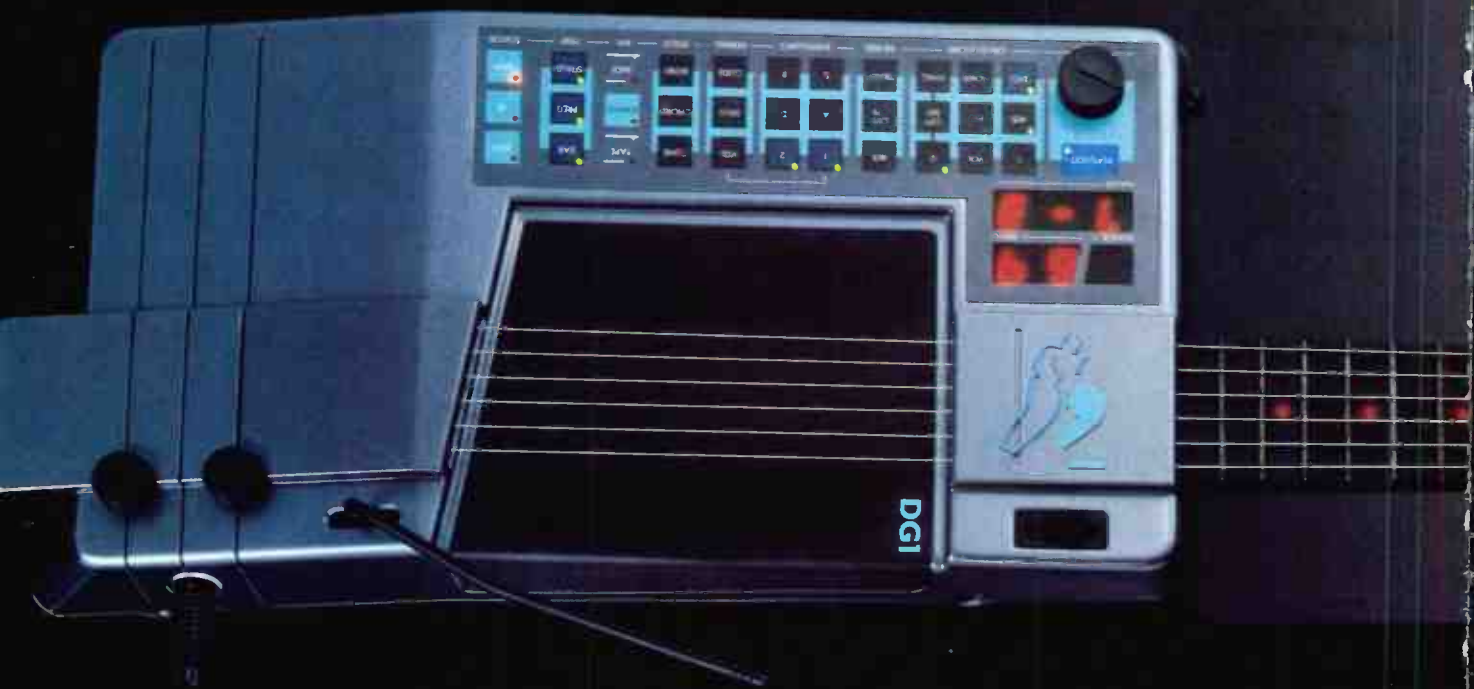
'Up 'til then I'd spent half of my life designing equipment and the other half making music, but after I'd met Peter I felt that from then on, he could do all the designing while I could spend half my life making music and the other half on holiday in Australia!

'...I guess I developed the Kaleidophon because I wanted to play like a bass player, but with electronic sounds – essentially it's an electronic string bass for controlling CV synthesisers.

'I never really liked keyboards. I use ►



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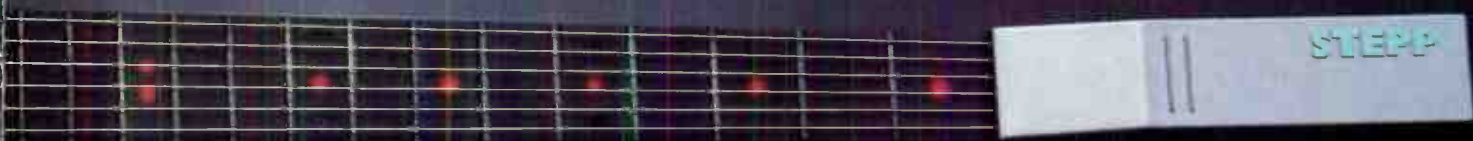
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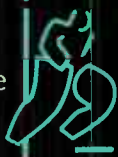
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► the keyboard like an 88-note calculator to figure out harmony and stuff.

Unfortunately, when synthesisers first came along they were all controlled by a keyboard, but in fact the keyboard is a silly mistake. It's brilliant for playing chords but not good for much else, and adding thumb wheels and so forth hasn't really helped.

'On the Kaleidophon, the strings are elastic on one side and conductor on the other, and where you hit the string defines the pitch in voltage terms. It's a three-layered device dynamically, so the harder you hit the string, the louder or brighter the sound. You can slide around on the strings and do things to notes that you can't do with a keyboard.

'The Kaleidophon definitely has a soul. I think the reason why electronic music has so often been called sterile isn't because it's electronic, but more because it's played on a keyboard. The guitar and the saxophone also have more soul than a keyboard.'

Vorhaus' other (in)famous invention, the Maniac sequencer, came into being because 'although the Moog voltage-controlled sequencer had just come out, it could only play a 16-note riff. There was no pitch correction, and all the notes were the same length. What's more, it cost £3-4000, which seemed overpriced. I felt I could make something for an awful lot less, and why

THIS TURNS OUT TO BE an area Vorhaus is paying a lot of attention to in his new-found role as a 'prophet' for Akai. Vorhaus landed the job through David Cockerell, inventor of the VCS3 and currently a designer for Akai (the S900 is his work), but what does it actually entail?

'I'm looking at equipment of the future – not next year's model, but the sort of thing that might be around in 5-10 years' time. What will musicians want then? I guess my role with Akai is to say what's wanted from the musicians' point of view, at the same time with enough electronic knowledge to see what's feasible and how it might be done.

'I think what's very relevant is how we will think things up. Now we have many programs that will score your music for you as you play it, and then play it back for you, but there's nothing that actually helps you with any aspect of composition. For instance, imagine that you could enter the parameters you want for a particular part – a funky bassline, say – and then get the computer to run through perhaps hundreds of results. Maybe number 33 is just brilliant – Stevie Wonder! That'll be the way.

'It's all a matter of getting the parameters right, but once you've done

“People talk about there being nothing like that old Minimoog bass sound. That's crap because almost anything can do it – what's special is our memory of the sound.”

not make a whole group of them that could interact? You could have, say, one 64-note sequence or four 16-note sequences, or any other combination. And why not have one sequence controlling another through adding and subtracting voltages? Everything was voltage-controlled, then, and there are still advantages to voltage control. And why not be able to mix sequences of different lengths?'

Maniac's front panel has switches for each note, allowing you to switch notes in and out as a sequence plays. Pitch and duration of each note are entered from the front panel, and you can 'play' the sequencer in real time. There's even a feature delightfully labelled 'Time Warp Navigator', which allows Maniac to keep playing in a steady time – 4/4, say – even when you're switching notes in and out, by adjusting the durations of existing notes. As a last point of interest, you can also set the sequencer to improvise...

'It's a brilliant way of discovering good lines', says Vorhaus. 'And it's not completely random because you put in an underlying set of parameters. The beauty of Maniac is that it will run through all the possibilities, and your job as a composer is to sit there and select what is particularly good. You can end up taking a minute to discover what might otherwise have taken you days.'

that, you can come up with the kind of thing you're looking for pretty well straight away. What is rather frightening is that once you've come up with one result, you can churn out 20 more in another 20 minutes.'

Something else that frightens Vorhaus is the wealth of sounds available to musicians nowadays. Far from revelling in the prospect of having such a huge library of material at his disposal, this particular 'prophet' isn't so sure it's a good thing to have at all.

'In classical times there were only about 12 different instruments, and only a limited number of people who had acquired a tremendous amount of skill could put these instruments together successfully. Nowadays there's virtually an infinite number of sounds, and the problem is that you can't keep them all in mind. It's hard enough to know what instrument to use, let alone which samples.

'I found this with the Fairlight, which is a microcosm of the whole situation: the library just grows and grows until you're using one per cent of it. That's not because all the other sounds are no good, but because of our mental limitations. With the DX7 I've gone through just about every available sound library and picked out maybe one per cent of the sounds. Then I've compared them and cut the number

down further, and ended up with about 150 sounds which really are good.

'When manufacturers say something like "the only limit is your imagination", it's a nice phrase to sell something, but in practice such ability can be a big disadvantage. I'm trying to cut down on my sound library, to keep it as small as possible. If you know how to use a few sounds inside out, it's much faster than having dozens of sounds and not knowing how to get easily to the ones you need.

'Of course you can already get lists of sounds, and ask for a sound by name, but I'm talking about being able to ask for sounds which will work within the context of a particular piece of music. That's quite difficult, but there's got to be a way of using computers, which are great sorting devices, to help choose and locate the kind of sounds you want.'

Vorhaus is keen to keep Kaleidophon's instrument list down to a minimum, too.

'In a way my philosophy is the opposite of the big studios. I was in a £700-per-hour studio the other day putting a video together. Their philosophy is that if anything exists, then they should have it in case the client wants it. My philosophy is that if one thing will do the trick perfectly, then why use other things as well? I'd rather go for the minimum number of synthesisers I can have, as long as I can make any sound I need – the idea isn't to have a showroom.

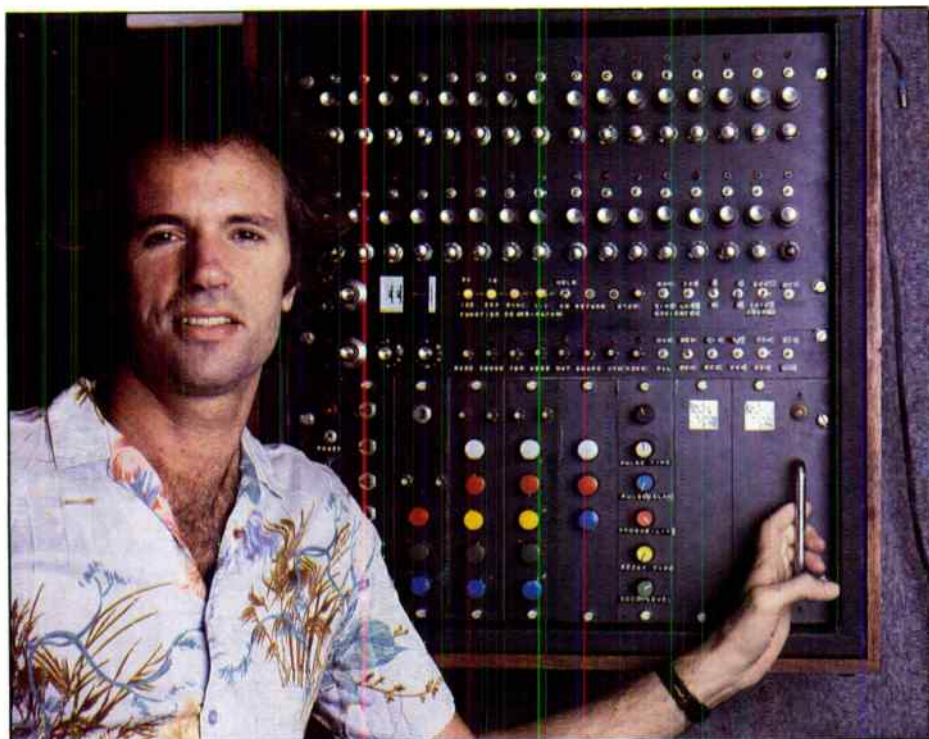
'But video studios are expensive. The basic rate is £240 an hour, then there's a further £200 an hour for additional digital effects, then another £200 an hour for Quantel. I thought I was expensive, charging £45 an hour!

'I want to lock my 24-track to picture, and there are some packages coming out now for around £2000 that I'll be looking into. When I have that sorted out I'll be able to do 24-track mixing to video, and be able to offer all the facilities of the Fairlight and the other instruments; there aren't many places that can offer all that.'

Not surprisingly, Vorhaus' array of instruments has been carefully chosen to give him a broad range of sound possibilities.

'What was new about the PPG Wave was that you could store sounds digitally and then treat them in an analogue fashion. That type of control was what I missed on the Fairlight; analogues aren't dead just because Fairlights come along. In fact, in one instrument (the Wave) you had more of everything you couldn't do on a Fairlight than anything else. But I didn't bother with the Waveterm; it certainly doesn't have anything to add to what I've got here.'

Ever keen to make use of the strongest points of an instrument, Vorhaus uses the Greengate DS3 sampler as a sampling drum machine, leaving the Fairlight free to handle 'big fat' sounds. The DS3's shared sample memory makes it handy for storing a lot of short (ie. percussive) sounds,



whereas the individual sample memories of the Fairlight mean that percussive samples don't make the most efficient use of the instrument.

'I was actually thinking of getting a drum machine, but then I came across the DS3, which is a million times better because you can make any drum sounds you like, along with any other sounds. It's a bit like having another Fairlight just for drums. For composing it's nice to have the drums there to help you figure things out as you go along, before committing yourself to tape.'

As for that Prophet 5, it eventually went to a friend who was setting up a studio in Korea.

'A lot of my past instruments have gone off to various well-intentioned friends. Now the Wave will do what the Prophet 5 could do; it's just that when the Prophet first came out it was head and shoulders above everything else.

'I'm cautious about getting the Series III Fairlight. There's still an enormous amount of software to be finished – MCL, for instance. So right now, the II is more powerful than the III. The main advantage that the new Fairlight has at present is the bigger and clearer 16-bit samples, but I can get a clean sample out of the Akai S700 which is 12-bit, and then I might get the new Greengate DS4 which is 16-bit. It's more the control of MCL that I look for. Hopefully by the end of the year Fairlight will have everything done, so there'll be the 80-track sequencer which will be great, with its ability to control everything via MIDI.

'I'll wait 'til the end of the year before deciding. There are so many new things coming out that it's not a bad idea to wait and see what can be put together.

'The way we remember instruments and their sounds is interesting', the composer muses. 'People often talk about there being nothing like that

Minimoog bass sound. That's a lot of crap, because almost anything will do it. What is special is our *memory* of the sound; when people first heard Minimoogs they were so amazed because they'd never heard anything like it before. What we want to do is recapture the memory of that experience, not the actual sound.'

But away from sound-generating machines, Vorhaus has also invested in a Steinberg Pro16 MIDI sequencer for the Commodore 64, and sees no incongruity in having both a Fairlight and Pro16. It seems the sequencers at his disposal (Pro16, Page R and MCL) are each suited to different musical approaches.

'It just seemed well worth getting into instruments other than the Fairlight, and getting into other ways of playing. The Steinberg has a lot of limitations, and it can only do fairly simple kinds of music, but it's incredibly fast at doing them – even faster than the Fairlight. And of course it's polyphonic on each track, which the Fairlight's Page R isn't, and you've got command of far more voices from the Steinberg.'

Vorhaus uses Pro16 to control a DX7, a TX7 and the DS3. The Fairlight isn't MIDI'd, and its owner asserts he hasn't found an instance where he wished it was.

Now he's looking into the possibility of expanding his MIDI sequencer setup with C-Lab's SuperTrack, and software for both the Atari ST and the Macintosh.

'The trouble is I'm so busy at the moment, and a sequencer isn't like an instrument or a piece of outboard gear, which you can get used to pretty quickly. You've got to spend some time getting familiar with each new sequencing program.

'Having said that, it's useful to be

able to offer a variety of sequencers that people are also using at home. For the first time, we're talking about the possibility of someone doing up to 95% of their work before coming into the studio. They can then take advantage of all the instruments and effects, having already prepared their music. That way, a lot more people will be able to afford to use a studio, and that can only be good for encouraging new talent.'

To explain Vorhaus' earlier comment about lack of time: most of his working hours are currently spent working on film, TV and library music.

'Commercials are getting more interesting now, though they were a dirty word once. Sponsorship in general seems to be what's going to happen within the capitalist system, whether we like it or not. Unfortunately, the best sounds are going to be on commercials because that's where the money is – that's where people are willing to spend the time and the money to get it right.'

Recent work outside the commercial field has included the music for a new Channel 4 series called *Equinox*, a video arts programme *Ghosts in the Machine*, and a programme on jazz musicians entitled *Individual Voices*.

Vorhaus' entrée into the world of library music came as a result of a BBC programme on the history of electronic music called *The New Sound of Music*. In it, he demonstrated the Maniac and the Kaleidophon, and played some of the music he was working on. After the programme was screened, Vorhaus got a phone call from Peter Cox, head of KPM, who said he should be doing film music.

Cox gave Vorhaus a detailed brief on what he wanted, and Vorhaus came up with all the tracks plus one more; the extra track went on to make more money than all the others put together, and Vorhaus has now been given carte blanche to do what he wants. Whatever he records, KPM will release it. Now that's what I call an enviable position – even if David Vorhaus has done more than enough to deserve it. ■

Selected discography

White Noise 1 (Island 1969)
White Noise 2 – Concerto for Synthesiser (Virgin 1974)
White Noise 3 – Re-Entry (1979)

Instruments

Fairlight Series II, PPG Wave 2.2, Yamaha DX7 and TX7, Greengate DS3, EMS VCS3x2, Kaleidophon, Maniac sequencer, Steinberg Pro16 MIDI sequencer

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T U R N T A B L E

tech

No area of modern pop makes more inventive use of technology than hip hop, the street music of the eighties. At Wembley Arena this summer, the biggest names in the business gathered for Britain's first major live hip hop event. The beat went on and on.

Report *Simon Trask* Photography *Matthew Vosburgh*

AT A TIME when real experiments in popular music are few and far between, hip hop is one area where there is ceaseless experimentation and a genuine sense of excitement. It has an urgency and a topicality, and a sheer *speed* of invention, which makes it truly the music of the eighties. Tough music for a tough world.

Hip hop is the logical result of instant, global electronic communication. It appropriates all music – all information, in fact – to its own ends, absorbing to create something fresh.

Hip hop was born from a huge array of different sources, and this is no place to discuss them all. But one of the biggest – and most surprising – influences was European and Japanese synth-pop of the late seventies and early eighties. Thus Afrika Bambaataa, one of hip hop's founding fathers: 'I was heavy into Kraftwerk, heavy into Gary Numan, heavy into Yellow Magic Orchestra. I wanted to be the first black group that had a record with just electronic instruments, no band except a synthesiser'. Bambaataa's seminal 'Planet Rock', released in 1982, was an electro rap version of Kraftwerk's 'Trans-Europe Express', replete with the TR808 rhythm patterns and sampled orchestra hits that have since passed into the everyday vocabulary of hip hop.

And among the younger generation of hip hop musicians, Sir Mix-A-Lot cites 'Gary Numan and all that British techno-pop' as a vital influence.

All of which goes to prove that 'ethnic identity' isn't a great help when trying to pin down hip hop. It's street music, certainly, full of warmth and spontaneity, but it's nothing like as dependent on ethnic roots as, say, reggae.

As Grandmaster Flash, one of the first hip hop artists to win crossover success with 'The Message', would have it: 'Musically, hip hop doesn't have an identity. That's what is so good about it. We can take a bit of jazz or rock or r'n'b. Because our music has no identity, that means we can cross boundaries left and right.

'The future of hip hop has to be in experimenting. My advice to new hip hop artists is don't be afraid to experiment, because hip hop can go in so many directions.'

Hip hop has always embraced new technology and used it for its own ends, creating a music which otherwise just couldn't have existed. It took the insistent urgency of the drum machine and

"The show was about the music of the moment, not the personalities who make it. If an act is fresh, that's all that matters."

set the rap element off against it, revelling in the tension generated by the resulting collision/collusion.

Hip hop is the beat and the rap, but it's also the turntable mediating between the two, the DJ scratching and cutting records – any records – to create a collage of sounds few would believe could live together in the same track. Grandmixer DST scratched a record of Balinese gamelan music on Herbie Hancock's 'Rockit'; Grandmaster Flash cut together Chic's 'Good Times', Queen's 'Another One Bites the Dust' and Blondie's 'Rapture' to create 'Adventures of Grandmaster Flash on the Wheels of Steel'.

The genre's willingness to include all manner of musics and sounds makes hip hop an ideal area

E&MM SEPTEMBER 1986



of exploration using that still fashionable musical device, the digital sampler. Listen to the way hip hop not only draws on diverse influences, but also integrates them into a convincing whole; it's deceptively simple.

Technology and hip hop go hand in hand, whether the artists involved are using turntables, drum machines, synths or samplers. DJs like Davy DMX, Mantronik, Sir Mix-A-Lot and Hitman Howie Tee exemplify the openness of hip hop towards technological innovation – even if the way they apply that technology strays into the realms of abuse, rather than use.

There's a lot to be learnt from hip hop, and there's certainly a lot more to be done as the music moves ever outward. Just so long as the beat goes on...

SATURDAY JULY 19 at Wembley Arena, and the beat was definitely going on. This was UK Fresh '86, the first major live hip hop event in Britain. It attracted 15,000 people during the course of its two shows (one in the afternoon, one in the evening), proving that, despite the (in)attention of a mass media that wrote it off two years ago, hip hop has more grass-roots appeal now than ever.

Nearly every major US hip hop act trod the boards at some point during the day – a triumph of organisation for the Streetwave empire and Capital Radio. And what the assembled masses got was a unique chance to take in (or rather, be bombarded by) some of the greatest acts in hip hop's eight-year history – originators Afrika Bambaataa and Grandmaster Flash alongside newer acts like Mantronix, The Real Roxanne and Sir Mix-A-Lot.

With the volume set permanently to 11, UK Fresh was no place for faint hearts. But it's the sheer physical, energising presence of hip hop you need to experience to understand why it just refuses to go away. The music takes you over, imprints itself on your unconscious. Two shows' worth of this and my world is spinning on a different axis, under the control of *that* beat.

The acts came fast and furious, and demonstrated a consistently high level of professionalism. Hip hop is about showmanship, and what we witnessed was showmanship of the highest order – backed up by consummate technical skill.

DJ Cheese and Word of Mouth opened both shows. A sensible

choice, as they set a high standard for the other acts to follow. Their 'Coast to Coast' is a formidable slice of hip hop, now available on 12-inch in the UK.

Often, racks of synths and samplers were dragged centre-stage between acts. Amidst just such an array of hi-tech instruments, Sir Mix-A-Lot delivered his hip-hop-meets-country-hoedown 'Square Dance Rap', chipmunk voice and all. It's a track you either love or hate, depending on whether you have a sense of humour.

But it was Grandmaster Flash's supremely orchestrated crew of ensemble rappers who stole the first show with a sharp, streetwise set. In contrast, headliner Afrika Bambaataa and his cohorts were ponderous, their dense tribal

"Hip hop has always embraced new technology and used it for its own ends, creating a music which otherwise just couldn't have existed."

rhythms muddy – and the crowd weren't overly sold on Bambaataa's peace, love and unity philosophy, either. This show was about the music of the moment, not the personalities who make it. If an act is fresh, that's all that matters.

Contests lie at the heart of hip hop, and are one of the means by which the music constantly regenerates itself. One eagerly awaited contest was that between female rappers Roxanne Shante and The Real Roxanne. It never materialised. Shante fell prey to chicken-pox back in New York, leaving the stage wide open for The Real Roxanne and DJ Hitman Howie Tee to put across one of the best sets of the entire event, 'Bang Zoom (Let's Go Go)' and all.

Aleem were one of the few *bands* to play – fortunately, as their sound was a *mess*. On record their arrangements are among the best around, but that didn't translate live. What's more, lengthy posturing guitar solos were definitely not the order of the day for this crowd, who were waiting for second show headliners Mantronix to deliver the goods. This they eventually did, with a unique combination of hard rapping and tight beats, bringing down the house in the process.

The crowd filtered out into the warm evening air as, next door in the Stadium, Frank Bruno prepared to do battle with Tim Witherspoon. But this particular Saturday, it was hip hop that delivered the real knockout punch. ■

S Y L V I A N

Behind the Veil

As well as gaining artistic credibility since leaving Japan, David Sylvian has inspired musicians with his ability to fuse traditional ethnic and hi-tech elements into a moving and unique brand of music. A new single, 'Taking the Veil', is the prelude to a double album that explores both Sylvian's songwriting and his growing interest in improvised and ambient instrumental music.

Interview *Tim Goodyer* Photography *Martyn Goddard*

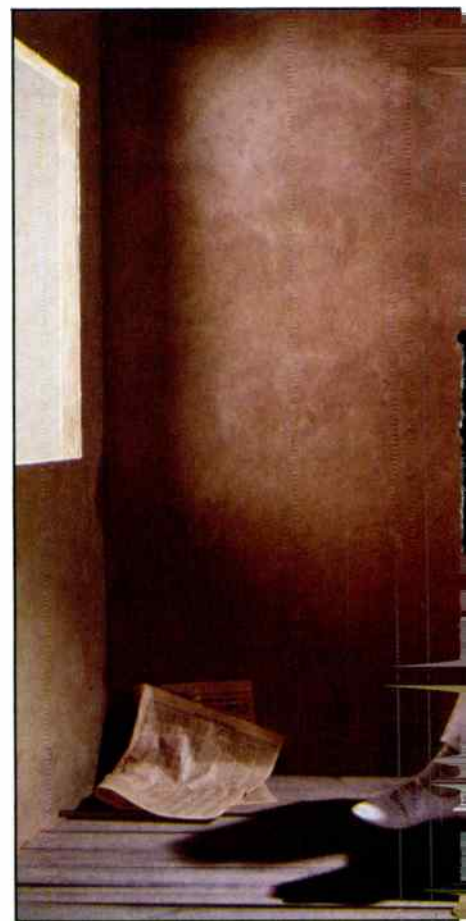
FEW PEOPLE WOULD DISPUTE the significance of David Sylvian's Japan. During a long but only fitfully successful career, the band exerted an influence that spread from pop music to teenage girls' (not to mention boys') make-up, and left an indelible mark on contemporary pop and rock instrumentation.

When Japan were at the peak of their

influence and ability, the innovative fretless bass-playing of Mick Karn spawned hordes of imitators, while Steve Jansen took conventional pop drumming into new areas of complex percussion arrangements. Meanwhile, the conventional role of 'keyboard player' underwent a subtle metamorphosis, as Richard Barbieri became one of the first of a new

generation of synthesiser 'programmers'; and singer, songwriter and face David Sylvian fused elements of artistic moodiness and pop glamour with an undeniably mature and sensitive songwriting style.

Japan began life back in 1978, as a rebellious group of London schoolboys with designs on fame and fortune no different from those of a thousand other



hopefuls.

At the start they borrowed liberally from America's New York Dolls, and produced two albums on the PRT label, *Adolescent Sex* and *Obscure Alternatives*, with the assistance of guitarist Rob Dean. Both albums overflowed with raucous guitars, 'controversial' lyrics and clichéd heavy rock production touches, and both albums are now generally disowned by members of the band – Sylvian himself refers to them simply as 'mistakes'.

A third album, *Quiet Life*, the band's only release on the Hansa label, marked a complete change in both image and musical direction. A catchy, moderately successful single of the same name relied heavily on a simple sequence supporting a deranged bass line and a vocal rich in stolen Bryan Ferry inflexions, while the remainder of the album displayed a sensitive side of Sylvian that had previously been obscured by the bravado of distorted images and guitars. *Quiet Life* got to number 19 in the charts, stayed around for nine weeks, and gave Japan a new lease of life.

'We got the first album completely wrong, so we did another and that was wrong as well', Sylvian recalls. 'We were going to split up after that. We didn't work for six months to a year and then I started writing again – not from pressure, but because I felt the need to.'

By 1980, Japan were hot property and signed a contract with Virgin.

Gentlemen Take Polaroids further established the direction indicated by *Quiet Life*, with an air of mystique and sophistication surrounding its music. Influences, rarely hidden by a band keen to exhibit a cosmopolitan background, spanned the works of Erik Satie ('Nightporter'), David Bowie circa *Low* ('Burning Bridges'), and Yellow Magic Orchestra, whose keyboard player Ryuichi Sakamoto co-wrote the decidedly Oriental-sounding 'Taking Islands in Africa'.

Just one year later, the final Japan studio album was released. *Tin Drum* took yet another musical step forward, as a new approach to song arrangements saw the band having a greater say on the finished product, Jansen and Karn forming a shaky but startlingly original rhythm section, and Barbieri crafting some strikingly unelectronic-sounding textures. The album also affirmed Sylvian's fascination with Japanese culture, philosophy and music.

But the strain that had already seen the departure of Dean took its toll of the other members of Japan, and only a farewell tour steeped in sentiment and an accompanying live album stood between the band and the end of their career together.

Five years later, Sylvian assumes some personal responsibility for the split.

'When Japan split up I felt responsible to the others because they were sitting around doing nothing for

most of the year, waiting for me to write enough material to go in the studio and tour afterwards. And, as I didn't like touring, I'd limit the length of tours as well.

'Things did build up on me when we moved from Hansa to Virgin. Normally I take longer to write material and I felt that from that point onwards I was fighting to keep up. Once I'd finished *Polaroids* I was struggling to write *Tin Drum*, after which I didn't work for a year. I got myself back together with a balance within myself where the writing came naturally again.'

But it wasn't until three years after *Tin Drum* that *Brilliant Trees* was released. Sylvian the reluctant pop idol had faded, to be replaced by Sylvian the credible artist. His first solo venture was anything but solo – he had surrounded himself with respected names like ethnic trumpet player Jon Hassell, jazz musician Mark Isham and Can founder member Holger Czukay, and merged their talents with those of old campaigners Jansen and Barbieri. The mixture, a culture clash of styles and temperaments, created one of the best albums of 1984 – a contradiction of jazzy, instrumental improvisations, electronic experiments, and Sylvian's familiar vocal style.

A short video and soundtrack, *Steel Cathedrals*, and an EP of instrumental pieces, *Words with the Shaman*, have barely served as fillers during the overlong pause between *Brilliant Trees* ►



► and the forthcoming Sylvian LP, *Gone to Earth*.

RECLINING ON A HOTEL BED with girlfriend Yuka Fujii just out of reach, the David Sylvian confronting me now is hardly recognisable as the man that graced the covers of *Polaroids*, *Tin Drum* and *Brilliant Trees*. His face is free from make-up, his hair all its natural colour. Quietly but confidently, he explains the background to his latest venture.

'At the end of '84 I went to Japan to make a documentary video about myself. I was supposed to write and direct everything, which I thought was really strange. There was only one section that I wrote which was documentary – the rest I tried to make up with more interesting things, things that would interest me. The most successful part was what appeared in *Steel Cathedrals*.

'I took the soundtrack to Virgin and they weren't interested, so I said: "If I record another side, you can make an album out of it". They agreed, but I tried it and didn't think it worked. So I said: "What if I do another vocal side to back up *Steel Cathedrals*?" Again they agreed but it still didn't match. So I ended up with the vocal side of an

album, the soundtrack, and the *Shaman* EP. The vocal material began to make up *Gone to Earth*.'

Sylvian's second album is a double, with the first record following along similar lines to side one of *Brilliant Trees*, and the second being made up of shorter, atmospheric instrumental pieces. Sylvian has continued to use a wide range of collaborating musicians, Robert Fripp and Bill Nelson nestling in the sleeve credits alongside the names that were to be found on *Brilliant Trees*. But while his derivative vocal delivery (something he believes still discourages interest in his work) peppers the music for half of *Gone to Earth*, it's the shift towards instrumental material that Sylvian maintains is the most significant trend.

'Buying *Brilliant Trees*, a lot of people would have related side one of that album to the work I had done previously, but they would have had to work to get through side two. Eventually I hope that they would have enjoyed side two more than side one. I wanted to lead people on with me in the way I'm going.

'I feel I can convey what I'm trying to put over in music more successfully without vocals. Maybe it's because I'm not that good a singer and my vocals will

always be mannered to a certain extent, whereas the instrumental work won't suffer from that.

'At this point in time I can't say I'm happy with the new album – there are elements of it I would love to change. I could still go back and re-do a vocal and remix a couple of tracks, but it's got to the point where I've had to let it go, partly because my enthusiasm for it has begun to wear thin, and that's worse than a bad mix or a bad vocal.'

Part of Sylvian's problem here is the attention to textural detail he still gives his music, long after Richard Barbieri first used an old Oberheim OBX and a Prophet 5 to create Japan's distinctive timbres, while Sylvian concentrated on the Prophet alone. Now the frontman claims to have little technical knowledge, but talks readily about the instruments he's using. The Prophet is still one of them.

'I've lived with the Prophet since the days of *Quiet Life*. I still use it because it has a more organic sound than something like a Kurzweil or Fairlight. But I did become very frustrated with it when I first started recording *Gone to Earth*. I'd just sit in the studio for ages staring at it thinking: "why can't I get a different sound out of this thing?". After so many years I know it back to



front – it's very limiting now.

'It was a really good experience working on *Tin Drum*, because Rich and I would sit and sweat it out all day, finding the right sound for one phrase. When we thought it was perfect, Steve (Nye, producer) would transform it into something else. A lot of the sounds that I hear on *Tin Drum* I couldn't possibly get back on the Prophet or the OBX. I think a lot of that comes down to Steve's engineering and production – he's got a very subtle approach.

'I don't think that the quality of the DX7 is the same as something like the Prophet. The percussive sound of the Prophet is much softer, much warmer, – there's a depth to it. I find the DX sounds too contemporary – they sound like they should appear on a pop record, and that doesn't interest me.'

Like so many, Sylvian finds the programming habits enforced by multi-function controls and small panel displays an almost insurmountable handicap, and is quick to point the finger of blame at modern synth design for the current fascination with preset sounds.

'I don't think most people try to make their own character out of synthesisers. Because a guitar is such a musical instrument, you have to make an individual character out of the sound, not just out of the style of playing. I think you should approach the synthesiser with the same idea – to create something very personal instead of creating something that just sounds like a synthesiser.

'If I use a synthesiser and I recognise the origin of a sound, then I'm loath to record it. I have to try and disguise it. You shouldn't be aware of what you're hearing – it should be more abstract.

'I think technology will catch up and become a lot simpler. It has to for music to become more spontaneous – it's probably the reason why a lot of synthesiser music isn't spontaneous, why it's mapped out the way it is with arranged pieces of music.

'Synthesisers should become so flexible that they can be used in any kind of improvisational situation. At the moment synthesisers are designed mainly for inventive recording purposes – the ones that are put together for live conditions are really used just to capture things that you've done in the studio. I don't think anything's really being used in a live context creatively. That's the direction that people who put the things together should be working in.

'If it works under live conditions, it will work in the studio. If you get very close to a sound in live performance, then to modify that sound while it's actually being played is an interesting thing to listen to. If it's not too far away from what you're looking for, the modification becomes musical in itself.

'Something else that's needed is the ability to sample something being

performed on the stage at the time the improvisation is going on, and then start playing that back. Someone like Hassell works with an AMS – he plays something and samples a piece of it. Then he'll improvise over the top of that to extend the idea. In that way a solo performer can conjure up a dense atmosphere of layers.'

IN STARK CONTRAST to the approach adopted by Japan, improvisation has now become a major part of Sylvian's music, hence his interest in getting technology to become more involved in less structured, less formalised ways of making music.

'When I became interested in painting, Yuka and I discussed how close music comes to the purity of line of a painter, the inspiration of just one line. When you see the painting you can feel the presence of the painter because of that purity. We felt the only thing that could come close was improvisation, so I started listening to jazz and a lot of the influences came from there.'

The creation of musical environments and atmospheres is the direction Sylvian feels synthesiser improvisation could profitably take. He remains unimpressed by the way older, more established keyboardists have improvised with synths, and feels the generations now growing up with technology are more likely envoys of what could be a new age of musical exploration.

'It would be interesting to have younger people improvising with synthesisers under live conditions. I think it would be stimulating for an audience and for the performer, without being self-indulgent. It can be an uplifting experience just as much as any structurally-based classical music can. It can have the same quality about it because it turns you inwards to reflect on yourself, and I think that's an important quality of all art.

'A lot of young people aren't technically proficient and so can't get out of their instruments what jazz musicians can. That's where I think synthesisers come in, because if you improvise you can explore. Older jazz people that use synthesisers use presets and they sound awful in jazz. It's like using a rhythm box in jazz – it just doesn't work.

'It's really open to the younger people because sound is more important to them than it was to the generation before. I think that should open new doors and technology can help. It's like computer games – they're for the younger generation, they belong to them. It's just a case of whether they can be creative about using them, because it's so easy to fall into using a formula.'

It's to avoid falling into just such a trap that Sylvian has stuck to his policy

of using the external influence of guest musicians, each of which brings his own, unexpected contribution to the end product. And none of Sylvian's recent collaborators has done more to introduce an element of chance than German-based Holger Czukay.

'When Holger came to London to work on *Shaman*, he brought a handful of cassettes he'd taken from the radio', recalls Sylvian. 'He'd suggest a cassette for what we were listening to, and say we'd leave the cassette running while we recorded. There are things that would fall into place, and anything that didn't would be spooled back in to the right place. I find that a very interesting way of working – leaving things to chance.

'That's the way he works with the dictaphone as well. On 'Pulling Punches' (opener on *Brilliant Trees*) there are a lot of brass things played on the dictaphone which just happened. We ran through the track and he played the tape, and they all fell into the places they are on the finished piece. That kind of thing is an improvisation of tape which I'd never heard of before I worked with Holger.

'I like the way Holger works with radio too, though I don't use it myself so much. I used a little bit on 'Taking the Veil' (the new single) but it's really mixed in with the guitar. When we did the album I was playing guitar and harmonium and Holger was producing, and at the same time he was running pieces of short-wave radio through the speakers. We were hearing it, and it was being recorded at the same time as the piano and the guitar. That was interesting because we'd respond to what we were hearing. We might take all the radio out in the end, but it made a difference to what we were playing at the time. I like the idea of not knowing what's going to happen.

'I began to feel very stifled in Japan: I wanted to do something more spontaneous, where you did very little to actually impose yourself onto a piece of music. It's worked in painting for ages but it hasn't been done in music so much.

'To try to create music that almost creates itself is something which I tried with Holger in Cologne. We tried not to play or to play as little as we could, and if we were playing, to play something as non-descript as possible. We put it all on tape and things would be recycled until eventually music would be playing that we weren't performing at all. We'd stopped playing and we were just looping things that were going on. What I heard was a very organic piece of music. Like landscape music, it would conjure up scenes in mind very vividly, but it wouldn't impose itself on you. It would enhance your own thought processes instead of taking over the atmosphere of the room.

'I think that's got to be the function of music more and more in the future: ►

▶ to enhance rather than change. It's the same as painting does, and I think music should adapt to that more and more.'

YET NO MATTER HOW much David Sylvian experiments with his music, the popular music press will continue to focus attention – as they invariably do – on his personality, and the way it manifests itself in his lyrics.

On *Gone to Earth*, those lyrics are more introspective, more self-searching than ever. And while that introspection may deter some listeners from getting closer to Sylvian's work, the man himself sees it as an inevitable consequence of his intimacy with Japanese culture and its philosophy of self-discovery.

'You definitely learn through what you write – if you don't then there's something wrong. It has to have a very human quality about it, even if it's as stylised as Japan – it has to relate to people on a very personal level. Without that I don't think people relate to music over a long period of time.

'When I wrote 'Ghosts' it was after a very dark period I went through. I wrote the piece and thought: "Yes, that sums it up very well". But after I recorded it, after it had been a hit, I went through an even darker period and I thought: "This is what it's really

material for an album. Eight songs a year doesn't sound a lot but it would be a lot for me – I'd really struggle to get those eight songs ready for an album. It doesn't happen like that any more.

'I used to start from titles but now most pieces come from just sitting down at a piano or synthesiser. Pieces like 'Nostalgia' and 'Before the Bullfight' off this album came out of just messing about, waiting for something to happen. They're the pieces I don't think about much: they fall into place fairly naturally.

'And very obvious piano pieces like 'Laughter and Forgetting' and 'Brilliant Trees' come out very easily as well – they're very natural to me. But if they're too obvious I don't tend to get any enjoyment from them.

'Arrangements tend to take up a lot of time: there are so many ways to arrange a piece of music. On occasions I've started a track and taken it to a certain point, then just dropped it and done a totally different version.'

And it was the exploration of different arrangements that still gives *Tin Drum* a place in Sylvian's heart. More than any other Japan album, it has exerted an influence over the frontman's career that has reached far beyond its initial impact.

'I had the idea that every other phrase should be played by a different

recently been talk of Japan getting back together again. The rift between singer and bass player is now healed to the extent that Sylvian is to appear on Karn's forthcoming album, but the band reformation is still only talk.

'There was talk at one point of whether Japan should get back together or not. As a romantic idea it would be nice, but I can't see it at the present time. The idea of working in a group is enticing after you've been working on your own for so long. It's very difficult working on your own in the studio, and the idea of getting back together and being with the group again is something that appeals to everybody.

'It almost came off, but there wasn't enough conviction and now I'm happy that it didn't. I'm sure that it'll be talked about again in another five years, but I hope it'll always be talk because I don't think it would be a good thing. If you become more romantic about your ideals than practical, I don't think that leaves you in the right frame of mind to say: "No".'

So what of the immediate future? Sylvian says he wants to travel again, but the infatuation with Japan has worn thin, and the South of France now beckons more strongly. There are formative plans for a regular band, but it's too soon even to speculate on the line-up or the repertoire it might play.

'It's something I definitely want to do: I've just got to find the right people and I haven't got a clue where to start looking. It's going to take a while, of that I'm sure – it's for the next vocal album. I might do other albums in between and work with different people, but I'd like to form a band to make at least two vocal albums and to do a tour.

'On the other hand, I am very interested in the instrumental work which doesn't need a band. I'd also like to play a few small dates performing the instrumental stuff, and then whichever remains the more passionate in my heart I would follow. I can't say definitely it would be one thing; maybe I'll do both.

'I really enjoy writing now. I particularly enjoyed the instrumental work, though I do sometimes get tired of it. At times I feel like giving up because of the struggles of working with record companies, but I'm enjoying it too much at the moment.

'I plan to stay in the studio as much as I can but I don't think I'm going to start anything else of my own for a while. I might collaborate if something interesting comes up. That'll give me something to occupy me creatively while I take time to think about what I really want to do with my own work.'

As so often in the past, Sylvian is uncertain where his artistic life will take him in the years to come. But there is a future there somewhere, and musicians who've been inspired by the man's work will be glad of that. ■

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"The function of music in the future should be to enhance, rather than change – to conjure up scenes in mind without imposing itself on you, without taking over the room."

about". I hadn't experienced it the way I thought I had, and yet the song summed up that period very well. It was a very bleak time – every time you thought you were getting somewhere, something would stand in your way.

'When I wrote *Brilliant Trees* I was becoming more and more interested in the spiritual life. I hadn't come across the Kabbala and the Tree of Life, but I was on the brink of discovering it. When I did I found that's what 'Brilliant Trees' related to, but I had no concept of that at the time. I've found it happens quite a lot, even when I first started writing. I think you anticipate your next stage of changing, self-consciously.'

Once inspired to writing by travelling, Sylvian has become self-sufficient as a result of his learning, and has scarcely travelled anywhere at all in the last 18 months.

'I'm obviously inspired by books, by paintings, films, whatever, but they draw on a source that's already within me. I'm very interested in myself in the way I'm growing and where my mind is leading me. It's into a territory I'm really enjoying exploring, and the work is coming easily to me. I don't struggle over writing any more. I used to, especially with Japan, to get enough

sound, and should alternate as much as possible. That's all we started with.

'So I tried out two pieces, 'Talking Drum' and 'Canton', with Steve just to see if it would work. It doesn't take a great deal of songwriting to come up with pieces like those – it was only the arrangement that made both of them work. It worked so well and we enjoyed it so much that 'Talking Drum' is still my favourite Japan track. The public never seemed to see it as a very live track, but it's very important because it was how that whole concept came about.

'After that it was very easy: I wrote the songs as usual and I had a definite idea of how they should be arranged. With 'Ghosts', I knew the way that it should be arranged as I was writing it. Without Ryuichi to help out in the studio it would never have sounded like it did, but the idea of the arrangement was there from the beginning. The whole success of the *Tin Drum* album was purely arrangement.'

WITH SYLVIAN'S INTEREST in improvised and abstract music, not to mention the animosity that existed between he and Karn at the time of the split, it's surprising to learn there's

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World Radio History

Casio CZ101/1000

Reverb Flute

Mike Williams, Southampton

Casio's CZ produces another delightful sound here, christened 'Reverb Flute' by Mike due to the distinctive envelope release of DCA1. DCO2 is set to give a realistic 'chiff' effect at the start of each note, and some pitch-bend (try a value of 02) can be brought in for added realism on selected notes. If you select Solo mode you can introduce a little Portamento, and we'd also suggest resetting the Octave Range to 0 or even -1. ■

PARAMETER

LINE SELECT 1+2' (1,2,1+2,1+1')	MODULATION		DETUNE				VIBRATO				OCTAVE	
	RING	NOISE	+/-	OCTAVE	NOTE	FINE	WAVE	DELAY	RATE	DEPTH	+/-	RANGE
	OFF	ON	+	0	00	00	1	26	55	09	+	1
	(ON/OFF)		(+/-)	(0-3)	(0-11)	(0-60)	(1-4)	(0-99)	(0-99)	(0-99)	(+/-)	(0-1)

1

DCO 1

WAVE FORM	
FIRST	SECOND
2	0
(1-8)	(0-8)

E N V (PITCH)								
STEP	1	2	3	4	5	6	7	8
RATE	70	00						
LEVEL	66	00						
SUS/END	SUS	END						

DCW 1

KEY FOLLOW	(0-9)
0	

E N V (WAVE)								
STEP	1	2	3	4	5	6	7	8
RATE	60	00						
LEVEL	35	00						
SUS/END	SUS	END						

DCA 1

KEY FOLLOW	(0-9)
1	

E N V (AMP)								
STEP	1	2	3	4	5	6	7	8
RATE	82	58	71	44	63	44	61	50
LEVEL	99	89	54	30	66	30	51	00
SUS/END	SUS							END

2

DCO 2

WAVE FORM	
FIRST	SECOND
1	0
(1-8)	(0-8)

E N V (PITCH)								
STEP	1	2	3	4	5	6	7	8
RATE	00							
LEVEL	00							
SUS/END	END							

DCW 2

KEY FOLLOW	(0-9)
9	

E N V (WAVE)								
STEP	1	2	3	4	5	6	7	8
RATE	99	00						
LEVEL	00	00						
SUS/END	SUS	END						

DCA 2

KEY FOLLOW	(0-9)
1	

E N V (AMP)								
STEP	1	2	3	4	5	6	7	8
RATE	92	56						
LEVEL	64	00						
SUS/END		END						

Shofuku Parts 1 & 2

ROM Cartridges Yamaha DX7

Now this is how to present cartridges of new synth voices. Attractive packaging, full listings of available voices and descriptions of how they sound, together with hints on how they can be altered easily by the user, and tips on which outboard effects work best as treatments.

It's the Japanese, not surprisingly, who are responsible for this neat and useful presentation. The Shofuku (funny only if you pronounce it wrong) ROMs E&MM SEPTEMBER 1986

come from the programming hands of two of Japan's most respected DX sound artists - Yasuhiko Fukuda and Noritaka Ubukata - and the blurb on the packaging claims they include 'voices previously believed difficult to create on the DX7'.

To an extent that's true: across their range of 128 voices (64 each), these two ROMs embrace almost every conceivable family of sound, from fairly standard DX-ish noises like pianos, ethnic tuned percussion and bass guitars, to less likely DX fare in the shape of fat string sections and solo synth voices.

Trouble is, the former are so outstanding, they tend to leave the more 'analogue' voices in the shade. Best of all the 'digital' patches are Part 1's selection of electric pianos and Oriental sounds, and the brass voices and 'hybrid' colours ('Guitarimba' is a fine example of the latter) on Part 2.

There are some good names, too. A stunningly realistic tuba patch called 'A Hippo' because that's what it sounds like over the lowest octave and a half; a subtle Spanish guitar patch called 'Aranjuez'; and a pair of rich chorus piano sounds - one on each ROM, perversely - which take their names from the Weather Report track 'The Remark You Made' which inspired their creation. It can be disconcerting, punching in a patch number and having the title 'You Made' coming up on the synth's LCD.

A fine collection, then, of delicately constructed and hugely characterful voices, stranger than most in traditional DX territory, stronger than most outside of it. ■ Dg

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HITS FROM

THE STICK

Dynacord's Rhythm Stick is a new form of MIDI controller. As well as letting drummers control percussion voices at the front of the stage, it opens up a host of new control possibilities for all musicians. Will it catch on? Nigel Lord

On your marks (defences up, mind closing rapidly), get set (hackles assuming fully vertical aspect – all external stimuli cut), go (prepare to succumb to full-blown wave of Luddite passion): AGUITARFORDRUMMERS. There. Said it.

Yes, it's technology time again. Get that mind open, put those pre-conceptions back in moth-balls and give me a few minutes of your time.

There must be quite a number of drummers out there who've longed to lay down the sticks and strut their stuff (funky or otherwise) up at the front of the stage.

Now it seems those awfully nice Dynacord people have decided it's anchors-away time for drummers, and given them their very own axe to grind. At last, skin-bashers can cut in on a slice of the action upstage, worry about whether the hair gel will hold, and discuss the angle of the dangle along with the rest of them.

To be fair, what Dynacord have in mind for the Rhythm Stick (if their publicity blurb is anything to go by) is that it'll become 'the percussion instrument for the guitarist or the guitar for percussionists or the percussion instrument for the keyboard specialist or just about anyone...' I think it's called keeping your options open.

Whatever happens, it'll certainly be interesting to see just what percentage of guitarists or

rhythm for a band, or just to play arpeggiated melodies in a different way.

Facilities "All triggering information from the Rhythm Stick is dynamic, so provided it's connected to a dynamically sensitive controller, it can reproduce the expression in your playing."

But I'm leaping ahead. The Rhythm Stick comes in two different versions, and that difference can be summed up in one word – MIDI.

The non-MIDI version can be considered simply as an alternative means of triggering the voices of an electronic kit. Instead of whacking the hell out of a set of pads, you simply sling the Rhythm Stick round your neck and slap out a rhythm (bass-guitar style) with the thumb and fingers of your right hand – the left hand being used to select the voices (eight in all) of the drum voices you wish to play.

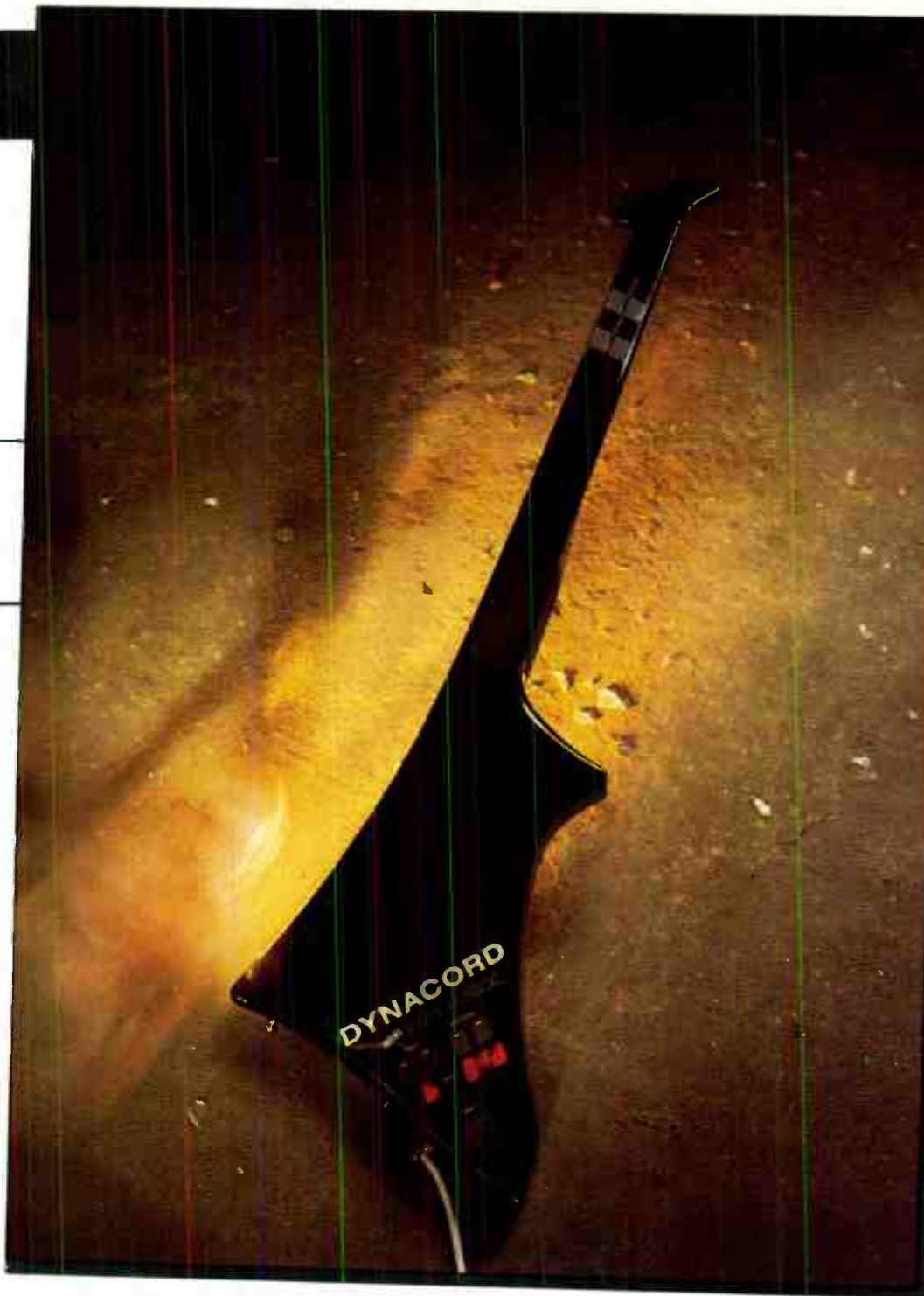
All triggering information from the Rhythm Stick is dynamic, so provided it's connected to a dynamically sensitive controller – such as Dynacord's own Percuter S and ADD One – it's capable of reproducing all the expression in your playing. At the same time, your overall playing level – sensitivity if you like – can be determined by the Volume control down in the bottom corner of the body, while the only other intrusion into the sleek black exterior of the non-MIDI Stick is a Power On LED indicator situated immediately above this control.

The Rhythm Stick communicates with its chosen control unit via a good length of multicore cable, with a power supply connected 'in line' between the two. On the MIDI version, the requisite five-pin DIN socket is also situated on the power supply, a



Background "It'll be interesting to see how many guitarists or keyboard players risk a role change on stage, using the Rhythm Stick to provide the rhythm for a band."

keyboard players will risk a role change on stage, using the Rhythm Stick to move over to provide the



separate MIDI lead being run to the instrument(s) of your choice.

This brings me neatly round to the Rhythm Stick Version 2, and the facilities opened up by MIDI. Aside from increasing the range of connection possibilities to include synths, expanders, drum machines, and indeed the whole gamut of instruments and processors currently sporting a MIDI tag, the MIDI Rhythm Stick is set apart from the non-MIDI variant in two fundamental areas.

First, it allows you to program various trigger selector/voice combinations, and recall these by punching them in on two of the four extra buttons found on the MIDI Stick. Alternatively, you can choose any of the presets pre-programmed by Dynacord to match the unit for use with such

E&MM SEPTEMBER 1986

instruments as the Yamaha RX15, the Roland DDR30, 707 and 727, the Sequential Drumtraks and the Linn 9000.

MIDI “*Only one MIDI channel can be set for each program, so you’re prevented from making proper use of any multi-timbral synths because you’re limited to triggering different notes of the same sound.*”

Second, it is possible, by switching from ‘Guitar Feel’ to ‘Drum Feel’ modes, to generate triggering pulses on the selector pad without having to hit either of the slap sensors. In fact, as many as four pulses may be generated in this way (for each of

your four available fingers) and these, in addition to the two generated on the slap sensors, turn the Stick into a far more complex beast, rhythmically speaking.

The two Modes I’ve just mentioned are in fact only the first of a total of nine available, and selected by the remaining pair of buttons. As with the programming buttons, these are accompanied by a numeric LED readout so you always know where you are—even on stage.

Running through the Modes is perhaps the best way of introducing the range of facilities offered by the MIDI Stick. So, Mode 3 allows you to ‘lock’ selector 5 in order to hold a constant voice throughout a rhythm. In other words, every time you hit one of the slap sensors or any of the selector pads, it triggers selector 5. If the selector happens to be connected to a hi-hat, for example, it allows you to keep a constant series of beats going, no matter what other instruments you’re triggering.

Mode 4 (not to be confused with MIDI’s Mono

► Mode) is used to assign notes via MIDI on user programs 1-16, and it's this mode which is selected prior to programming your own voice-selector pad combinations.

Mode 5 selects the MIDI channel down which the Rhythm Stick sends its information, and thus which sound-generator is accessed. But only one MIDI channel can be set for each program, and the value can't be stored along with the rest of that program's information. So effectively, you're prevented from making proper use of any multi-timbral synths or samplers, or from connecting any two or more MIDI sound-generators together in order to assign different voices to each of the trigger selectors. This is a pity, especially as it would have taken only minimal changes in the software to correct the omission.

In the absence of such changes, you're limited to triggering different notes of the same sound when using a synth connected to the Rhythm Stick. The only way of triggering different voices on each selector is by connection to drum machines, for example, which actually assign a different MIDI note number to each voice.

Mode 6 makes it possible to adjust the intensity of the trigger pulses when switched to Drum Feel (Mode 2), and thus match trigger levels to your playing style.

Mode 7 displays the MIDI velocity value and thus the intensity of the pulses from the slap sensors, while Mode 8 is used to call up and display the MIDI note settings for all the factory programs.

Finally, Mode 0, like Mode 3, locks on trigger selector 5, though this time it takes effect only in Mode 1 (Guitar Feel).

The position of the Mode and Program buttons, along with their associated LEDs, makes them clearly visible and easy to use – even while playing. However, before I go any further down that particular road, I'd better make a confession.

All references to *playing* the Rhythm Stick do not, alas, come directly from me. You see, I have a little problem (I have a big problem too, but this is neither the time or the place), in that I'm left-handed. As you probably know, most guitar-shaped objects are made for right-handed players, and the Rhythm Stick is no exception.

This needn't present difficulties for all left-handed people: if you're starting from scratch, it shouldn't take you any longer to master the instrument in the right-handed position. My problem is that I've already been known to knock out a toon or two on the ol' guitar now and then, and have thus already formed a left-handed habit, so to speak.

Consequently, any comments regarding the physical layout and playing position of the Rhythm Stick have been drawn from those of the dozen or so people who inhabit the office at Music Maker Publications.

Most of these right-handed worthies seemed generally impressed with the ease of playing, and notwithstanding the rather bizarre idea of carrying the equivalent of a set of drums round the neck, with the *naturalness* of the concept as a whole.

Criticisms voiced concerned the eight selector triggers, which, had they been positioned closer to the body of the instrument, would have been easier to reach with the left hand (ie. with less wrist-twisting). It was also decided that a third slap sensor, provided for the soft part of the hand where the base of the thumb joins the wrist, would have allowed far more complex rhythmic patterns to be built up.

But the main problem people experienced while playing the Stick was caused by what appeared to be the sluggish response of the selectors in Drum Feel mode, where the selectors themselves are used to trigger the sounds. This could be overcome with the right playing technique – 'leading' slightly with the left hand – and maybe this is how the instrument is intended to be played. But the first time anybody picks up the Rhythm Stick, it's inevitably this particular idiosyncrasy which causes the most problems.

But the overall playing impressions were very

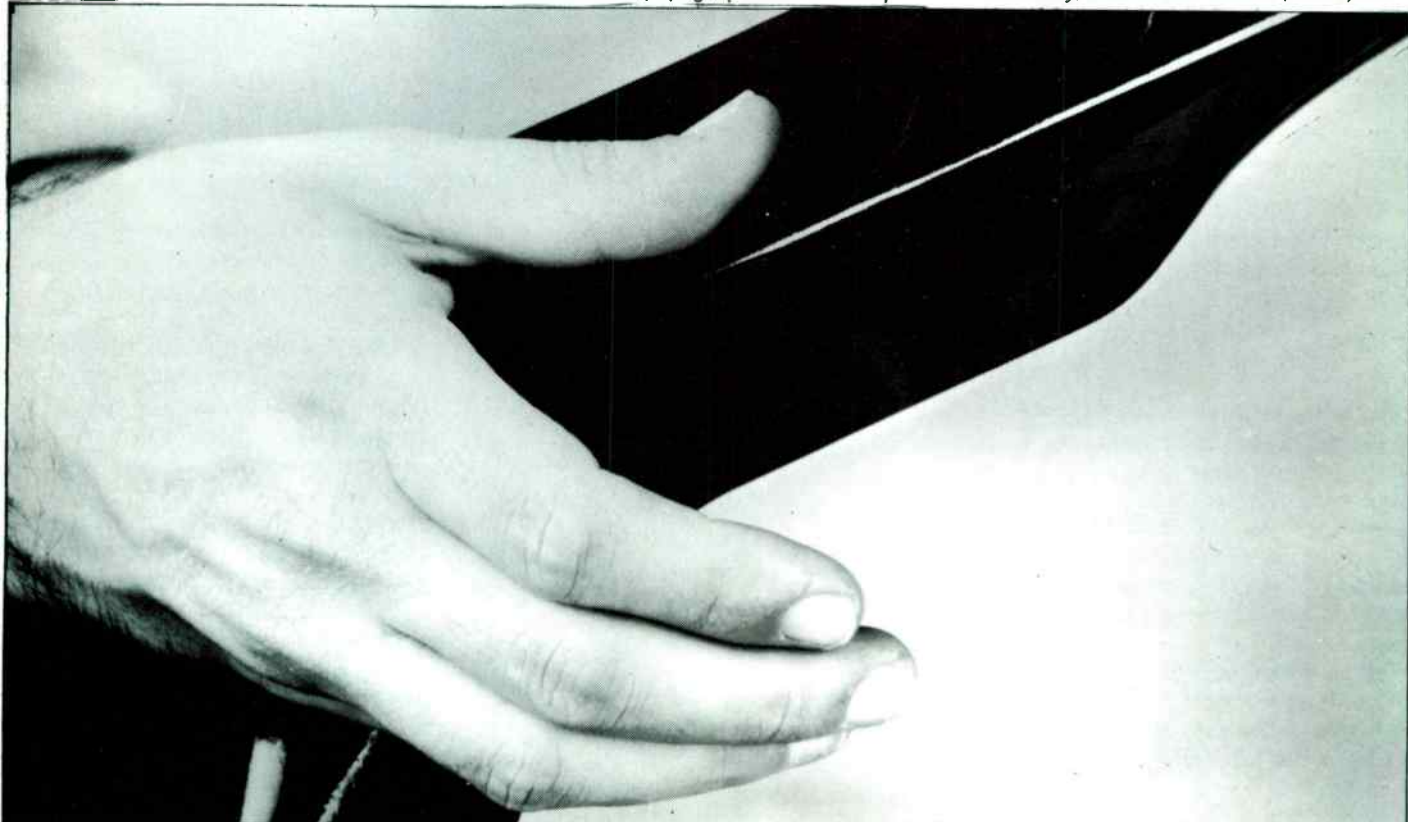
favourable – as the difficulty I had retrieving the damn thing was testament to. Connecting the Stick to a Yamaha DX7 had a number of people hammering out rhythms that *could* have been played on the keyboard itself, but somehow wouldn't have been. This was especially true in the context of the percussion voices (tuned and otherwise) at which the DX excels, though it was interesting to note that, as a general rule, people experience fewer problems adjusting to the Rhythm Stick while playing drum patterns, than they do bashing out synth melodies.

It was while the Rhythm Stick was being used in this way that it struck me just how *odd* the whole concept really is. You're stood there, playing an instrument shaped like a guitar controlling a keyboard that's producing the sound of a drum. Much has been written, in these pages and in others, on the blurring of distinctions between instruments that new technology is causing, but I honestly can't think of a better example than that.

The pose value of this instrument almost goes without saying. I can see it fitting in well with the stage image of a number of different band styles, from heavy metal to heavy funk. That said, the Rhythm Stick may become the sort of instrument that's used mainly by name acts who've already made the big time, and even then only for one or two numbers in a set. That would be a shame, because this is, without any doubt, a serious instrument with a lot to offer.

Perhaps more than anything else, the Rhythm Stick forces the user to approach the creation of rhythm tracks in a totally different way, and that can only be for the good. ■

**Prices MIDI version £499, non-MIDI version £399; both RRP's including VAT
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THE GRABBING HANDS

HAVE YOU WON OUR DX100?



When we asked readers to send in features to stand a chance of winning a Yamaha DX100 synth, little did we know how many would write in, how well they'd write, and how long it would take us to judge the competition. But now the wait is over.

Dan Goldstein

WE ALL MAKE MISTAKES. Some make bigger mistakes than others, it's true, but that's usually because they get more opportunities to cock things up.

Magazine editors get as much scope for error as any professional people I can think of. Just imagine it. Page upon page of information every month, all of which has to be religiously checked just in case an erroneous remark causes someone, somewhere to take issue with the organ.

On a larger scale, magazine staff can make a mistake by deciding to run a certain feature in a certain way, or by choosing one idea for an article in favour of another.

Back in February of this year, the staff of the magazine you're now holding made a mistake. A big one.

Yamaha had given us a DX100 polyphonic synthesiser (FM, 192 sounds, poseur's strap), which was pretty decent of them as these things retail at £350 in the shops. It was then up to us to decide how we should give the synth away in the magazine, and we spent a week or so thinking of ideas for a competition.

Now, no one member of the staff has admitted to coming up with the idea we eventually plumped for, but as the Editor, I take ultimate responsibility for E&MM SEPTEMBER 1986

most of this sort of thing – which is why I'm writing this now, and Goodyer, Trask and McGrath are in Corfu sunning themselves.

Write a feature, we told you, and you could win a DX100. More than that, the winning feature would appear in a forthcoming issue of E&MM, and the writer responsible would be taken on as one of our regular freelance authors. It sounded like a good idea to us, mostly because we're constantly trying to find out what the hell the magazine's readers are interested in, and partly because as competitions go, this one didn't look as though it should elicit too great a response, and judging it would be made all the easier.

Send us your copy, we said. And you obliged. In fact, over 100 of you obliged, each one penning a short but sweet 1200 words (the stated maximum) on the subject of your choice, presenting it to us in varying degrees of neatness, and occasionally submitting the odd bribe.

The volume of entries in itself wouldn't have been so bad if the *standard* of writing hadn't been so high. For while we were naturally a little chuffed at discovering how literate E&MM readers were, that level of literacy had given us a serious judging problem.

What all this boils down to is that only now, six

months after we originally ran our Hold the Front Page competition, do we have a winner. It's been a long and miserable wait, but as I've said, we all make mistakes.

Before we leap straight in with the winning piece, a quick run through of the sort of material we received. We'd deliberately imposed few restrictions on the choice of subject matter that was allowed, and what we got was a wide range of submissions that fell, very roughly, into four categories.

First there was the crystal-ball gazing epic: titles like 'Frankfurt 1996', 'E&MM Ten Years On' and that kind of thing. Mostly these were uninspired and predictable, as were the spoof product previews – 'Zlatna Series III' et al – that were written in much the same vein. It's one thing to make predictions about 32-bit samplers, new methods of digital resynthesis and 64-voice drum machines, quite another to conceive whole new fields for music technology to embrace; sadly, very few people succeeded in doing the latter.

The second category covered features bemoaning the state of the modern music scene, technology's apparent inability to instil new life into music, and so on. Many of these were well written, ▶

▶ but the sad thing was that although many entrants criticised music in '86 with pinpoint accuracy and biting wit, only a small minority offered constructive and original advice as to how we might go about changing things. Hats off to Tony Adamczyk of Nuneaton and Ian Carstairs of Durham for being the most inspired in this area.

Third come the practical features, which arrived with varying degrees of technical detail and accuracy. The pieces ranged from user reports of particular instruments and educational essays, to small software routines and programming features. There were even a couple of readers who chanced their arm by submitting the first part of a series. And there was some clear, concise writing, too, notably from Roger Bush of Cumbria, Gary Larson of Washington DC, Alec Evans of Portsmouth and

Alan Andros of Newcastle. Ultimately, though, none of the educational pieces really struck us as being outstanding enough to win the competition. Many of them were useful in specific areas, but there was nothing *universal* that was head and shoulders above everything else.

Fourth and last came the personality stories: interviews with designers and composers, reviews of concerts, and personal anecdotes from musicians anxious to warn others away from the pitfalls they fell into. Most of the interviews and reviews of real people/ events were on the dry side, though there were some clever spoof stories. More interesting, though, were the musicians' anecdotes, the stories of instant fame dashed by bad fortune, of great inspiration denied by intransigent technology.

And it's one of these anecdotes that has won its

creator our Yamaha DX100. Step forward, Graeme Holiday of Ashingdon, Essex, for you are E&MM's latest prizewinner.

Graeme's piece summed up what many tried to say – that once you get caught on the carousel of new gear, there's no getting off. For us, his 1200 words said more about the current state of music technology than any other piece – and said it more succinctly, more objectively, and more entertainingly, too.

To all those who slaved over word-processors, typewriters, personal stationery and papyrus, we offer our commiserations and our thanks. You gave us a lot of reading pleasure and a few sizeable headaches, and we had a lot of fun.

To Graeme Holiday we offer our congratulations. The DX100 is on its way. ■

SEX, DRUGS, FAME – A DREAM AN EMPTY WALLET – A REALITY

WHAT FOLLOWS IS A SAD but true story. It should serve as a warning to anyone considering buying their first keyboard.

It was November 1984 – I was happy. I'd got married the month before, we had a new house, I liked my job – everything in the garden was great. It couldn't last. It didn't.

It was an ordinary Saturday morning, I'd arranged to play squash with a friend and my wife was coming to watch. We played. I won. Isn't life wonderful? Then it happened. Alan (the friend) uttered ten life-destroying words – 'Come and see what I've bought the kids for Christmas'. It sounded harmless enough. It couldn't hurt.

After making sure the kids were out, the Christmas present was revealed – a Casio MT68 portable keyboard! Yeah, I know – why are you reading this pap if all I've got to talk about is an MT68? But this was just the start.

I was knocked out by this little machine – rhythm patterns, autochords, drum fills...you know the list. I had to have one. At this point Lynn (my wife) made her big mistake.

'You've got your Access card – why don't we go to Dixons?'. No, she's not for sale.

We went to Dixons, I parted with my flexible friend and the nightmare began. The Casio entertained me for about three weeks. I quickly tired of those rhythms and autochords and decided I needed a more sophisticated toy. I started to buy magazines – dozens of them. I still do – it's like a drug. I know every publishing date from E&MM to H&SR (and all the ones in between). I never calculate how much I spend on magazines. I'm too frightened.

Anyway, back to the plot. It was in one of these helpful magazines that I saw my dream machine. An all singing, all dancing, mega keyboard... The Yamaha PS6100. Now you're cooking! Four-track recording, FM sounds, PCM rhythms...the lot. If I bought this machine I'd never have to buy anything else. Where's Lynn?

'We could get a bank loan', I suggested. We had only been married two months – she still had a lot to learn, poor kid.

OK, to the bank. 'I wanna refit the kitchen', I lied. 'Sounds fair – here's 900 quid'.

It was January 2, 1985 – I had an MT68, a PS6100, a bank loan and a slightly dubious wife.

To be fair, I was quite impressed with the PS6100 – some of the sounds were great (vibes, electric piano, flute) and the auto-accompaniments would make any nurd sound like Bobby Crush. But I was soon to tire.

For a start I couldn't change any of the sounds and, having read all the various magazines, I felt what I really needed was...a synthesiser.

A trip to the local music store was obviously in order – they'd advise me, they'd tell me what I needed to make this aching and yearning go away (plink, plink, fizz).

To the music store I went. 'I know absolutely nothing about synthesisers', I declared. 'What should I buy?' Try as he might, the salesman couldn't hide the glint in his eye. 'Come and sit down here little boy – would you like a sweetie?'

I could actually feel the wallet being lifted from my pocket. After much 'What does this do?', 'How much does this cost?', 'How many sounds has this got?', I decided all I really needed to make my life complete was a Yamaha CX5 Music Computer. This, at £499 plus large keyboard, the salesman assured me was a wise investment, and furthermore they'd take the PS6100 off my hands. Deal!

I rushed home to show the very impressed and interested wife. 'Very nice – when are you going to paint the bathroom?'. They're such understanding creatures.

I was content and I could program just about everything. But bugger me, this FM takes some getting used to. I was also not impressed with the rhythm box included. It sounded like a soggy Weetabix box (OK?), and although I had all these great ideas for songs I could only record one track on the CX5 (the four-track real-time sequencer was just a twinkle in Yamaha's eye then, and I didn't have the patience with the Composer program).

At this point, I hold the magazines wholly responsible for my next act of folly. I'd spent the last few weeks reading about drum machines and four-track cassette machines, and thus knew where my destiny lay. I convinced Lynn that one more loan would get me a Tascam 244 Portastudio and Yamaha RX11 drum machine.

She agreed, but I had to promise this would be the last loan. I also had to paint the bathroom.

So back I went to the music shop. 'I want one of those and one of those please' (just loud enough so everybody else in the shop would be impressed with what I was buying). The salesman was delighted and, as he cheerily waved me to my car, he said three words that cast a shadow over my happy day.

'See you soon.'

There was something haunting in those words. He said them with such confidence I knew he was right.

Well, the list just goes on and on. I'd recently started taking piano lessons (you ever tried practising the piano on a CX5?), so an electric piano became a necessity. Enter the Roland EP50. I soon got fed up trying to program the CX5 and decided to expand my synth collection, so it didn't take long to convince myself I needed a Casio CZ101 (I didn't need the CZ1000 as the EP50 makes a great mother keyboard – thanks, Roland). Next came a Korg EX800, which I consider my best value buy to date.

I had to get a mixer to save tracks on the Portastudio, but the recordings sounded dull. A trip to Turnkey solved that one, and I'm still quite happy with my Great British Spring stereo reverb (though I can hear my little room saying 'Go buy us one of those new Yamaha multi-effect processor thingies, Graeme').

So that is currently about it. It won't stop there, of course. How can I call myself a keyboard player if I don't have at least a DX7, a Prophet 2000 and a PF80? I really feel a need to upgrade to eight-track, and there's no point in doing that unless I've got decent processors. It's hopeless, I'm hooked!

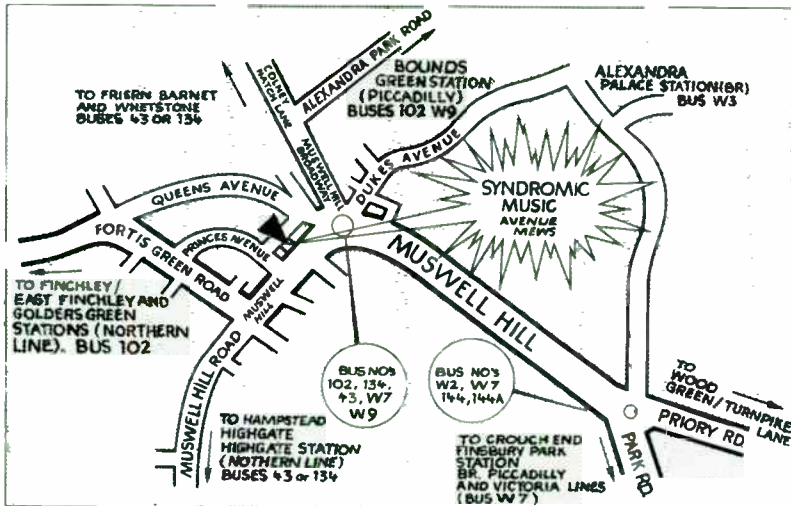
Amazingly, my wife is still with me, even though I think she regrets the day she said 'Let's go to Dixons'.

I know some of you will feel this is pretty far-fetched (remember, it's all happened in under 18 months) but I promise you it's true. Believe me, if you're just about to buy your first keyboard, a year from now you'll be writing to E&MM trying to win the latest DX.

Take my advice – take up knitting. ■

Graeme Holiday

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WINDY CITY DAY

In which an American software engineer and self-confessed 'techie' tries to see everything there is to see

at the Chicago NAMM show, in just one day. *Chris Meyer*

ONE DAY TO SEE the NAMM show. That's all I had. Well, OK — one day, and an hour-and-a-half in the Roland booth. Plus, I spent the morning hours of that one day recovering from a crushing hangover, courtesy of a company-who-shall-remain-nameless' boat party the night before. So, I didn't see all that I wanted to see. What I did do was spend that one day (plus the ten hours of MIDI manufacturers' meetings the day before), eyeing what the technology being shown was all about.

The first instrument I saw at the show was the Casio CZ1. At last, velocity and pressure hooked up to a powerful and easy-to-program PD (Phase Distortion) voice. Unfortunately, the combination of the CZ1's multi-level panel and the various pastel-coloured switches and legending reacted so violently with my aforementioned hangover, I literally couldn't get close enough to it to play the thing (maybe if I kept my eyes closed).

The point is, though, that Casio are finally listening to their product specialists and producing more professional equipment. The next obvious step for PD is a rack-mount unit, and perhaps even more modulation routing capabilities to



PPG's NAMM display included Hard Disk Unit and updated Realizer, sounded more impressive than ever, but was locked away in a small room in the middle of the show's main hall — blink and you'd have missed it

further fatten up the sound (I'm spoiled by the recent Oberheims and Prophet VS in this department). The combination of Casio's low prices plus some aggressive, intelligent product

specification should be enough to send chills up the spine of end users and manufacturers alike.

Next, I moved on to the Wersi MK1 Stage Performer, and was glad to see it

E&M SEPTEMBER 1986

was hooked up to a pair of headphones (not only could I listen to the sound more closely, I didn't have to inflict my terrible keyboard-playing on others). I struck a note, and immediately ripped off the headphones in horror as I suddenly heard this enormous room sound. Poking behind a few black drapings around the instrument revealed an Alesis MIDIverb hooked up to each unit. And thus, a controversy – it's true that almost all keyboards are processed these days, but shouldn't I have the right to know what is doing the processing? And what the keyboard sounds like dry?

Anyway, back to the Wersi. As Simon Trask revealed in these pages a couple of months back, the MK1 is a 20-voice multi-timbral device sensitive to velocity and aftertouch. Up to four voices may be layered at a time, and zones split up and sent out (and received) over MIDI. It seems to be basically a wavetable beast (à la Kawai, Korg, Sequential, and so on) with onboard additive synthesis provided by way of drawbars – Wersi's organ heritage shows through.

The brochure also claims FM and AM synthesis, but I didn't go far enough into the machine to verify these (the 'sampling technology' quoted in the brochure actually refers to the creation of some of the wavetables).

What did it sound like? Big and fat – like a wavetable synth stacked with an analogue one. I even heard a variation on the PPG/Fairlight/VS vocal sound I've never heard before (being an accredited junkie of such sounds). The wealth of parameters and the availability of a rack-mount version means that I'll probably get one eventually. Let's just hope the MK1 is marketed properly – both in the States and in the UK.

Then there was the Bullet 2000. What we have here is a brilliant idea – an IBM PC-XT compatible computer in a sturdy rack-mount case (ah, MIDI jacks, power switch, floppy disk drives, clock in/out, metronome out, and computer keyboard jacks all on the front panel), protected by two macho front handles. All this thing needs now is to be bundled with a Roland MPU401 interface, a sequencer, and perhaps a good patch librarian or MIDI zones program.

A rack-mounted high-capacity sequencer with visual editing is just the ticket to take compositions out of the rehearsal room and into the studio or out on the road. I mean, how many of you are really willing to take a personal computer, complete with cables, external drives and what-have-you up on stage every night? Or even into the studio? What we need next is a rack-mounted Atari/Amiga/Mac clone version.

THIS BRINGS US to the question: which computer should I buy? I don't know. I wrestle with the topic weekly myself. I'll probably buy a Macintosh, since I'm a Digidesign fanatic, and the Mac is the only machine they put their resources into (forget the rumours – buying a piece of Digidesign software means owning a Macintosh, at least for E&MM SEPTEMBER 1986



Fairlight Voicetracker is viable alternative to the plethora of MIDI guitar systems launched/updated in Chicago; a good selection of voicing gear (DX7, S900, Matrix 6R) helped the demos no end

the next year or so). And don't forget that in the States, the Mac is more competitively priced.

Still, the Atari ST is the price winner, and Hybrid Arts are doing some nice stuff for it (ie. DX Droid, ADAP Soundrack), while some of Dr T's positively funky software is being

“Imagine creating a random program on DX-Droid, transmitting it to one of 320 RAM locations, and then tweaking the brightness with just one control.”

ported over to it too. I have a soft spot in my heart for the Amiga, mainly because of its advanced sound and graphics (I'm into pretty pictures). And then there's the IBM PC, which has the most non-musical hardware and software available (particularly at the business end – which all struggling musicians need). And now it's rack-mounted, thanks to the Bullet 2000. That thing about non-musical software may be the biggest factor for some, even though IBMs aren't exactly cheap in the UK; you could very well buy only one sequencer and one patch librarian for your computer (if that), so what else are you going to do with your investment?

In a world where everybody owns at least two DX7s (with a DX100 lurking in the background for good measure), I confess that I do not own one. I will not buy a non-programmable synth, and given the difficulty of using FM and my own personal lack of time, an FM synth just isn't worth it. I could almost be placated with a rack-mount version, but there isn't one available (forget the TX816 – I don't need eight), and the combination of a TX7 and Beetle front panel (over \$600 in the US, just for the latter) just doesn't make any sense for the price and hassle.

But now I may be changing my colours. My mind has been turned around by the appearance of the Hybrid Arts DX-Droid patch program and the Generation 2 E! Board by Grey Matter

Response, both shown at NAMM. DX-Droid has already been reviewed by E&MM, and is a patch program for the DX7 that can also interpolate between two existing patches, and 'roughen up' a given patch by controllable random programs.

The E! board installs inside a DX7, and contains, along with additional memory (try 576 voices – 256 in ROM, 320 in RAM), a complete rewrite of the DX7's operating system, just to make sure there are no copyright problems. Generation 2 allows patch mapping (this internal patch number equals that external patch number), better velocity resolution (stock DX7s are actually rather compressed), an auxiliary MIDI channel for fooling around with effects devices, several keyboard modes (splits, high/low note track, and so on) for master keyboard effects (the DX7 still likes to play only one patch internally), Mode 4/Mono Mode reception for guitar controllers, and – most important of all – new voicing parameters, including a 'Timbre' (brightness) control.

Imagine creating a random program on DX-Droid, transmitting it over to one of 320 RAM voice locations, and then further tweaking the brightness/timbre with just one control – my mouth waters.

What is really important here is what I refer to as 'macro controls'. Digital synths and samplers are getting more complicated to program. Even those with the patience to program old analogue synths find they don't have the time or patience to program the new equipment. And the only thing uneducated musicians know is that they want it 'brighter', 'more string-like', or 'exactly between those two'. Presenting these short-cutters with controls labelled 'brightness' and preset envelopes labelled 'strings' instead of algorithms and operators should encourage even the most lethargic among us to program something other than the factory patches.

That way, a painter can just paint. A photographer can just take photographs. And those who are more interested in what lenses, filters, and ►

► f-stops they are using – well, I hope manufacturers leave those options in, too.

ONE QUESTION I'D like answered is: Why do people come up to me at shows like NAMM and tell me that Brand X's sampler is great on piano but bad on horns, while Brand Y's sampler just couldn't cut it on percussion?

This is sheer lunacy. Twelve-bit linear sampling is deadly accurate. There is still a problem with quantisation noise on lower frequencies and sound levels, so it's never going to fool all of the people all of the time. But identically-specified 12-bit samplers should *theoretically* sound very similar, and to have people come up to me and tell me about the different 'qualities' of competing 12-bit machines drives me crazy.

I don't question people's ears – the differences are there. But more than likely, it's bad factory samples – not anything about the machine's intrinsic design – that are to blame. And in many cases at trade shows, less than adequate speakers can take equal credit as villains.

At this level of sound quality, nothing less than studio monitors should be employed. At NAMM, Roland's desire to show nothing but Roland and Boss gear in their booth ultimately hurt them – in a noisy room with less-than-adequate speakers, the S50 didn't sound much better than a sampler half the price. This is a shame, since the S50 looks like it could be the highest-quality and most feature-laden sampler of the lot.

Or maybe some manufacturers are just blowing it seriously in the analogue electronics. The only way to really compare sampling quality is to use the exact same source and playback system in a controlled environment – ie. *not* at an exhibition like NAMM.

The Korg DSS1 promises to be the next 'affordable' sampler to make the leap from show prototype to readily available product. Reviewing its features gives you the impression that Korg are trying to cover the continuous spectrum between a wavetable synth (essentially a sampler with a one waveform loop) and a sampler. The DSS1's features include sync, onboard additive synthesis and waveform drawing, multi-part envelopes, twin DDLs and the like.

For the person who likes to experiment and who doesn't like hard set definitions, this sounds like a great machine. For those who want lots of memory – well, sorry: the DSS1 seems to be hardware limited to 256K.

I'm memory-hungry, and expect the 1 Meg barrier to fall soon, with the 2 and 4 Meg barriers not far behind (by late 1987, perhaps?). We're talking over a minute of sampling at a nominal 30-32kHz sample rate with 2 Meg, and I believe that's going to be an important psychological barrier. The next question is: how long are musicians going to be willing to wait to *load* that much memory? Current samplers are already pushing what can be saved on a single floppy disk, and this already takes over 30 seconds to load. Either

some major advances are going to be made in removable storage media, or we're all going to have to marry a hard disk.

The new kid on the sampling block is the Emax, as previewed by Paul Wiffen in last month's E&MM. Truth to tell, there's already a controversy over how good it will sound. E-mu make a point of stressing 'superior sound quality' in their brochures and demos. However, the fact of the matter is that Emax uses an eight-bit encoding system similar to that in the Emulator II (and the fact of the matter is also that the EII is the best sounding eight-bit system available – and damn close to 12-bit). So, from this point of view, an EII for under £2000 looks an incredible bargain.

But I want to hear a production unit before I'm convinced that it sounds as good as an EII (friends at E-mu assure me it will; the prototype I listened to at NAMM definitely did not). And despite how much you like how Emax looks and how logically it's laid out, it's going to take me a while to get used to operating a 10-key pad that's skewed

sequestered away inside a locked room in the middle of the hall, and you needed an appointment (and much persistence) even to see the gear.

So where are the 16-bit systems for the masses? Where hardware companies leave a gap, software companies seem to be stepping in. In this case, Hybrid Arts were showing the ADAP SoundRack – a rack-mount 16-bit sampler that has an intimate relationship with an Atari ST to bring the user-friendliness up and the cost down. We're talking up to 20 seconds of 16-bit sound at a 44.1kHz sample rate, stereo capability, and graphic editing here – at just \$1995 (in the US) plus the cost of an ST. Oh yes, and it supports the MIDI Sample Dump Standard. And Hybrid Arts don't seem content to stop there, as there's talk of \$5000, \$10,000 and \$15,000 versions in the future. Now, my only questions are: Is it true 16-bit quality (if it is, it'll be amazing value)? And how many studios are willing to put an Atari next to their expensive tape decks and mixing consoles? That's a big



Updating drum tracks is now an important studio use for multi-timbral samplers like Akai's S900; latest trigger-in mods to this machine enable percussion parts to be tapped in 'live' from a suitable pad

from left to right. Don't get me wrong – Emax will definitely be a hit; it's just that I have questions in my mind.

ALL SOUND QUALITY QUESTIONS *should* be answered when everybody has 16-bit machines. Unfortunately, this sampling nirvana has a high cost – the cheapest 16-bit sampling keyboard currently available is the Fairlight Series III, starting at £60,000. Some may argue that you only need 16-bit systems for studio applications, and that most studio applications comprise dropping in individual sounds or stereo sections of music – hence the popularity of two-channel 16-bit devices such as the AMS and Window, which do such tasks well.

The new PPG HDU (Hard Disk Unit) looks promising, with 3 minutes × 4 channels of 16-bit sound at just over \$10,000, but I must slap PPG on the wrist for making their wares so hard to see at NAMM – they were

psychological barrier for some, and it may give the small studios a chance to catch up.

Back up there when I was talking about the Emax, I meant to move sideways into a neat new electronic device that's finding its way into musical instruments. It's called the EEPROM, which stands for Electronically Erasable Programmable Read Only Memory. The operating system for almost all synthesizers is electrically burned into a PROM or ROM (just use fewer of the initials to find out what these mean). Once there, it doesn't go away unless uncovered and exposed to an intense ultraviolet light for a period of time.

Now there's a version that can be both erased and programmed electrically – the EEPROM. What this means is that the onboard computer can rewrite part of the software, the programmed presets, the setup information and the rest. The data's a lot less likely to go away than it is on a disk or in RAM, and each EEPROM is

backed up with a battery (how many times have we heard about battery backed-up machines spontaneously dumping memory?). Some 'RAM' cartridges now use these EEPROMs, and the new Emax and 360 Systems MIDI Patcher use them to store presets and calibration information. Bottom line — increased reliability.

Meanwhile, additive synthesis finally seems to be making an impact on musical instruments. Additive systems

drum machines do not offer anything spectacular in the way of sonic advances (Latin sounds being considered really radical).

To fill this gap, some companies have concentrated on creating alternative sounds for existing drum machines. And with the advent of affordable sampling, one logical step was to allow users to start creating their own alternate sounds. At least three EPROM burners were being shown at

The most expensive and flexible unit of the lot, the SynthAxe, has had its tracking overhauled to the point where the demonstrators were allowing anybody to come up and have a wang on the machine at the show (I've played an earlier version, and it was nowhere near that polite). Ibanez and Roland seem to like using special guitars to ensure good tracking, and I've heard good things about the Ibanez on this point. Photon want you to use the same gauge string across the instrument for the best results. Roland have also resorted to using a separate processor per string on their bass controller (bass is harder to track than a guitar — notice the lack of bass controllers on the market). And Charvel and Takamine (differently badged versions of the Shadow MIDI system) sell their own custom bridge with the pickup built in.

But the system that captures my fancy comprises the new Roland GK1 and GM70. As we said in last month's *Newsdesk*, the GK1 is a pickup and small electronic piece that supposedly mounts on any (read: your) guitar or bass, and connects to the GM70 rack-mount unit that allows such MIDI gymnastics as Mode 4/Mono Mode with up to four MIDI channels transmitted per string — all programmable. As I've said, I play a lousy keyboard, but I play a passable bass and I love the feel of a stick of wood and pieces of metal vibrating in my hands and against my body (now quieten down, you perverts out there). I also happen to like my basses and synthesizers, thank you — not what somebody else decides I should play. The Roland system gives me that, and the price is not unreasonable. I'll have to play one before I buy it, but it almost makes me wonder if I need a keyboard any more. Roland are also threatening the drum-kit with their Octapad — perhaps horns are next.



Roland sampler demos featured S10 and S50 keyboards — though available equipment didn't make the best of the machines, and added to the 'Which sounds best?' controversy that raged throughout show's duration

are expensive to implement in real time (they need a separate oscillator or equivalent per harmonic per voice) and difficult to use — ask anyone who's used a Synergy or a Crumar GDS. Sampling technology allows the difficult stuff to be done offline, and saved as a waveshape or entire sample to play back later — witness such instruments as the Fairlight, PPG plus Waveterm, and (the only inexpensive one of the lot) the OSCar.

And finally, some inexpensive and readily available instruments are using additive synthesis. Wavetable synths such as the Kawai K3, Prophet VS, and Wersi MK1 allow waves to be built using additive techniques. Some samplers (such as the Korg DSS1 and Roland S50) promise to have some form of additive synthesis onboard (though this, too, may be limited to just single waveforms). And let's not forget one of the most unexpected hits of this year's summer NAMM — Digidesign's SoftSynth, reviewed elsewhere this issue.

For additive synthesis to be accepted, it either has to be made ear-tunable in real time (like the Wersi's drawbars, the Prophet VS' joystick, and so on) or have an excellent visual editing system and representation. SoftSynth fulfils the latter function.

LET'S MOVE ON to electronic drums and guitars. There's no doubt that a BIG drum sound has become the trademark of most popular music produced in the last couple of years. However, most new

NAMM for achieving this purpose — the Simmons sampler/burner, the Oberheim Prommer (sampling sounds directly, or via the MIDI Sample Dump Standard), and the Digidesign Burner (using Sound Designer files, and burning PROMs for the widest variety of machines of the three — but you need a Mac to use it).

This shouldn't affect the people who supply alternative sound chips too much — there'll always be those who would rather buy other people's sounds than brew their own.

And then there are sampling drum machines — most notably from E-mu, Casio, and now Korg with their DDD1. Frankly (here come the rocks through the Meyer lounge window again), I'm still waiting for these things to grow up. One or two seconds of memory is simply not enough. Even the five-second Turbo version of the E-mu SP12 is just barely enough — and with a (painfully slow) disk drive, it costs more than a sampling keyboard with twice the spec hooked up to a cheap drum machine to drive it.

Maybe by Winter NAMM 1987, we'll start to see some more serious efforts in this arena by manufacturers who've already spent this year rushing to get their sampling keyboards and rack units to market.

After the blitz of new guitar-to-MIDI converters announced at Winter NAMM '86, this side of the industry seems to be settling down once again. The two main complaints on guitar controllers — poor tracking and inflexible MIDI implementations — are starting to be addressed in earnest.

YOU MAY HAVE GUESSED by now that I'm a hardcore techie. Being inside the industry and knowing the available potential of technology at any one time, I'm often frustrated by how slowly it can take developments to come to market. However, I came away from the summer NAMM show feeling that the industry was about two years ahead of where I thought it would be.

Most of this is attributable to monstrous advances in software. How have they happened? Well, my only guess is when the newspapers were telling everyone to get engineering degrees or else, a lot of frustrated musicians listened (I know that's how I got here).

Users can either be thrilled or frightened — sometimes both. For those without endless bank accounts to buy the latest everything, everything under the sun — including inexpensive multi-FX processors, MIDI suits, and air drum sticks — seems to be available now (or at least available in the next six months). Pick a system out, buy it and — most important of all — learn it before you buy anything else. Trust me. MIDI, computers, and quarter-inch output jacks will still be around a year or two from now. ■

SCRATCH SAMPLES

Digidesign's Sound Designer program gave Macintosh owners the chance to have a good look at their samples. Now the company's latest program, SoftSynth, offers a new way of creating samples from scratch – without recording from the 'real world'. *Rick Davies*

Lt's 1986. People (not all of them musicians) are buying samplers – machines that use computer technology to record sounds and reproduce them in a musical way. The samplers, in turn, are becoming available in many different shapes and sizes, and at a variety of price levels. But sad to say, these samplers have so far tended to sound much the same as each other.

This has been less the fault of the samplers themselves, and more the responsibility of the people who've been using them. Or maybe the real culprits are current trends in popular music, which dictate that musicians and producers come up with no sound whatsoever that hasn't been heard on the radio a hundred times before.

at various speeds with 'chipmunk' effects when samples are played at pitches much higher than the original sample, and the 'grunge' of clock noise when samples are played far below.

But at least you can do something about the sample source material. It may appear that samplers are limited to manipulating 'real' sounds, but SoftSynth proves that a computer-based system can be used to circumvent the sampling process altogether, and produce truly original sounds.

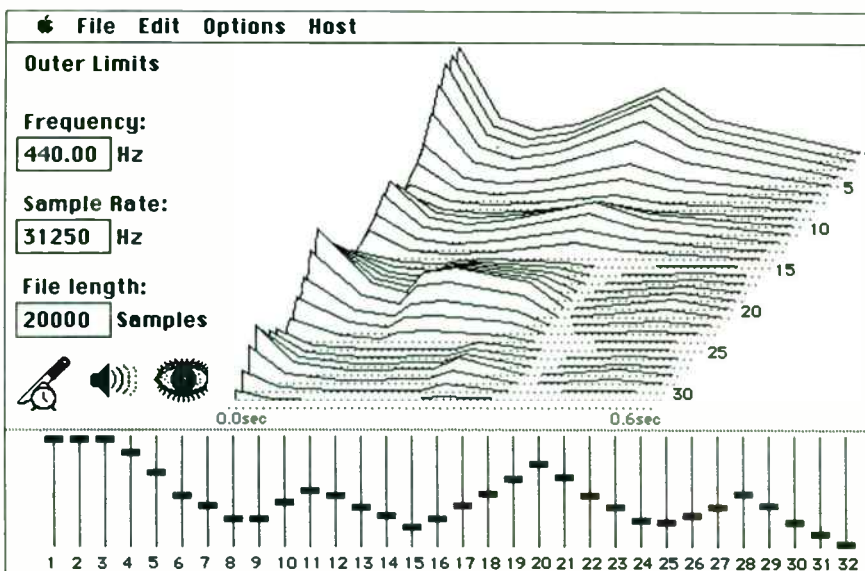
What SoftSynth does is create samples on the Apple Macintosh, rather than merely edit samples which come from the 'real world'. These sounds are created by additive synthesis, and in the case of SoftSynth, this means it's possible to control the mix of 32 harmonics through the duration of a sample. If this were to be implemented in analogue hardware, it would be the equivalent of having 32 oscillators, each with its own complex envelope. Even if digitally-generated oscillators were used, the hardware required for such a synthesiser would still price it far beyond most musicians' reach.

Instead, SoftSynth analyses the harmonics you tailor with Mac's high-resolution graphics, then calculates a sample which can be downloaded for playback by a sampler. A number of samplers implementing the MIDI Common Sample Dump Standard can receive a SoftSynth sample dump, or you can choose to create a disk file compatible with Digidesign's own Sound Designer software package.

Since the Mac is not required to spend all of its time generating sound as the SoftSynth controls are adjusted, the controls themselves are easy to use and take advantage of the Mac's graphics whenever possible.

SoftSynth's main programming screen shows a frequency analysis of the current sound, with all 32 harmonics clearly displayed. Below the frequency analysis are 32 'faders' corresponding to the harmonics. If you want to change the harmonic mix, simply 'grab' the desired fader with the Mac's mouse, and move it. The frequency analysis doesn't respond to such changes instantly, though. To update the display, grab the eye icon, and after a moment, the display features the edited harmonics.

The frequency analysis shows the way each harmonic's amplitude varies in time, but there's ▶



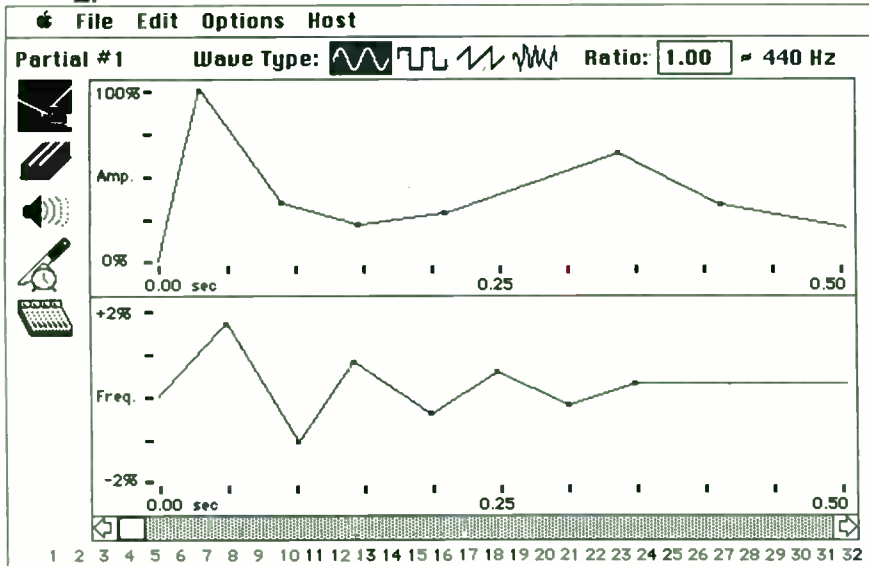
That's ironic when you consider that samplers can put a whole world of new sounds at musicians' disposal, even though they have a habit of imposing their own characteristics on the noises they record and reproduce.

To get away from all this, wouldn't it be a good idea if we could use the same computer technology to create sounds that fall outside the realms of 'samples' in the accepted sense?

Well, the Digidesign SoftSynth program is a clever way of getting a sampler not to sound like a sampler. OK, so there's a degree to which a sampler will always operate like a sampler, churning out data

► more to each harmonic than can be seen from this screen. Grabbing the number of the desired partial from below the faders takes you into Single Partial editing mode. The screen shows a section of the selected harmonic's amplitude envelope, and below that, its pitch envelope. Yes, each harmonic can be detuned by a complex envelope – and by an initial amount as well as by the pitch envelope.

The envelopes themselves are certainly more flexible and easier to adjust than those provided on most synthesisers. Each can have as many as 40 linear segments, and is shaped by simply grabbing any segment with the mouse, and then stretching it into the desired shape. The usual Macintosh mouse-



activated scrolling controls allow you to look closely at selected portions of the envelope.

This part of SoftSynth also incorporates a feature that's been sadly lacking on many instruments – envelope copying. This avoids the drudgery of creating envelopes from scratch every time you build a new sound, and it's just as well the program has it, when you consider the complexity of SoftSynth's envelopes.

And since each envelope is easily edited, it's a simple matter to generate 32 variations on one envelope for the harmonics, examine the frequency analysis as you audition the sound, and then continue editing as you deem necessary. Incidentally, you can listen to each harmonic individually if you want to.

As if these features weren't enough, each harmonic can be a sine, sawtooth, or square waveform, or any of three band-limited noise waveforms. This is a deviation from standard additive synthesis, which is based on Fourier analysis and hence on the combination of sine waves – but so what? Things are more versatile this way. The band-limited noise is a nice alternative to the white noise usually found on analogue synths, too.

With an understanding of Single Partial mode, a whole new realm of sound is open for exploration, though you *do* need to be patient.

But that's hardly where SoftSynth stops. An unusual icon showing a knife cutting into an alarm clock is the gateway to Time Slice editing mode, in which all 32 harmonics are adjusted simultaneously instead of one at a time.

The Time Slice editing screen shows a master envelope which controls the amplitude of the sample, while numbered rectangles (representing timbres) are displayed along the envelope's time axis, coinciding with break points in each harmonic's amplitude envelope. Since there are 40 potential

break points in each harmonic's envelope, and there are 32 harmonics, there could be a lot of timbre break points appearing in Time Slice mode. To avoid confusion, SoftSynth eliminates the least significant timbre break points, and displays only the most significant ones.

These timbres can then be moved around, or copied to other parts of the sample by grabbing the desired timbre with the mouse, then dragging it to another point on the master envelope. This is a 'brute force' method compared to Single Partial editing, but it's extremely powerful.

As it turns out, these two editing modes are actually interactive. That is, you can switch between Single Partial and Time Slice editing modes at will. A big plus.

The range of sounds SoftSynth can create is pretty much limited by the amount of time you make available – particularly as it takes a little while for the program to calculate a sample from the harmonic structure you've come up with. And as with any synth, it's handy to have some presets to use as starting points while you learn how the system works. In response to this, SoftSynth will come with a palette of 15 (or so) preset harmonic files, so you can start with a piano or brass sound, then alter it as you please.

One feature which had not yet been implemented, let alone announced, at the time we examined SoftSynth is a 'random' sound generator. Sounds silly, I know, but as sound-creation systems become more complex, such features are bound to become more popular. Sequential's Prophet VS features a similar function as part of its voicing architecture, while DX editing programs from Hybrid Arts (the DX Droid) and Steinberg Research (the Pro Creator) employ the same sort of approach – though it should be stressed that there's little resemblance between the results of the VS, DX and SoftSynth systems.

Apparently, the random option of SoftSynth will let you set limits on certain parameters, so that you can loosely define the type of sound you want to produce. The program will then generate random harmonics based on these restraints. Should be interesting.

The final stage is loading your synthesised sound into a sampler. The 'Host' (or 'Sampler') menu lets you set up the Mac for the MIDI interface in use. Following that, the 'File to Synth' function (selected from the 'File' menu) takes care of sending the sample data to the MIDI-equipped sampler in question. The sampler can now play the sound no differently than it would have if you'd sampled it from a rather more expensive instrument. The big difference is that you made up the sound yourself, and that the SoftSynth program costs less than any samplers with 'professional' aspirations.

Summing up, it strikes me that SoftSynth could be something of a dream come true for many synthesists. The controls are there for endless tweaking of sounds, and if inspiration or your patience wanes, you can always resort to generating random samples. Your sampler will never know the difference. ■

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HIGHER

PERFORMANCE



Yamaha, masters of the MIDI accessory, introduce the MCS2 to improve the range of performance controls available to keyboard players. Is it worth the price of a good digital drum machine? *Simon Trask*

When MIDI first appeared it was touted by some as the end to the keyboard player's incompatibility problems – keyboardists being a notoriously incompatible bunch. Others, perhaps wiser, perhaps just more cynical, foresaw a whole new set of problems. Both were right, in a way, because a lot of the old problems that used to plague keyboard players wanting to hook up gear have been removed, while at the same time, MIDI has opened up such a bewildering array of possibilities – of a scope now far wider than just the keyboard player's domain – that there are bound to be problems.

The real test of the MIDI standard is whether or not it's flexible enough to respond to all the demands made of it, and that's where units like Yamaha's new MCS2 MIDI Control Station come into the picture.

The MCS2 is a compact machine which should fit easily on many an instrument's front panel. It effectively allows all MIDI instruments to be given the same degree of MIDI performance control, by taking all such performance tasks upon itself.

The most immediate use of the MCS2 is as

a generator of pitch-bend and modulation for instruments which don't have these facilities – two wheels on the unit's front panel are dedicated to these two functions. Among Yamaha's own instruments, the PF70, PF80 and CP70M pianos are all bereft of pitch-bend and mod wheels, while the PFs can respond to pitch-bend and mod data via MIDI. Thus the MCS2 can be used either to add such effects to these keyboards, or to allow them to be generated for slave instruments. And bearing in mind Yamaha's penchant for breath controllers, it's not surprising they've included a breath control input on the MCS2.

In addition to these dedicated controllers, the MCS2 includes a healthy variety of programmable ones: on the front panel are two sliders and three push-switches, while the back panel sports two footpedals and two footswitch inputs, all of them capable of performing different control functions as specified by the user (that means you).

As you may know, there are basically two types of MIDI controller: continuous (like wheels and pedals) and switch (like pushbuttons and footswitches). The MCS2's controllers can be assigned to any controller number within their own type, which means

they can assume any controller function. Yamaha have also given the MCS2 the ability to send useful non-controller codes such as MIDI Start, Stop and Continue (for remote control of drum machines and sequencers) and System Reset, and you can send patch changes 1-64 in the bank/program format from dedicated front-panel buttons. It's also possible to send MIDI timing messages to a sequencer or drum machine at a rate determined by whichever continuous controller you've allocated to the function.

All of which adds up to a powerful and very useful device that's worth considering even if your master instrument already has plenty of controllers of its own.

All programming is achieved through a five-character backlit LCD, with the two continuous sliders responsible for selecting each MCS2 controller and setting its MIDI control value. It's a fiddly but workable system – a typical Japanese compromise in pursuance of that low, low price-tag.

Yamaha have included 25 'Presets' which consist of the most common controller codes, other MIDI messages and useful functions. A list of officially-specified

controller codes is given in the back of the manual, though such is the pace of MIDI developments these days, this list is already slightly out of date.

So how does the MCS2 fit into a typical MIDI setup, and therefore into the average keyboard player's life? On the rear panel are two MIDI Ins and one MIDI Out. Two MIDI Ins? Well, almost incidentally you've got yourself a MIDI Merge facility, with all data on the two Ins being merged. MIDI data that's generated from the MCS2's own array of controllers is merged with any data received on the MIDI Ins before being sent over MIDI Out. You can assign the MCS2's controller data to any one of MIDI channels 1-16, which allows you to direct all your controller effects to a specific instrument. But this would have been more flexible if you'd been able to assign each controller to its own MIDI channel – so that with a split keyboard, for instance, you could assign different controllers to each half of the keyboard. An opportunity lost, there.

So the MCS2 can sit either between your master and slave instruments (in which case it won't have any effect on the former), or 'in front of' your master (which it will then affect).

The MIDI Merge shouldn't be overlooked. Apart from allowing you to switch easily

between two master keyboards when playing (or even to use both at once), it's essential if you want to slave a sequencer to tape via MIDI while recording into the sequencer at the same time. I'll explain a bit more. If you're using SMPTE code as the master synchronisation source, you'll need a SMPTE-to-MIDI converter such as Roland's SBX80 to control a sequencer. This sends MIDI position and timing data over MIDI to your sequencer, which under normal circumstances uses up the MIDI bus – so you can't record into the sequencer and slave it to tape at the same time. This situation isn't limited to SMPTE synchronisation: if you have a sequencer without its own tape sync and are using something like a Yamaha YMC10 which generates tape sync pulses and then 'converts' them to MIDI timing data when read back off tape, you'll have the same problem. Cue the MIDI Merge. A MIDI feed from the tape source appears at one input and your new performance appears at the other input; the two are merged into a single datastream which is then sent on to the (invariably) single MIDI input on your sequencer. If all is well with your sequencer, you should be able to record into it at the same time as slaving it to tape.

The MCS2 sensibly filters any timing information received on its second MIDI In,

so there's no danger of conflicting timing information being merged.

There's still one, crucially important point you should bear in mind when considering the potential usefulness of the MCS2 for your setup. It's all very well being able to transmit all the controller codes under the sun, but if the collective resources of your instruments will only respond to pitch-bend, then the MCS2 (despite its Merge facility) won't be of much use to you. Time to consult the 'control change' section of those dreaded MIDI implementation charts which should be lurking at the back of your instrument manuals.

Everyone has their own priorities – the price of the MCS2 could, for instance, buy you a decent digital drum machine. But the MCS2 has bags of potential, particularly with the inclusion of the Merge facility – though a couple of features, namely individual channel settings for each controller and the ability to store several complete setups, would have made it a good deal more flexible. It's a specialised machine for specialised tasks, and Yamaha deserve credit for producing it. ■

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Run DMC *Raising Hell*

London LP

What makes an album that discards songs about love and fast cars in favour of Adidas training shoes and nursery rhymes sell thousands of copies within a week of its release in the States? After all, that's exactly what Run DMC's *Raising Hell* has done.

It's called hip hop. A powerful hi-tech combination of smart drum machine programs, scratching and rapping forms a basis over which literally anything goes. Opening cut 'Peter Piper' uses a ringing TR808 bass drum in exactly the way everyone else has been seeking to avoid, cutting through the mix with all the finesse of a paving slab. Typically of the LP as a whole, the arrangement is no more than the bare minimum; only the barest threads of instrumentation tie the drum patterns and machine-gun vocal together, and there's no room for soulful slush here.

Amid a wealth of production tricks, subtle synths and strident samples play a healthily creative part in the proceedings – witness the heavy guitar sample tucked behind guest Steve Tyler's voice on 'Walk This Way'. The title-track uses another rock guitar sample playing the chords of 'All Along The Watchtower', while 'It's Tricky' uses a blatant sample of The Knack's 'My Sharona', to take on where Toni Basil's 'Hey Mickey' left off.

Best of all is the hilarious 'You Be Illin'', with its rap telling all too familiar stories of over-indulgence in the food and drink department and its inevitable consequences. A compelling piano sample climbs

from the depths of a killing drum pattern to meet a tongue-in-cheek vocal, with a simple but infectious jazz brass sample filling in the gaps.

Lighthearted music, not to be taken lightly. ■ Tg

Flaunt It *Sigue Sigue Sputnik*

Parlophone LP

Overdue and much talked-about: hardly an unusual background for the launch for a pop album, especially one from the would-be controversial Sputniks. Accepting there's very little that's genuinely new in music these days, the inclusion of adverts between the tracks at least gives *Flaunt It* a superficial individuality.

In fact the adverts blend well with the music, adopting the same tightly sequenced, futuristic, hi-tech gloss as the songs. Like the video that landed the recording contract, the music flashes from influence to influence, stealing from everywhere – from Duane Eddy to Bach and Beethoven. The same synth sequence that characterised the single 'Love Missile F1-11' recurs throughout the album, as do huge electronic drum sounds and those heavily treated vocals.

Production is Giorgio Moroder at his sharpest, encroaching on Trevor Horn's *Frankie Goes To Hollywood* territory without using 64 tracks of Fairlight Page R overdubs, and avoiding the mundane uniformity you might have expected (and which the band themselves feared).

Ultimately there isn't a single good song among the eight tracks that comprise *Flaunt It*, but the record survives as pure entertainment. ■ Tg

Weather Report *This is This*

CBS LP

As Weather Report's final album, *This Is This* signifies the end of an era. In a 15-year history, they've established themselves as many the inspiration for musicians of all artistic persuasions, while founder member and keyboardman Joe Zawinul should have a thousand imitators following his every phrase – if only it were possible to emulate his jazzy, lightning-sharp synth style.

The sleeve notes credit the past line-ups the band has seen, as well as the current impressive collective. Victor Bailey handles a tasteful bass and Carlos Santana guests with a little distinctive guitar. Zawinul's synths find Wayne Shorter's sax their perfect foil, the idiosyncratic programming and rich, emotive chord work as unapproachable as ever.

But it's not possible to replace inspiration with technology and technique, and only the driving 'Update' shows the band in its former glory. Worse, of these eight tracks the two compositions not attributable to Zawinul stand out above the rest.

But the LP's justification comes with the conclusion of 'Jungle Stuff Pt1': Zawinul and Shorter reminisce over what has passed in the only way they know how – through their instruments. ■ Tg

DEMO T·A·K·E·S

...while a batch of tapes from undiscovered E&MM readers gets the same treatment.

In the best tradition of electronic pop, *Last Tournament* are a duo. Vocalist Tony D'arcy and technician Mel McCort have produced yet another fine Portastudio recording, with a little help from a Spectrum and XRI Micon MIDI interface.

The first of the five tracks is 'War', split pretentiously into three movements – 'Honour', 'Regret' and 'Death'. These are short and disjointed, but the news isn't all bad: the music calls on gently interwoven synth lines separated by careful use of reverb, and succeeds in inducing the desired sense of foreboding in the listener. A Korg DW6000 and Casio CZ101 provide lots of FM-style sparkle without slipping into the DX7 preset rut, while ingenious vocal arrangements suffer only from being handled by a less than confident singer.

The remaining music takes the form of conventional songs. The vocals improve steadily, and clever avoidance of block string chords in favour of more intertwining synth work presents the music in a refreshing way. The sound balance isn't all it might be, though, with a recording that's a bit topky, and TR707 drum programs that venture a bit too far to the front of the mix for comfort.

A cryptic 'Hello' from Mr Kipling of Brighton is the sum total of the technical information that accompanied the

Bad Reception tape when it arrived on my desk, so it's all guesswork on this one.

One thing that's in no doubt is that Mr Kipling owns a copy of *My Life in the Bush of Ghosts* by Byrne and Eno. The four (none too well recorded) tracks are full of unidentifiable sounds organised into meandering rhythms and overlaid with stunted guitar and DX voices. The vocal presence is narrative, employed for its effect rather than its content.

The backing tracks are excellent, though, and you get the feeling each piece has travelled along only one of a number of avenues that might have been pursued. Interesting.

Cambridge's *Walk, Don't Walk* have a drummer who's not only spoiled himself to the tune of an RX15 and an RX21L, but has actually learned how to program them. Thus, the four self-penned songs here benefit from believable rock drum patterns embellished by touches of digital conga, tambourine and whistle.

This is neatly constructed, downtempo pop, one healthy step removed from the mainstream. Simon Wellings' vocal drops original melodies into the spaces left by thoughtful arrangements and restrained playing.

Only blot on the copybook is a truly awful CZ1000 solo patch on 'Hero is Dead', but the situation is immediately

rectified by the Talking Heads-influenced 'What's the Difference' and a patch that gives the impression someone has been playing synthesiser with their teeth.

Back in March, *Important Notice* earned themselves a favourable mention in *DemoTakes*. That was a simple two-track affair that demonstrated the prowess of four London musicians who combined rock rhythms, jazz basslines and classical flute to produce beautiful instrumental pieces.

Armed with a 16-track demo and a couple of new songs, the foursome are back with more of the same. The feel of this demo is enhanced by the axing of the old RX15 in favour of an SDS9, though the intended triggering of drum sounds from Simmons pads fell foul of MIDI timing delays. Two MIDI'd DX7s float amid the meeting of influences, neatly counterpointing the guitar work and bridging the gap twixt bass and flute.

In fairness, a 16-track recording should allow a more dynamic representation of the pieces than it does here. Time to bring in a producer, boys! ■ Tg

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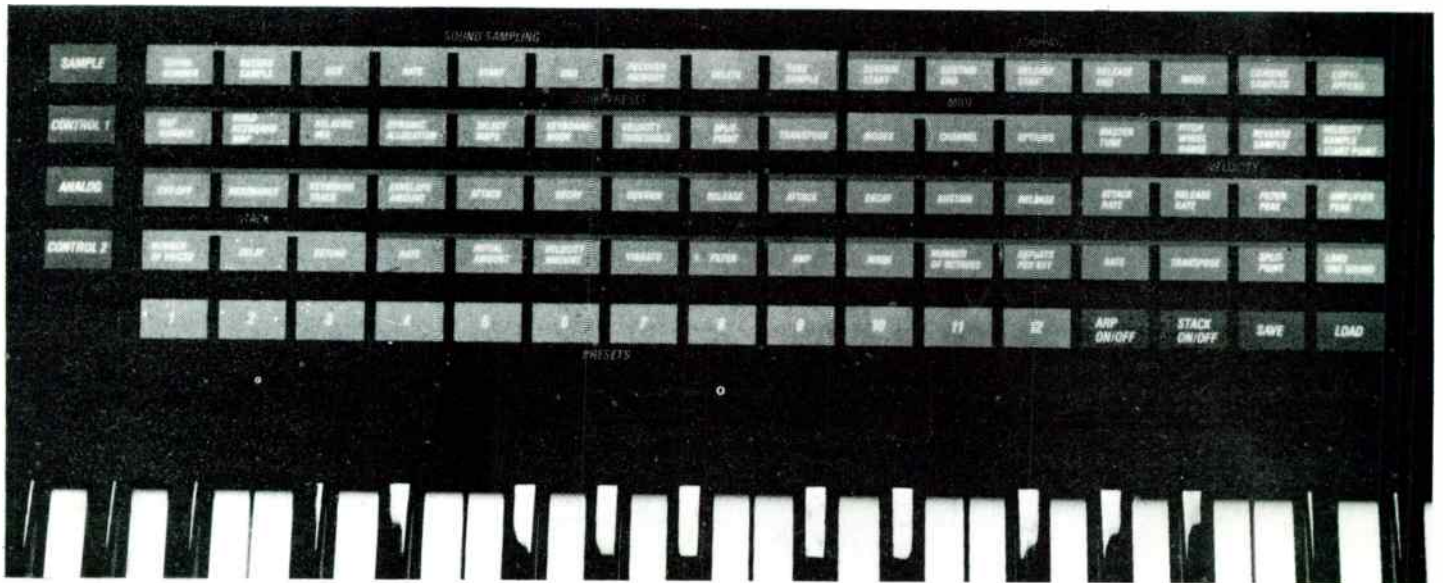
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GETTING THE MOST FROM...

MONO MODE

In the second of our occasional series on MIDI's multi-timbral Mono Mode, we take a look at how it can be used to sequence groups of different samples on the Prophet 2000 and 2002. *Paul Wiffen*



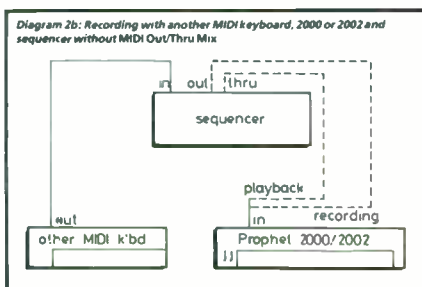
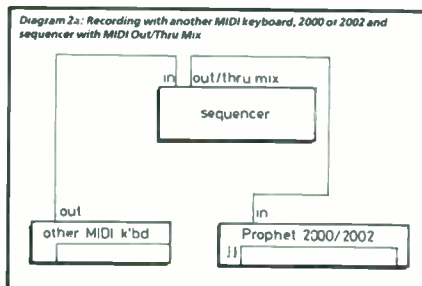
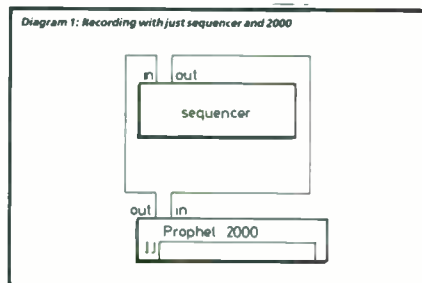
One of the reasons top-flight, computer music systems like the Fairlight, Emulator, Synclavier and PPG have proved so popular in recent years, is that they're all able to sequence various different samples simultaneously. Until this year, such multi-timbral sample sequencing was only possible if you had more than £5000 to spend. But with the new wave of cheaper 12-bit samplers, it was inevitable that at least one or two manufacturers would endow their machines with the ability to replay several samples simultaneously, even if they had no onboard sequencing capability.

The way they found to do this was via MIDI Mode 4 (otherwise known as Mono Mode), where each voice in the machine is set to operate on a different MIDI channel, according to the 1.0 MIDI specification.

Sequential, the first company to use Mode 4 on a sampler, have actually gone beyond the essentially monophonic assignment which Mono Mode implies. Instead of tying a particular voice to a channel, they hit upon the idea of assigning each sample to its own MIDI channel.

There are several advantages to this. First, in a general sense, it is actually the *sounds*, not voices, that you want to treat as separate entities on different tracks of your sequencer. Seeing as all the voice channels in your sampler are (theoretically, at least) the same, it

doesn't matter which digital-to-analogue converter is used to play the sample track.

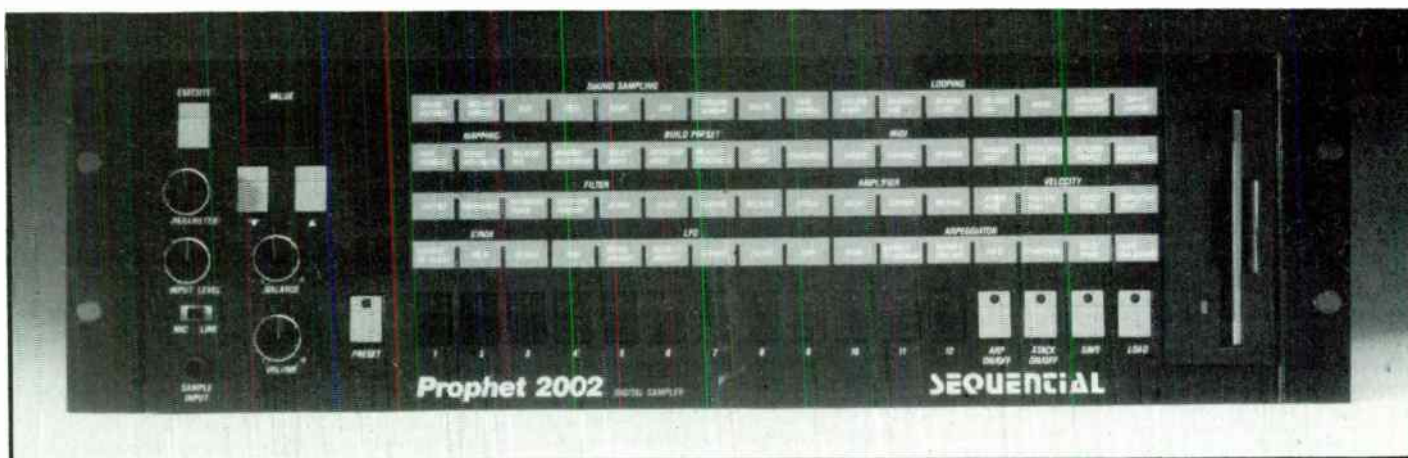


If this is the case, then a second advantage with a machine like the Prophet 2000 – with its fast dynamic allocation – is that it can use a voice channel which is (temporarily) not sounding one sample to play another. This means it can go beyond the limitations of having one voice channel per sample (with monophonic playback) that machines like the Fairlight and Synclavier have imposed until their most recent updates.

Because the Prophet 2000 (and 2002) can be accessed polyphonically in Mode 4, it can receive data up to its full polyphonic capability on each channel, ie. for each sample. This *doesn't* mean it can play eight notes with all 16 possible samples simultaneously, though. If six voices are being triggered on one MIDI channel, then only two are left for the next sample.

However, as soon as a voice is finished with one sound, it's free to play another sample. So the Prophet can be playing an eight-voice piano sound one second, and have all eight voices instantly available to play drum sounds the next. In fact, it's possible to cycle through all 16 samples one after the other, playing eight voices with one sound, then immediately switching to the next, and so on. This is known as pseudo-128 voice operation – it gives the illusion of there being 128 voice channels (16x8), while actually using just eight.

So how do you go about achieving all



this? First of all, you need to get 16 samples into the Prophet. If you have the basic model 2000 or 2002, you have 256K of sample memory. Split between 16 samples, that's 16K each. At the middle sampling rate (31kHz), that means you have on average half-a-second per sample. While this is fine for most percussive sounds, you may find it restricting for things like piano, strings and brass.

One solution, of course, is to get the memory expansion up to 512K, which gives you more like a second's worth of average sample time when split between 16 samples. But the whole point of using Mode 4 is to be able to sequence different types of sound. You'll probably have some very short samples as well as long ones, and if you look carefully at the end points of some of the shorter sounds (like bass drums, closed hi-hats, rimshots) you should find they last a good deal less than half-a-second. So, by using the Recover Memory function, you may well be able to free a fair chunk of memory for your longer samples.

If you want to sequence instruments that cover more than a three-octave range, you'll have to sequence different MIDI channels. You might, for example, put the bass end of a piano on sample number 5, and the top end on 6. On the whole, though, it's usually best to make a 'one-size-fits-all' sample which covers the range you want to sequence.

Try to get a good, contrasting range of sounds. If the circumstances suit, start with some basic drum sounds –

kick, snare and toms, perhaps a closed hi-hat – unless you plan to sequence the Prophet alongside a drum machine. Then you might want a bass sound of some sort: either a real bass guitar (slapped samples are still fashionable this year – see Madonna's 'Papa Don't Preach') or a synth bass sound. Then maybe a guitar sample for rhythm purposes: either a muted string pluck à la Nile Rodgers, or a powerchord, depending on whether you're sequencing dance music or heavy metal. Now the choice becomes broader: you might like to use traditional sounds like piano, strings and/or brass, or more esoteric sounds like sampled wine glasses and bottles. The choice is yours, and don't worry if the style of music you're working with doesn't suit the precise arrangement given above – the principle is the same no matter what sounds you're sampling.

Once you have all these samples in the memory of the machine at once (use the Load One Sound parameter if you're compiling them from other disks), then what do you have to do to map the sounds ready for use in Mono Mode? The answer is, quite simply, nothing. This is the beauty of the Prophet's Mode 4 implementation: you don't need to go through a lot of messing around with maps and keyboard assignments. When you switch to Mode 4 on the front panel (by going to Mode in the second line of parameters – Digital 1 – and turning the parameter knob until '4' or '4.' appears in the display), each sample is

automatically assigned to its own MIDI channel.

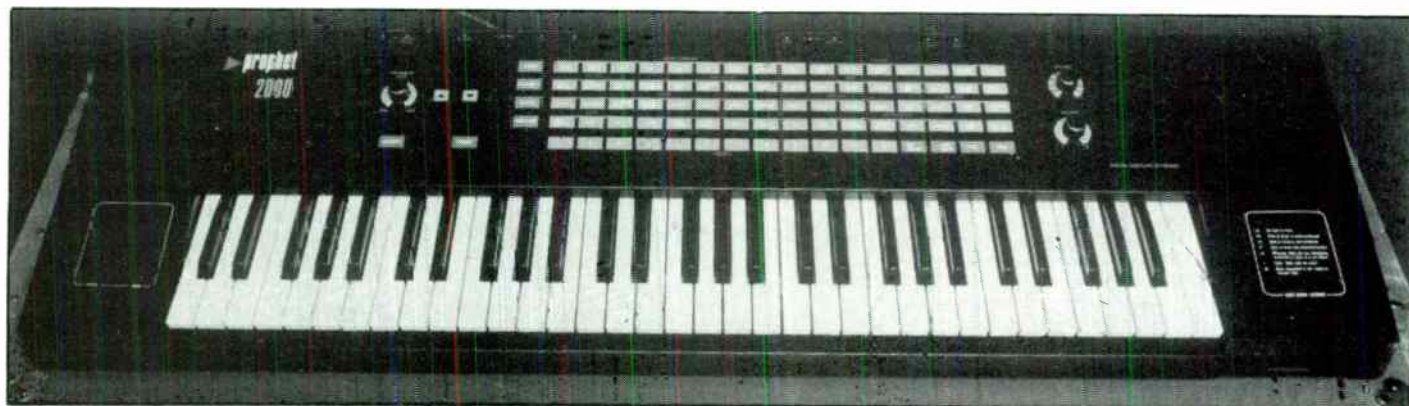
For instance, the sample in Sound number 5 is automatically looking at MIDI channel 5, and the same is true for all the other samples and their respective MIDI channels. In other words, once you've got the samples into the 2000 (either from disk or sampling) and switched Mode 4 on, you're ready to begin sequencing.

This is most easily achieved using another MIDI keyboard which can send on all 16 MIDI channels (and *not* an unmodified DX7), or using a sequencer that can assign MIDI channels to different tracks (if a DX7 is all that's available); you simply record each track using a different MIDI channel, and that's all there is to it.

The original sampled pitch of each sound will always be assessed on C3 (MIDI note number 60) so you may need to retune if you didn't sample a C, but otherwise, you should be able to fly through sequencing the parts.

You'll need to be careful you don't exceed more than eight notes sounding at any point in your piece, because any extra will either not get played or 'steal' from voices already sounding. But you'll be amazed how full-sounding a piece of music you can create, providing you don't insist on having a five-note string chord behind everything.

If you don't own another MIDI keyboard (and if you're a 2002 owner, you may be in trouble there), you'll either have to sequence the 2000 in step-time, or follow a Mode-switching



procedure as outlined below.

Mode switching is necessary because the Prophet 2000 doesn't transmit what is played over the keyboard when in Mode 4. So to record a sequence, you need to switch to either Mode 1 or Mode 3 (Poly Mode with Omni On or Off respectively) to be able to record each track into your sequencer. You'll also need to check you're sending on the MIDI channel that the sample you're currently trying to sequence is assigned to – unless your sequencer can change channels for you.

Here is a step-by-step guide to what you need to do:

- 1 Load your disks with up to 16 samples, or load samples individually.
- 2 Make sure the Preset LED is off.
- 3 Select Sound number 1
- 4 Push Execute so that a dot appears in the display (Map Override mode). This ensures that the original sample is on C3 (MIDI note number 60). As long as this dot appears in the display when Sound Number is accessed, then whichever sample is showing in the display will be on the keyboard to the exclusion of all else.
- 5 Go to MIDI Mode and select 1.
- 6 Go to MIDI Channel and make sure the channel number matches the sample number sequence.

- 7 Record the sequence track with that sample.
- 8 Turn off dot in display by hitting Execute when on Sound Number.
- 9 Go to MIDI Mode and select 4.
- 10 Replay sequence to check. If OK, select next sound number to be recorded and repeat steps 4-10 for each consecutive sound number and MIDI channel.

The first thing you'll discover when you come to record the second track is that you can't listen to the track you've already recorded while loading the second track into the sequencer. This means you have to know what you're going to play, and that it fits in with what's already recorded. You could experiment and then see how the parts fit together in playback (when you return to Mode 4, everything is heard in playback). For the most part, however, this '2000 by itself' method doesn't really work for composition, though with care and planning it's fine for loading pieces that are already well worked out.

In the long run, you'll find it far less frustrating if you have a separate keyboard available to load the sequences from and/or a MIDI sequencer which either has step-time programming, or the ability to change MIDI channels. When loading from another keyboard, you'll also find it useful to have a MIDI sequencer which

has a Mix mode to mix Out and Thru signals, as the Roland range does.

If you don't have such a sequencer, you'll need to go through the laborious process of changing the MIDI Out cable to the Thru of the sequencer before you record each time, and then back to the Out before you playback. If you're confused about the MIDI connections, Diagrams 1 and 2 should help.

Next time, we'll be looking at the Mono Mode implementation on the new Akai S900, which configures things a bit differently by giving each Key Group its own MIDI offset from the Base Channel. It sounds more confusing than it really is. ■

For those finding it a struggle to fit a suitable number of sounds into the Prophet 2000/2002 at once, Paul Wiffen has prepared a disk especially for Mode 4 use. Called SongWriter 2000, it contains Kick, Snare (Ambient), Toms (Ambient), Open and Closed Hi-hats, Claps, MiniMoog Bass, Muted Guitar, PowerChord, MiniMoog Lead, Orchestra Hits and DX7 Rhodes. You can get a copy of this by sending a cheque for £19.95 (made payable to Electronics & Music Maker Publications Ltd) to Mail Order Dept, E&MM, Alexander House, 1 Milton Road, Cambridge CB4 1UY. If you have a 512K Prophet 2000, there's SongWriter Plus 2000 for £29.95, which has all the above sounds plus Slow Strings, Trumpet, Piano Bass and High Piano.



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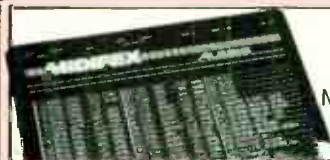
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TAKING NOTES

Akai may have changed the colour of their MIDI FX range from black to silver, but it hasn't prevented the two latest additions – the ME30P Patchbay and ME25S Note Separator – from being useful and versatile machines. *Simon Trask*



A couple of specific desires seem to be common among users of MIDI systems. One is for a flexible routing system which allows keyboards, drum machines and sequencers to be interconnected in a way that minimises the need for daisy-chaining, obviates the need for physical repatching of instruments, and allows the system to be reconfigured as required. The other is for a unit which can provide a multisplit capability for playing slave instruments from any master instrument (a facility provided by some controller keyboards, such as the Oberheim Xk).

These are the areas Akai have addressed with their latest offerings in the ME series of 19" rack-mounting MIDI units, the ME30P MIDI Programmable Patchbay and ME25S MIDI Programmable Note Separator.

Akai's MIDI patchbay is a four-in, eight-out unit with 15 programmable routing

configurations. All four inputs can be channelled through the unit at the same time, but you can't send more than one input to the same output. This would require the ME30P to be able to merge MIDI data, rather than merely route it.

With the above proviso, each MIDI input can be routed to any selection of the eight MIDI outputs. Where the input selection comes in useful is in allowing you to switch control from one keyboard to another or to a sequencer.

Operation of the ME30P is very straightforward, though the 360 Systems MIDI Patcher is easier to follow in that you can see at a glance from the front panel which outputs are assigned to each input. Akai have, however, thoughtfully included a facility for checking which instruments are slaved to each of the inputs. When you press the selector button for a particular input, a note A is sent on all the outputs associated with that input – useful.

The ME30P's 15 Banks (ie. routing configurations) can be stepped through by footswitch or called up by MIDI patch changes. In the latter case, patch changes are

ME25S "Its attraction is that even when used with a monotimbral synth transmitting on one MIDI channel, it offers you the possibility of multisplit textures."

registered on MIDI input D only – though as you can't define a specific channel on which the patch changes will be received you can't, for instance, devote a specific sequencer track to calling up ME30P routing configurations, which would be an obvious

application. In contrast, the 360 Systems Patcher listens for its patch changes on MIDI channel 16 of input 4.

A possible danger with this sort of unit is that routings may be changed while notes are still playing, which means slave instruments never receive MIDI commands telling them to stop playing those notes – which in turn means that, depending on the envelope characteristic of the sound(s) playing, you'll get a MIDI drone. When you change Banks on the ME30P, however, the unit sends the MIDI 'All Notes Off' command on all its outputs, which can be a useful

ME30P "When you change Banks, the unit sends a MIDI 'All Notes Off' command on all its outputs – a useful safeguard against the dreaded MIDI drone."

safeguard against such a situation. It's worth noting, though, that seeing as not all MIDI instruments will respond to this command, its effectiveness can't exactly be guaranteed.

The attraction of the obliquely-named ME25S Note Separator is

that even when used with a monotimbral synth transmitting on one MIDI channel, it offers you the possibility of multisplit textures. This doesn't mean that your monotimbral synth is suddenly elevated to the status of a multitimbral wonder. In fact, it will still only play a single sound, which you might at times find a bit inflexible.

In reality, the ME25S achieves its results by manipulating MIDI data received from your master instrument on MIDI In. Your master must be set to transmit on MIDI channel 1, as this is the only channel the ME25S will respond to. It strikes me, though, that there can be so many unforeseens when working with a MIDI setup, it's best to keep options open – in this instance by leaving the choice of MIDI receive channel to the user.

What the ME25S allows you to do is define four note ranges ('splits', as Akai term them) which can be separate or partially or totally overlapping. Each split can be as little as one note, or span up to the entire MIDI range.

You need to be able to route each split to a different instrument (or to different voices of a multitimbral instrument), so for each split you can select a MIDI channel from 1-16. Further split-specific settings are patch number (1-128), octave shift (\pm three octaves) and pitch-bend on/off.

One complete setup is called a Bank, and there are 64 of these onboard (stored when the unit is switched off). That's not too large a number when you consider you may want a new Bank (which can be selected from the front panel, a footswitch or over MIDI) just

to change a patch number or a pitch-bend setting.

But if you do find yourself wanting to change one or two parameters, there's a Bank copy facility which makes things a lot easier. The manual also provides a program chart – particularly useful as there doesn't appear to be any way of storing the Banks externally.

At its most basic level, the ME25S can be used as a channeliser, ie. to convert from channel 1 to any of the other 15 channels. And you don't have to use all four splits, of course. If you have a split instrument such as the Yamaha DX21 which only transmits on a single MIDI channel, you can use the ME25S to play two slave instruments in split fashion – additionally with appropriate patch, octave and pitch-bend settings.

Given the many performance parameters that MIDI can convey, it's all too easy to think of other parameters that the ME25S could usefully be able to filter out. Sustain, modulation and aftertouch are three of the most obvious. It's the old story of weighing flexibility against accessibility and cost.

Overall, though, it's the undoubted practical value of these new MIDI effects – coupled with their very reasonable cost and refreshing ease of use – that makes them such an attractive proposition for any growing MIDI setup, and the musician hoping to make the most of it. ■

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YAMAHA DX7 with h/case, £1000 ono. Korg DDM110 plus DDM220, sync lead, power supplies, £200 ono. ☎ (0634) 722502.

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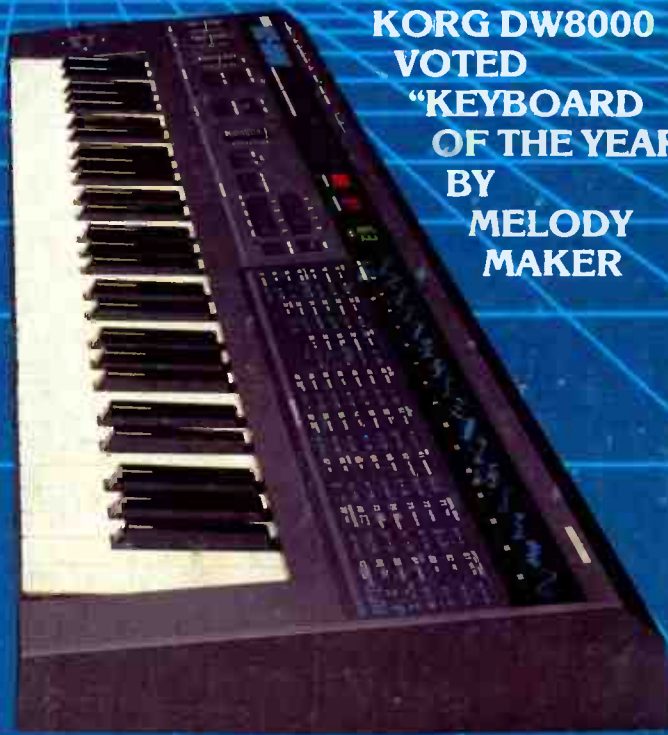
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