Established 1981

Music Technology

THE WORLD'S PREMIER HI-TECH MUSIC MAGAZINE

August 1991
£1.60

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10th ANNIVERSARY ISSUE

Yello

making babies

WIN

classic arp odyssey monosyth & roland jx1 performance synth

PEAVEY DPM3 SE & SX

the peavey concept

ON TEST

Pandora !Inspiration Sequencer

Gajits Sequencer One & Hit Kit

Zero-G Datafile One Sample CD

Roland Tentrax Sequencer

Groove Mc Lite MIDI Lights

CEDAR De-Clicker Scratch Eliminator

P&R PB40 Patchbay

Hammond XB2 Organ

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BAND EXPLOSION
YAMAHA

Keyboard synths have had them for years – pitch and modulation wheels with which to add real expression to a performance.

Now drum machines have them too. Yamaha's new RY30 features a unique control wheel through which you can record variations in the pitch, decay, panning, filter, balance and the timing of individual instruments in real time, adding your own, unique signature to every song.

Because in contrast to machines that rely on artificial, pre-programmed "humanizing" functions, Yamaha's *feel wheel* puts **you** right in control.

Although help is at hand if required, in the form of plug-in data cards including Signature Series voicings and patterns by leading artists.

RY30 Signature Series artists, Dave Weckl and Peter Erskine

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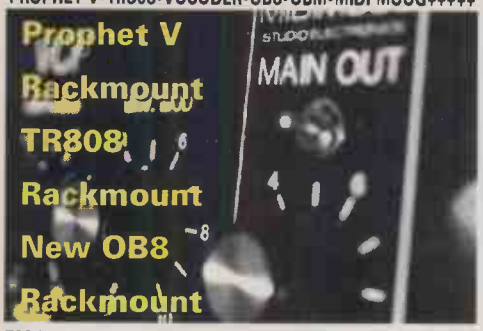
ANALOGUE AT TSC

PROPHET V•TR808•VOCODER•OB8•OBM•MIDI MOOG+++++



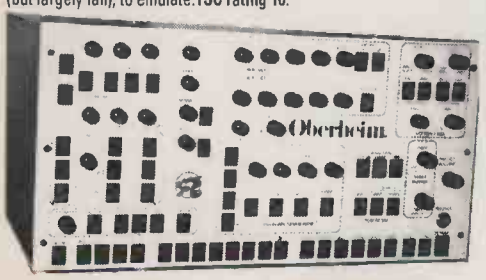
TSC is the largest stockist of analogue synthesizers in the UK. We are exclusive dealer for The Midimoog 19" rackmount monosynth.

OBERHEIM MATRIX 1000

A firm favourite with TSC clients, the Matrix 1000 in 1 unit of rackspace offers rich analogue sounds normally associated with synthesizers costing ten times its price. TSC rating 10.

OBERHEIM OBMX

The new OB-MX synthesizer from Oberheim is the dream machine of analog synthesizers. Its audio path is entirely analog giving the distinct "Fat" analog sound that so many of today's digital synths try, (but largely fail), to emulate. TSC rating 10.



- Fully Programmable
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- 4 Multi -stage envelopes per voice
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KORG•ROLAND•ENSONIQ•YAMAHA•KURZWEIL•WALDORF

The **Waldorf Microwave** is probably the worlds best digital synth. If you don't believe us call TSC and we will prove it.

KORG WAVESTATION LOWEST PRICE IN THE UK

Lots of new Products this month • The New **Kurzweil 2000** VAST synthesizer has an amazing spec as does the **K1200** with its 88 keys. We are very impressed with the **Yamaha TG77 ,QY10 &RY30** • Emu's Procussion is the latest addition to their range of sample replay units which now include **Proteus 1 & 2.** If you have a **Proteus 1** you must get it upgraded with a **Protologic** Board to give you twice the synth for half the price.

ROLAND JD800 New Synth £Low!!!

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SOFTWARE

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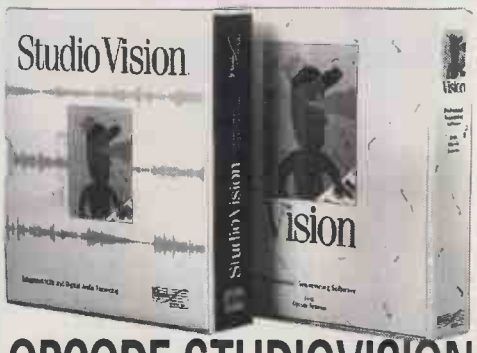
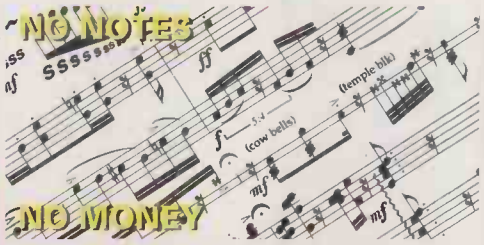


OPCODE STUDIOVISION

Whatever you are looking for, TSC has got it from the remarkable **Opcode Studiovision** which integrates hard disk audio with MIDI recording, "quantize those Vocals", to **Galaxy Plus editors** generic editor librarian for most synths.

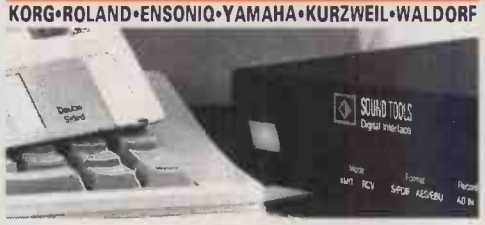
- Opcode Studiovision
- Opcode Vision
- Steinberg Cubase
- Passport Pro 4.5
- Performer
- Digital Performer
- Coda Finale
- Passport Encore

The most extensive range of scorewriting and music software anywhere in the UK! The **TSC Trade in & Trade up.** We will give you £300 for your old sequencer (hardware or software) when you buy **Studio Vision**



HARD DISK RECORDING

KORG•ROLAND•ENSONIQ•YAMAHA•KURZWEIL•WALDORF



DIGIDESIGN SOUND TOOLS & AKAI DD1000

Lots of new Products this month • **Digidesign Sound Tools,** Sample Cell, Optical Hard Disks, **Macintosh** front end for Akai DD1000, the new **Yamaha DTR2** with 18bit D/A convertors. Great package prices and support contracts. Practice "Safe Recording" with TSC.

STRUMMER/DRUMMER

These great new MIDI processing devices from Oberheim at £149 each cost less than a piece of software. The **Strummer** converts keyboard chords to guitar inversions - you select the strum rate and direction. The **Drummer** gives you over 10,000 possible rhythms which interact with your playing.

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Lexicon LXP1 reverb S/H £245.00
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Emax h/d racks ex famous band £999.00.
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S/H **Digidesign Soundtools** Atari £995.00
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AKAI S1100•1100EX•S950•ROLAND S770•S750•EMU EIII•+

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The world's leading hi-tech music magazine celebrates its tenth anniversary this issue. Tim Goodyer considers the role MT has played in shaping the industry and the music.

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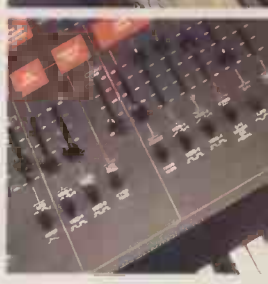

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PANDORA !INSPIRATION 70

It's been a long time coming, and there have been problems along the way, but there's now a pro sequencer for Acorn's Archimedes. Ian Waugh opens Pandora's box.

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Steering this magazine through the '80s made Dan Goldstein a prominent character in the music industry. Putting aside *90 Minutes* he gives a personal view of the last decade in music, technology and Music Technology.

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MAKING HISTORY 88

Looking back over ten years' worth of magazines, it seemed that there were certain moments worth re-living - here are the edited highlights.

editorial

HAPPY BIRTHDAY, MT

YOU'RE HOLDING A unique magazine. Ten years ago it was launched as an electronics hobbyist's magazine under the title *Electronics & Music Maker*; today, as Music Technology, it's the world's premier hi-tech musicians' magazine. But more than simply documenting the progress of technology in music, the magazine has actively helped shape that progress - a claim no other mag can rightly make. It even played a major part in shaping many of the other musicians' magazines which have since appeared - not only did it provide the basis for the launch of MT's sister magazines (*Home & Studio Recording*, *Guitarist*, *Rhythm* and *Keyboard Review*), but a remarkable number of journalists now working on other magazines have passed through the MT stable.

An obvious statement, but it has to be made: much has changed in those ten years. From the early days of synths and "popular" electronic music, technology has become an integral and formative part of today's music. High technology in music is no longer considered esoteric or novel; in fact much of the modern music industry is based on technology.

Throughout, MT has successfully followed the cutting edge of technical developments and their applications - a promise often made, but rarely honoured. The magazine has never been afraid to follow any lead set by progress and has often been criticised for it. Yet its insight has repeatedly been justified by the direction taken by mainstream music and technology (and other magazines). MT's readers have been secure in the knowledge that the magazine has kept them amongst the best-informed people in the field.

Right now we're caught up in an analogue renaissance - something recognised by MT well in advance of the musical instrument trade and many musicians. But don't expect it to last forever. While analogue technology is currently affordable, friendly and hip, it won't remain so. And when technological advances displace it from its present importance, or the "FM renaissance" begins (and brings a fresh musical revolution), you can bet that MT readers will know about it first.

So what of this issue? Well, alongside our regular equipment reviews, interviews and technical features, you'll find a selection of articles marking our tenth anniversary. A feature from MT's last editor, Dan Goldstein, offers another slant on the history of MT and the hi-tech music scene, while an article modestly entitled *Making History* relives selected highlights from the magazine's past. We also canvassed a variety of musicians with an interesting question about their choice of the "ideal" keyboard instrument - see *Shipwrecked!* for the results. There are also two competitions: one for a brand new Roland JX1, the other for a classic analogue monosynth, the ARP Odyssey. Check them out. Interestingly, MT shares its birthday with Roland UK - who have certainly played their part in shaping the hi-tech music scene (see *Designing the Future*). Happy birthday, Roland.

As I said, all this is in addition to our regular items, including special features which have helped make MT so popular and influential. Take Nigel Lord's long-running *On the Beat* series, for example. Nobody could have predicted just how popular that would be, or that its popularity would extend to so many pro musicians.

Thanks, then, to all who have contributed to MT over the years: Nigel and Dan, Jim Grant for his expose of the mighty Fairlight a few years back, my brother Clive and the other illustrators and photographers who have brightened our pages (respect, Normski!) and all the others whose musical and technical expertise has been so valuable. ***Tg***

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Thanks to a remarkable 61-note velocity-sensitive keyboard, 64 distinctive preset sounds, not to mention four sliders for editing, memory to store your sounds, and a dual mode for layering. And all of this comes in a synthesizer that's as portable as it is powerful.

So what's it going to be? The real flashy gear? Or the JX-1?

Okay, maybe the JX-1 and the boots.

Roland

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SOUND TREK

There's no respite in the constant AMG quest to find and present new sounds from every corner of the known universe. . .

First up is news of DAT-RAM, a new storage standard promoted by Masterbits. DAT-RAM utilises the ability of the Akai S1000 and S1100 to DAT-stream data via their digital outputs to the digital input of a DAT machine. The first DAT-RAM, created by a "well-known German high-level composer/samplist", has just been released, and features House, Pop, Rock, Jazz and Rap sets of sounds from all manner of synthetic and acoustic sources. These come in 2, 4 or 8Meg banks and when loaded are ready to play. We're told that the samples in the collection are not available anywhere else on any other medium. A special S1100 disk is also available with 50 new reverb programs. The DAT-RAM comes with 330Meg of ready-to-play samples and costs £249 - not cheap, but pretty good when you bear in mind that a DSDD floppy disk contains only 1Meg of data. The digital interface required for use with the S1000 is also available from AMG.

AMG are also announcing availability of two new CDs (by the creator of DAT-RAM) from Masterbits. Both volumes contain a large selection of "off-the-wall" sounds and feature a data section just like DAT-RAM, allowing direct loading of samples and parameters into an S1000/S1100 via digital input.

Volume I features guitars, synths, Emulator III, Fairlight, Synclavier, Mellotron, holophonic samples, amongst many others, to give a total of 787 samples. Volume II offers drums, percussion, synth and guitar effects (and much more, naturally) to a grand total of 921 samples. Each volume sells for £45, or the pair can be purchased for £80.

Finally, AMG tell us that the *Climax Collection Volume 3* (Guitars) should be available from June. The collection features a wide range of sounds, including distorted guitar, unison bends, harmonics - the whole widdly lot. The CD costs £45, or you can buy two CDs from the collection for £80 or all three for £115.

More information on any of the above from AMG, Hurst Lane, Privett, nr Alton, Hants GU34 3PL. Tel: (0730) 88383. ***Dp***

HYBRID'S UK ARTS

After several months of uncertainty - and a few false starts - over the UK distributorship of Hybrid Arts software, at last an official announcement has been made by Hybrid Arts Inc in the United States. UK distributorship is now being undertaken by Atlantic Audio of 9 Wharf Road, Gillingham, Kent ME7 1NW. Tel: (0634) 571695. And not before time! ***Dp***

COMMAND PERFORMANCE

What can you get for £39.95 these days? It just so happens that for this modest sum you can now purchase the Forefront Technology FT3 Patch Commander Plus. But what is it? OK, since you ask, this small sleek gismo is a hand-held, battery-operated unit intended for use as a general-purpose MIDI remote controller. It offers nine built-in modes of operation, as follows:

Patch Commander (Default Mode): in this mode, the FT3 transmits MIDI patch change Programs 001 to 128 on all 16 MIDI channels simultaneously, or only on your selected channel; Pre-defined message transmitter for use with "awkward" synths or for generating messages not otherwise available from your master keyboard; Clock generator - in which mode the unit can be used as the master source of MIDI clocks in a system; MIDI Cable Tester; MIDI Input Checker; Channel Input Checker; System and Channel Filters Mode, which filters combinations of system and individual channel messages; Panic Mode, which sends an individual MIDI Note Off message for every note on every channel.

It sounds like a useful thing to have around, and is available by mail order only from Forefront Technology, 2 Rebecca Gardens, Silver End, Witham, Essex CM8 3SR. Tel: (0376) 83920. ***Dp***

ANARCHY IN THE UK

The date of this year's UK Electronica has been set for Sunday October 13th, the venue being the Astoria Theatre, Charing Cross Road, London WC2. Timing and access details are included with tickets, which are available at £13 plus 50p administration fee from Future Age Music Express, PO Box 387, London N22 6SF. Ticket applications must be accompanied by an SAE marked with the number of tickets required. Cheques should be payable to F.A.M.E. (not C.A.S.H., Alan).

It has also been announced by the organisers of the event that Roland have been confirmed as official sponsors, and that an additional act has been added to the bill in the shape of Chris Franke, veteran member of Tangerine Dream, who will be launching his solo career at the show with tracks from his new album as well as older material. ***Dp***

WORLD MUSIC

Due to space constraints, here's some necessarily brief news about a few of the companies who will be exhibiting at this year's International Music Show (July 10th-14th, Olympia, London): Yamaha (stands C10, C11 and C1) will be showing several new additions to their pro-audio range, including the FX900 effects processor and the lower-priced EMP100. Yamaha will also be exhibiting their first venture into the DAT market, the DTR2, a top-end machine with a full range of facilities. New monitors in the shape of the S12 and S22 also get a showing. On the Fostex stand (stand C39) will be the new X28 personal multitracker and the G16S 16-track recorder. There will also be demonstrations of Steinberg's Cubase in conjunction with the Fostex R8 and Fostex 280 multitrackers, via the Fostex MTC1 interface. Roland UK will be at their usual position on stand C32 in the National Hall. On offer will be the new S750 16-bit digital sampler, the SB55 Sound Brush MIDI File Player and SC55 Sound Canvas Sound Module, as well as their new digital piano, the FP8, and new items from Boss. HW International (Stand D19) will be exhibiting a wide range of equipment from manufacturers such as Shure, Carver, 3G, Koss and Hafler. Of special interest is the first appearance of a new range of mixers and effects processors from British manufacturer 3G. On the John Hornby Skewes stand (C19) there'll be loadsa guitars, natch, but of interest to us *musicians* will be products from DOD and Digitech, including Digitech's new voice processor, The Vocalist.

With so little space, we can't possibly tell you what everyone will be showing, but needless to say, *all* the names you know (and a few you don't) will be there and there are certain to be a few surprises in store. One name you certainly know is Music Technology - and we'll be there in force celebrating our 10th birthday. Don't forget to look us up. ***Dp***

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▼ Performance flexibility? With the SD-1 you can combine acoustic, analog synth and exotic digital textures at the push of a button—no MIDI cables needed! And 24-bit dynamic effects, expressive Patch Select buttons, and a third generation Poly-Key™ Pressure keyboard add to performance possibilities that no other synthesizer offers.

The SD-1 already has a large library of sounds, thanks to compatibility with our VFX and VFX-SD synthesizers.

▼ Intuitive composition? The SD-1 features an incredibly easy-to-use 24-track sequencer that offers recording, editing, and mixing features that allow you to shape your music with precision and care. And only ENSONIQ sequencers allow you to audition every edit to decide which version to keep.

▼ Great sounds, unequalled performance control and a powerful 24-track sequencer to realize your musical inspirations—essential features built into a single keyboard that gives you the immediacy of a synthesizer, with the capabilities of a MIDI studio.

▼ The SD-1 Music Production Synthesizer, from ENSONIQ—the performance is happening now.

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EURO-MIDI

This year's International Music Show marks the launch of the European MIDI Association. During 1991, the UK MIDI Association has had numerous contacts from MIDI users around Europe, and the EMA is being inaugurated to satisfy the needs of all European countries regarding information on MIDI. The intention is to set up a network of local hotlines throughout the European Community, with ultimate responsibility for accurate information going back to the MMA in America, the organisation who, with their Japanese counterparts, instigate changes to the MIDI specification. Any countries not served by an internal hotline will be able to obtain information and help directly from the UK.

To ensure that information about continuing developments is comprehensively covered, the EMA intends to provide a bi-monthly, 56-page newsletter, with information sheets going out every other month as required. It will retain the name MIDI Monitor (the title of the current UKMA newsletter), and contributions will be welcome.

All current UKMA members will automatically become members of the EMA and their benefits of membership remain the same. Membership is at the level of Individual, Group and Manufacturer/Distributor, at a cost of £30, £60 and £120 per annum respectively (UK-based persons please add VAT).

More information on the EMA from Vic Lennard at 26, Brunswick Park Gardens, New Southgate, London N11 1EJ. Tel: 081-368 7918. ***Dp***

IMS GUITARIST DAY

The fame of our sister magazine, *Guitarist*, grows apace with the announcement that one of the public days at the forthcoming International Music Show (nee BMF) has been officially dubbed *Guitarist Day*. Saturday, July 13th is that day, and it will be marked by a truly thrilling program of live entertainment, including performances from Phil Hilborne, Geoff Whitehorn, Nico McBrain (you're right, he's a drummer), Gordon Giltrap and Martin Taylor, Elliot Randall and friends, and a tribute to Jimi Hendrix performed by Randy Hansen, Noel Redding (ex-Experience bass player) and Les Samson. If guitars are your thang, man *Guitarist*'s guests could hardly be improved upon. What's more, you'll still be able to see and hear all this if you're unable to get into the concert room - plans are being made to relay the live performances via a video wall in the main exhibition hall.

Just to refresh your memory, the IMS will be taking place at London's Olympia between the 10th and 14th of July, public days being the 12th, 13th and 14th. ***Dp***

WET DRUMS

Finally, the London Sample Workshop's Poolside drums are about to be available on a sample CD. Regular readers will remember that these drum samples were recorded in the somewhat unusual surroundings of White City indoor swimming complex, to "take advantage of the astoundingly huge, natural reverberation", according to the workshop's spokesman. The distinctive drum collection includes full-length hits of kicks, snares, hi-hats, toms, rototoms, octobans, boobams, temple blocks, claps, cow bell, sticks, cymbals, even a leather bull whip (whoa). According to what we've heard, these drum samples are widely acclaimed amongst the pros. And on top of this, all samples are recorded digitally and dynamically matched, and all artists and technicians are paid royalties on all sales.

If you want to get your hands on the Poolside Drums, the CD will cost you £59 including VAT and recorded delivery, and can be obtained from The London Sample Workshop Ltd, PO Box 1929, Harlesden, London NW10 4SW. LSW welcome trade enquiries. ***Dp***

EXPANDING PEAVEY

American company Peavey are already well-known to guitarists and PA people, but now the company are making bold moves into the hi-tech synth/sampler market as well. European musicians were introduced to the company's flagship DPM3 workstation synth last year. Now the DPM3 has been upgraded, and become the DPM3 SE in the process. It's also gained a companion in the form of the 1U-high 19" DPM SX mono 16-bit sampling interface, which has been optimised for use as a sampling "front end" for the DPM3 SE's onboard sample RAM. You can find a review of both these instruments on page 26 of this issue.

In recognition of the fact that not everybody wants a keyboard workstation, Peavey have produced a significantly cheaper version of the DPM3 SE, known as the DPM2, which forgoes the more expensive instrument's onboard sequencer, disk drive and sample RAM capability but doubles the number of internal Programs and Drum Kits. And, for those of you who want neither another keyboard nor another sequencer, but would like to have the DPM3 SE's sample RAM capability plus six polyphonic individual outs, Peavey are bringing out the DPM3 V3, a 1U-high 19" rack-mount unit which is set to retail for under a grand. The DPM3 V3 has the same number of Programs and Drum Kits as the DPM2.

Finally, here's news of a unit which any and every sampling enthusiast should look out for: the 1U 19" DPM SP rack-mount sample playback unit. This can load samples from its built-in 3.5" high-density floppy disk drive, or via MIDI or SCSI in MIDI Sample Dump Standard format. The inclusion of SCSI means you can hook up hard disk, optical disk and CD ROM storage media, as well as bypass slow MIDI transfer of samples if you have generic sample editor/librarian software which can communicate via SCSI.

The SP has a 16-bit sample resolution and a sample playback rate of 44.1kHz, together with an impressive 32Mb maximum sample memory capacity - the same as on Akai's S1000 and S1100 samplers, and around double that of Roland's new S750 sampler. Sample loop, trim and map editing functions are provided for licking incoming samples into shape. Other features are 255 Sample Wave locations, 255 Tone locations, 128 Map locations and 128 Preset locations. The SP is 16-voice polyphonic, and 16-part multitimbral via MIDI with dynamic voice allocation across the parts, while four polyphonic individual outs act as an aid for separate external processing.

MIDI note overflow has been implemented, so you can chain, say, two DPM SPs together for 32-voice polyphony. Another neat touch is that the SP will respond to polyphonic aftertouch via MIDI.

The DPM SP's affordable asking price is offset to some extent by the fact that you have to build its memory up from scratch; as it uses SIMM chips, memory can be had relatively cheaply, but, even so, fitting around 10Mb of memory is going to effectively double the price of the unit. Still, if you want a straight sample playback facility (dedicated perhaps to drum and percussion samples, and/or to performance loops), and you don't mind going through the laborious process of constructing or combining individual SDS-received samples into sample maps, the SP could be a useful adjunct to an existing sampler.

If you hook the DPM SX up to the SP, you've got yourself a self-contained mono 16-bit sampling system, operating along the lines of the SX/SE hookup (see review in this issue for details). The SX comes with 256K of onboard RAM, and like the SP can be upgraded using SIMM chips - only in this instance to a maximum of 16Mb. If you're going to be indulging in multi-megabyte sample transfers, the SX's SCSI interface option is going to turn into a must-have - nobody in their right mind would transfer multi-megabytes of sample data via MIDI if there was any possibility of avoiding doing so.

Although the DPM SX is optimised for use with Peavey's own instruments, naturally, it should be possible to use the interface as a sampling front end for any instrument which can accept sample dumps in SDS format.

Prices: DPM3 SE £1940.28; DPM V3 £918.54; DPM2 £1149.46; DPM SX £305.50; DPM SP £540.50; DPM3 Disk Libraries £30.60; DPM3 Sample Libraries £33.66. All prices include VAT.

More from Peavey Electronics (UK) Ltd, Hatton House, Hunters Road, Corby, Northants NN17 1JE. Tel: (0536) 205520. Fax: (0536) 69029. ***St***

it's new

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it's clever

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communiqué

toaster chic

On reading your recent article "Turn On, Tune In, Chill Out" (MT, June '91) about ambient house music, detailing the music of The Orb, my heart was gladdened to read that in today's world of hi-tech music creation, traditional technology is still holding its ground. On the technical breakdown of a particular Orb track, Alex Paterson, The Orb's main spokesperson, states "From there we did a remix ourselves using various choirs and a Toaster called Jeffrey". Good show, I say! Personally, my own studio wouldn't be without a toaster (mine's called Zippy). It's so nice to get back to analogue knobs and sliders instead of digital parameter access. Not only that, but toasters can also be useful for providing a hot snack between takes should the need arise. Long live the sound of bread.

Jeremy Wray
Wroxall
Isle of Wight

I couldn't agree more, Jeremy. No doubt you'll be uplifted to hear that Tim Simenon's studio (see Bomb the Bass cover interview last month) boasts a plasma ball alongside its looong lists of synths, samplers and drum machines. If we'd realised the practical and psychological importance (not to mention the sleek styling and elegant electrical functionality) of these devices, we'd have started publicising them long ago. Right now I'm getting a lot of mileage out of my electronic rice cooker. ***Tg***

japan calling...

In response to Josef Asid's letter (Communique, May '91) I would be grateful if you could pass on my address to Mr Asid, and any other readers who might be interested in contacting like-minded MIDI/home studio users.

I have been living here in Japan since 1987 and have built a small MIDI studio which I use for the production of background music and sound effects for a publishing company, and of course for my own projects. Music Technology has been my only source of information on the present UK music scene and I would now like to contact other people who have their own "bedroom" studios to exchange information - I can get hands on experience of the latest goodies from Roland, Yamaha and so on long before the UK shops get a whiff of it (even before MT gets a chance to review it). I'd also like to swap home-produced samples, ideas and tips. Perhaps we could even get a bit of international creativity going, depending on musical compatibility.

There are two of us interested in contacting UK-based - or anywhere-based - MIDI people, the other is also a British ex-pat who has been a musical partner of mine on and off for the last ten years. Aside from us there are a number of Japanese musicians who would also like to get involved.

Michael Rhys Potter
Green Casa 502
4-26-13 Numabukuro
Nakano-Ku
Tokyo
Japan

in the club

The other night my wife and I went out, and after I had put the kids to bed I felt an obsessive urge to to something which I last did in my teens. My wife came back early and caught me, which makes matters worse. I feel so guilty now that I have to tell someone, and I know you are sympathetic to your readers.

I have to confess to playing an old Wishbone Ash LP (*Wishbone Ash*, 1970) and enjoying it. Whilst it was playing my fingers kept running down the spines of my original Doors, Led Zep, Keef Hartley and the Bluesband LPs. I feel unfaithful to my latest purchase - KLF, *The White Room*.

I thought my only salvation was probably group therapy. Then I recalled Josef Asid's letter in your May issue. I feel sure that meeting other technology-based songwriters, musicians and home recordists will help. Seriously, if one does not already exist, I would like to set up a loosely structured club to meet others in my area to share our technological home-grown music. The criteria for membership would be:

1. Preferable age group 25-45
2. South Bristol/Nailsea/Clevedon area
3. Ability to pay for a small round of drinks
4. Any length of hair (or none at all) but no Bobby Charlton "wrap-overs"
5. Clothing/dress - preferable
6. Traditional musical ability non-essential; if it sounds good, who cares?

If anyone is interested in joining me, please see my ad in the Readers' Ads section.

Phil Carter
Nailsea
Bristol

Old Joe seems to have started something, doesn't he? And good luck to the lot of you, because the isolation in which many, many musicians now work is taking its toll on the music they're producing - much of it in the bedroom, but some of it finding its way onto the street. But let's get this much straight - if you're going to gather some sort of MT Massive and go partying (Asid house?) in the name of high technology, I don't want the police coming to me for the bail.

One last thing: I wouldn't waste time feeling guilty towards the KLF. They'd probably ransack your record collection with the utmost enthusiasm. ***Tg***

impressionism

I loved Tim Goodyer's "First Impressions" Editorial (MT, June '91). If I hear one more mate say "I've just bought a sampler so I'll never have to buy another synth or hire another musician", I'll scream 'til the veins in my neck pop.

Tom McLaughlin
The Sample Workshop
London

Be sure to sample them as they go, Tom. ***Tg***

going spare

Do you, or any of your colleagues there at MT, know of a source (whether in Britain or abroad) of Moog parts? I'm asking this because I am in the process of refurbishing a few examples of these wonderful analogue machines in my spare time (I am a pro session musician).

I have just restored a Sequential Circuits Prophet 5, and the parts for this were obtained from a small firm in the States called Wine Country Productions who can supply all the genuine parts for the now-defunct Sequential synths including manuals and data cassettes.

I would be grateful if you could, through your international contacts, put me in touch with any similar companies specialising in Moog spares.

Chris da Silva
Southsea
Hants

I'm not sure that you need to go abroad to get what you want, Chris. Other people in a similar position have had good results from simply placing an advertisement in MT's Readers' Ads section. You might get a response from someone sitting on a few spares from "the old days" or you may be able to pick up some old, unserviceable instruments that you can break for spares. It's worth a try.

In the meantime, is there anybody out there who can help with Moog spares? ***Tg***

competition

ODD WINNINGS

THIS ISSUE OF Music Technology celebrates the 10th anniversary of the magazine - it is, in fact, the longest-running magazine in the field of hi-tech music. To commemorate the event we thought we'd offer you a unique opportunity to win an old analogue synth: one that's secured a place in synthesiser history but that's no longer current. Would anyone care to win a genuine ARP Odyssey?

Of course, as ARP aren't about to give us one, we've had to buy the synth in (through MT's Readers' Ads, naturally). And who should it have come from but MT contributor and synth collector, Gordon Reid. What we're looking at is a very good condition Mk II Odyssey - the one with the black panel, Proportional Pitch Control expression pads and wooden end cheeks. It's not only a piece of history; it's also a piece of pure class.

In order to qualify for ownership, you'll need to come up with the answers to a few questions, of course. So here we go:

PHOTOGRAPHY: JAMES CUMPSTY

Q1

ARP were christened with the initials of their founder. Who was ARP?

a. Alan R Pearlman
b. Alan R Peterson
c. Alan R Patton

Q2

In the context of the Odyssey, what does the term "S&H" stand for?

a. Stage & Home
b. Sample & Hold
c. Shift & Hold

Q3

The Odyssey was launched around the same time as another classic analogue monosynth, what was it?

a. EDP Wasp
b. Yamaha CS80
c. Moog Minimoog

THE MT COMPETITION Hotline is up and running, and waiting for your answers. The number to call is **(0898) 100768** (calls cost 34p per minute cheap rate, and 45p per minute at all other times). Please speak clearly and leave your name and address with your answers. Entries should be made by *Friday 23rd August*. Employees of Music Maker Publications are, regrettably, ineligible for entry. Multiple entries will only get you into trouble. The editor's decision is final and no correspondence will be entered into. ■

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P&R AUDIO PB40M

MIDI PATCHBAYS ARE a comparatively new idea although the reasoning behind them is old indeed. In recording studios old and new the principle of flexibility - the ability to connect almost anything to anything else - is as basic as it is essential. The trouble is (and always was) that the connections for a room full of gear are spread all over the room. Not only that, but many of them are tucked away on the back of equipment stacked up against the walls. Such a simple idea, then, to bring all these inaccessible sockets out to one centralised point of interconnection: a patchbay.

A decade ago we'd have been talking almost exclusively about audio patching. Now, with MIDI pervading almost every area of making music, we're faced with having to patch MIDI too. So now you need two patchbays. Or do you?

Leaving that question for a moment, let me introduce you to P&R Audio's PB40M. The PB40M is a 1U-high, 40-way (20-position) patchbay, using standard quarter-inch jacks (as opposed to smaller Bantam jacks) on front and rear. Nothing too remarkable there. A closer inspection of the unit provides the first clue to the considerable attention that's been paid to its design and construction. The top of the bay is covered to keep dust (and any other foreign matter such as wire and solder) out of the jacks. Ingeniously, the upper cover is the same piece of metal that not only forms the front panel but also provides the mounting for the circuit boards at the back. For the uninitiated, the circuit boards that carry the audio signal (one per patch position) are usually mounted via the front panel jacks. Doing it the P&R way, cards can be removed by loosening just one jack at the back instead of two at the front. And why might you want to remove a card? Well, one feature of patchbays is "normalisation" - where a signal can continue through the bay to its usual destination until you insert a jack into the front panel to divert it. Consider it a kind of default patch. Alternatively, each position on the bay can simply be an extension of the equipment's rear panels. The way in which you usually have to configure a patchbay is by cutting or soldering in a wire link to alter the signal path; with the PB40M all you have to do is remove a card and re-mount it back to front. An oft-repeated engineer's prayer has been answered.

Another possible reason for wanting to remove cards from the PB40M might be to replace them with the alternative cards P&R Audio have to offer. While the standard PB40M comes as a 40-way mono unit, you can substitute stereo cards from the PB40 (stereo model) in any of the positions. And if you're using the bay to route any digital information, you can slot in cards with gold-plated sockets to optimise the signal path. Alternatively, you could treat the sockets to a coat of Stabilant 22; it's nice to have options. Where MIDI comes into the equation is with P&R's plans to release DIN-to-jack cables which will also allow you to use the PB40M as a (simple) MIDI patchbay. Now, the scope of such a method of MIDI patching is pretty limited by the standards set by large-matrix MIDI patchbays with onboard merging and patch memories. In fact, the PB40M approach to MIDI patching prohibits even Thru-In chaining, but if your needs are simple the facility to configure a mix 'n' match patchbay that is cost-effective and occupies so little space should not be underestimated. After all, who wants to lay out cash on an eight-by-eight MIDI patchbay, for example, only to use three positions on it?

Summing up what should be a simple review of a system which allows you to connect one piece of gear to another, you have to concede that P&R have done their homework well. The design is little short of inspired, and the options offered by P&R's "extras" make the patchbay particularly flexible. Another small indication of the company's attention to detail is the inclusion of a selection of stickers for marking up the PB40M's front panel - no longer are you faced with the prospect of spending an hour putting illegible chinagraph hieroglyphics all over the front panel. Obviously not every contingency could be covered here but all the obvious ones (inserts, outputs, inputs, fx sends and returns, and so on) are. Why, there are even a few with MIDI written on them. Now all you've got to worry about is the wiring. . . ***Tg***

Prices *PB40M, £64.95; PB40, £74.95. Both prices include VAT.*
More From *P&R Audio, 52, Windermere Crescent, Eastbourne, East Sussex BN22 8PR. Tel: (0323) 21582.*

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ON THE BEAT

Part 22

WHILE THE RECORD INDUSTRY SEEMS CONTENT TO IGNORE MUSIC IT CAN'T CATEGORISE, MT'S RHYTHM ACE PRESENTS AN ECLECTIC SELECTION OF DRUM PATTERNS IN THIS MONTH'S BEATBOX PROGRAMMING FEATURE. TEXT BY NIGEL LORD.

FOLLOWING ON FROM last month's theme - or lack of it - of going through some of the patterns that didn't make it into specific episodes of On the Beat, here are a further selection. Having had a "Work in Progress" sign hung on them for anything up to 12 months, however, I think it's fair to say they've all reached a stage of refinement which makes them as good if not better than the patterns which were originally included. The only problem (if you can call it a problem) of including them now is that they're not so easy to pigeon hole.

Pattern 1 is a case in point. The contrasting elements of an on-the-beat/off-the-beat snare drum part, a "clockwork" sidestick and heavy two-note bass figure (comprising the low tom and the bass drum) conspire to make this a very insistent groove which would be well placed in a

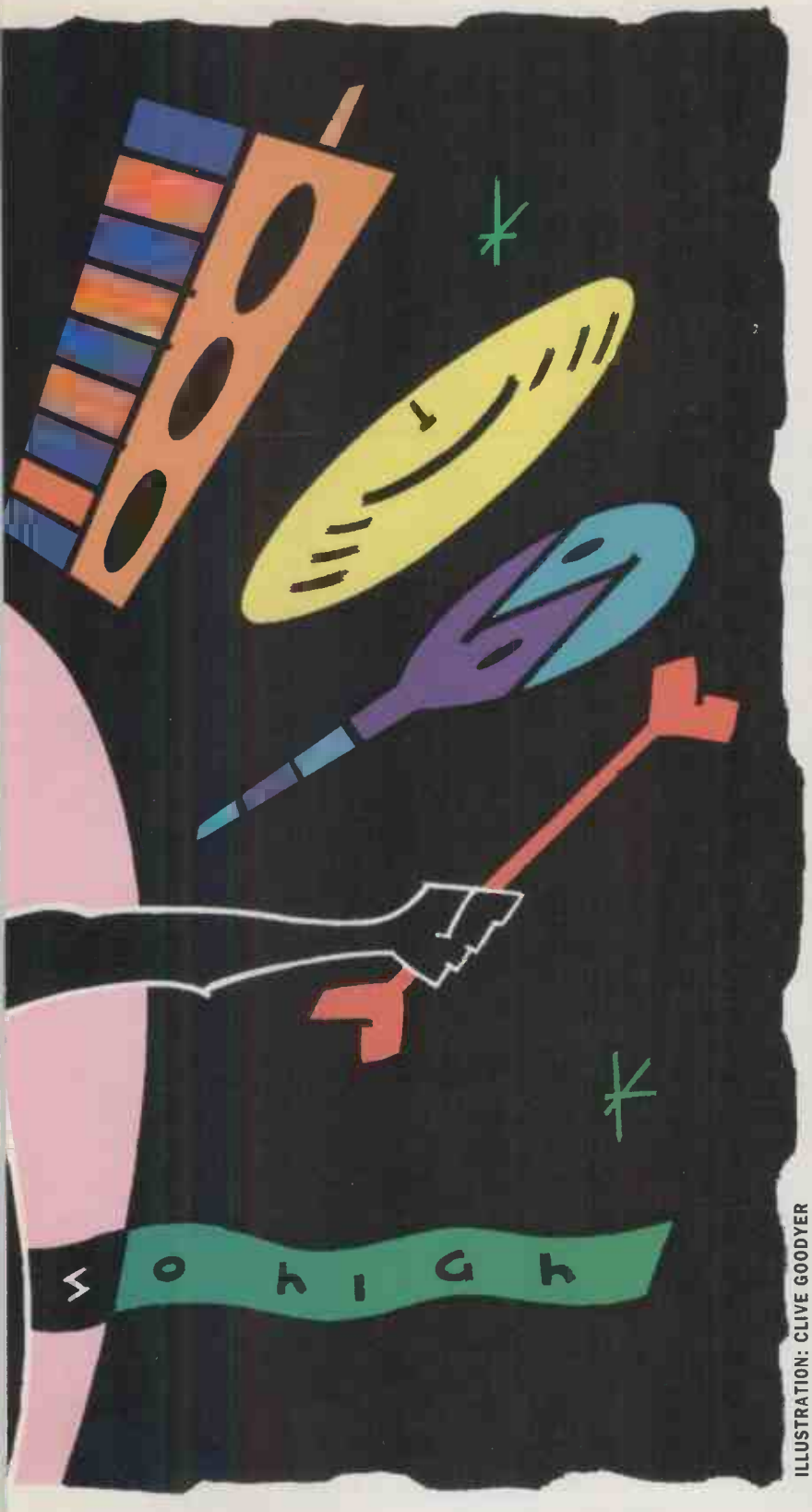


ILLUSTRATION: CLIVE GOODYER

variety of situations ranging from jazz-funk to dance - even, perhaps, heavy(ish) rock, given the right choice of voices.

A delightfully simple pattern to program, the only point to watch out for is the closed hi-hat note between beats three and four of bars one and three. This has not, as you may have thought, been accidentally moved off the beat somewhere in the printing process, but is intended to represent a closed hi-hat stroke which shuts off the open beat immediately preceding it. You may have to experiment a little to get the right effect in terms of spacing, but you could always ask a drummer to show you how it's done - this is a technique they often employ as a means of accenting a particular beat in the bar.

Another fairly simple pattern, Pattern 2 relies on an interesting descending (in volume terms) hi-hat figure to create an unusual groove which could well be pressed into service as an intro to a more conventional rhythm track. If you've been following the series, you'll no doubt be familiar with this method of programming; if you haven't, simply divide up the available dynamic range of your machine to embrace the 14 different levels represented by the numbers inside the diamonds (14 = high, 1 = low). Make sure, however, that the last beat - beat one - is not set to zero.

As you're no doubt aware, since my lengthy investigation into Latin American styles, Paul Simon has taken it upon himself to see what Uncle Sam has been sitting on all these years south of the border. And so it is that a whole new audience has been introduced to the delights of South American rhythm. If you were one of those who found themselves beguiled by the sound of massed drums on *that* track, you might like to cast an eye over this month's example number three.

Basically, it's an example of what can be done when you fill most of the spaces in a four/four pattern. A fast, repeating snare line along with the hi-hat, side stick and four-on-the-floor bass drum create what is by any standards a pretty compelling rhythm. Further interest is created by the high and low bongo part divided neatly between two two-bar sections, and the tom-toms which are used to provide a little more depth and give the pattern something of a hypnotic feel. That said, these instruments need to be kept well down in the mix (if this is the desired effect), and where possible you should opt ➢

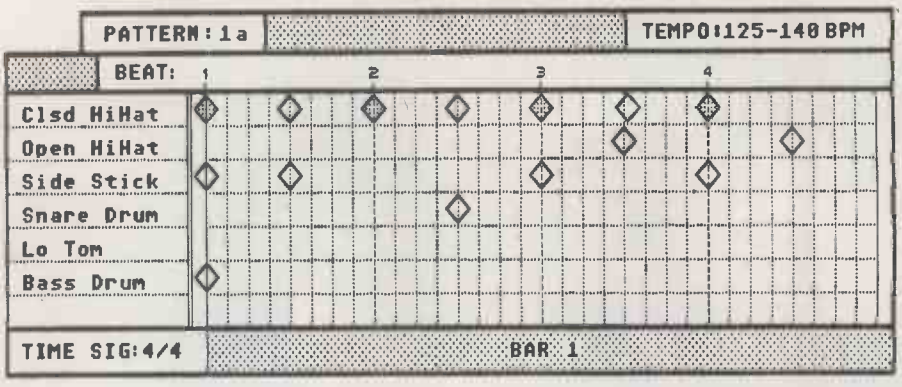
➢ for deep, open-sounding voices. On the subject of voices, snare two, as you might imagine, needs to be fairly short and dry sounding; snare one, by contrast, should be somewhat heavier/longer with a more ambient feel to it.

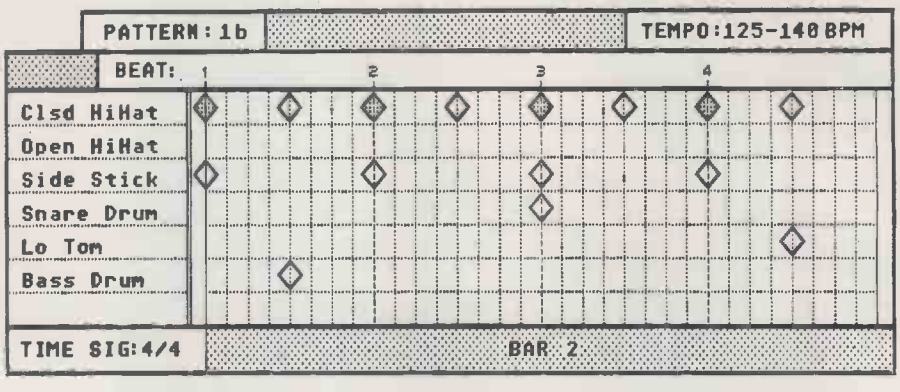
In Pattern 1, I referred to the side stick part as being "clockwork" in feel and this is further exploited in example four. Like Pattern 1, this has the effect of producing a very insistent groove complemented by a fairly heavy bass drum line which drives it along nicely. The claves make a welcome programming return here too and help bring a lighter, more exotic flavour to the pattern. Needless to say they can, if desired, be replaced by any of the more delicate-sounding percussion instruments you may have at your disposal. Incidentally, the snare drum beats in bar four are not (at the stated tempo range) programmed as true flams but should, nevertheless, be positioned pretty close together (about a quarter of one of the grid divisions - in case it's difficult to see); each pair comprising a low then a medium dynamic note.

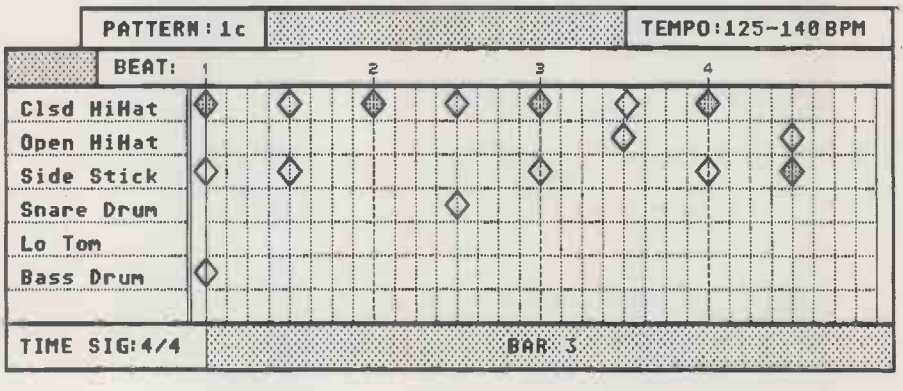
My love of the bongos as programmed percussion instruments crops up again in Pattern 5, but as you will hear, these in no way hijack the overall feel of the pattern - which, in fact, is anything but South American. Exactly what the feel is, however, is rather more difficult to determine. I'm afraid you have no choice but to program it into your machine and then decide if you like it. As you can see, it's quite straightforward, and comes with a built-in cadence at the end of bar four which can be programmed to occur at a musically useful position in the percussion track.

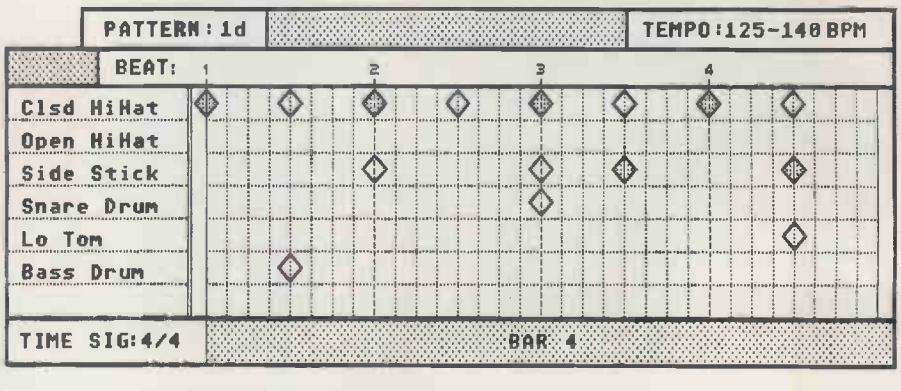
A couple of jazz patterns next: the first has a familiar, tight swing feel to it, the second steers us somewhere into (early) Level 42 country. Both Patterns 6 and 7 are programmed in triplet time, but that's just about all they have in common. Of the two, Pattern 6 is probably the more versatile, but personally, I prefer the pleasantly "off centre" feel of Pattern 7 which, as you will notice, is achieved without recourse to odd time signatures.

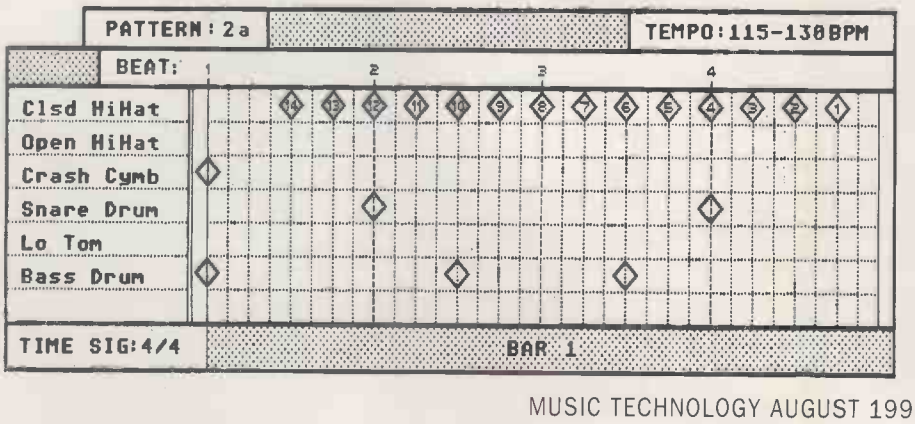
Other than a snare drum grace note in bar two of Pattern 6 (programmed such that it can just be heard over the level of the other instruments), there ➢

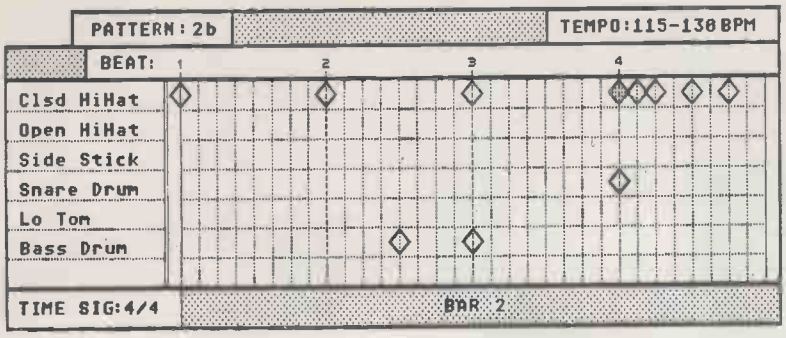


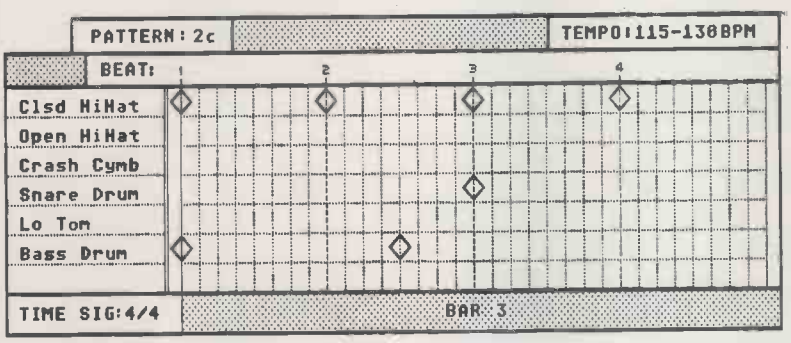


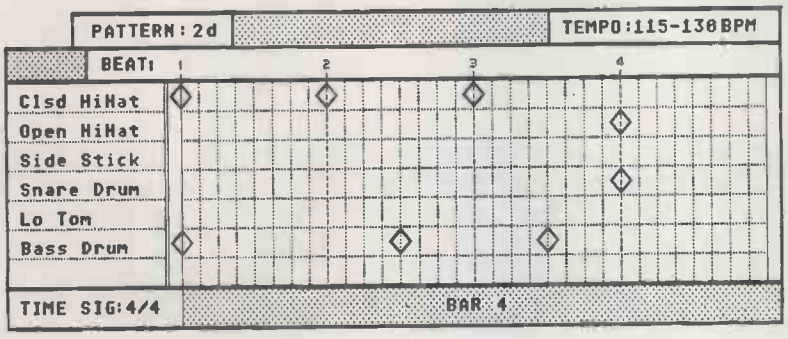


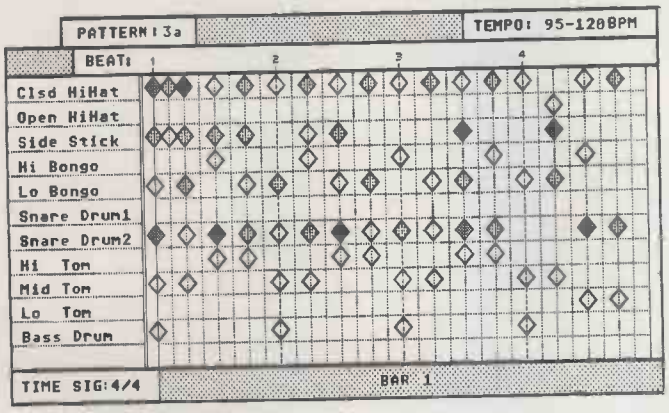


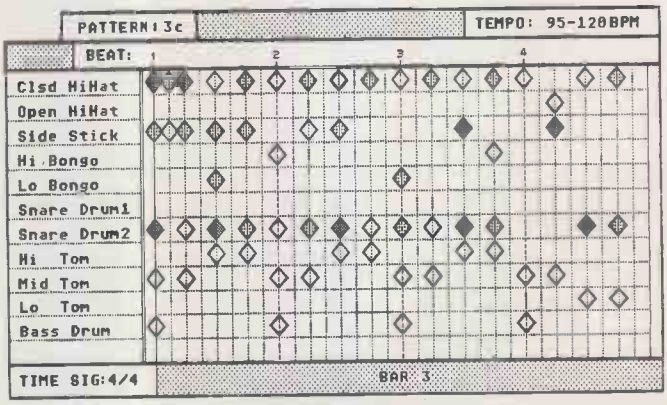


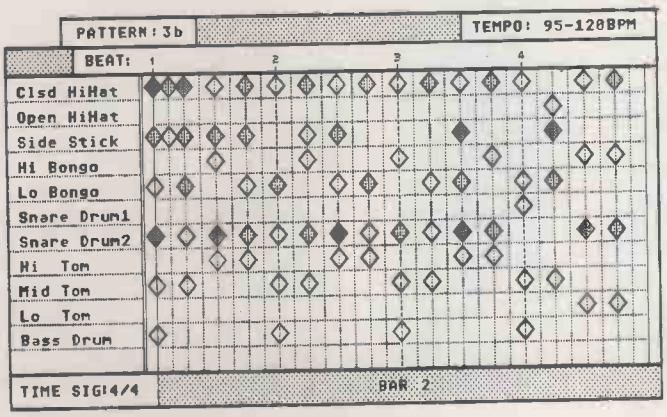


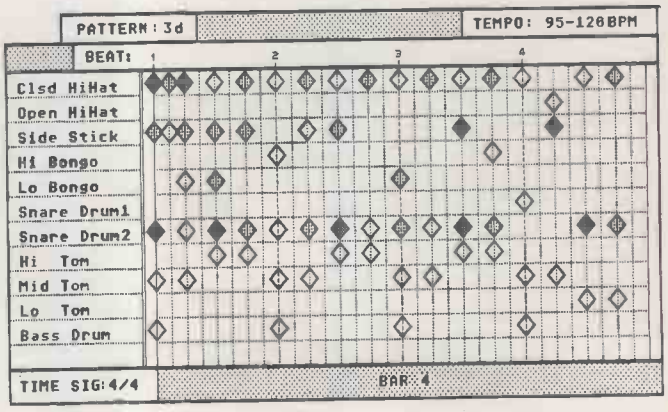






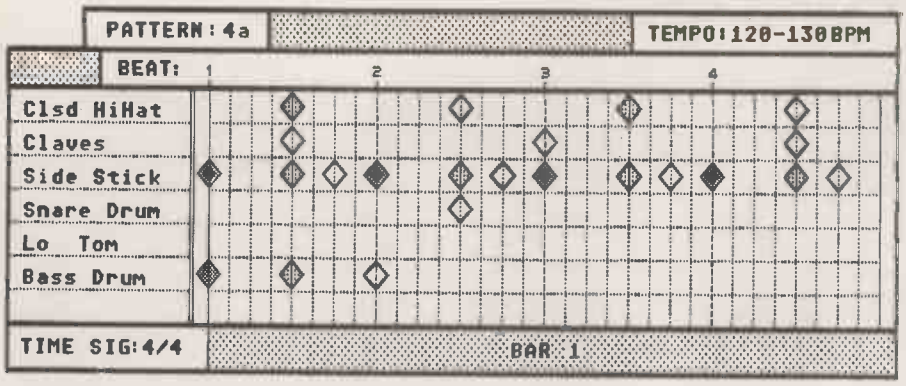


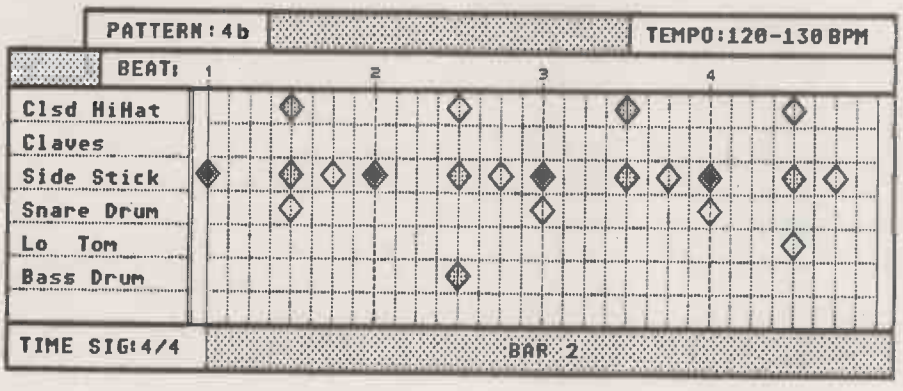


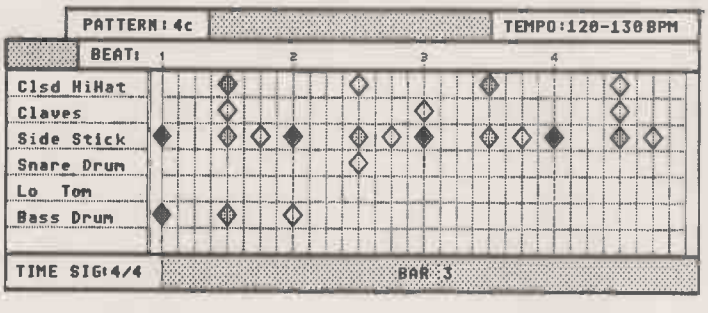


are no programming points worthy of note. However, as with most jazz rhythms, shorter, tighter voices should be selected in preference to longer, more ambient ones.

This month's final pattern provides us with proof yet again that the simplest and most straightforward rhythms can be transformed by the addition of a couple of extra percussion instruments. In this case the cabasa and the castanets work together to lift an otherwise unremarkable pattern to a position of considerably greater rhythmic interest. The cabasa, as is often the case, is programmed to fill in between the hi-hat beats and provide a nicely syncopated feel to the pattern. The castanets are there simply to help make this a rhythm you want to listen to rather than simply tap your foot to - which, come to think about it, is what this series is all about. . . ■


PATTERN:4a
TEMPO:120-130BPM
BEAT:
1
2
3
4
Clsd HiHat
Claves
Side Stick
Snare Drum
Lo Tom
Bass Drum
TIME SIG:4/4
BAR 1


PATTERN:4b
TEMPO:120-130BPM
BEAT:
1
2
3
4
Clsd HiHat
Claves
Side Stick
Snare Drum
Lo Tom
Bass Drum
TIME SIG:4/4
BAR 2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2
3
4
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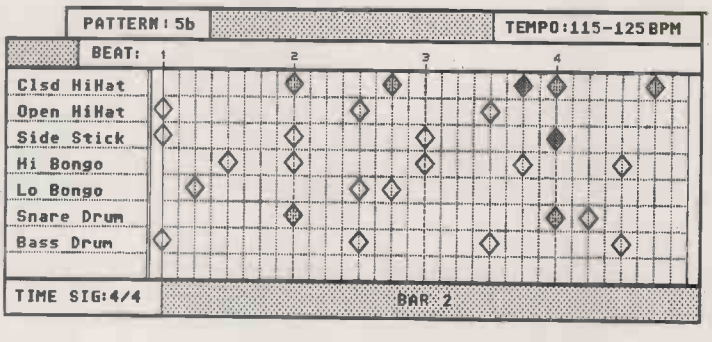
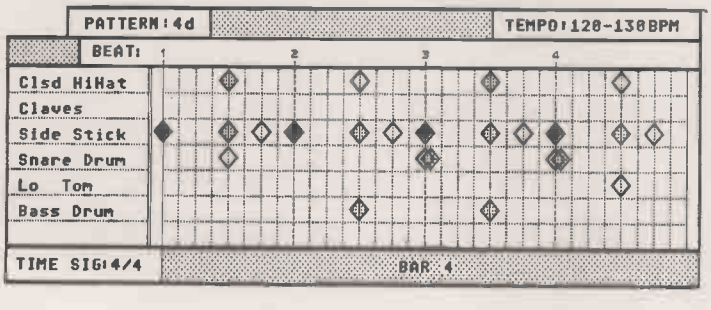
Claves
Side Stick
Snare Drum
Lo Tom
Bass Drum
TIME SIG:4/4
BAR 3


PATTERN:5b
TEMPO:115-125BPM
BEAT:
1
2
3
4
Clsd HiHat
Open HiHat
Side Stick
Hi Bongo
Lo Bongo
Snare Drum
Bass Drum
TIME SIG:4/4
BAR 2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2
3
4
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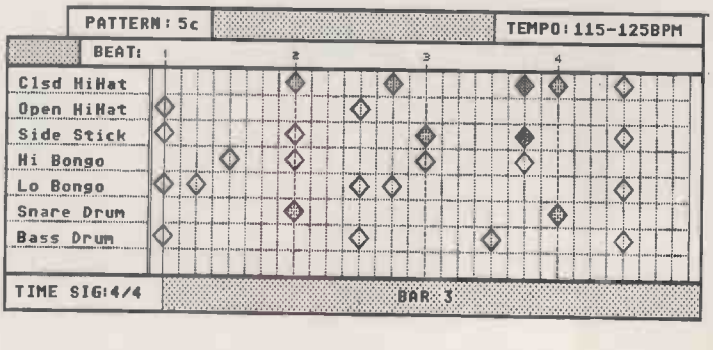
Side Stick
Snare Drum
Lo Tom
Bass Drum
TIME SIG:4/4
BAR 4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BEAT:
1
2
3
4
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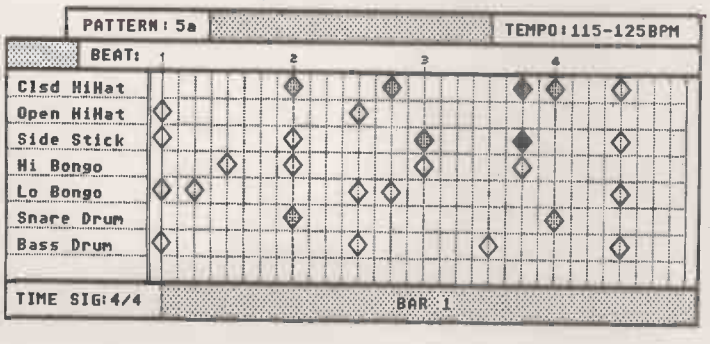
Open HiHat
Side Stick
Hi Bongo
Lo Bongo
Snare Drum
Bass Drum
TIME SIG:4/4
BAR 3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2
3
4
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Side Stick
Hi Bongo
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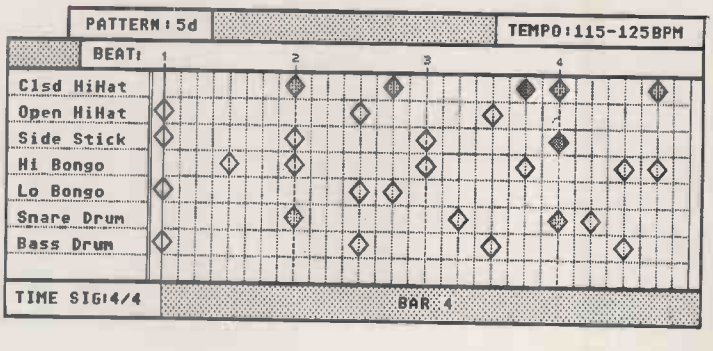
Snare Drum
Bass Drum
TIME SIG:4/4
BAR 1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TEMPO:115-125BPM
BEAT:
1
2
3
4
Clsd HiHat
Open HiHat
Side Stick
Hi Bongo
Lo Bongo
Snare Drum
Bass Drum
TIME SIG:4/4
BAR 4

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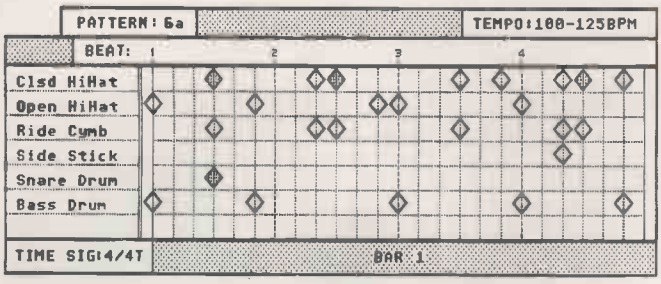
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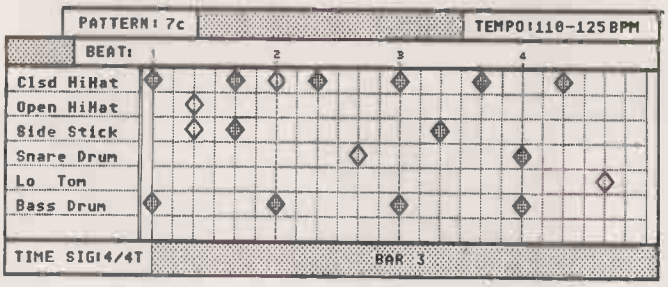
Ride Cymb
Side Stick
Snare Drum
Bass Drum
TIME SIG:4/4T
BAR 1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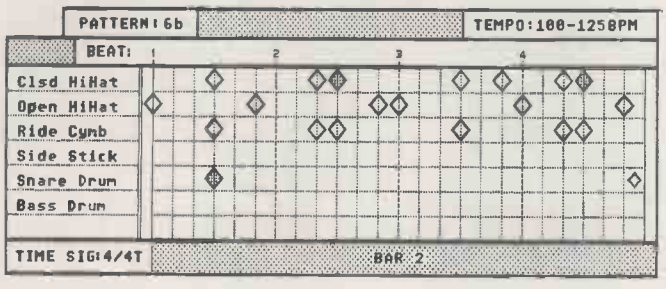
Side Stick
Snare Drum
Lo Tom
Bass Drum
TIME SIG:4/4T
BAR 3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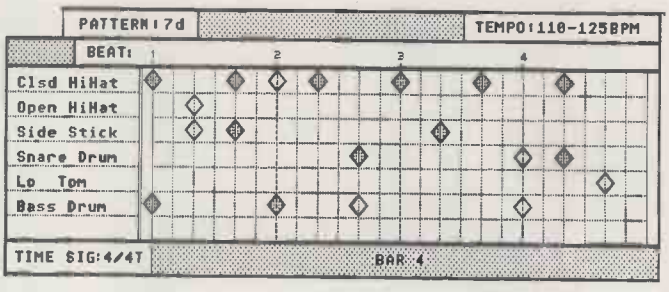
Side Stick
Snare Drum
Bass Drum
TIME SIG:4/4T
BAR 2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Side Stick
Snare Drum
Lo Tom
Bass Drum
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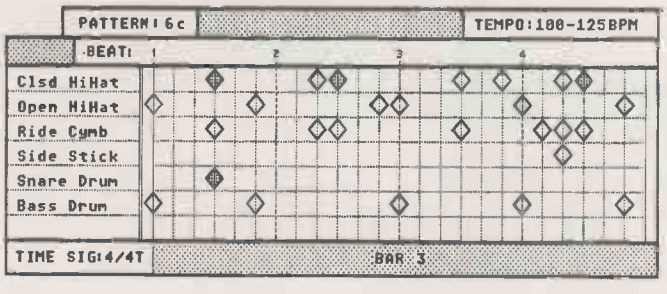
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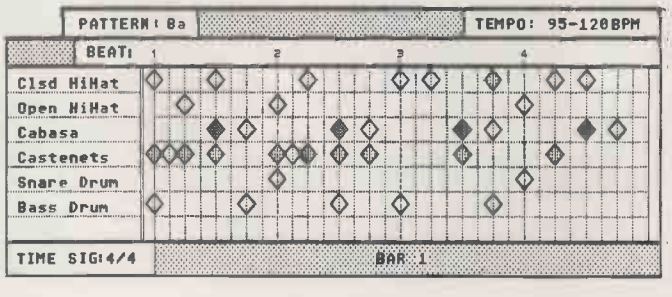
Ride Cymb
Side Stick
Snare Drum
Bass Drum
TIME SIG:4/4T
BAR 3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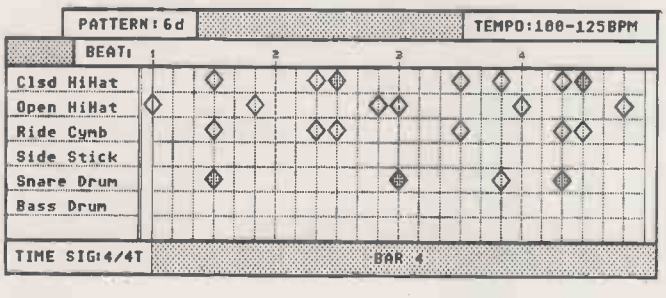
Open HiHat
Cabasa
Castenets
Snare Drum
Bass Drum
TIME SIG:4/4
BAR 1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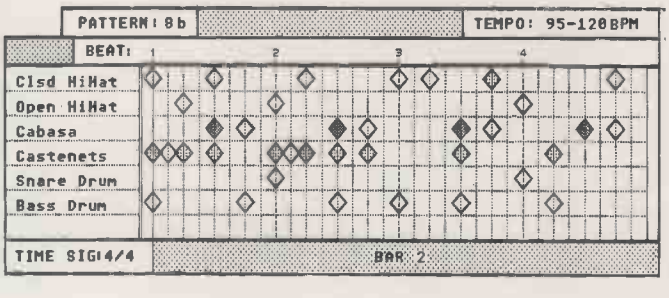
Ride Cymb
Side Stick
Snare Drum
Bass Drum
TIME SIG:4/4T
BAR 4


PATTERN: 8b
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Cabasa
Castenets
Snare Drum
Bass Drum
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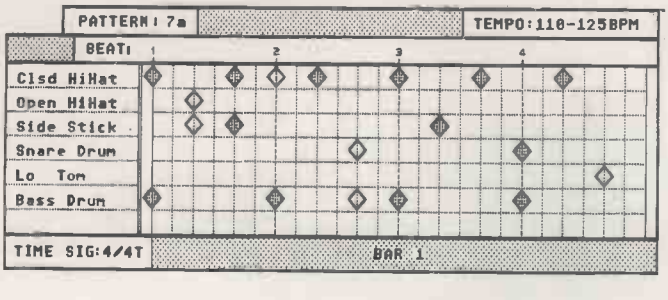
BAR 2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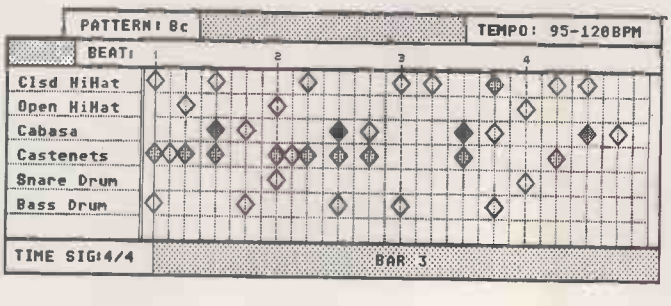
Open HiHat
Side Stick
Snare Drum
Lo Tom
Bass Drum
TIME SIG:4/4T
BAR 1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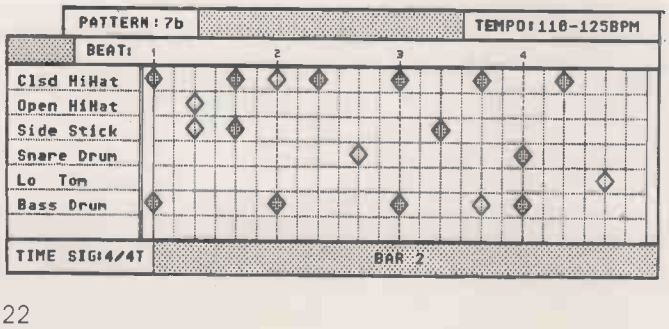
Open HiHat
Cabasa
Castenets
Snare Drum
Bass Drum
TIME SIG:4/4
BAR 3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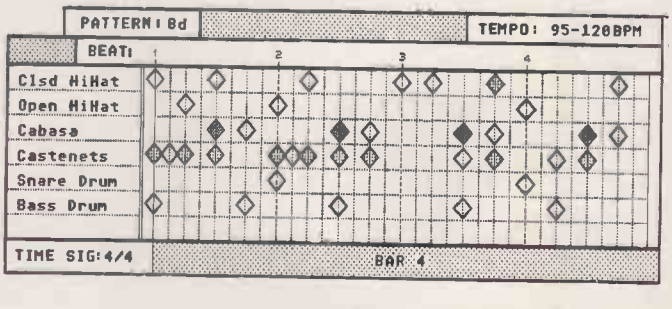
BAR 2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TEMPO: 95-120BPM
BEAT:
Clsd HiHat
Open HiHat
Cabasa
Castenets
Snare Drum
Bass Drum
TIME SIG:4/4
BAR 4

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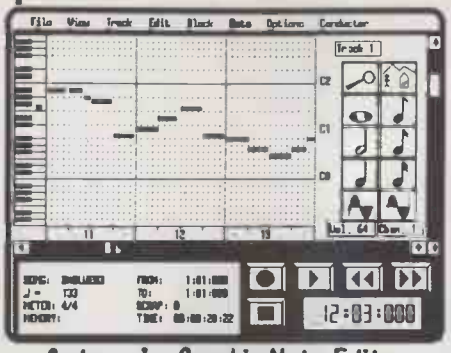
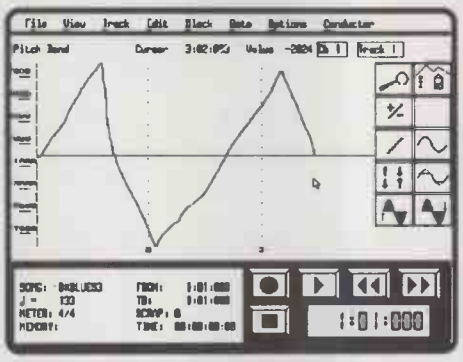


Cadenza's Graphic Note Editor



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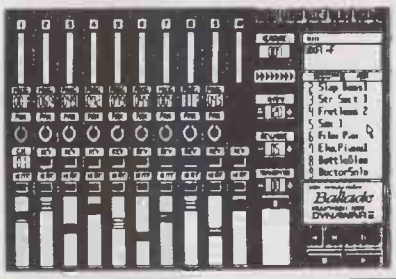

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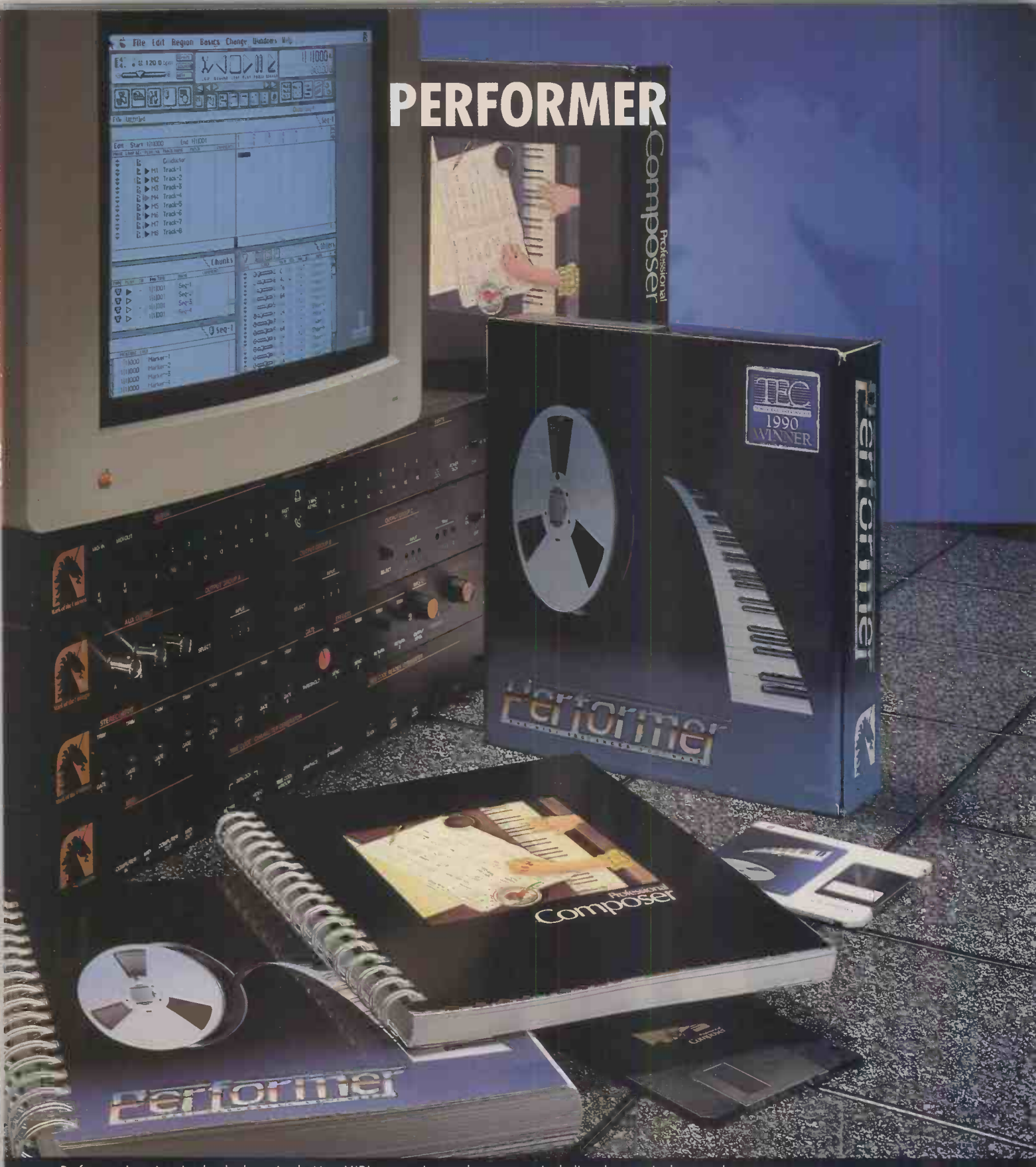

Performer, is quite simply, the best Apple Mac MIDI sequencing package you can buy. It has a friendly, graphic interface which produces the ultimate, interactive working environment that won't hinder your creativity. Performer can handle an unrestricted number of tracks, songs and sequences. In fact all the limited functions you find a problem on other sequencers have been comprehensively solved, as Performer lets you decide what you need and has the capability to address 32 MIDI channels (expandable to 544 by the addition of Mark of the Unicorn MIDI Timepieces). It features all the real and step-time functions you could ever wish for. Powerful, easy-to-access editing features and even the ability to customise screens to your own requirements. Plus there's on-screen help whenever you need it, as well as music notation editing.

Performer extends a bird's eye view of all tracks, simultaneous display of all selected functions, and should you need to be able to print a full musical score to publication quality, then add Professional Composer – with all the functions you should ever need including dot matrix, laser and typesetter outputs.

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TIME AND SPACE
Zero-G Datafile One

Pick a number, a big number - say 1000. Now consider what would be involved in putting that number of samples - no rubbish, mind - onto a single CD. You've got to agree, it would be quite a task. Yet that's exactly what Ed Stratton has done with Datafile One, a comprehensive collection of dance-orientated rhythmic loops, drum machine voices, bass sounds, vocals, scratches and effects.

The more astute of you will recognise Stratton's name from last month's interview with techno outfit Man Machine. What he's done with this disc is to make public part of the collection of samples he's been making for use in his own music over recent years. Not the usual course of action, that - almost all practitioners of the delicate art of sampling guard their samples with almost religious fervour. So what the hell is Stratton doing, chucking away his exclusivity in this disc? Perhaps the samples aren't up to scratch, or maybe he's quitting music altogether. No, not a bit of it. Stratton is still very much committed to his art and a master sampler. The truth is that Datafile One is a very special CD indeed.

Beginning with the beatboxes, Datafile One contains the voices of the essential dance machines: Roland's TR909 and TR808, as well as those of the TR727 and a further 76 snares, 44 bass drums and around 50 percussion samples. Not a bad start.

The breakbeats come in a variety of forms, some from drum macines, some from drum kits and others from other instruments such as guitar and percussion. They vary in length (between one and two bars) and quality (depending on the source) but most remarkably of all, they come with simple but priceless guidance on how to make a usable loop out of them. Musically related to the loops are ten scratches - all distinctive and all useful.

Over 50 varieties of bass synth and guitar make up this section of Datafile One. These are mainly house styles, but there are also "dub" basses and more exotic basses suited to acid and other dance forms. And apart from a rather tasteful selection of flutes and stabs, that's where the more conventional aspects of this disc end, and the more unusual ones begin.

Broadly, the remainder of the disc can be divided into electronic effects, effects samples and vocals. Let's just say that there are *a lot* of 'em. The electronic effects include some very off-the-wall synth noises that - like many of the best sounds - make little sense in isolation but can add a new dimension to a piece of music. Pair these up with the wealth of effects drawn from old film soundtracks (and God knows where else) and you've got some pretty useful samples. Moving on to the vocal stuff, we find that some of this too is electronic - "robot" voices uttering phrases such as "Proceed with visual attack", "Execute digital transfer" and the charming "O sound effect!". The human vocal samples are rather more musical in content, containing words and phrases along the lines of "Get on the floor", "Geddon up" and almost inevitably, "Dance". There are also grunts and screams in the "Waaow", "Uahh" and "Hit it" vein. More melodic lines are also to hand in the "Oo-oh-ah-hah" vein and a nice line in female ad libs. To clean up, there are also a selection of animal growls, whines, screams, and so on.

So much for the description - how does Datafile One measure up as a sampler's sample CD? The answer is unreservedly excellent. While there are some very good sample CDs already in circulation, it would be true to say that they're generally produced *by* people with the necessary resources *for* people wanting to make music. The exception to this generalisation is Bob Clearmountain's drum and percussion CDs - like Datafile One, these discs have been produced by someone who actually wants to make use of their contents. In each case, there's a certain indefinable "rightness" to both content and presentation of these discs. Where they differ, and differ dramatically, is in the type of musician likely to buy them. I can't see many people owning both.

If you're into dance music (and possibly, even if you're not) using samples from Datafile One quickly becomes a very enjoyable experience as the mechanics of the music are replaced by the immediate access to so many excellent samples. I quickly began to regard the disc as a jigsaw puzzle that could be assembled in a large variety of ways, with the picture always making sense. Some pictures are more attractive than others, of course, and that's where you come in - and where the logic behind Stratton releasing his samples starts to make sense. Half the battle with making sample-based music is in finding and collecting your source samples; the other half is putting them together to make music. Datafile One relieves you of the time-consuming search, ensures you of quality (artistic and technical) samples, and leaves you to get on with it.

Inevitably there is a drawback: you're working with the same set of samples as anyone else who's bought this CD. The solution is to mix these samples with your own drum patterns, instrumental sounds and, of course, samples. If you're prepared to do this, you've got an unbelievably valuable addition to your sample library.

To date, Datafile One is the definitive dance sample CD. ***Tim Goodyer***

Price *£49.95*
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DPM3 SE & DPM SX

PHOTOGRAPHY: JAMES CUMPSTY

Peavey's DPM3 workstation synth gets the upgrade treatment, while the DPM SX provides an optional sampling "front end" for the synth. Review by Simon Trask.

IF A WEEK is a long time in politics, a year is certainly a long time in the hi-tech musical instrument business. In 1989 when Peavey, an American company best known for their guitar amps, entered the synth market with the DPM3 workstation synth, there was no SY77, no Wavestation, no D70, no VFX SD and no SQ1. During that year, the DPM3 was available only in the States, but its success on home ground encouraged Peavey to make it more widely available. And so it was that the 1990 Frankfurt Music Fair witnessed the European launch of the DPM3, which at an SSP of £1899 promptly found itself competing with the SY77, Wavestation, D70, VFX SD and cheaper SQ1 for musicians' hard-earned, recession-squeezed cash.

Perhaps not surprisingly, then, Peavey have had an uphill struggle establishing the DPM3 in the UK. Because hi-tech keyboards aren't their core business, the company aren't going to stand or fall on the DPM3's success, but that very fact has perhaps put a question mark over the instrument's future. Peavey wouldn't be the first company to have dabbled in a different market and then pulled out when sales fell short of expectations.

On the other hand, the company can afford to take an optimistic longer view, and this would now appear to be what they've done. For a start, they've introduced an upgraded version of the DPM3, known as the DPM3 SE; existing DPM3 owners will be able to upgrade their synth to SE status with a £51 software upgrade.

Peavey are also consolidating their presence in the hi-tech market with the introduction of several new instruments. Of most interest to existing and potential DPM3 owners is the DPM SX, a 1U-high 19" rackmount unit which acts as a mono 16-bit sampling "front end" for the DPM3 SE's onboard sample RAM. Up until now, the DPM3 has been able to load samples into its internal static RAM either from its onboard disk drive or via MIDI Sample Dump Standard transfer from an SDS-compatible sampler or generic sample editor/librarian software. A DPM3 SX hooked up to a DMP3 SE via MIDI provides a self-contained sampling system.

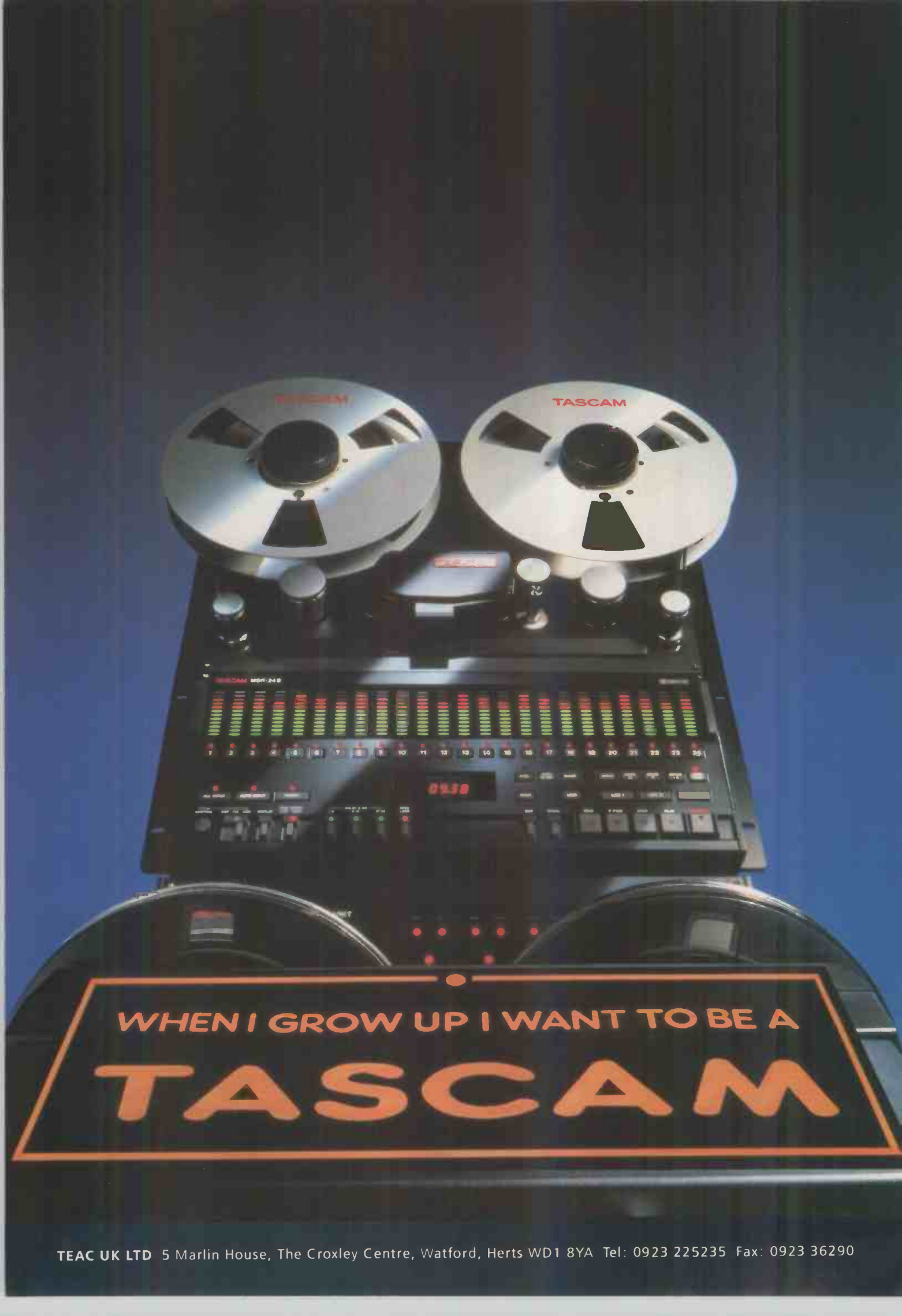
In recognition of the fact that not every musician wants a workstation synth, Peavey are also introducing considerably cheaper non-workstation and rackmount versions of the DPM3 SE in the form of the DPM2 and DPM V3 respectively. Both forego the more expensive instrument's sequencer and disk drive, while the DPM2 also forgoes its sample RAM. The company are also introducing the DPM SP, a relatively inexpensive 16-bit sample playback unit which accepts samples via MIDI SDS transfer and can be expanded to 32Mb of memory. For more details on these three instruments, see this month's Newsdesk.

Peavey's flagship synth has escaped the MT scrutiny up till now, but the introduction of the DPM3 SE and its companion DPM SX makes now an ideal time to rectify that state of affairs. With the introduction this year of new workstation synths in the form of Yamaha's new flagship SY99 and Ensoniq's SQ2 and SD1, and with the "traditional synthesis" attractions of Roland's new JD800 synth, the competition's getting tougher. Can the new, improved DPM3 SE win over British musicians?

FUTURES TRADING

WITH COMPANIES LIKE Moog and ARP long gone, with Sequential biting the dust in late 1987, and with Oberheim still celebrating the glories of analogue synthesis, it's been left to Ensoniq to define the look, sound and feel of the modern American synth. So it shouldn't be all that surprising that Peavey took their cue from Ensoniq for the look, sound and feel of the DPM3. However, the extent to which they did this has made it difficult for the DPM3 to step out of Ensoniq's shadow and establish its own identity - especially as it's the similarities rather than the differences which are most striking on initial encounter with Peavey's synth.

Where Peavey and Ensoniq differ most significantly is in the nature of the technology that each uses for ➢



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their synths. Ensoniq use custom-built (and proprietary) chips for their synthesis and effects processing - as does just about every other synth manufacturer - but from the outset of the DPM3's development Peavey decided to implement their synthesis and effects processing using general-purpose Digital Signal Processing (DSP) chips. A custom-built chip is optimised for a particular synthesis system, and consequently a synth based around one is tied into that system. A DSP chip, on the other hand, is optimised only for high-speed processing and can be reprogrammed to implement a new synthesis system. It's rather similar to the way in which you might run different pieces of software on a computer - the programming is different, not the chip. Peavey decided to use DSPs as a means of avoiding what their current ad in MT calls "the limited life-cycle syndrome" - you won't have to trade in your DPM3 for next year's model because your DPM3 can *be* next year's model.

The new features which turn the DPM3 into the DPM3 SE don't exactly qualify for next-year's-model status, nor do they all have to do with DSP (re)programming, but they do show that Peavey's heart is in the right place. Basically, they're tweaks which don't so much alter the character of the synth as fill it out a bit. So, for instance, you can now mute tracks, change Programs, change effect level and record volume changes at any point during a DPM3 SE Sequence, selectively filter transmission and reception of a range of MIDI messages, set independent MIDI transmit and receive channels and program four MIDI multi setups instead of one. A new parameter on the synth's Master Menu page allows its effects processing to be turned on/off globally, while each DPM3 SE Program (patch) can now have its own effect settings but can alternatively draw on the effect settings of another Program.

More significant in terms of how the DPM3 SE sounds (and in terms of reprogramming), Peavey have redesigned the DPM3's Exciter effect, added several more dual effects which make use of the new Exciter, and implemented both preset and user-programmable alternative tunings (so now you can play in, for instance, just intonation, a tuning of your own devising, or even - if you dare - 17th-tone equal-temperament tuning).

But the new features which will do most to change how Peavey's synth is perceived by musicians are those which govern its ability to communicate with the DPM SX and other SDS-compatible samplers, and those which enhance its sample-editing capability. These features in conjunction with the DPM SX allow the DPM3 SE's user-sampling to come into its own in a way which wasn't possible on the DPM3. You can now assign any sounds you want to the two oscillators of a DPM3 SE Program, and use them either as they are or as the basis of synthesis. This in itself should help to combat the "limited life-cycle syndrome". For instance, if the synth's own drum samples don't offer you enough variety and flexibility, you can easily incorporate more drum sounds into the DPM3 SE using its sample RAM - Peavey themselves are taking the lead here by making available a disk of TR808 and TR909 samples, but you could also invest in the Prosonics UK Mega Beats and Zero-G Datafile One sample CDs. And of course you can always load sampled rhythm breaks into the synth, trim them up and if necessary repitch them, then incorporate them into a DPM3 SE Sequence.

The DPM3 SE can store and access up to 48 individual samples in its sample RAM, and these can be organised into up to 32 Waves. A Wave can consist of a single sample or multiple samples (for multisampling across the keyboard). To use your RAM samples, you assign a Wave to an oscillator within a Program; in the Wave parameter field of the Osc1 and Osc2 LCD pages, the 32 RAM Waves follow on from the synth's 105 ROM Waves and five Drumkits. Additionally you can use RAM Waves in the Drumkits, each of which allows you to map up to 32 Waves onto the keyboard, with level, tuning, decay time, stereo pan position and effect level parameter settings per Wave; this is the best way to integrate your own drum and percussion sounds into the DPM3 SE.

Peavey's synth comes with a meagre 64Kb of static RAM fitted as standard, which means that if you want to make any serious use of user sampling you'll need to fork out for extra RAM straight off. The DPM3 SE uses battery-backed RAM so that user samples can be retained in memory through power-down; unfortunately this doesn't come cheap. You can upgrade the DPM3 SE's sample RAM in 512Kb chunks to a maximum capacity of 1Mb. This is twice the capacity of a DPM3, or DPM3 with SE software upgrade. To get 1Mb on the DPM3 SE, Peavey had to compress the synth's operating system software onto four ROM chips instead of the DPM3's eight, so as to leave more sockets spare for RAM chips; they also had to redesign the board which holds the chips. DPM3 owners who want 1Mb of sample RAM will have to buy the new board (price unknown at the time of going to press).

Incidentally, Yamaha's new flagship SY99 workstation synth also has onboard battery-backed sample RAM, coming with 512Kb as standard, upgradeable to 3Mb maximum. Samples can be loaded off disk or via MIDI SDS dump, and are treated like AWM2 samples - which means, among other things, that you can integrate your own samples into AFM synthesis. At the time of writing the SY99 looks set to be around £600 more expensive than the DPM3 SE. However, upgrading the DPM3 SE to 512Kb of sample RAM (the amount the SY99 comes fitted with) would roughly halve that difference.

"Operationally and conceptually, the DPM3 SE is easy to get to grips with, yet it's an instrument which has depth and flexibility."

PANELS

THE DPM3 SE is blessed with a neat, uncluttered front-panel layout which presents the various functional aspects of the synth in a way which makes them easy to comprehend. As a result, Peavey's synth is easy to explore and easy to get to grips with. Although the layout owes a lot to Ensoniq, the appearance is all Peavey thanks to the distinctive narrow, low-profile buttons the company have used. A firm touch is required for button-presses to register, a

fact which can be disconcerting at first.

The buttons in the upper left half of the front panel are for selecting Program Banks and switching between internal and card Programs. The DPM3 SE has 100 internal Programs and can read a further 100 Programs off card; in each case these are organised as ten Banks of ten Programs each. Successive presses of the Bank buttons toggle between pairs of Banks (1/6, 2/7. . .). The ten Programs of the currently-selected Bank are displayed in the central 2 x 40-character backlit LCD screen, while ten of the 12 "soft" buttons located above and below the LCD are used for selecting individual Programs, and the remaining two allow you to scroll in either direction through the Banks.

In the synth's various edit modes, the 12 soft buttons are used for selecting parameters; when a mode has more than one edit page, two of the buttons allow you to scroll in either direction through the pages. Parameter values can be changed using the data entry slider, data inc/dec buttons and infinite-rotary data wheel. The data entry slider can alternatively be set to transmit MIDI controller data (such as volume) or to modulate any synthesis parameter which has a modulation input to it (filter frequency or pan position, say).

The four System buttons in the lower left area of the front panel provide access to "master" functions, MIDI parameters, effects editing, sample editing, and disk/cartridge/MIDI storage options. The upper two rows of buttons in the right-hand half of the front panel are for Program editing; these buttons reflect the synthesis architecture of the DPM3 SE so that, for instance, to edit filter parameters you press the button labelled Filter, while to edit LFO parameters you press the button labelled LFO. Easy - as it should be. The lower two rows of buttons are dedicated to sequencer operation and editing, and include dedicated Play, Rec, Rewind, Fast Forward, Stop, Pause and Erase buttons.

The only other front-panel controls are the volume slider and the bend and mod performance controllers. Set back from the latter two, in a readily accessible position, is the onboard 3.5" floppy disk drive (PC-compatible, 720K formatted capacity) which can be used to store Programs (one or all), Sequences (one or all), Songs, Effects (one or all), Global settings, sample RAM data, and MIDI SysEx dumps (up to 64Kb) received from other instruments. A "snapshot" of all the Program, Sequence and Effect data in the DPM3 SE's memory can be saved to and subsequently loaded from disk as a single Setup file, also known as an Edition. Any associated sample RAM data has to be saved and loaded separately, however.

The DPM3 SE's rear panel contains MIDI In, Out and Thru sockets, a CV pedal input, a single footswitch input, a dual footswitch input, Left/mono and Right stereo outs, and a stereo headphones output with an associated output level knob. One thing you find out about the DPM3 SE very quickly is that its audio outputs push out a lot of energy; this is no wimpy synth, so watch out for your speakers.

A pedal connected to the CV input can be used to control internal and MIDI volume, transmit data for any MIDI controller, or modulate any DPM3 SE synthesis parameter with a modulation input to it. Each connected footswitch can variously be set to act as a sustain pedal, duplicate either the data inc or data dec button, step through the Programs in a positive or negative direction, or duplicate either the sequencer Play, Record or Pause button.

The DPM3 SE's keyboard is a 61-note affair, responsive to attack velocity and channel aftertouch, and pleasant enough to play, if nothing special.

SYNTHESIS

AT THE HEART of the DPM3 SE are 105 ROM samples and waveforms stored in 4Mb of ROM. These are divided into 16 categories: Analog Synth Waveforms (9), Digitally Generated Waveforms (5), Non-Harmonic Waveforms (5), Combination Loops (4), Organs (6), Bells (2), Bass (9), Pianos (7), Guitars (5), Orchestral (2), Voices (2), Accordion (1), Noise (4), Wind Instruments (8), Tuned Percussion (3), and Drum Sounds (33). The Drum Sounds category consists mainly of standard kit and Latin sounds, but also includes the likes of taiko, gamelan and turntable scratch; overall they have a nicely gutsy quality, and add up to a reasonably flexible collection of percussive sounds. Of course, now you can augment them with your own drum and percussion sounds.

Peavey's synth is also strong on waveforms and noises - the more abstract creative stuff - and on bass sounds. In fact, it's strong on bass *sound*, too - there's a richness and warmth to the synth's bass end which is very appealing. At the same time it has a bright, clear, penetrating top end and the same sort of grittiness that characterises Ensoniq's sound.

The (all-digital) signal path within a DPM3 SE Program consists of two oscillators going to two DCAs going to a digital filter (low-pass with restrained resonance) going to Amp Env going to an output stage going to the effects processor. In addition, the synth has modulation sources and modulation destinations galore, and allows virtually any source to be routed to virtually any destination courtesy of a sophisticated modulation matrix. Sources consist of two LFOs (each with a choice of triangle, sawtooth, ramp, square and random waveforms) and four five-stage envelope generators, velocity, keyboard position, aftertouch, mod wheel, pedal and external MIDI controller. The LFOs (rate and amount) and envelopes (time and level) are also modulation destinations, as are the oscillators (pitch), DCAs (amplitude level), filter (cutoff point), Amp Env (time and level) and output stage (pan position); modulation destinations typically have two modulation sources, with modulation amount and polarity programmable for each.

There's one area in which the DPM3 SE falls down when it comes to dynamic modulation, and that's effects processing. Which is a shame, because the ability to modulate reverb dry/wet mix, chorus depth, EQ gain or distortion feedback amount from the mod wheel, keyboard position or velocity, say, can be very useful. Still, in all other respects the DPM3 SE's ➢

"You can always load sampled rhythm breaks into the synth, trim them up, then incorporate them into a DPM3 SE Sequence."

"The DPM3 SE's audio outputs push out a lot of energy; this is no wimpy synth, so watch out for your speakers."

➢ effects processing is flexible and powerful. The synth implements two independent digital effects processors, each of which can be assigned one (Single mode) or two (Dual mode) effects, allowing up to four effects to be simultaneously active. Effects processor one is fed from the pan module, and thus receives a stereo signal; it also outputs in stereo. Effects processor two is fed from a mono FX2 routing, but creates a stereo signal from it. Effects processor one can be set to series, parallel or dual operation when using dual-mode effects, effects processor two is always set up in series for a dual-mode effect.

There are seven single-mode effects - reverb, delay, chorus, EQ, gate, distortion and exciter - and 32 dual-mode effects which create various combinations of the single-mode effects such as chorus/gate, delay/distortion, delay/reverb and reverb/EQ. These are all quality effects, somewhat in the Ensoniq mould.

The final component in a DPM3 SE Program is the Combi (previously called Multi on the DPM3). Put simply, if you select Combi rather than Single Program type on the Program's Main Combi page, you can "tag" up to three Programs to the main Program. As each Program can be assigned its own note range, velocity range, level, delay, detune, transposition and MIDI transmit channel, a Combi allows you to create sophisticated split and layer textures on the keyboard and "double" them on external MIDI instruments.

SEQUENCING

THE DPM3 SE includes a nine-track sequencer with a memory capacity of approximately 20,000 events. Memory permitting, the synth can store up to 50 nine-track Sequences and ten Songs. While the sequencer RAM is independent of the sample RAM, both are battery-backed - so you can have Programs, Effects, Sequences, Songs and sample data all available from the moment you switch the synth on.

In order to record a Sequence you must first Create it. As part of the Create process you name the Sequence and give it a time signature (1/4-32/4) and a length (1-996 bars). The Sequence length can be changed later.

Before starting to Record, you can set the tempo (40-250bpm), internal or MIDI sync, metronome on/off, metronome resolution (1/4, 1/8 or 1/16), track loop on/off, and XSysR on/off (this works in conjunction with the sync mode to determine how the DPM3 SE responds to MIDI Start/Stop/Continue and timing clock, so you could Start the sequencer remotely but have it run at the internally-set tempo).

Each track within a Sequence can be assigned a Program, a volume level, a MIDI transmit channel and an FX2 send amount. You can also select whether each track will play internally only, via MIDI only or both internally and via MIDI. Additionally, each Sequence can be assigned an Effect Setup, and a Sequence can be Copied and Deleted.

You can mute a track at any time while a Sequence is Playing or Stopped by scrolling to the Track Volume page, pressing the soft button assigned to the track you want to mute, and then pressing the same soft button again. Once you've selected a track, successive presses of its soft button mute and unmute it. These mutes can't be recorded, but you can record continuous volume changes into each track, so a sudden drop to zero volume could be used as a (memory-intensive) track mute. Personally I would have preferred to see a dedicated Track Mute page and the (recordable) ability to mute combinations of tracks live.

As it is, Peavey have hit on a novel (and presumably unintended) interpretation of track muting: each time you select a different track while a Sequence is playing, the DPM3 SE cuts dead all active sounds in the Sequence. If any of those active sounds happen to be held notes or a sampled break, the result is a major drop-out and major frustration. What's going on here, guys?

You can record a track either on a single pass or in drum machine-style looping mode. You can also drop in and out of Record mode at any time without interrupting the sequencer, and "spot erase" at any point in a track. When you first select a track for recording, you can specify a track length, which needn't be the same as the Sequence length. If you select, say, a four-bar track length within a 16-bar Sequence, the sequencer lets you record for four bars and then loops what you've recorded. Apart from being a useful way of saving on memory (a repeating bassline only needs to be recorded once), it's a potentially useful creative feature in that you can use it to create evolving textures - try three bars against four against five against 17. These loops "overlap" Sequence repeats, but when the DPM3 SE switches to a new Sequence it cuts short any potential overlaps.

The sequencer's maximum record resolution is 96ppqn. Post-quantisation offers quantise values from 1/4 - 96ppqn (off) including triplets. Usefully, the sequencer defaults to playback-only quantisation, so you can hear what a particular quantisation sounds like before deciding whether to make it Permanent or not.

Other track edit functions are erase, copy, transpose, scale (note velocities), insert, delete, merge, and slide (up to ±384 clock pulses/one 4/4 bar). Many of these functions allow you to specify ranges for them to operate within so you can erase or transpose a selected note-range (which could be as little as one note) within a selected bar/beat/clock range. You can also, for instance, erase all MIDI controllers or a selected MIDI controller (so if you want to change the mixdown on a track, say, you can erase the MIDI controller seven data and record it afresh). There's plenty of flexibility to be had here. But for the ultimate precision, you can select step-edit mode, which allows you to work on individual events at single-clock resolution.

In familiar fashion, a DPM3 SE Song consists of chained Sequences and is constructed in step time. Each Song can have up to 76 steps, and a step can be a Sequence (with an optional number of repeats), a tempo change or an End Marker. Steps can be inserted and deleted, and whole Songs cleared.

As an alternative to chaining Sequences together ➢

COULD YOU USE FIFTY CHANNELS?

There's one thing you can count on. Pretty soon, you'll either need more channels or an extra mix. It seems no-one ever builds a mixer with enough ins or outs.

Not so long ago, a few extra channels over and above the number of recorder tracks was enough. Today, more and more sessions tend to rely on 'electronic' sources rather than mikes. As intelligent multitracks sync to sequencers at mixdown, the buzz-word is 'virtual' tracks. A mass of live 'rhythm', special effects, and synthesis, created and orchestrated during the final mix.

Recording, and live mixers, must handle so much more.

SHEEP'S CLOTHING

At first sight, the Fostex 812 mixer provides a dozen inputs and six line or effects returns. Laying tracks or overdubbing there's wide range level match and three bands of equalisarion.

Inputs over to the left, outputs to their right, you're faced with the classic 'split' console. More control in a smaller area, yet knob design and layout ensure everything's within reach and easy to work with.

Tracks build up. More effects - typically stereo. Sources are added and too soon everything's used up.

Now you uncover twelve extra channels. The monitor mixer, 'embedded' in the input channels, that was used for monitoring the overdubs - but redundant at mixdown - can be 'patched' to the main mix buss. That's twelve more line inputs - providing a total of thirty - controlled from the front panel.

You add the multiple outs of a rhythm unit, 'bass line' or multisynth.

Whilst that's the limit for some musicians, many need more.

ADDING TO THE MIX

Via ten more 'buss' inputs, which connect directly to the main and aux mix busses, the 812 lets you connect external expanders without sacrificing any of the thirty inputs that you've configured so far.

Here, the Fostex 2016 line mixer (above the 812 console in the photo) is the solution to an endless array of mixing dilemmas. Two eight channel stereo mixers in one, which extend your possibilities.

Each input features level, pan and two post 'fader' aux sends. There are front and rear panel input jacks. The output section features master level, meters and a stereo aux return too. You have the option of using these 'mixers' separately or combine the line and/or aux busses. And because a full send and return effects system is incorporated, the 2016 may be used for stand-alone 'keyboard' mixing as well as augmenting the 812.

Sixteen inputs and four line returns total twenty - fifty total when used with the 812 Mixer. Capacity for the most demanding session.

Further 'buss in' rear connectors on the 2016 mean that several may be cascaded together - adding twenty more inputs each time.

MYRIAD OF EFFECTS

Demos now demand greater precision in sound. It's not unusual to use several different sounding reverbs at once and skillfully construct a unique reverberant field. Then there are shifters and exciters, all enhancing the texture of the mix. And each one needs an 'aux send' feed - and a return - from selected channels.

How many 'sends' you use depends on individual style. To begin with, there are two per channel with the possibility of four at mixdown. (Using the monitor' mix if it is not utilised for extra inputs).

Furthermore, the versatile 2016 may be connected to channel 'direct' outs and provide further effects mixes for the session.

Configured for coming or going, as extra inputs or sends, the 2016 adds unprecedented versatility to the Fostex 812 mixer

DON'T STOP

During the mix, some sources require the full 'treatment' available on main input channels. Others like rhythm units, need no more than level and stereo to balance their carefully sampled sounds. The number of additional effects you choose to use are anybody's guess.

One thing's for sure, you must start out with the abillty to expand as your art develops. Find out more about the Fostex 812 and 2016 mixers and discover how they solve the problems of input overload.

Fostex

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➢ into Songs, you can select Sequences "live" from the synth's front panel as you would select patterns on a drum machine - the active Sequence plays through to the end of its current pass and then the DPM3 SE moves smoothly to the newly-selected Sequence. I must say, once again, that it's a shame there's no function for auto-compiling these live selections into a Song.

"In fact, it's strong on bass *sound*, too - there's a richness and warmth to the synth's bass end which is very appealing."

DPM SX

THE 1U-HIGH 19" DPM SX could hardly be simpler to use from its front panel. Once you've plugged in either your line-level or microphone input, you turn the input-level knob while watching the clip/threshold pinpoint LED (green means adequate signal level for sampling, red flashing or continuous means clipping or distorted). Once the level's set, select either a 24kHz or 48kHz sample rate, then press the Start/Stop button if you want to initiate sampling manually from the front panel, or press the Arm button to put the SX in "stand-by" mode if you want to initiate sampling by some other means (audio threshold or MIDI note on). You can terminate sampling by pressing the Start/Stop button, or else you can wait for the SX's memory to fill up. Once you've captured your sample, pressing the MIDI Dump button initiates a dump of the sample in SDS format.

The DPM SX is intended for use not only with the DPM3 SE but with any sampling system which supports SDS. So, for instance, it could be used as a sampling "front end" for Yamaha's SY99. You could also use the SX in conjunction with generic sample editor/librarian software, which could be used to convert SX samples to a non-SDS sample format and, if it supports the creation and transmission of SysEx commands, to program the full range of SX parameters. The manual includes details of all the SysEx messages which the DPM SX responds to and transmits, governing both remote programming of the SX parameters and transfer of sample data from the SX in MIDI SDS format.

If you're only using the SX in conjunction with the DPM3 SE, there's no point in having more than 1Mb of sample memory in it. However, the SX can actually hold up to 16Mb-worth of SIMM chips, which could be useful in a different context, like using the SX in conjunction with the DPM SP.

Remotely controlling the SX from the DPM3 SE is so straightforward that you don't have to think twice about it - you're just doing it. The relevant parameters have been so well integrated into the DPM3 SE's programming environment that the sampling process feels like it's an integral part of the synth rather than an add-on - until you have to w-a-i-t for your sample to reach the SE via MIDI before you can listen to it. Also, by programming from the SE you get a larger range of sampling rates of 16kHz, 24kHz, 32kHz, 38.4kHz, 44.1kHz and 48kHz.

Once you've got a sample in the DPM3 SE's sample RAM, you can set its root pitch, trim it, loop it, and optionally map it onto the keyboard as part of a multisample. The synth provides a choice of manual and auto looping - the former steps sequentially through the sample, the latter searches out a new zero-crossing point each time you move one of the data controllers. With auto looping mode selected, the synth cuts short sample playback each time it selects a new zero-crossing point, so that you have to retrigger the sample again - irritating if you're trying to loop a break. This aside, manipulating samples on the DPM3 SE is easy.

VERDICT

THE DPM3 SE can compete with the best that other, more well-established hi-tech manufacturers have to offer. Clearly a good deal of thought, a good deal of effort and a good deal of technical expertise has gone into its development, and it has a mature, well-rounded feel to it which belies the fact that it's Peavey's first synth. Put another way, there's nothing of the novice about it.

Operationally and conceptually, the DPM3 SE is very easy to get to grips with, yet at the same time it's an instrument which has plenty of depth and flexibility. Sonically, it's a versatile instrument which should manage to appeal to a range of musicians, from those who like bright, clear, highly-produced American AOR-type sounds to those who like gritty, atmospheric, metallic, bleepy dance music-type sounds. And if a rich, warm bass end appeals to you, you should be aware that this is one of the DPM3 SE's sonic strengths.

The Ensoniq influence is apparent in Peavey's synth, but that's not necessarily a bad thing. As an avowedly American synth in both sound and style, the DPM3 SE is a useful addition to a market which has for so long been dominated by Japanese sounds and style. And if you like the keyboard workstation approach to creating music, no-one does it better than Ensoniq - and now, of course, Peavey. The DPM3 SE's sequencer may be no Cubase, but it is the sort of sequencer which encourages you to be spontaneous in what you do.

But where the DPM3 SE is all but in a class of its own is in the sonic open-endedness provided by its onboard sample RAM and the add-on DPM SX sampling "front end". The SE's melding together of sampling and synthesis is well judged and well implemented, and should gain it a lot of converts. As for the other feature of the DPM3 SE which sets it apart from the competition, namely its use of general-purpose DSP chips in place of custom-built chips, the advantages have yet to become apparent. Software upgradeability is a reassuring facility, but it only makes sense to buy an instrument if you're happy with what if offers you in the here and now. ■

Prices *DPM3 SE, £1940.28; DPM SX, £305.50; 512K RAM, £325.93. All prices include VAT.*
More from *Peavey Electronics (UK) Ltd, Hatton House, Hunters Road, Corby, Northants NN17 1JE. Tel: (0536) 205520. Fax: (0536) 69029.*

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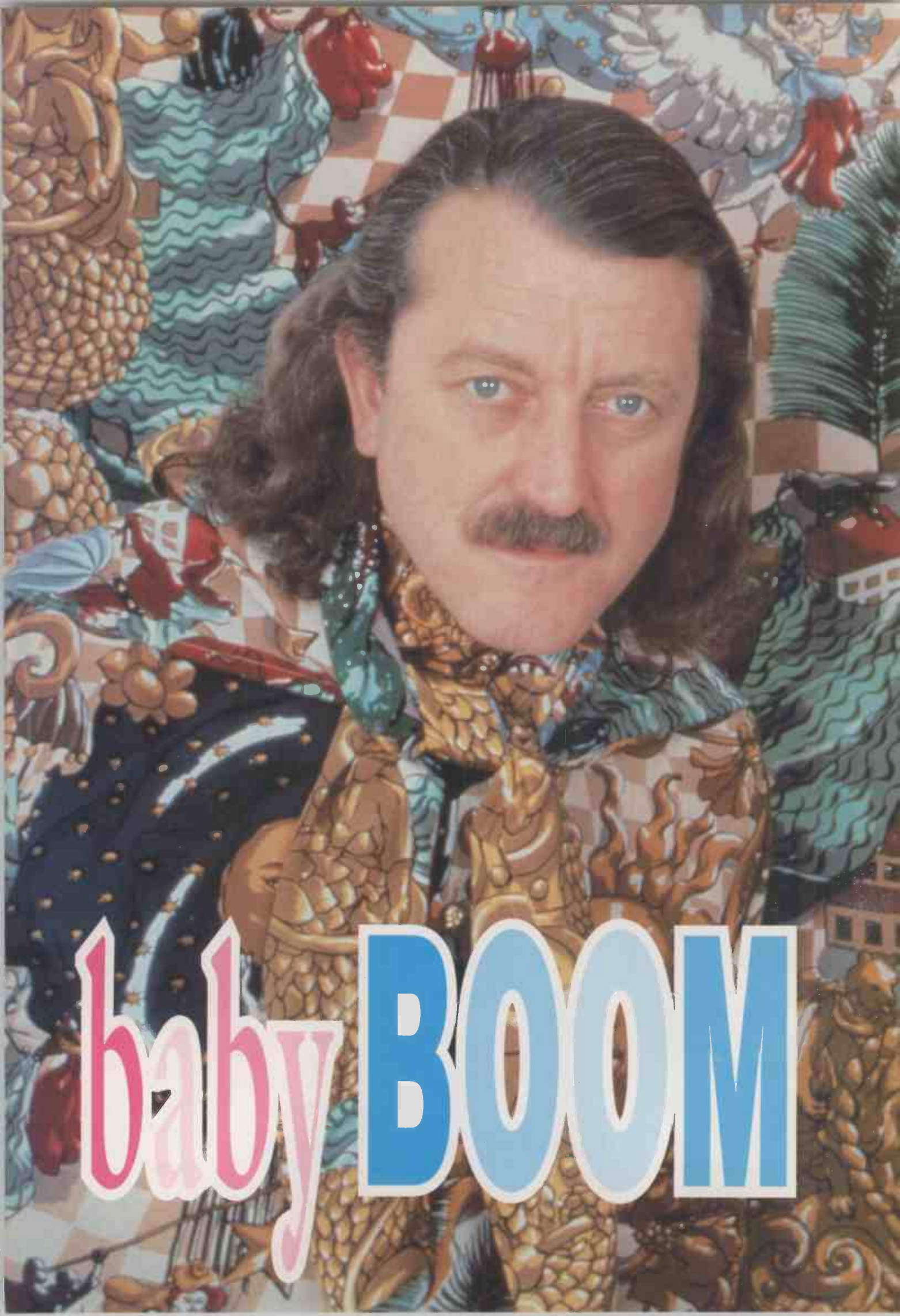
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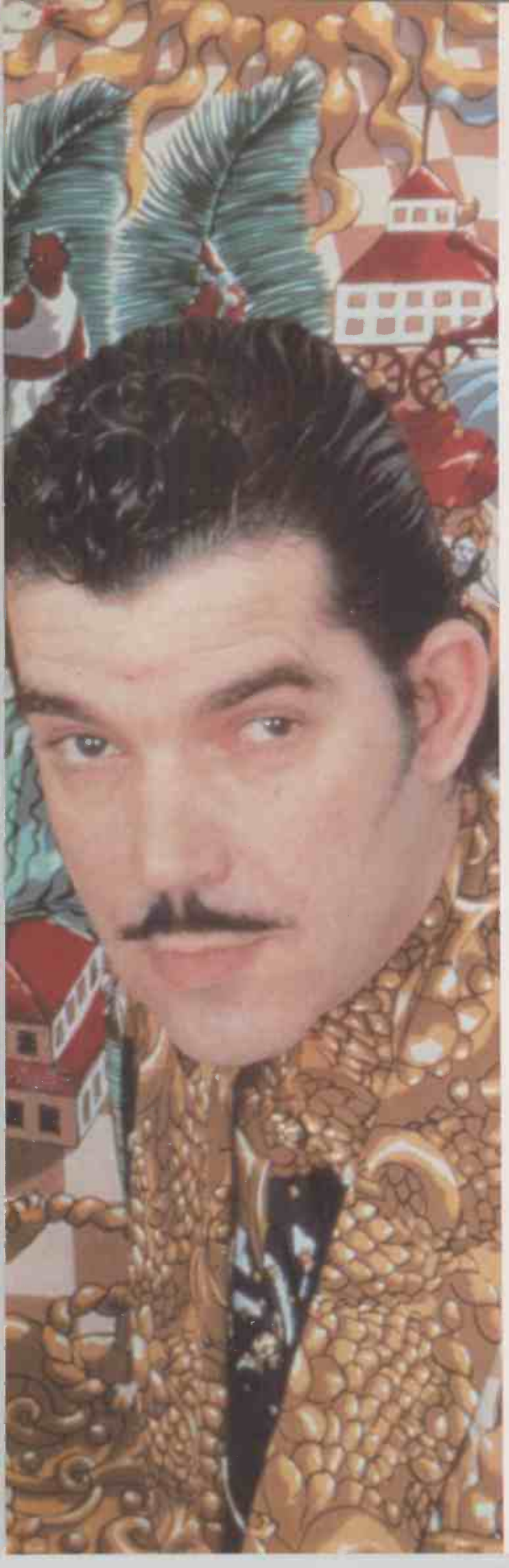

In a world full of imitators, Yello remain unique. Having just given birth to a new album, Baby, studio maestro Boris Blank talks about the process of conception. Interview by Simon Trask.

BABY IS AN APT TITLE FOR AN ALBUM BY YELLO - THE INCORRIGIBLE Swiss duo's music has always sounded like a labour of love. Boris Blank's rich, sensuous, finely-detailed musical landscapes and Dieter Meier's bizarre and often humorous narratives speak of the joys of creation, while disguising the labours of perfection. There's a lack of pretentiousness and an innate accessibility in the group's music which long ago took them beyond the ghetto of "art music". Yet their eccentricity and their refusal - or perhaps inability - to conform to a formula have seen them remain in that interesting area on the fringe of popular consciousness. From there they have been able to make sporadic forays into mass popularity with tracks like 'Vicious Games', 'The Rhythm Divine' and 'The Race' without being sucked into the whirlpool of commercial exploitation.

The richness, variety and sheer audacity of Yello's music provides an object lesson in how to achieve longevity in an often fickle musical world. Through seeking their own musical truth over the years instead of conforming to the received wisdom of the moment, Blank and Meier have created a music which has a timelessness about it that allows even their debut album, *Solid Pleasure*, to still sound fresh and original 11 years after its release.

"Timeless" is a description of Yello's music which appeals to Blank.

"It means you can hear the music perhaps in ten years time and still it is OK", he says, speaking on the phone from Yello's recording studio in Zurich. "I mean, the quality between the first album and now this one of course is different, but the style and the music, it's really still funny to listen to all the Yello albums, for me. Most of the pieces I still love, I'm laughing when I hear them, because they always have a touch of humour or a touch of fairytale, or pictures. We always have lots of different styles. This is, I think, significant for Yello. I like to be in various different sound textures, always. I like to travel in all kinds of musical worlds."

There's humour and stylistic variety aplenty on *Baby*, the follow-up to 1989's *Flag*. Who in their right mind can resist 'Ocean Club', a delightful take on the classic '50s private-detective story with Meier intoning "My name is Norman, Lou Norman" before going on to relate a meeting with Mandy Cooper, a woman with the looks of a Texan model and a voice like Mahalia Jackson. Or the mellow, swaying groove of 'Capri Calling', which features the seductively mournful vocals of Billy MacKenzie. Or the upbeat and offbeat funkiness of 'Rubberbandman', complete with a rap in the vocal style of Louis Armstrong from Meier. Blank's love of Afro-Cuban music surfaces once again in the rhythmic density and intensity of 'Jungle Bill' and 'On The Run', tracks which recall 'The Race' from the group's last album. Then there's the up-tempo rock beat and wailing rock guitar of 'Blender', over which Meier relates the story of Random Tox, food-blender salesman, who uses his sales pitch as a prelude to chatting up women rather than to selling them a blender. *"This is a revolution for your kitchen. Smashed potatoes, sliced tomatoes, apple juice, blueberry, raspberry, cherries and peaches in a fraction of a second. Turnex, the son of Durex, the only blender which can be turned into the most powerful vacuum cleaner!"* Quite.

Yet for all the musical and lyrical diversity of *Baby*, the album is essentially a collection of variations on familiar Yello themes. If there is a less typical element in the music, it's the orchestral textures of 'Homage to the Mountain' and 'Sweet Thunder', the two tracks which frame the album.

"I think it's very difficult, if you have your own style, to do every two years ➢

something new", Blank maintains. "I can't, how shall I say, change my style from yesterday to today, like changing to house music or just in the fashion of whatever. So, it's always Yello, but it's like when a painter is doing an exhibition, he has about 20 pieces and the best ten he brings to the exhibition. This was this time the collection that we bring on this album, and I think it's a progress insofar that the pieces are different from all the rest we did so far. But in a way the significant and typical Yello sounds are always included, of course.

"If you see a Picasso, you can say this is exactly a Picasso picture because he always has his style of painting. Of course, he's not painting ten times the same girl or whatever, but it's always the same kind of working on a picture. I start like a painter on a screen, with the first colour and then the next colour. The working process hasn't changed, it's just that the new pieces are going in different directions, in different kinds of fantasies. Also, 'Homage to the Mountain' and 'Sweet Thunder' are perhaps something not new for Yello, but also not very typical. They make more like a movie kind of picture sound."

Yello's music has always been characterised by a willingness on Blank's part to experiment with all manner of sounds, drawing on his vast and ever-growing Fairlight CMI sample library. *Baby* is no exception. Blank reveals that he recorded and sampled about three thousand sounds in preparation for the new album.

"I'm working for two whole months just to sample new sounds", he elaborates. "There are still hundreds of sounds which I have not used because they haven't worked in the pieces. I'll always start with a whole collection of sounds for one piece which I think are quite homogenous within the piece; then a lot of times in the middle of a piece I need a certain sound and so I'm out looking for it and trying to sample it. But also there are sounds which I sampled years ago that I haven't used yet, so the pot is still full of secrets."

Blank's search for new and unusual sounds seemingly knows no bounds, as he reveals: "I sampled the swing of a few different golf clubs, the different whooshing sounds you get when you use different irons and woods. Another sound I recorded was a snowball smashing on a wall. I recorded that with two microphones, one very close to the wall and the other one a bit distant, so it gives a real hard 'Phhhfff!' sound. I use it somewhere as a snare, but I can't remember which piece any more, I use so many sounds.

"I use a lot of percussive sounds which I've made with my mouth, and things like the sound of a cork popping out of a bottle of wine or a can of Coke being opened. And there's many things that I sample and then transpose to two or three octaves down or up to get another sound."

When he's at work in the studio as opposed to swinging five-irons on the golf course or throwing snowballs at walls, Blank likes to keep regular working hours.

"Right now I'm hanging out, having fun and relaxing, doing a bicycle tour, going swimming, seeing nature. . . and hoping that we have more better weather. But usually when I work I'm like somebody going to the factory at nine or ten o'clock in the morning and working during the whole day till eight o'clock in the evening. Sometimes I think 'Wow! It's already seven or eight o'clock in the evening and I still haven't got exactly what I want', and I'm looking forward to the next morning to carry on. I'm just working as long as I feel good, doing what I can, and I love it. If I didn't have fun, I wouldn't do it as long."

Blank's initial inspiration for a piece usually comes from tempo and rhythm, rather than from the extensive library of sounds he's got stored in the Fairlight.

"I usually start with an idea perhaps of a tempo for a piece, with even just a metronome to give me an idea of tempo and also of how everything is grooving in this tempo", he explains. "Like with 'Capri Calling', this was an idea of doing a slow mamba, then I started recording the instruments, like percussion and the bass, and then the kind of atmosphere in the background. Then again, sometimes I start with a sound, like on 'Who's Groove' there's a nice strange sample, it sounds like a guitar 'chikka-chikka' sound; this was basically an idea in the piece first."

While sampling and sequencing technology lie at the heart of Yello's music, Blank has always brought in guitarists and percussionists to add a live edge to the music where he thinks it needs it. *Baby* features contributions from guitarist Marco Colombo and long-time Yello percussionist Beat Ash. So what criteria does Blank use for deciding when to use, say, a live guitarist in place of sequenced guitar parts?

"I have so many guitar samples, most of the time if I do, say, a funky rhythm guitar part, I start by doing this myself with the Fairlight", he replies. "Then if the guitar player comes in I record him playing a rhythm guitar part, and if he is playing it with more originality I sample two bars or four bars or whatever into the Fairlight and repeat them for however long I need. But if he doesn't bring the originality, then I use my old ideas from the Fairlight, which sometimes are very funny and more original than the real player's. But for solos, of course, most of the time I invite a guitar player like Marco Colombo and let him play a solo."

However, the short but delightful Django Rheinhardt-esque guitar solo on 'On the Run' is both sampled and played, as Blank explains.

"We have a lot of tapes from productions of other artists that we did, and some have never come out. This is from one of those productions. I collected a few sequences of guitar notes, sped them up a bit and put them together piece by piece, until I had a little guitar solo."

The amusing Shadows-type guitar which enlivens both 'Ocean Club' and 'Who's Groove', on the other hand, is an example of a multisampled guitar sound ("as I remember, from a Guild guitar") which Blank played from the keyboard in a guitaristic style.

BLANK'S RECORDING SETUP FOR THE PAST FIVE YEARS HAS been based around two Otari MTR90 24-track tape machines and an Amek 2600 48-channel mixing desk. It's a setup which he continues to be very pleased with. C-Lab's Notator software running on the Atari ST now takes care of much of the MIDI sequencing, though sometimes Blank syncs the Fairlight CMI Series III's Page R sequencer to it.

With such a setup, you might think that running out of tracks would be the last problem Blank would have to contend with. But, he claims, on occasion he needs more than 100 tracks for a piece of music.

"Usually I have 30 tracks on multitrack, or sometimes just 16 tracks, and the rest comes from the Fairlight and from the individual external synthesisers. There are pieces like 'The Race' where it was really full of tracks and it was already on the edge to be a mess, because there are so many things going on that only a professor

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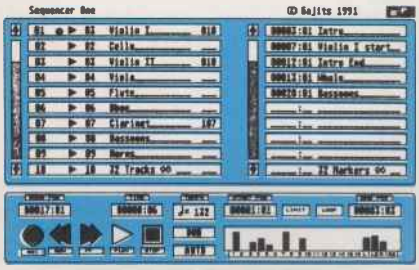

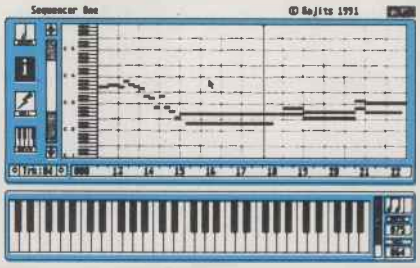

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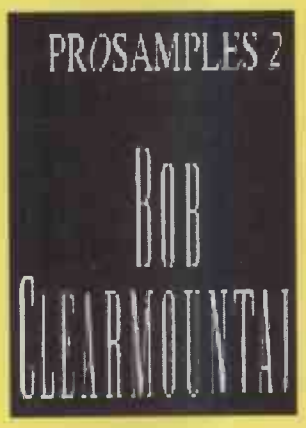

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2. Light My Fire - The Doors
3. U Can't Touch This - MC Hammer
4. Touch Me - Cathy Dennis
5. Joyride - Roxette
6. Get Here - Oleta Adams
7. Enjoy The Silence - Depeche Mode
8. Strike It Up - Black Box
9. Gonna Make You Sweat - C&C
10. What's On Your Mind - Info Society

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➢ could handle it, otherwise you get crazy! But this is so rarely, that I have 100 tracks. Also, when I do this, sometimes I have some tracks bounced. Like, I'll record 24 tracks of backing vocals with Billy MacKenzie, and then I'll bounce them down to two tracks. On another tape I might have a whole section of Dieter's rough ideas of vocals, and I'll bounce them down, too. . ."

The Fairlight might have been sidelined as far as sequencing is concerned, but when it comes to sampling the Series III is the only instrument Blank will use.

"It's still for me the best sampler", he claims. "Because the dynamics and the range of high and low frequencies are still the best. I've heard the Akais and all kinds of samplers which I'm absolutely not happy with because they're way from the Fairlight in distance. With the same bass drum I record on the Fairlight, I lose so much of the dynamic in other samplers that I would never change the Fairlight to another sampler. It's like my mother keyboard and my mother sampler."

To complement his sample library, Blank has also built up a sizeable collection of synths over the years, including not only classic analogue synths such as the Oberheim Matrix 12, Sequential Circuits Pro One and ARP Odyssey but also more recent digital offerings like the Roland D50, Yamaha SY77 and Korg Wavestation.

"The Odyssey is still one of my biggest friends", he says. "The Pro One is very good for basses, or for doubling up other basses to give them more power. If I have a digital bass which has a nice colour but hasn't really got a good bottom end, I add with analogue synthesisers the real low bass, which is very easy to do. It's a question of a few minutes to have the right, real bottom end of analogue synths. But in the Fairlight also I can create a very low bass by writing with the overtones.

"Sometimes I like just the attack of a certain colour of a bass, and then I add another bass, it could even be from a digital synth. I might even couple four basses together to get the real sound I want to have."

Although Blank's equipment setup includes two drum machines, a TR808 and an R8, they rarely get used on recordings. Instead, he prefers to use them for working on initial ideas.

"My real drum machine is called Fairlight", he adds by way of explanation.

For Blank, a track is finished when "all the colours are in the right shape and the whole sound picture looks good for my ear and for my brain. It's just a feeling how it should sound."

The combination of density and clarity of detail in Yello's tracks has always been one of Blank's most significant achievements. To achieve this balance requires careful attention to the frequencies of the individual parts.

"I think the mixing picture is very important, that the frequencies are kind of in a very good order so that every part can be heard clearly", he says. "It's very important to work with the sounds so that they really do not hurt each other, so that for instance you don't have two hi-hats interfering with one another, or the basses becoming a mess.

"And then the stereo pan is very important, and also the reverb that you use on each instrument or on some of the instruments. Your ears should give you the impulse to hear the right way to it. All you need is a good ear for music.

"Still, sometimes it's really very hard to get the balance right, so I work three or four days on one mix. But at other times it's so easy, and if you touch too much on the desk you can damage a certain balance in the picture. This is a matter of, how should I say, to not do too much, to get it right and then to believe in what you think the first time you listen to it. If you listen to a piece 20 or 30 times you can keep thinking there is still a little bit more to add, and then in the end it's a whole mess. It's very easy to damage a track. Then you should leave it for a few days, mix something else and then come back to it. This is a very sensible working process."

Talk of Yello's working process brings us to the other half of the duo, Blank's collaborator extraordinaire Dieter Meier. According to Blank, Meier doesn't come in on a piece until it's 90% finished.

"We choose together which tracks we love most", he explains. "Dieter gets a cassette so he can go away and rehearse things and come up with ideas, but mostly he works here in the studio and he brings his typewriter machine with him and we start spontaneously working on a track, step by step. He comes up with an idea and I also help him sometimes through these pictures with an idea, like on 'Rubberbandman' it was an idea I had for Dieter to sing a little bit like Louis Armstrong. So, it's a process that we are not together every day like a group rehearsing and fighting for hours over one little pattern. I invite him when the piece is almost finished, and he sings along with it and then we discuss what we can do."

It all sounds so genteel. Do the pair never argue?

"Of course, sometimes", replies Blank, "because there's also the phonetic thing in the music which gives the rhythm, like the vowels are very important rhythmically in a piece. Sometimes I tell him 'Listen, this word doesn't work. It makes sense, but it doesn't make sense rhythmically within the piece'. So we change words sometimes, and also whole phrases, like if there are too many words or too few words for the rhythm of the piece. So we puzzle this together."

Does Blank think of himself as a perfectionist?

"People call me a perfectionist, but I don't know", he muses. "I just sit on a picture, like Picasso, like Titian, like Raphael sits on a picture until he gets exactly the result he wants to get. If people call this perfectionist then I am a perfectionist."

Talking of pictures, when Meier was last interviewed in MT (January '89) he painted a wonderful picture of Blank's studio as a place of total disorder and chaos. I can't resist raising the matter with Blank.

"You know, Dieter can tell a certain situation very drastically and very dramatically", he responds with amusement. "Of course I'm not like a surgeon who works in a hospital, and there is sometimes a banana under the mixing desk, but it is not like a biochemical timebomb! I'm very clean in my head - around me everything could be a mess, but I know in this mess where everything is.

"There is also a big, big cable mess. Cables really drive me crazy, so there was a reason to rebuild the whole studio, how shall I say, to make a whole revision with the desk, replug the machines and make other kinds of furniture to put all the synthesisers in. Also, I am having a MIDI patchbay built so I can just connect everything with the MIDI buss very easily, not always with MIDI cables hanging around."

And what about Meier's other claim, that Blank effectively keeps his track sheet in his head?

"Also this has changed a little bit, so sometimes I even make track sheets", he replies. "But a lot of the pieces I really have in my head, and I don't have to make a track sheet because I knew exactly where things are on the multitrack."

Blank's good-natured humour brings us back to the matter of humour in Yello's music. Not enough music makes people smile nowadays.

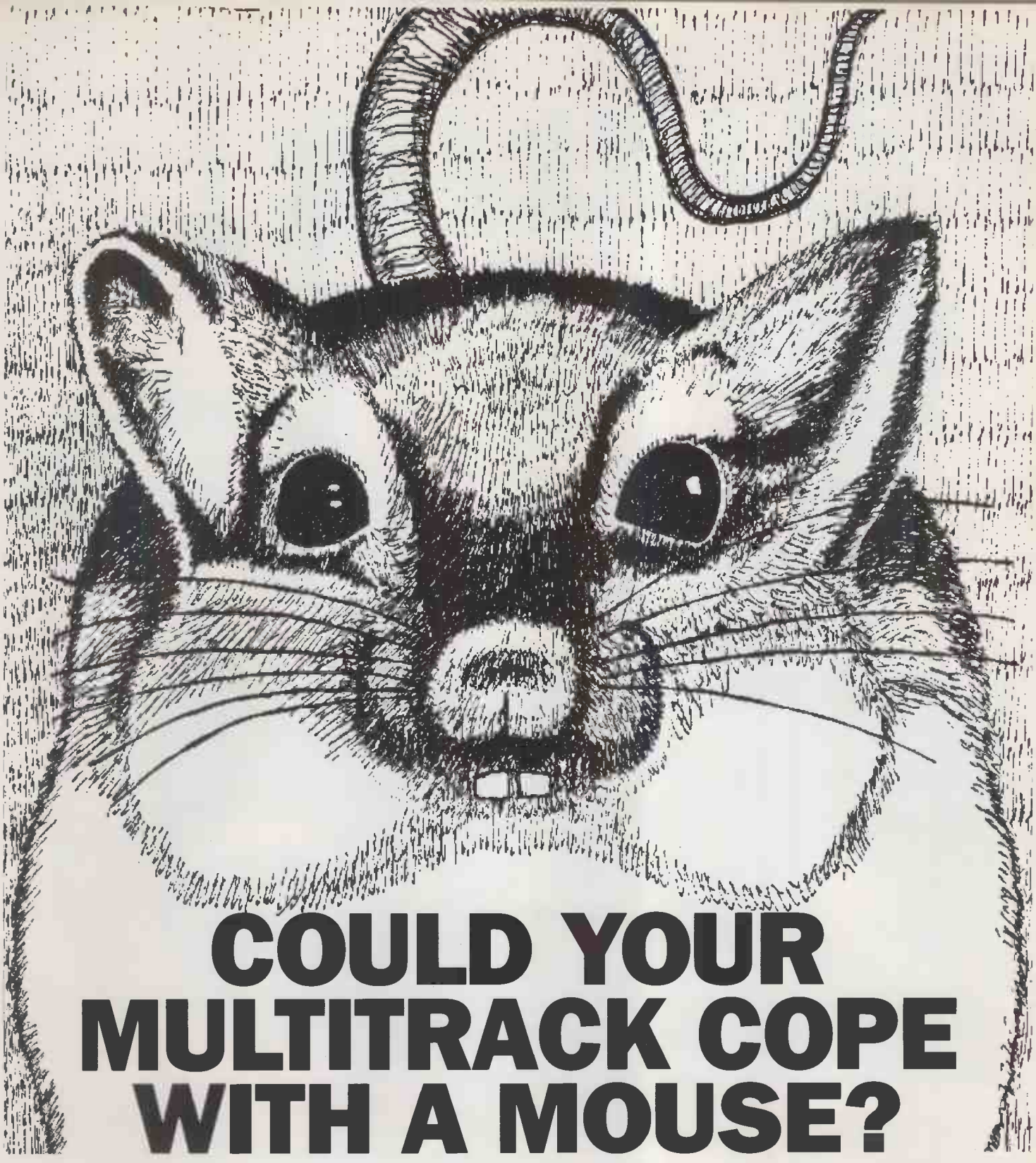
"Rarely people have humour", observes Blank. "They think the world is going under now, and the only thing they want to do is to make it even worse than it already is. But I rather would plant a tree today than to say 'that's it!'. I still hope that we have a big chance to survive, and that everything is coming back in a good way. Of course we have problems in the rain forest, and we have problems with Saddam Hussein, and whatever. But I think we should stay optimistic. If we just say 'Yeah, everything's bad, and I feel bad and we do bad music to tell everybody everything is bad', this makes it even worse. This is not my style. I'm very happy being every day, every morning a new person. When I wake up, sometimes I ask myself who I am, and then it starts, big fun coming up. Sometimes not, but of course I try to make the best out of it." ■

EQUIPMENT LIST

INSTRUMENTS
ARP Odyssey Synthesiser
Fairlight CMI Series III
Korg Wavestation Synthesiser
Oberheim Matrix 12 Synthesiser
Roland A50 Controller Keyboard
Roland D50 Synthesiser
Roland R8 Drum Machine
Roland TR808 Drum Machine
Sequential Circuits Pro One Synthesiser
Yamaha SY77 Synthesiser

SEQUENCING
Atari 1040ST Computer
C-Lab Notator Software
C-Lab Unitor SMPTE Sync

RECORDING
Otari MTR90 24-track (x 2; synchronised)
Otari MTR12 Mastering Machine
OtariMTR10 Mastering Machine
48 Tracks of Dolby SR Noise Reduction
Amek 2500 48-channel Mixing Console
JBL 4311 Monitors
Yamaha NS10M Monitors



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"If you were stranded on a desert island and could take just one keyboard instrument with you for company, what would it be - and why?"

David Sylvian - NED Synclavier

"I'm tempted to say the Prophet 5 beause it remains the most flexible synthesiser, I think. But I know it back to front and I'd really want to take something I could spend a lifetime getting to grips with."

Nick Magnus (Project D) - Roland A50 & S770

"Am I allowed a master keyboard and module? Then it would have to be a Roland A50 and S770 - with library, of course. The S770 is the total centre of my setup. It does 90% of everything. I'd feel completely incapacitated without it."

Adamski - Ensoniq SQ80

"I've recorded all my best stuff with it."

James Taylor (JT Quartet) - Hammond C3 & 2 Leslie 147 cabs

"It's the only one I know how to play and it blows the bollocks off everything else. I've got loads of samplers and so on, but for passion you can't beat the Hammond."

JJ Jeczalik (Art of Noise) - Upright piano

"Because it doesn't need any electricity, and you could take the notes out and row home".

Don Airey - Ensoniq VFX-SD

"I would be initially torn between a Steinway, Minimoog, CS80 and Hammond B3, but I'd plump for an Ensoniq VFX-SD, as it does passable imitations of all four, as well as having lots of intriguing features with which to while away those long, hot, tropical evenings."

Richard Barbieri (Rain Tree Crow) - Prophet 5

"Can I have an effects processor with it? If I had a Prophet 5 and an Eventide H3000 multi-effects processor, I'd be happy."

Dave Stewart - Korg T3

"Because it's got a wide range of sounds - analog-y sounds and samples - and a sequencer. I think the string sounds were actually sampled from an an old analogue synth like an OBX."

Dave Greenfield (Stranglers) - NED Synclavier

"I wouldn't take any of the equipment I own, but I'd like a Synclavier because it has writing, recording and printing facilities. I'd also like a black Steinway grand. . ."

Anne Dudley (Art of Noise) - Bosendorfer Grand

"I would like to have a 9-foot Bosendorfer grand piano (with a captive tuner to deal with the tuning problems inherent in a tropical climate). Also a copy of JS Bach's 48 Preludes and Fugues. I would use the time available to learn every one of them!"

Brian Eno - Steinway Grand

"I'm sure that the natural irregularities and inconsistencies of an acoustic instrument would keep me amused much longer than even an SY77 (the musical equivalent of the Independent crossword). Also I think the idea of being able to intervene directly and physically into a natural instrument - for example, by putting coconut shells on the strings - is more enduring than the idea of reprogramming an electronic instrument. You can't (or I can't) intervene in a microchip. So my choice, pedantic but honest; a turn of the century Steinway and a small carpentry shop to go with it."

Graham Massey (808 State) - Akai S1100

"It's become the most crucial instrument for me. That, and a big pirate's chest full of sample disks of most other keyboards on the planet. Then, of course, I'd have to have a keyboard to fire the S1100, so I'd have to take me JD800 along, and then I'd be completely self-contained."

Edgar Froese (Tangerine Dream) - PIQ-ST

"If we use the lightning during a thunderstorm for electrifying the gear on such an island, we would operate in this rare moment a PIQ-ST, which stands for: Plasma IQ Sound Transmitter. I would be crazy to tell you what it is and how it works. Listen to Tangerine Dream within the next two years!"

Jason Rebello - Oberheim Xpander

"I'd need something which would make me deliriously happy and the one thing guaranteed to do that would be the Oberheim Xpander. It generates such a beautiful sound, I ➢

David Sylvian

Anne Dudley

Adamski

Don Airey

Norman Cook

Jason Rebello

Boris Blank

➢ could mentally drift away and visualise my ship coming in."

Keith Emerson - Korg T1

"My first choice would be a 9-foot Steinway Concert grand, but I lived in the Bahamas for a while and I know it wouldn't hold up in the humidity. Instead I'd choose a T1 because the keyboard action helps build up your playing strength, and it has a sequencer and a good selection of sounds. It would also stay in tune."

Norman Cook (Beats International) - Fairlight CMI Series III

"Is there a Fairlight service department on this island? 'Cos if there is, that's what I'd take - as long as I'd had time to put together a decent library, of course. The trouble with taking an 'ordinary' instrument is that you're going to get bored with it, aren't you?"

Elizabeth Parker (BBC Radiophonic Workshop) - Yamaha Grand

"I would take a Yamaha grand piano, because playing it would be quite the most enjoyable thing I could do. . . It might even charm a few animals into the pot! I could paint an SOS on the lid, and live under it, and, as a last resort, I could chop the legs off and sail away in it."

Peter Vetesse (Simple Minds) - Steinway Grand & Akai S1000

"We had been at sea for three weeks. Until that fateful night, the voyage had passed without incident. I could hear the waves lapping against our proud vessel and the creaking of the mast as the sail billowed with an exuberant wind taking us who knows where. Suddenly there was a crash and the ship began to list. In a few panic-stricken moments I realised our ship was doomed.

In the darkness and confusion I struggled topside where I could see, silhouetted against a dark sky, a small island. I hurried below in search of a musical instrument which would appease whatever solitude and hardship I might face should I make the shore of the island. Thus it was, hours later, I pulled myself ashore dragging a (MIDI-equipped) 12-foot Steinway grand and Akai S1000 sampler (with optical drive).

As I feared, the island was deserted save for a roadie who I will call Friday - or next Monday, depending on my schedule. However, do not weep for me, for I am one of the lucky ones. Jean-Michel Jarre, who was one of my travelling companions, did not make it to my island - instead he disappeard over the horizon clutching another instrument from our ship. Still, having seen his Docklands concert, I know he plays well when soaked.

God bless you all.

PS Happy 10th anniversary."

Django Bates (Human Chain) - IRCAM 4X Computer

"I'd take the incredible 4X from the Institut pour la Recherche et la Coordination Acoustique Musique in Paris - I hope they can manage without it. Its infinite possibilities would keep me busy for life. I'm sure there'd be times, as I ploughed through the 4X manual, that I'd wish I'd taken a Steinway - the legs and lid are great firewood, and the remains make a sea-worthy raft, I'm told."

Boris Blank (Yello) - Fairlight CMI Series III

"Because I would be able to put together a complete piece of music on it. But more than this: a whole island. I would shock the sea with tunes and with samples, and this would spawn another island. It gives a lot of space for a girl who comes with a synthesiser or with another sampler, then we can connect each other and make another big island!"

Tim Goodyer (MT Editor) - Oberheim Matrix 12

"The Matrix is arguably one of the most comprehensive analogue synths ever built, yet it's one I've never got to grips with. The island could be the opportunity I've been waiting for. By the way, is there any BEER?"

Chris & Cosey - Roland System 100M

"My first choice would be the Roland 100M. The possibilities are endless - I spend hours with it anyway. My second choice would be the Roland D50, because it's the only digital synth I've never wanted to sell - it has a very analogue feel and structure to it. I think Cosey would go for the harmonium. Those wonderful drones - and think of all the exercise you would get from pumping the treadle. If there were any natives we could start a missionary station and have communal singalongs.

PS Happy 10th Anniversary."

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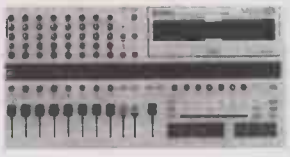

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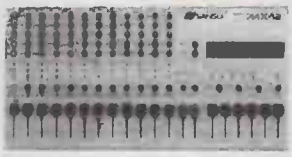

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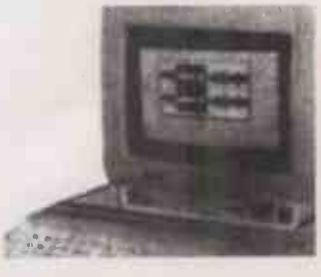

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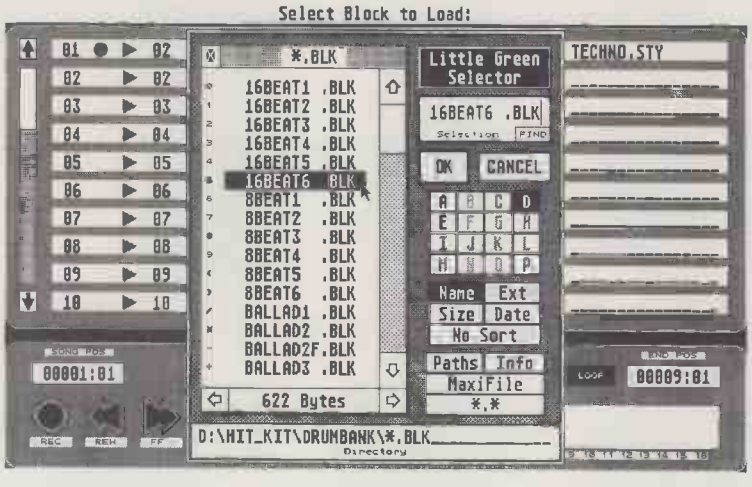

IT SOUNDS LIKE a story from *Boys Own*, but it's actually the latest episode in a serial by the boys at Gajits.

Sequencer One, you may recall, is a rather nifty budget-priced sequencer for the ST. (If you can't, check out the review in MT March '90.) As of now, it's been updated and ported.

The current ST version is 1.06. The updates are basically enhancements - for example, Block operations can now be carried out with the mouse in the step editor screen and there's a full implementation of MIDI Song Pointers (the program responds to them during recording when in external sync mode).

Also, you can drop into Record mode from Play mode and the song timer is tied to the Song Position counter, so it shows the absolute time elapsed since the start of the song. The Mode Messages box is used for selecting which MIDI messages are transmitted when Stop is pressed, and Sequencer One can now send note offs for all keys.

All this may be good news for ST owners but Amiga owners will be thrilled by the knowledge that Sequencer One has been ported to their machine. The latest manual doubles for both ST and Amiga versions - this seems reasonable, as both programs are functionally nigh on identical. It's a better, more glossy and professional production than the first manual.

The Amiga version comes with an additional Supplement, as the Amiga version supports the computer's internal sounds and lets you control the memory allocation for MIDI events. This allows Sequencer One to share memory with other programs, a facility only possible on the ST within an environment such as M.ROS, Softlink or Dr T's MPE.

To play Amiga IFF files, you load them into the program using the Sample Palette option in the File menu. This can hold up to 128 samples - memory permitting, of course - each of which is assigned a number which corresponds to a MIDI program change number. The contents of the Sample Palette is saved with the Save Setup option so you can boot up with a preferred list of samples in memory.

To make a track play a sample, give it the program number assigned to the sample and change its MIDI channel number to L, R, LR or RL. This sends the sample out of the left or right audio outputs. The LR setting will attempt to play the sample on the left channel but will play it on the right if the left is already playing two samples. The Amiga can only play four samples at once (two on the left and two on the right) so you must remember this when creating your music. Samples respond to MIDI velocity and you can set the volume levels in the track info box. Four sample activity meters to the right of the MIDI activity meters monitor the sample output. Finally, an internal sample can be used to provide the metronome sound.

To accompany the launch - and for a limited period only - Gajits are packaging the Hit Kit with the Amiga version of Sequencer One, free.

The Hit Kit is a collection of musical building blocks which you can use to help construct your own songs. Each block has two characteristics - Style and Type. Style is the musical style and includes ballad, blues, disco, house, latin, reggae and techno. Type is the typical use to which the pattern would be put and includes bass, chords, drum, middle, filling and top.

The drums use Roland's MT32 drum map but you have to assign the other parts to suitable MIDI channels and sounds. There are 82 drum patterns and 124 phrases. That's quite a lot to wade through, so Gajits have created seven eight-bar loops containing combinations of the patterns so you can hear what they sound like together. And before you ask, the answer's pretty good. They contain alternate lines so you can try various combinations by muting the tracks.

Now, I know the idea isn't for you to use these loops to produce your own songs - but you could. It's nowhere near as "dishonest" as nicking samples, and at least these are offered with implicit consent for their use. If you haven't yet honed your arranging skills sufficiently, they could be very useful, helpful and educational, too. Incidentally, the manual is supplied on disk. You can print it out or run it as a DA.

If this sort of lego song construction set appeals to you, know that the Hit Kit will soon be available in formats for Cubase, Cubeat, Pro24/12, Notator, Notator Alpha and Creator. Know also that owners of Sequencer One get a £5 discount. With the growing popularity of MIDI song files, this could be the next craze. . . And watch out for the Hit Kit Vol 2.

For a budget program, Sequencer One on the ST still takes some beating. I can't think of anything on the Amiga which comes remotely close for the price. ■ ***Ian Waugh***

Prices *Sequencer One, £89.99; Hit Kit, £30.*
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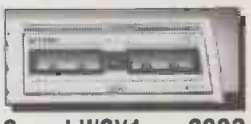

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XB2

What '70s music revival would be complete without the dirty sound of Hammond drawbars? None - and Hammond's new XB2 is here to make this one easier on the roadie.

Text by Malcolm Harrison and Tim Goodyer.

THE HAMMOND ORGAN was once the mainstay of the rock keyboard rig. Although originally designed and built for the American domestic market, "the" Hammond (usually a model B3 or C3) was unmistakable in both sound and stature. Such was its size that the usual practice was to cut it in half (horizontally) to give what became known as the "split" Hammond. The instrument's size and weight were a consequence of the technology behind its sound - a primitive collection of valves and discrete components built around a series of rotating tonewheels from which the waveforms for its drawbars (analogous to the stops of a pipe organ) were derived. There was no mistaking it and, at the time, no way of imitating it.

Inevitably, the advance of electronics meant that various solid-state pretenders to the Hammond crown appeared. Crumar's Organizers had a stab, but didn't get too close. Roland's VK1 got closer but not as close as Korg's BX3 and CX3. For the period preceding "popular" sampling these were the only alternatives.

The arrival of punk saw the Hammond losing ground fast as one of the trademarks of the rock dinosaurs punk sought to make extinct. But with the resurgence of interest in '70s styles and sounds the search is on once more for *that* sound. Roland's VK1000 and Voce's organ module bear witness to the renewed attempts of the copyists, but most remarkable of all is Hammond's own XB2.

Why didn't Hammond do it sooner? With the uniqueness of its drawbar sound it was inevitable that the daddy of organ companies would eventually enter the imitation stakes themselves; indeed, the company floated the idea some ten years ago. Having said that, I'm glad the company has waited until now, since it has at its disposal the latest technology with which to make this a truly special keyboard. (Hammond instruments now emanate from Suzuki, and are made in both the USA and Japan.) The first thing to interest me about the XB2 is that it isn't just a 61-note keyboard with nine drawbars. There's rather more to it than that - although not in the "all-singing, all-dancing" mould of many current keyboards and workstations. Here is a specialist instrument for the Hammond fan.

ORGANISATION

FIRST WE'D BETTER make a descriptive tour of the XB2. As already mentioned, the keyboard has 61 notes (C to C) with nine drawbars: 16', 5⅓', 8', 4', 2⅔', 2', 1⅗', 1⅓' and 1'. These drawbars, together with the effects, are placed to the left of the keys. Under the keyboard are 11 buttons and a display screen from where all the programming takes place The instrument is housed in a tasteful wooden case ➢

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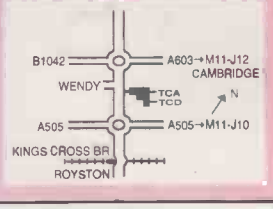
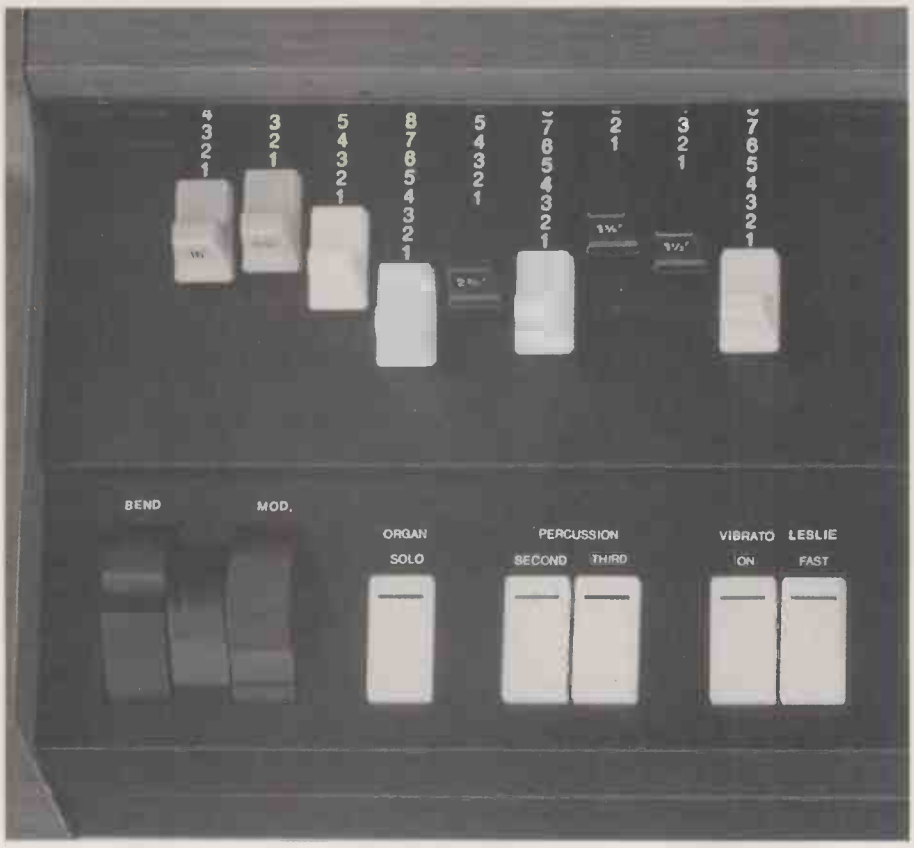


➢ which seeks to emulate the solid monsters of yesteryear. (It's also not unlike Korg's CX3.) It has no internal speakers so you'll need an amplification rig of some sort - or, of course, a genuine Leslie.

For those not *au fait* with drawbars, a little explanation is in order. Each drawbar corresponds to a particular harmonic pitch, and the further you pull the drawbar out, the louder that particular harmonic sounds. There are eight degrees of volume for each of the nine pitches, so by mixing them in various combinations, a wide variety of sounds is possible.



Incidentally, many of us take the drawbar sound for granted and dub all modern organ sounds as "drawbar", but try comparing the wide range of sounds produced by different companies: the Italian flutes epitomised by Elka have a subtly mellower character compared to those of Hammond or even fellow American, Lowrey.

Back to the XB2. This has been based on the old B3 warhorse, hence the sounds obtainable are those rounded tonewheel voices so typical of jazz in its many forms. However, you can also "re-voice" the instrument for a more mellow sound (based on a sine wave, and ideal for big band and swing numbers) or a Brite (sic) tone which is more suitable for emulating pipe organs. On some of the earlier digital models employing drawbars, there was a noticeable delay between moving the drawbar and hearing the new sound. The change now appears to be instantaneous, allowing you to hold chords or individual notes and manipulate the drawbar sounds at the same time.

But Hammond haven't been content to leave it here. For instance, you can add Second and/or Third Percussion via two buttons under the drawbars. Their percussive effect is only heard when playing staccato; you have to release all the keys before it will retrigger. You may also want to split the keyboard and have different sounds for left and right hands. This can be done with the split being placed either one, two or three octaves up from the bottom.

Now, the number of combinations obtainable from drawbars is almost limitless, so Hammond have provided the XB2 with no less than 128 memories. From these, eight can be selected as presets which can be called up at the press of a button. A patch can contain a multitude of effects and settings as we'll see later.

The eight preset buttons also double up as programming aids, each having a menu of its own which is shown in the LCD. You step through the menus with ± buttons and a cursor; let's have a look at some of these hidden features. First of all there are three Vibrato and three Chorus effects. The Vibrato settings are Small, Wide and Full with four speed options: Slow, Normal, Mid and Fast. Vibrato Split allows you to have two different vibrato settings: one above and one below the split.

The effect of the drawbars can be altered by two additional effects: Attack and Sustain. Attack options are a fast attack or a slower initial build up. For the Sustain there are two settings: Short and Long, although even the Short is relatively long. This is selectable for upper or lower.

Perc Edit allows the Second and Third Percussions to be either prominent or much softer. The decay time can be set too - fast or slow. Perc Velocity allows the keyboard to become touch sensitive so that how hard you hit the keys affects how much percussion is heard - an interesting nuance to get to grips with.

The XB2 has its own Leslie simulator built in so that even playing through a "straight" amplifier or cabinet you can have that mechanical rotating speaker sound. Alternatively you can hook up the instrument to a real Leslie via the dedicated 11-pin socket. I used an old Leslie 310 but Hammond are planning to bring out a new model based on it, the 320.

On the original B3, limitations of the tonewheel system meant that very low and high flute partials doubled back when played at extreme ends of the keyboard. Hammond have included this feature, dubbing it Foldback. Another shortcoming that has become inextricably entwined with the Hammond sound over the years is the click of dirty key contacts. That is present here and can be set to Normal or Soft. The actual effect has been faithfully sampled from a pristine example of a B3 but to me it sounded a bit weak - like clattery keys rather than the initial "pop" I associate with the effect. Apparently the key click fault was somewhat random on the old B3 - so that's included here too.

Another essential element of the Hammond in rock was distortion. This is obtainable on the XB2 via the Overdrive setting, the amount of overdrive being controlled by the modulation wheel to the left of the keyboard. In a more modern vein, the XB2 offers four onboard reverb effects - Room, Live, Hall and Church. Despite the choice, these settings are somewhat

"subtle" in operation. It's interesting to note that in the owner's manual where the reverb types are described, Church has the entry "Carlsbad Caverns".

THAT SOUND

WHEN IT COMES to making up your own drawbar registrations, Hammond have helped you out by making the first 24 patches factory set. This will give you something to go on if you're doubtful. This is particularly helpful as you can study the diagrammatic representation of the drawbar "shape" shown in the LCD display. Alternatively, pressing the Record button will give you the exact numeric listing in which drawbar registrations are usually given - such as 888000000. This represents the 16', 5⅓' and 8' drawbars being fully extended and all the rest in.

Apart from setting the drawbars themselves, you can program all the various parameters such as split, key click, overdrive, reverb and so on. One other feature you can set at this stage is POD - Priority On Drawbars. This allows you to override the preset setting manually, and is shown in the display whenever you call up a preset with POD on.

Needless to say, the setting up of registrations can be quite time consuming. Once you have eight favourite patches these can be transferred to the XB's preset locations ready for instant recall. I should point out that it's possible to create registrations straight into a preset (as opposed to a patch). However, if you do this you can only store the drawbars and MIDI parameters and not all the hidden effects we've talked about. When you're playing it's easy to switch between the presets and the drawbars simply by pressing Cancel. And when returning to a preset from the drawbars you can be safe in the knowledge that your drawbars will be as you left them (if you haven't refigured them in the meantime). This includes the settings of Second and Third Percussions, Vibrato On and Leslie Fast.

More mundane but equally essential parameters that are available for the player are the master tune, transposer - ±6 semitones - and the range of the pitchbend wheel - ±12 semitones. Although the instrument has initially been priced to include its own expression pedal, a further programmable footswitch is also available as an option. This can control any of three functions: Leslie Slow/Fast, Sustain On/Off and Preset Forward - advancing through the eight presets one step at a time.

MIDI

ALTHOUGH THE XB2 was still having its MIDI implementation finalised at the time of going to press, it should contain five edit pages covering the setting of the basic MIDI channel (1-16), Omni mode On/Off, Local On/Off (to mute the unit's internal voices), volume control via MIDI, pitchbend and tremolo depth transmission and reception (which controls the Leslie slow/fast effect).

Interestingly for an instrument that is traditionally incapable of dealing with note velocities, the XB2 can transmit MIDI note velocity if required. A further refinement is that the dynamics can be set to either of two scalings, Vel 1 or Vel 2. Vel 1 is less responsive and is intended to more closely resemble the playing dynamics of a piano. Perhaps the most important feature of the XB2 in terms of its MIDI controller capabilities is that the keyboard can be split into two zones. Each can be assigned a separate MIDI channel to control expanders or be controlled themselves by other MIDI instruments, and these can be made to overlap for sound layering purposes.

The XB2 also supports SysEx dumping of its 128-patch/8 preset memory.

VERDICT

IN SUMMING UP the XB2, virtually any physical, practical or technical shortcomings it may have must take second place to the great sound it produces. It will give you the classic overdriven rock organ, Jimmy Smith's jazz sound and all points between. There's still no substitute for a genuine Leslie cabinet to get the best out of a drawbar organ, however, and the XB2 is no exception.

For those who want the Hammond sound together with the flexibility of "authentic" drawbars and the ability to build up an accessible library of such sounds (something your sampler will never give you), there's nothing I've heard to beat the XB2.

There's no doubt that a lot of thought has gone into the XB2. Apart from the single-minded thoroughness of the design, the fact that you can call up the "numerical settings" of each registration will give many newcomers to drawbars a better idea of how the damn things work. Then there's the facility to set up your "manual" drawbars and switch between them and the presets at the press of a button - even James Taylor might be tempted.

More critically, a numeric keypad to call up any of the 128 patches would have been a simpler way of recalling sounds. But given the Hammond's domestic heritage, I'd wager that the company have fought shy of making the XB2 appear any more complicated than they've had to. Hammond UK are claiming the pro and semi-pro markets to be main target areas for the XB2, but I'm sure they'd be as surprised as me if it failed to infiltrate many a living room.

I wouldn't call the XB2 cheap either, but when you want a Rolls Royce you don't buy a Ford Sierra because the "extras" come as standard. Besides, with the going rate for old Hammonds creeping higher and the old problems of the size and weight of the B3, you could almost call this a bargain. ■

"With the going rate for old Hammonds creeping higher and the old problems of the size and weight of the B3, you could almost call the XB2 a bargain."

Prices *XB2 and expression pedal, £1399; XBS without pedal, £1299. Both prices include VAT.*
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MONOLOGUE

PHOTOGRAPHY: JAMES CUMPSTY

THAT THE KINGS OF ANALOGUE MONOSYNTHS WERE THE MINIMOOG AND ODYSSEY IS UNDISPUTED, BUT THERE WERE OTHERS - TAKE ARP'S PROSOLOIST, ROLAND'S SH2000 AND KORG'S SIGMA. . . TEXT BY GORDON REID.

THE SECONDHAND MARKET is an important starting point for many aspiring musicians. Partly for this reason, and partly for pure historical posterity, many old keyboards have appeared on these pages for re-appraisal. Some are notable for being the first of a kind, some produce unique sounds, some are just plain curious. This article throws together three synths from different manufacturers which clearly, in retrospect, belong together as a family. These are the ARP ProSoloist, the Korg Sigma and the Roland SH2000. These were preset monosynths and, although they all sported some degree of synthesis capability, they were specifically designed to make flutes, oboes, violins, trumpets and many other classical instruments available to the synthesist. Originally costing well over £500, they were all monophonic (a Minimoog cost £1200 in those distant days) but, with the exception of the hernia-inducing Yamaha CS80, they were the only synths to offer one facility that we now expect to find on any serious synthesiser: pressure sensitivity.

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➢ terms of additional pressure on some part of an acoustic instrument. Whilst each of these effects could be created on earlier keyboards using a combination of pitchbend and mod wheels, and on more recent synths using three-way controllers or joysticks, each of these devices requires a free hand, and you don't always have one available. There are very few alternatives; foot controllers are all very well, but not all synths can handle them, and you'll fall over if you try to use two simultaneously; breath control is better, but not everyone can get the hang of it. There has to be a simpler answer, and there is. You simply press the note down harder.

BASED AROUND PRESSURE- (but not velocity-) sensitive, three-octave keyboards, the construction of these synths is very basic. The only significant ergonomic difference between the Roland and the ARP is the position of the switches that select the voices. On the SH2000 these are found in front of, and below, the keyboard rather than behind, and above, it. The ProSoloist's top panel controls may be cheap and insubstantial, but worse than that, the Roland's toggles are badly exposed, and many an SH2000 suffers from broken switches. Luckily, Roland still have spares, and repairing the damage is only 20 minutes work. The Korg is the odd one out: it's beautifully built, bristling with knobs, rockers and joysticks, and its look is distinctly hi-tech. This dissimilarity continues around the back of the synth because - where the ARP's rear panel is simplicity itself, with just low and high audio outputs, and the SH2000 offers nothing more than the single jack socket (with three position output level switch) and a tuning knob - the Sigma is busy with controller inputs for filter modulation, VCO modulation, VCO pitch and trigger In, and outputs for trigger Out, and keyboard voltage Out, plus separate outputs for the two instrument sections (more later). Even a headphone socket is provided on the Korg. Clearly, where Korg saw their machine as a genuine synthesiser, it's quite possible that neither ARP nor Roland envisaged their offerings in this way, but as add-ons for the organ at the local social club.

Consequently, understanding and operating the ProSoloist or the SH2000 couldn't be simpler. The ARP has 30 voices collected into six groups: reeds, woodwinds, brass, strings, percussion, and guitar, selected by 16 toggle switches (15 selectors plus the equivalent of a shift key). There are also 30 voices on the SH2000, but these are grouped into 12 rather looser groups - brass, woodwind, strings, more strings, guitars, keyboards, percussive instruments, four groups of variously silly sounds, and noise.

Almost all the controls on these synths are found to the left of their respective keyboards, and are almost exclusively related to the pressure sensitivity of the instruments. On the ARP these are: pitchbend (approximately a tone if you stand on the key); wow; growl (square-wave type distortion); brilliance; volume; and vibrato (with variable speed). The Roland offers one fewer touch-sensitive parameter than the the ARP; pitchbend, wow, growl, volume, and vibrato. However, instead of the ProSoloist's touch brilliance control the SH2000 sports a rudimentary filter section featuring low-pass cutoff frequency, resonance (which can be driven into self-oscillation) and modulation. Unfortunately, on both synths the depth of each touch-sensitive parameter is only controlled by a global Touch Sensitivity control, so if you want lots of (say) vibrato, you can only have lots of the other effects as well - or none at all. The ProSoloist only has five additional controls: master volume, initial brilliance (a low-pass filter), a three-position octave selector switch, a repeat option (which re-triggers the percussive voices at the vibrato speed), and variable rate portamento. The SH2000 offers all of these but also includes pitch control (plus or minus a semitone), hold, and "long sustain" which extends the normal release time of a voice.

"BUT JUST AS YOU'RE ABOUT TO WRITE THE SIGMA'S SYNTHE SECTION OFF, YOU DISCOVER THE RING MODULATOR."

The Sigma, meanwhile, offers two distinct sound creation sections - Instrument and Synthe. Only the Instrument section corresponds to the ARP and Roland, and this offers just 11 voices, grouped in footages rather than instrumental families. Selected using rocker switches situated on the control panel behind the keyboard itself, each voice has a single variable parameter for greater flexibility. For example, you can alter the filter cut-off frequency on the tuba, change the pulse width of the clavi, and modify the attack of the strings. Although there are fewer basic voices to be found on the Sigma, the performance controls which affect them are, at least on the surface, more advanced than those of the other synths. Octave up/down, portamento and keyboard pressure sensitivity are to be found as expected, but two joysticks are also provided. Only one of these works on the Instruments, but this offers both vibrato and pitch shift. Unfortunately, the pressure sensitivity capability is much more limited than that of the ProSoloist and SH2000 and can only be directed to the joystick parameters (and even those can't be used together). On the other hand, the Sigma offers delayed vibrato (with variable depth, speed and delay), multiple triggering, and key hold, plus "quarter tone" which, when a note is held, re-scales the keyboard in quarter tones rather than semitones. Curious.

In addition to the Instrument section, the Sigma boasts the intriguing Synthe department. There are eight Synthe voices, which include square, PWM, and sawtooth waveforms of various footages ranging from 32' to 4', as well as Sample & Hold, and Noise. As with the Instruments, each of these are limited to a single variable parameter: five waveforms have variable A/R times and two have variable decay. Only the S&H has a different structure - its variable is Clock Rate. But just as you're about to write Synthe off, you discover the ring modulator. This modulates the sum of the Synthe voices selected against the sum of the Instruments. Some huge analogue sounds can be conjured from this, especially since the Synthe section can be detuned against the instruments. There are also several performance controls (in addition to those controlling the Instruments) which act exclusively upon Synthe. Primary among these is the filter joystick. This (supposedly) preset keyboard possesses both low-pass and high-pass 12dB/octave filters, and these are controlled by a single two-dimensional joystick. The second performance control is the combined vibrato/noise depth/pitchbend joystick and, since the pitchbend range of Instrument and Synthe may be independently set, this offers even more interesting possibilities. Finally comes portamento. The flexibility offered by combining Instruments,

Synthe, ring modulation and detuning, can make the Sigma sound like a very much bigger instrument. Never was there a more curious synthesiser than this.

DESPITE ITS LIMITATIONS, the ProSoloist became a highly-respected and widely-used synth. It comes as no surprise, then, that it doesn't sound good - it often sounds fantastic. A wide range of waveforms has been coaxed out of its single analogue oscillator, but the real secret of the ProSoloist undoubtedly lies with its filter. The range of textures produced is remarkable, and the musical quality of the filter modulation is unsurpassed even (some would say especially) today. Given such limited controls, the 30 basic sounds can be manipulated into a wide range of timbres from the softest warm tones to screeching excesses. Indeed, the ProSoloist flute has the sort of sound that gives human flautists a bad name. The tuba is good but in it, transposed up with the filter wide open and maximum growl, lives the brassiest brass you're ever likely to hear. The cello is haunting, the bassoon is woody. . . All the voices give you some degree of inspiration, and although many of them are as dated as 26-inch bell-bottoms, the essential appeal of the sound has survived the years. As a counterpoint or accompaniment to the relative sterility of, say, a DX7, the ProSoloist is magick.

In contrast, the SH2000 is the poor relation of the three synths. It neither possesses the powerful voices of the ARP, nor the expansive potential of the Sigma's synthesis. Yet switch one on, plug it into a Roland RE201 Space Echo and the harmony lines of a dozen '70s albums leap out of the monitors at you. While none of the voices grab you in the way that some of the ProSoloist voices do, experience shows them to be very usable. Nevertheless, as a soloing instrument, the SH2000 is a disappointment, largely because it lacks the punch of a pukka lead-synth. The strictly single-oscillator voices are thin and pure, and seem to have been designed to be a pleasant, perhaps even unexciting, accompaniment alongside other, more powerful instruments. In that role the Roland excels and although that sounds like damning with faint praise, there is often a place for such an instrument. Unfortunately, that place doesn't really lie within the current music scene.

The Sigma is again the odd one out. For example, it possesses the ability to play more than one Instrument or Synthe patch at once. Whereas the ARP (and the Roland) can only produce one voice at a time, the Korg will allow you to depress as many voice switches as you like - 19 quite different sounds produced simultaneously every time you press a key - and although it doesn't possess 19 oscillators, the resulting noise is both loud and monstrous - a real mix destroyer. Unfortunately, the Instrument voices played on their own are a disappointment. Neither gutsy like the ARP, nor clean and precise like the Roland, the voices are thin, bland imitations of their orchestral inspirations. So it's just as well that the Synthe can be tuned independently of the Instruments, enabling chorusing as well as split-pitch playing.

The ARP ProSoloist never looked like a serious synthesiser, but it's slowly becoming a bit of a collector's item, commanding £150 or more. Despite professional recognition and a face-lift in 1980 (to the semi-digital Pro/DGX sporting ARP's latter-day black and orange livery), it never received in its own lifetime the public acclaim that it deserved. Significantly less prestigious than the Minimoog or its more famous ARP sibling the Odyssey, the ProSoloist nevertheless created some of the most memorable sounds of the '70s - Genesis, Wings, Joe Zawinul, and The Enid were users amongst many others. But perhaps the main appeals of the ProSoloist are the ease with which it can be used, and the range of expression that can be coaxed from six parameter pressure sensitivity. Despite the fact that it can't easily be MIDI'd (no CV and gate), it's monophonic, and it sounds like a Genesis LP, you could do a lot worse than to snap a cheap one up. Where the ARP has a gutsy sound which will survive well beyond 1991, the SH2000 shows its Reginald Dixon heritage all too clearly. Although the inclusion of a resonant filter is a definite plus point, and the filter modulation, no matter how limited, makes the range of timbres and effects obtainable from each voice quite wide, it would take a resurgence of interest in "comfortable" 70's bands like Camel and Caravan to rekindle interest in these sounds, and that's not really on the cards right now. As a consequence, the value of the SH2000 is approximately zero. If you do see one for sale, the asking price should be very low - probably well below £50. The only moral that comes to mind is that of Roland's TR303 Bassline: until acid house caused them to change hands for the best part of 200 quid, you couldn't give them away. At the moment, however, you'll either find the SH2000 bland, or a refreshing change from the usual fare.

"PLUG AN SH2000 INTO A ROLAND SPACE ECHO AND THE HARMONY LINES OF A DOZEN '70S ALBUMS LEAP OUT OF THE MONITORS."

When the Sigma came out in 1979 alongside the Korg Lambda and Delta, its design and facilities put the older ARP and Roland to shame. Yet the Sigma never caught on, and within a few years it had vanished. And that's a shame, because the range of possibilities contained within its weird architecture is huge, despite the obvious limitations of the Instrument section. Consequently, its resale value is pretty low - shop prices below £100, private sales around the £50 mark. Who knows, if a bit more fuss had been made of the original Sigma rather than focussing on its limitations, there may have been a Sigma II, and that could have been a very weird and interesting synthesiser indeed.

IT WOULD BE usual to conclude by suggesting which of these instruments offers the best sounds and facilities, and which is the best secondhand buy. But there is a more fundamental issue here: the facilities which we now take for granted - 16-bit sampling, digital effects, multitimbrality and so on - allow anyone to create fantastic sounds and even attain commercial success without much musical creativity. A T3 or a D70 can give you the feeling that you're creating something wonderful, but then you discover that there's no musical substance to it. It's a bit like a drug high: easy to achieve but ultimately worthless. So perhaps the real value of these old synths is that they help you to get closer to the music itself. It's no coincidence that the majority of voices on all of them are orchestral. There are 400 years of tonal development wrapped up in those sounds - sounds which have the ability to stir feelings. The better the imitation then, in theory, the more effective the voice becomes. And an effective instrumental voice demands playing expression. Which brings us back to pressure sensitivity - which is where we started. ■

PHOTOGRAPHY: JAMES CUMPSTY

1'S COMPANY

BY NOW YOU will certainly have realised that this issue marks the 10th anniversary of MT. You may also have noticed that the magazine shares this birthday with another pioneering force in electronic music - Roland UK. Over the last decade Roland's synths have played their part in the making of more records than anyone (except possibly Roland) would care to count. And if you were to build a Hi-tech Hall Of Fame, you'd have to allocate an almost unreasonable amount of space to accommodate the likes of the Jupiter 8, TR808, SH101, TR909, D50. . .

Having helped shape synth history, Roland are still on the case with, for example, the JD800 synth and the revolutionary Roland Sound Space system. Of course, we're talking serious cash - especially for the RSS system - but Roland haven't become elitist in their old age. There's the JX1 Performance Synthesiser, for example: designed to cut through the rising tide of synthesiser complication, the JX1 is ideal for anyone eager to get on with the business of playing. "No feature is more than a button press or two away - and every feature, together with the means to get to it, is readily perceivable from the front panel" wrote MT technical guru Simon Trask in last month's review. Good news for the beginner; good news for anyone needing to bring a degree of immediacy to their music making.

Possibly the best news of all is that Roland - to mark the occasion of this shared birthday - are giving away a stack of gear. Through MT and our sister magazines they're handing out enough gear to equip a whole band. As an MT reader you've got the chance to win yourself a brand new JX1. Pick up a copy of *Home & Studio Recording* and you could also win a new effects processor, the Boss SE50; *Rhythm* have an R5 drum machine to give away; while *Guitarist* and *Keyboard Review* have a selection of Boss effects pedals and an E15 synth respectively. Quite a haul, you must agree.

Returning to MT and the JX1, all you have to do to win is to answer a few simple questions.

Q1

Which Roland unit became synonymous with the acid house movement?

a. MC303
b. TR303
c. TB303

Q2

The success of Roland's early '80s flagship, the awesome Jupiter 8 polysynth, saw the company release a more affordable version. What was it?

a. Jupiter 4
b. Jupiter 6
c. Juno 6

Q3

Producer Martin Rushent made great use of an early Roland modular synthesiser in the heyday of The Human League. This instrument was recently bought by Bomb the Bass' Tim Simenon (interviewed last month). What is it?

a. System 55
b. System 100
c. System 700

DON'T DELAY, DIAL the MT Competition Hotline with your answers. The number to call is **(0898) 100768** (calls cost 34p per minute cheap rate, and 45p per minute at all other times). Don't forget to speak clearly and leave your name and address with your answers. Entries should be made by *Friday, August 23rd*. Employees of Music Maker Publications and Roland (UK) Ltd are ineligible for entry. Multiple entries - now almost a thing of the past - continue to be screened out by the latest military defence electronic detection equipment and passed onto a certain religious cult's recruitment department. The editor's decision is final and no correspondence will be entered into. ■

Many thanks to Roland's Alan Townsend for his generous and affable nature.

The Keyboard Shop in association with MIDI Clinic presents

ASK SAMUEL T COLERIDGE

Continuing our series in which famous poets answer your Hi Tec queries. This month, Sam Coleridge offers the benefit of his experience. Sam started in the biz with Bill and Dorothy Wordsworth at their Lakeland pad and did most of the programming on "Daffodils". The success of that poem enabled Sam to strike out on a solo career, and be began working on his first big hit "The Rime of the Ancient Mariner" with Sheena Easton singing the part of the duck. (Later changed to an Albatross). Many more hits followed plus collaborations with his old mentors, the Wordsworths. A brief spell in prison for possession of 3 grams of Laudenum and wearing a Mega Death T- shirt left Sam a chastened man. He new forswears anything stronger than ammonia based floor cleaners and spends much of his free time lecturing young people on the dangers of Heavy Metal. (Say No! to distortion).

Dear Mr Coleridge,
I'm a white, middle class, Bank Manager with several credit cards and an Austin Montego. Which drum machine should I buy to give myself some street credibility?
Signed
Norman Norris, Sidcup

Norman, you have a problem. Even a drum machine as deeply groovy as the Alesis SR 16 would be hard pressed to make you anything like hip so I would suggest the only way that you are ever going to raise your profile, streetwise, is to take the plunge and get yourself and Emu Procussion or a Korg S3. Failing that you might consider major surgery.

Dear Sam,
My daughter is a consitutional Monarch, with her own MIDI set up. What budget expander could I giver her to produce all those workaday sounds like piano, brass and strings etc.?
Yours
The Queen Mother.

Well your Highness, you might consider Yamaha's TG55 or Roland's U220. They're both expandable with new waveform cards and will give you plenty of sparkling samples at a fraction of the price of a new Landau Coach. Have a look at the EMU Proteus if you like a warmer sound. For more orchestral sounds, check out the Proteus 2, the Yamaha TG77 and Roland's MV30.

Dear Mr Coleridge,
In "Christabel" half way through the 4th stanza in the seventh verse you very cleverly counterpoint the iambic pentameter of the line by the use of a sound of an exploding giraffe. How was this achieved?
Yours
A.L. Tennyson.

Firstly, I sampled the mating call of a giraffe at London Zoo on my portable Casio DAT recorder. Back at the studio, I cross faded this on my new Roland S750 sampler with the sound of a Reliant Robin undergoing a five thousand mile service, and the illusion was complete.

Dear Samuel Coleridge,
My sister would like to known when she can have her D70 back.
Yours
W. Wordsworth,
The Lake District.

Oh, er, sorry about that, Bill. Apologies to Dorothy but tell her that now they are on special offer at The Keyboard Shop, I can get my own. I'll return yours as soon as poss.
P.S. Pity you didn't buy yours from The Keyboard Shop. Means you can't get free access to their humungous libraries of sounds for all your machines.

Dear Mr Coleridge,
Now I'm retired, I've decided to invest in a MIDI set-up at home. Where, in your unbiased opinion, where is the best place to go?
Yours faithfully,
Mrs M. Thatcher.

Three months ago I would have said you could do not better than visit "The Sherpa Tensing Tea Rooms and Computer Music Emporium" in Rhyll, but as you may have heard the proprietress, Mrs Ivy Gusset, is now touring with N.W.A. as lead singer. So I suppose you'll just have to go to the Keyboard Shop and just put up with their expert, professional service and laughably low prices. Their macaroons aren't as tasty though.

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TECHNO-POP!

The Fall and Rise of Technology in Music

DAN GOLDSTEIN GUIDED MT FROM ITS BEGINNINGS AS AN ELECTRONIC PROJECTS MAGAZINE TO ITS ESTABLISHMENT AS THE DEFINITIVE HI-TECH MUSIC MONTHLY. FOUR YEARS AFTER HIS DEPARTURE, HE OFFERS THIS PERSPECTIVE ON THE EVENTS OF THE LAST DECADE.

TEN YEARS AGO, almost to the day, Kraftwerk were on the cover of *Electronics & Music Maker* - the direct ancestor of Music Technology. The band were in Britain to promote a new album, *Computer World*, a record which confirmed their transition from wacky experimenters to the disciplined creators of some of the best dance beats around. I have a clear and durable memory of going to see Kraftwerk at the Hammersmith Odeon that year (1981), and after over two hours of some of the rawest, punchiest music and one of the most glittering stage productions you could wish to witness, I emerged thinking they were one of the best live bands I had ever seen. They still are.

The same cannot, of course, be said of most of Kraftwerk's successors. With the exception of the odd rapper or three, many of today's dance acts can scarcely bring themselves to mime for *Top of the Pops*. In the absence of gigs, the application of new technology to music has become an occupation confined almost entirely to the studio - a point made several times by this magazine over the past year or so. It is significant that, while the band has not returned to the live stage since 1981, the influence of Kraftwerk over modern music-making has grown, not diminished. And their most recent remix album, little more than a curiosity item in its own right, confirms the suspicion that in every important department - sound creation, arrangement, rhythm programming, signal processing, not to mention the ability to write a bloody good tune - their prowess remains unmatched.

It is also significant that Kraftwerk were the first musical act to take centre-stage - literally - on the front cover of *Electronics & Music Maker*. Before then the magazine, unsure of its market or its voice, was wont to confuse the electronic means with the musical end, and it wasn't uncommon for ground-breaking musicians to share front-cover space with a new soldering iron or a car burglar alarm.

Yet within three months of my arrival in the editorial offices as an acne-ridden and sweaty-palmed teenager in the Summer of '83, the car alarms were gone forever. Times had changed. We found ourselves reviewing synthesisers of amazing potential that cost little more than a decent secondhand electric guitar. We found ourselves opening up the cases of instruments to reveal not the readily identifiable array of electronic components, but bank upon bank of custom chips, programmed by unique software and unavailable in the shops of the Edgware Road. (Yes, the soldering irons would have to go, too.) And we found ourselves talking to a host of musicians whose work was either dominated or heavily influenced by all this new technology: Simple Minds, OMD, Blancmange, The Human League, Ultravox, Vince Clarke and Cabaret Voltaire, among many others. It may sound like a list of dinosaurs now, but in 1983 and '84 they were all embracing new methods of sound production and arrangement the way footballers embrace a team-mate who has just netted the winner. It was dirty, it was sweaty, it had a lot of rough edges. But it was also fun to watch and listen to, and it inspired thousands of people - many of whom had never dreamt of being "musicians" before - to take the plunge and buy a synth.

Could it last? No, it couldn't. In retrospect, there were three reasons why it couldn't. The first was technological. The most successful electronic musical instrument of the mid-1980s, the Yamaha DX7, had spawned some much cheaper but almost as powerful machines. The presence of these keyboards - along with competitors from other manufacturers - continued to encourage young people to take up music when they might otherwise have

taken up insurance. But these smaller machines were not particularly profitable, and as time went by, they were withdrawn from the market with nothing directly to replace them. When the next wave of innovative instruments arrived in 1986/87, with the Roland D50 in the vanguard, they were priced out of the reach of anybody just out of school or college. In short, they were old men's instruments, just as the first analogue synthesisers were at the start of the '80s.

To cut off a section of young, enthusiastic and impressionable consumers from your product line is to stifle your market at birth. But nobody in the musical instrument industry seemed to realise that until it was too late. Today, the people walking into music shops and trying out the latest technology are older than they were in the early '80s. Some of them are also wealthier, which is why there are still plenty of synthesisers being sold for more than £1500. But the crucial point is that there were substantially fewer younger spirits to follow in their footsteps in the years to come.

The second reason for the decline of the late '80s was musical. The general public, enthralled by the sound of synths at the start of the decade, grew tired of it as the years went by and rediscovered "rock 'n' roll" - the crash of guitars, the pounding of drums. . . you know the score. Now, with the exception of drummers, many of whom have since switched back to acoustic kits anyway, most non-keyboard playing musicians had been unimpressed by the technology industry's attempts at wooing them into the wonders of MIDI, modulation and mains (can you name a successful guitar synthesiser?). So with their rock 'n' roll credentials intact, they were only too happy to ditch whatever electronic accoutrements they had acquired and, quite literally, jumped on the bandwagon.

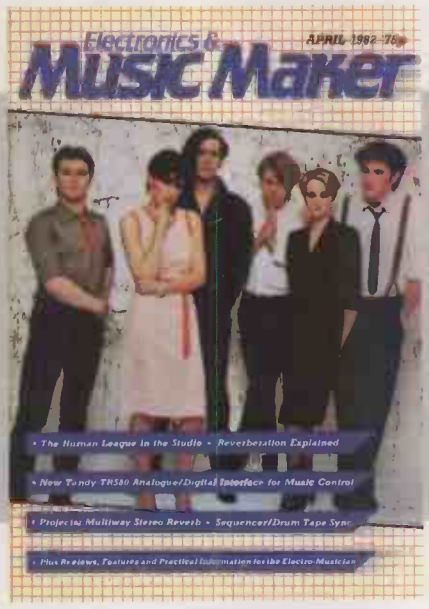
Faced with this U-turn in musical fashion, techno fans were faced with three clear choices. They could throw in their lot with the burgeoning dance music scene - almost the only field in which musical innovation was still highly prized, and one which, with its alternative record shops, clubs, fashions and magazines, offered other artistic outlets as well.

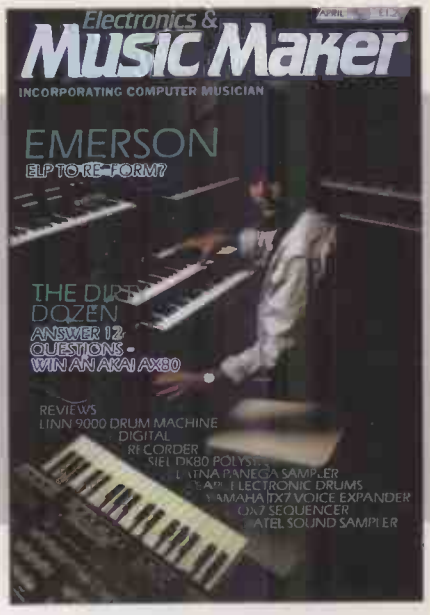
Alternatively, they could forget about their own musical aspirations and become "programmers" for other artists. The advent of high-quality sampling and complex computer software gave those with the ability to make new systems work quickly a built-in advantage in those other great '80s boom areas - film soundtracks, advertising jingles, library music and background muzak. If you could get the studio's new toys playing along with the old ones, with no costly system crashes in between, you were made.

Then again, you could forget the whole damn thing and go into insurance. Or rock 'n' roll, which by this time had become almost as uninteresting.

Of course, none of the above solutions were ideal. Dance music remained married to the groove, often to the exclusion of melody, structure and decent lyrics. And programming, while lucrative, is actually akin to mixing the paints for a grand master: you're involved with the mechanics, but most of the important decisions are taken by somebody else. As for insurance. . . well, if you didn't know how dull that could be, you wouldn't be reading Music Technology, would you?

The last factor at work in the decline of hi-tech music-making was economic and sociological. Big words, those, and not immediately relevant to the future of the synthesiser. Yet the consumer boom of the mid-1980s was fuelled by two things: an increasing amount of money in people's pockets, and the increasing conservatism of those people, which made their tastes easier and easier for the retail industry to cater for. In the music business, money that would once have been spent on singles or LPs by new acts went instead on CD versions of "classic" albums by the Beatles, the Stones, the Grateful Dead, the Doors. . . and anyone else who could get themselves onto the front cover of *Q* magazine. The shift in spending patterns was good news for the record companies, who had hit upon a way of re-marketing almost their entire back catalogue, but very bad news indeed for anyone at the other end of the chain: the people who made music and the people who supplied them with their instruments. Interest in new ➢





➢ music, from both record companies and consumers, reached an all-time low. Up and down the country, rehearsal rooms, recording studios and live venues were closing their doors for the last time. And the personnel officers at insurance companies were busy people indeed.

So great were these changes that many of the acts who had appeared within the pages of *Electronics & Music Maker* and Music Technology for all the right reasons found themselves making new records for all the wrong ones. Where they continued to use new technology at all, they did it simply to replicate the sounds of other instruments (sampling) or to construct what would otherwise be a devilishly difficult arrangement in a fraction of the time it would take a group of "real" musicians (computer sequencing). The sweaty embrace had become something altogether safer and more comfortable - like a politician kissing a baby.

WHEN I LEFT Music Technology in the Autumn of 1987, things were getting steadily worse, and some would argue that the process continues to this day. I would beg to differ. Consider the three ingredients in the '80s recipe for decline I've just listed, and consider their state today.

First, technology. The race to build instruments that are ever more powerful and sophisticated is still on. But musicians seem increasingly reluctant to be caught up in it. Unlike, say, video recorders or washing machines, musical instruments are not merely "products" to be lapped up by a feature-hungry public and disposed of as soon as the next model line appears. For a new instrument to make an impact on musicians, it must inspire them, it must be forgiving of their mistakes, and it must be responsive to their every whim. If it doesn't do all this, musicians, being an obstinate bunch, will simply stick with what they know. Thus a wide range of "old" machines, from synths to beatboxes to effects units, continue to be incorporated into state-of-the-art systems, with MIDI as the key and glorious unpredictability as the musical outcome. And there are signs that the industry itself is responding to this challenge. Knobs and sliders, once consigned to the rubbish bin by "progress", have made a comeback. Long-forgotten but still perfectly useful techniques, like Vector Synthesis, are being dusted off, reshaped and given fresh life.

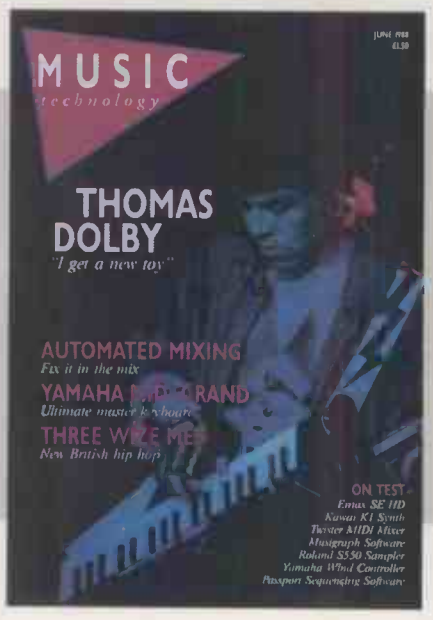
Second, music. The reconciliation between the "indie" scene and the dancefloor, in the shape of the ranters, ravers and rappers of the psychedelic revival, may not be to everyone's taste. But it has put meaning and melody back into the clubs, and it has also given techno fans the chance to "join a band" for the first time in nearly a decade. The live keyboard player is back - if you can hear him above the wailing and the wah-wah guitars. And there have been other welcome developments, like the shift away from using samplers as replica instruments, the advent of new genres like ambient house, and the intriguing prospect, as yet only partially realised, of some great new music being made by our counterparts in Europe - particularly the bit that lies behind the rusting Iron Curtain.

Finally, the economy. We all know what a state it's in. What we don't know is how the recession will affect this country's creative impulses, dulled as they are by eight years or more of shopping, eating, sitting in airport lounges and working in insurance. Yet it's worth remembering that music traditionally thrives in times of economic and social uncertainty. Just look at America, a country in which the most vibrant music - jazz, blues, rap - has traditionally been made by some of the poorest people.

The last time technological innovation went hand-in-hand with the musical kind, many of the people responsible - the Human League, Simple Minds, Depeche Mode - started making music because there was literally nothing else to do. The excess weight was being hacked away from Britain's heavy industry, and if you were a school or college leaver, making your own music with a few knobs, some bits of wire and an old tape machine seemed as good a career option as any.

Ten years on, the same thing is happening to our service industries. Suddenly there's no such thing as a safe career in insurance. And when the insurance companies bid farewell with one hand, the Portastudio beckons with the other.

In my book, Kraftwerk are still the kings of the road. But for how long?



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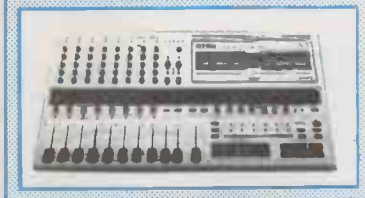

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The underground sound of Sheffield is being shaped by very young musicians with very serious ideas about music. LFO are about to release their first LP, and it's already shaping up to be pretty influential.

Interview by Simon Trask.

LAST AUGUST, THE UK NATIONAL TOP 40 was stormed by a track which by rights had no business being there. Essentially a slice of bass-heavy instrumental techno, this track climbed to the No. 12 slot - despite the group behind it remaining virtually anonymous, with a video being substituted for the more usual personal appearance on *Top of the Pops*. One national newspaper called them "pop weirdos" and offered a reward to anyone who could provide a photo of them, but to no avail. In time the track dropped out of the charts, and no more was heard of the mysterious group. Just another one-hit wonder in an industry that thrives on fast turnover, perhaps?

A year on from the release of that track, and the duo behind it have resurfaced with another single, logically entitled 'We Are Back'. But they've done more than record a new single in the past year - July 22nd sees the release of their debut album, *Frequencies*.

Collectively they're known as LFO, which was also the title of their debut single. The initials, of course, stand for Low Frequency Oscillation, a reference to the deep, deep bass which last year had speakers up and down the country blowing their proverbial stacks.

LFO - otherwise known as Mark Bell and Gez Varley - remain amused by both their status as pop weirdos and the lies and made-up quotes which appeared in some of the few interviews they've done in the past. Perhaps it's because they're not interested in the pop-star ego trip that they don't take it either seriously or personally.

"So much of the music business is about image these days", laments Varley in a tone which makes it clear that it isn't for them. We're sitting in the duo's homegrown studio, which is located in the converted loft of Bell's parents' house, a 15-minute bus-ride from Leeds and situated in some very pleasant countryside.

"Like Bros, now they're trying to make a comeback by changing their image", Varley continues. But a new-look Bros isn't all that's different about the music scene one year on. Dance music has exploded onto the commercial scene, and with it has come tremendous diversification in style and taste. Bell and Varley are amazed by the speed with which a once-underground house and techno scene has spread overground to the extent that their local pub now hosts a techno night. So what do they think of the commercialisation of dance music?

"People really do think that to make dance music is easy", replies Varley. "It's easy to make average dance music, but to make something different is much harder."

"I think we're really harsh with ourselves", opines Bell. "We really want our music to be totally amazing - it can't be just alright, it's got to be the best that we can do. When 'LFO' came out we already had an album's worth of material. After the success of the single, our record company wanted us to release an album, but we just didn't want to do that. We were sick of hearing the tracks by that time, and we wanted to work on new ideas. We've done loads of tracks since then. When we did a Peel session last November, that was supposed to be promoting tracks that were going to be on the album, but we haven't used any of the tracks that we played."

Fortunately, Bell and Varley are signed to an understanding record company, the Sheffield-based ➢

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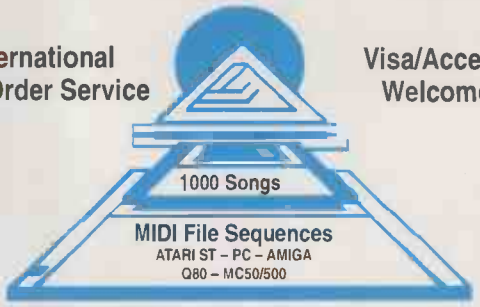

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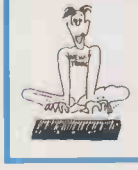

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➢ independent WARP Records. It was WARP, ever with their collective ear to the ground, who picked up on 'LFO' when it was still a cassette being played at the Leeds Warehouse club.

"All we intended the track for was playing at the Warehouse", maintains Bell. "There were no commercial thought in it at all, we didn't think 'Will this sell? Are people going to like it?'. When WARP heard it and decided to release it as a single, we thought we'd make about £500 between us out of it", Bell recalls. "Someone had told us that most dance records did about 5000 copies. Then the next week *Top of the Pops* and *Smash Hits* were ringing us up. We just couldn't believe it."

In the event, 'LFO' sold some 130,000 copies in the UK alone - not bad going for a group who refused to play the pop star image game.

"*Top of the Pops* isn't the be-all and end-all", says Varley. "People see getting on *Top of the Pops* as success, but I think success is about doing music you like and having people buy it because they like the music, not some image. You can make a steady living from selling 12" singles outside of the charts. We could have released a follow-up to 'LFO', we had loads of tracks, but we held back for a year because we really didn't want to get into all that backstabbing and crap."

But the real cause for interest is the duo's aforementioned debut album, which confirms them as far, far more than one-hit wonders. By resisting the temptations of pop success, and thus avoiding being both alienated from their natural audience and possibly being pigeonholed as a novelty act, LFO have given themselves the time to come up with an album which is going to insure them for more lasting success. *Frequencies* is an album of no-compromise techno/electro/funk music which has real diversity and originality within its grooves, and crucially establishes an individual style and sound for the duo based around a unique combination of moody atmosphere and bass-heavy beats and a steadfast refusal to rely on familiar, over-used sounds. Comparisons with Kraftwerk aren't amiss in the sense that, like the mighty Germans, LFO have created their own sound world.

"People think that to make dance music is easy - it's easy to make average dance music, but to make something different is much harder."

"We've both been brought up on electro, hip hop, acid and house, and that's all we think in terms of", says Bell. "Now we're trying to go beyond that. Really we're just doing our music purely from within ourselves, we're not trying to be like anyone else."

Still only 20 years of age now, Bell and Varley first met in 1984 during a breakdancing battle at the Merrion Centre in Leeds. After that they went their separate ways, and didn't meet up again until 1988, when they found themselves on the same photography and graphic design course in Leeds. This time they struck up a friendship which led to a musical partnership. From humble beginnings with a Casio SK1 sampling keyboard and a Korg KPR77 drum machine, Bell and Varley gradually expanded their equipment setup, first of all with a Casio HT3000 MIDI home keyboard and a Casio FZ10M rack-mount sampler, then adding on an Atari ST and C-Lab's Creator software, a Kawai K1 synth and a Studiomaster Mixdown mixing desk. Along the way they also acquired various old analogue synths and drum machines (see equipment list). More recent purchases include a Korg Wavestation synth and a Tascam 644 MIDIstudio four-track cassette machine. And while the duo don't profess to be DJs, they do use a pair of Technics SL1200 decks and a Phonic PRT60 disco mixer to provide a quick means of finding rhythms off record that work together.

Today, while the bulk of the duo's equipment is set up in Bell's attic, Varley has an SX1000 and an MC202 at home for working on ideas, while the TR808 that he normally has synced up to the 202 is currently looking for a repairer who can sort out a dodgy Start button.

"I'm usually here with Mark most days of the week - till pretty late an' all", says Varley.

"If we're really in the mood we can work from ten in the morning till 12 at night, just stopping to get a cup of tea", continues Bell. "At other times we just get sick of each other. If we're seeing each other every day, we start arguing and end up falling out with one other."

"But it's not over musical things", comments Varley. "I can't even remember an argument we've had over the music."

Bell and Varley see both advantages and disadvantages in their home setup.

"We can just mess about here", says Bell. "It's good 'cos if we've been out at the Warehouse and we come back about two in the morning dying to do something, we can just put headphones on - 'cos my mum and dad are in bed - and work on something there and then, instead of booking a studio and then you've got two days in it and you're scared 'cos you don't know if you'll be able to finish in time."

Varley: "And you've got an engineer. . ."

". . .yeah, telling you what to do. We can just do it all here, and it's miles better. When you get up, some days or even weeks you just can't do anything, you just can't think of anything, but some days you can do three tracks in a day."

One disadvantage that Bell points out is one that's common to many a home studio: not having enough effects processors.

"Sometimes we just get bored working in the same place all the time", he adds, "so we go to FON studios in Sheffield and have a mess about on their stuff. They've got a D70 there."

The duo used a more recent FON acquisition, a Roland JD800, on the remix of 'We Are Back'.

"We're probably one of the first to use it on a dance record", observes Bell with a touch of pride.

"We went to Human League's studio the other day", adds Varley. "That's really good. They've got all the old analogue synths you could think of, like the Roland System 100, Prophets, Linn Drums. . . Nice people an' all. Next week we're going to take along our sampler and sample all those noises."

Bell and Varley mixed all the tracks for the album ➢

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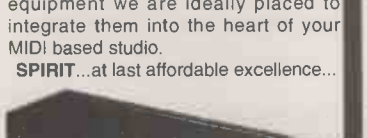

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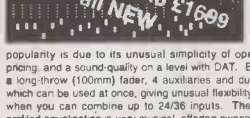

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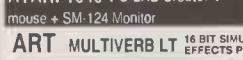

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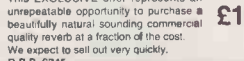

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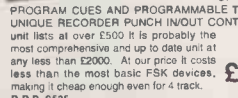

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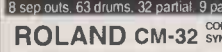

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➢ both at FON and in their home studio. Perhaps surprisingly, they mostly preferred the sound of the mixes they did on their relatively modest home setup.

"The only mixes we used from FON were 'El-Ef-O' and 'Think a Moment'", says Bell. "A lot of the FON mixes weren't punchy enough. They sounded good when were doing them there, but as soon as we got them onto other peoples' speakers they didn't sound as good. FON have got JBL speakers, but how many people have got JBL speakers at home? Also, the music's got to sound good when people listen to it in the car or on headphones; there's no point mixing on JBLs unless you're doing a 12" purely for the clubs."

"We check the sound on headphones as well", adds Varley, "for people's personal stereos."

Well, it sure as hell sounds good on my personal stereo - with the bass boost jacked all the way up to heaven, of course.

IN THE LONG TERM, BELL AND VARLEY have their recording sights set on studios much further afield than Sheffield. Bell explains: "At the moment we have the same influences all the time. What we'd really like to do, when we're about 30 or something, is go to other studios around the world, like go to India perhaps, and use local musicians. Still use our gear, but just to see how working in another place and using other people would influence us."

"We're sick of TR909s and TR808s - they're really good sounds, but everyone's using them - even Kylie's using TR909."

Bearing in mind that LFO were once a trio, would Bell and Varley consider working with other musicians now?

"I don't know if it would work", replies Bell. "If there's three people then it's two against one when you're arguing, but with two of us it's just me against Gez. There's no-one who's wrong or who's right. It's better that way."

And so to basics; how do the duo set about building up a track from scratch?

"We usually have some kind of loop going, like maybe on a drum machine, and then we just mess about", says Bell. "Sometimes we'll just put the C-Lab into record, and record everything that we do, then we'll listen back to it to see if there's anything good. If we find anything we like, we can go into the edit page to see what the notes are, then record them again and perhaps end up basing a song around them."

And is there generally a certain type of idea that sparks off a song for Bell and Varley?

"It's different every time", replies Bell. "There's a few that we've started on chords. For 'El-Ef-O' we got the idea from the zaps at the end of the 12" version of 'LFO'. We just sampled the zap and slowed it right down."

In fact, creating their own sound world is of the utmost importance to the duo.

"At one time we were using the 909 bass drum all the time, and we ended up just getting sick of it", recalls Varley.

"That's when we started making our own sounds up", continues Bell. "Now we've got a few disks of drum and percussion sounds that we've made up from the old synths. We get a click or a zap on the MS10, say, and then we sample that and mix it in with, like, an 808 bass drum to get a different sound."

" A lot of the noises we get, we record them onto cassette first so that it's worse quality", Varley adds, "Then we sample them off the cassette. Like, we'll distort the sound so that it's a bad sample, but it just sounds good 'cos it's bad!"

"We're really pretty snobby about sounds", continues Bell. "We really want to use new sounds. It's harder to do that, but it's more fun when you get a really good noise that no-one else has used. We're sick of 909s and 808s. They're really good sounds, but everyone's using them - even Kylie's using 909."

"I don't really like the TR727 any more, either", ventures Varley. "It's just over-used. Do you know anybody who wants to buy one?"

No, but I know a free classified ad section that'll find a home for one.

An old instrument which the pair still have a lot of time for is Roland's "acid machine", the TB303 Bassline. They bought one two years ago for £80, and now it provides the deep, pulsing bassline on the album's opening track, 'Intro'. In fact, Bell and Varley still profess an admiration for acid-house pioneers like Phuture.

"Some of that stuff still sounds totally amazing", says Bell. "The 303's so loud in the mix; it's louder than all the drums and everything. Even though everyone knows it's the 303, it just sounds good. The people who made the Bassline must have been mental to make it do all that it can do. They can't have thought 'That's too much, that doesn't sound like a bassline'. They must have been into acid music already! They were real geniuses, like how they designed the 202, as well."

"Just think, if Roland hadn't been set up, dance music would be totally different", Varley muses.

Like, no 808, no 909, no 303, no 202. . .

"No 808 State", jokes Varley.

However, with the exception of occasional sampled chords from a Roland Juno 6 borrowed from a friend ("He's going to read this interview and ask for it back", groans Varley), the floating chord sounds which are such an effective and characteristic part of LFO's music aren't provided by Roland gear. In fact, one of the longest-serving synths in the LFO arsenal is a Kawai K1, which has been providing the chord sounds from before 'LFO'.

More recently added for the breadth, fullness and sense of movement which it brings to chordal accompaniments, Korg's Wavestation is proving something of a hit with Bell and Varley.

"It's really simple to program", Varley maintains. "There's just a few buttons, and with the way the pages are laid out it just makes sense. We haven't even read the manual, we just turned the synth on and the LCD led us through everything."

"Having said that, we haven't really run out of ideas with the sounds already in the synth", says Bell, "so we

haven't got too much into experimenting with it yet."

But while the digital synths excel at providing the chordal washes of sound which are such a characteristic element of LFO's music, when it comes to another characteristic element of the LFO sound - deep, deep bass - it's old analogue synths like the MC202 which Bell and Varley turn to.

Bell: "With the resonance right up and the envelopes really far down on the 202 we can get bass sounds that you can hear on our little Technics speakers and feel on the big Goodmans. We like to use bass sounds where you can see the speaker flapping but you can't hear the sound. Then we take something like a high tune using, say, a piano sound, and we double the notes with the bass sound that you can't hear. That way, in a nightclub when the piano plays you can feel it in your stomach even though you can only hear the piano - it sounds like the piano's really bassy."

The duo are also able to turn their old analogue synths to good use in other ways, as Varley explains.

"We do stuff like have everything sequenced, then when we're recording to DAT we mess about with the knobs on the older synths to change the sounds. We can't sequence the SX1000 and the MS10 at present, so we just play along with the sequences when we're recording the tracks."

"The music can sound more human if it's not all quantised in the sequencer", Bell adds. "You need to have the bass drum totally on the beat, but all the other noises can be a little bit out, and it sounds better for it."

"We want to play live to tape more", continues Varley. "We've been doing it straight to DAT, but the trouble is, once you make a mistake you have to start all over again."

Cue the pair's latest investment, the aforementioned Tascam 644 MIDIstudio. With Creator slaved off the Tascam, they no longer have to take it from the top each time they make a mistake.

"Another thing is we're going to try vocal tracks", reveals Varley. "We're just going to see how it goes. We only got the MIDIstudio a couple of days ago. We might just use transposed-down voices sounding weird, using the pitch-shift on the SPX50D or that willy thing."

Sorry?

"It's a kid's toy from Argos", elaborates Bell. "DynaMic I think it's called. It only costs £25, but it's got up and down pitch and a flanger effect."

"The catalogue said it could make you sound like a robot or an alien from outer space, so we got one", continues Varley. Come to think of it, Coldcut claimed to have discovered the DynaMic some time ago. . .

All is revealed, so to speak, when Bell produces an object which does indeed look phallic - though no doubt Argos would disagree. As for how it sounds, well, I only wish you could scratch this page and hear it. Basically, you speak into a built-in microphone at the top end, and your processed voice comes straight out of a built-in speaker at the bottom end. You can pitch-shift your voice up and down in real-time, and should you want to play it at greatly-amplified volume there's a mini-jack output for direct connection to a mixing desk or amp.

Bell maintains that the DynaMic sounds good when put through effects. By itself, however, it sounds awful. But have the pair dared to use it yet?

"We've used it for playing live", replies Varley sincerely. "One time we stuck it to the back of a keyboard, so all the keyboard buffs would think 'flippin' 'eck, what's that?'"

LIKE MANY OTHER DANCE ACTS, LFO'S LIVE appearances are made in clubs rather than more traditional live venues. For local gigs they'll take along the Atari and run their sequences live - sweaty club atmosphere and dodgy mains power permitting - but more typically their set is a combination of specially-prepared backing tracks on the Casio DA7 and keyboard parts played live. Bell usually plays the K1 and MS10, Varley the Wavestation and SX1000 - while they take it in turns to play the MPC drum computer. Their set lasts about half-an-hour, during which time they play five or six numbers, accompanied by two dancers and computer graphics projections.

"If you play for longer than that, people get bored of watching you", comments Bell, "so it's best to leave people wanting more. As well as playing clubs we'd like to do a proper concert, where it was just us and maybe someone else like Nightmares on Wax, and we'd have a proper show."

Since early June, LFO have been undertaking a sporadic European tour which has taken in, among other countries, Belgium, Germany and Rome as well as one or two dates in the UK. It's a reflection of how prominent dance-music culture has become across Europe.

With the tour, the recent single and the imminent release of *Frequencies*, it seems that LFO are shifting into top gear.

"When you see people in the pub and they say 'are you still doing that group?' and you go 'yeah', they say 'Easy life, isn't it?'", says Varley. "They think you're earning loads of money and it's really easy."

"Everyone's really nosey about what we do, too", adds Bell. "They say 'why didn't you go on *Top of the Pops?*', or 'why don't you put more piano in your songs?'. Everyone's got their own opinion. We don't go to them and say 'are you going to do better this year and be a manager of your work?'. Me girlfriend's mum doesn't really like our stuff, she goes 'I like music with more of a beat to it, like the '60s stuff'."

Appropriately enough for a group who look to the future rather than the past, LFO have no time for the nostalgia boom which some say is the saviour of the record industry and others say is stifling new music.

"The big record companies own all the rights to those old tracks, and they can re-release them without having to spend any money on advances", says Varley. "They're just doing it 'cos it's cheaper and 'cos everyone knows the music already. It's just another con. They're telling us what we should buy, like they're saying the '60s were better music, like 'there's no good music around now, what about the Hollies?'. When the '90s have finished, there'll have been just as many good hits as there were in the '60s."

Who knows, perhaps LFO's debut album will be looked upon as a golden oldie. ■

EQUIPMENT LIST

INSTRUMENTS
Alesis SR16 Drum Machine
Casio FZ10M Sampler
Jen SX1000 Synth (x2)
Kawai K1 Synth
Kay DRM1 Drum Machine
Korg DDD1 Drum Machine
Korg KPR77 Drum Machine
Korg MS10 Synth
Korg Wavestation Synth
MPC Electronics Music Percussion Computer
Roland Juno 6 Synth
Roland MC202 Synth (x2)
Roland TB303 Bassline Synth
Roland TR727 Drum Machine
Roland TR808 Drum Machine

SEQUENCING
Atari Mega1 Computer
C-Lab Creator Software
Vesta-Kozo MIDI-CV Converter

RECORDING
Casio DA7 DAT Machine
Goodmans Q70 Monitors
JVC KDVR5 Cassette Deck
Phonic MRT60 Disco Mixer
Rotel RA810A Amplifier
Studiomaster Mixdown 16:4:8 Mixing Desk
Tascam MIDIstudio 644 Tape Machine
Technics Monitors
Technics SAK2L Cassette Deck
Technics SL1200 & SL1210 Turntables

OUTBOARD
Yamaha FX500 Effects Processor
Yamaha SPX50D Effects Processor

REAL-TIME DE-CLICKER

PHOTOGRAPHY: JAMES CUMPSTY

If you thought CD was immune to the pops and scratches that afflict vinyl recordings, think again. If you think these noises are an unavoidable part of music, think De-Clicker. Review by Vic Lennard.

FOR THOSE OF you not already in the know, CEDAR is an acronym for Computer Enhanced Digital Audio Restoration and the system is intended to remove noise and hiss from recordings without having any effect on the actual content of the recording (see feature MT, Nov '89). The system has particular relevance to old recordings on 78s, but as the removal of noise take place in the digital domain, the procedure is also highly pertinent to modern CD mastering where the odd PCM bit error can creep in, causing an annoying click.

For background information, there are four primary areas of noise. The first of these is broadband noise such as hiss, hum and whine, which is very difficult to remove as it is part of the signal. If viewed on-screen as a Fourier display, the waveform appears thicker; removal of this type of noise invariably changes the waveform and hence the sound you actually hear. The second type is thump noise, which is a click followed by a low frequency tail due to the movement of the record deck's tonearm. Thirdly, there is click noise which can be clearly seen as a spike of significant amplitude, extraneous to the ➢

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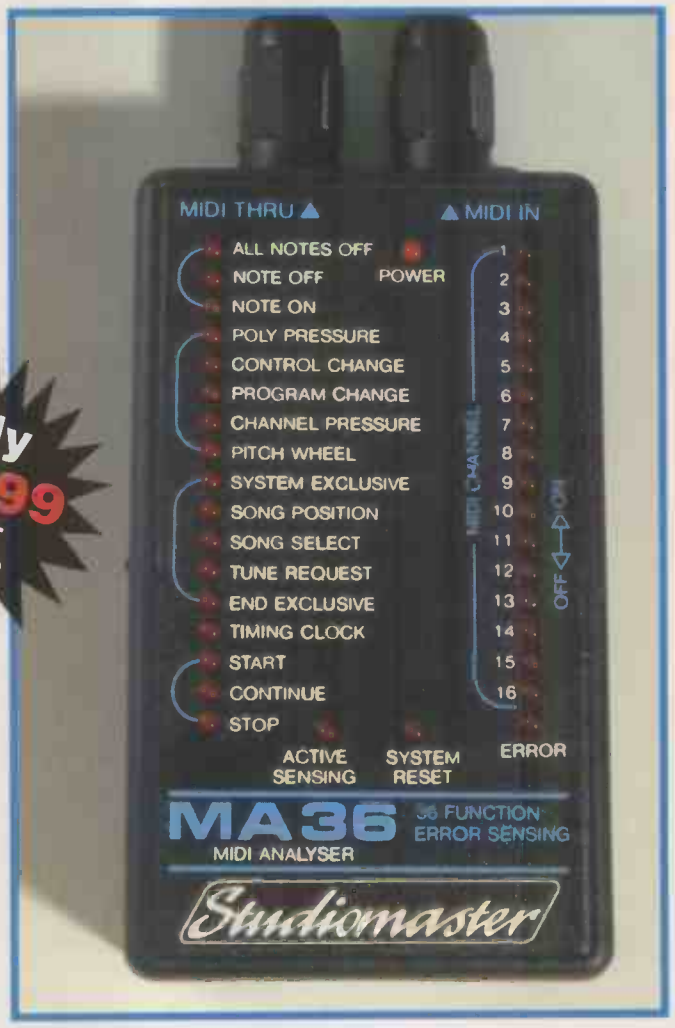

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➢ waveform. Finally, there is crackle noise, which is also embedded in the waveform and, if viewed, appears as a jaggedness to the waveform. This differs from a click in that it has a small amplitude.

CEDAR Restoration deals with all of the above problems, but by batch processing, which means non-real time. Because of this, you're involved in a slow process of listening and deciding whether the process must be repeated. In real time, of course, you're hearing the result as a direct and instant consequence of making adjustments to the input signal.

Currently, neither thump nor crackle can be dealt with in real time, due to the lack of a miniature module-form Digital Signal Processor with enough power. However, the De-Clicker is CEDAR's first venture into the rack-mountable world of little black, or in this case grey, boxes.

The De-Clicker resides in a 3U-high industrial rackmount box. It's actually a very small module but requires digital input and output modules as well as the power supply unit built into the rack. Two units can be used for stereo processing and A/D and D/A modules are also available.

In terms of controls and switches, it's difficult to think of an easier configuration; all the unit offers you is three switches and one control. The first switch is for left or right and is intended for stereo use with two modules. The second switch is for pre- or post-processing allowing you to compare the input to the processor with the output. Finally there is a module on/off switch for bypassing the De-Clicker because various different modules can be mounted within the mother case and not all would be needed at the same time.

"In terms of controls and switches, it's difficult to think of an easier configuration - all the unit offers you is three switches and one control."

The single control is for Threshold. This determines the level of scratch to be removed; a high setting removes only the largest clicks, while a low setting will take out fine ticks. The control itself takes the form of a thumbwheel which you are unlikely to need to change very often - a default value of around 40 tends to fit the bill. This may be changed to a liquid crystal display with increment/decrement buttons in the future.

The somewhat spartan appearance of the casing belies the power inside the De-Clicker. The input and output signals are resolved to 24 bits while the actual processing uses 32-bit resolution - part of the reason that what goes in comes out without timbral change. Maintaining data integrity is critical if sonic accuracy is to be preserved, especially as this is the particular strength of De-Clicker.

The software has been written by CEDAR while the hardware has been built by Harmonia Mundi Acustica (HMA) of Switzerland.

THE THEORY

WORKING OUT WHEN a click has occurred is the easy part - the change in waveform amplitude is drastic and out of keeping with the otherwise smooth nature of the signal. How to then vanquish the click to the depths of oblivion is the question.

There are two methods which can be used in the removal of clicks. The first uses filters: if you know where the click occurs, you can use a very fast notch filter to remove the click, but this must also change the actual signal. Any filter will. If we're talking about one isolated click, then you probably won't hear a filter working, but if there are an average of ten scratches per second throughout a passage of music, the chances are you will. How about 2000 scratches per second?

The second method is to program a computer to remove the click from the waveform and to then rebuild the gap. The most elementary way of doing this is to visually examine the waveform and to pick out and mark individual clicks for the computer to treat. This is extremely time-consuming and consequently gives rise to the second way, which is to mark a number of scratches and program the computer to build a model based on these scratches. The remainder of the signal can then be examined and processed subject to this model. Again, this is very time-consuming. The next step is to automate the process with the computer searching out the scratches, making a model and then processing the signal subject to user-defined parameters. This is faster and more convenient than the other methods, but it has one very real problem - you need experience to know which parameters to change and the range of values to try.

This brings us to the final step which is where the De-Clicker is today. The input signal is analysed, at which point the computer uses Artificial Intelligence to build up a picture of how the signal should be - a kind of global view. It then compares the signal with this analysis and removes elements which do not conform - these will be clicks subject to the threshold setting on the front panel. The analysis is then used to replace the click with a complex signal path in keeping with the global evaluation previously carried out, after which the signal re-appears to the outside world with a delay of about 300 milliseconds due to the processing. The De-Clicker can handle up to 2500 scratches and clicks per second.

The removal of clicks in this manner doesn't alter the signal if the model is accurate. In fact, what tends to happen in practice is that the removal of clicks reveals the true nature of the original signal, and can sound as though audio enhancement is taking place. This is because there is often as much energy being produced by the clicks as by the original recording, which is consequently masked. Removing that mask returns the clarity. Of course, when dealing with early 78s - whose bandwidth was around 8kHz - there are likely to be distortions inherent in the original recording which cannot be removed by the De-Clicker.

DE-CLICKING

THE OBVIOUS STARTING point is where CEDAR first made their name - 78s. Using a pair of Tascam DA30s (for their AD/DA converters) the signal from a 78 was passed into the De-Clicker and heard in all its clicking glory with pre-processing selected. Switching to post-processing simply left a level incidence of

hiss which could have been removed by using any proprietary noise reduction unit. Impressive. Another 78 had a recording of solo violin where you could clearly hear the bowing through the scratches. On post-processing, the clarity was stunning, and the timbral quality was not changed. At one point, clicks appeared to break through but on listening back via pre-processing, that part of the signal had broadband noise of a low amplitude, not clicks. In fact, it appeared to be distortion due to the microphone overloading on the original performance.

In another test a sample was transferred from an Akai S900 to a visual editor on an Atari ST where "spikes" were drawn onto the waveform. After processing by the De-Clicker, the signal was perfectly clean and I would defy anyone to be able to either hear where the spikes were, or to tell any difference between the processed and original sounds. This procedure is as applicable to samples on, say, a Synclavier as to those on a humble 12-bit sampler.

It never ceases to amaze me how many clicks are left on CDs. While demonstrating a direct-to-disk system some years ago, I used a Bruce Hornsby track called 'Look Out Any Window' which has a click during the instrumental intro - it actually sounds like a punch-in error. Running it through the De-Clicker removed all trace of it and this, to me, is the most remarkable use of such a device, because it is processing a complex digital signal without audibly altering it except for removing errors which shouldn't be there.

VERDICT

BEFORE GOING ANY further, perhaps we should talk cost: £14,500 for a mono module and frame with digital I/O modules and psu, while a stereo equivalent will set you back £21,000. It's clearly not for the part-time enthusiast. It is, however, a unique system with many uses in the professional audio field - the first of which is restoring old 78 recordings to their former glory. Of course, this is a very specialised use and not one which many technicians would see as being relevant to them. The second use, then, is in the course of mastering digital recordings - be they pop, classical or anything in between. By running the audio signal through a stereo De-Clicking system, the integrity of the final signal will not be compromised by any bit errors or inadvertent extraneous spikes or noise appearing through the mains filters.

As the De-Clicker works in real time with only a 300mS delay between input and output, it could also be used for broadcast purposes, be they audio (FM) or video (Nicam). Consequently, there are also many uses within the audio-visual industry for such a unit.

The De-Clicker is an incredible device, and one which deserves due recognition. ■

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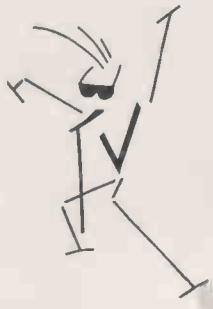

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!INSPIRATION

It's been a long time coming, but the first serious sequencer for the Archimedes is here - was it worth the wait? Review by Ian Waugh.

THE IDEAL COMPUTER for running music software is fast, multitasking, with lots of memory, good graphics, built-in GUI (Graphic User Interface) and MIDI interface. Sounds like the Archimedes - apart from the MIDI sockets.

The "Archie" may be the world's fastest micro but since its launch almost four years ago, music software for it has been rather thin on the ground - with the notable exception of that from the ubiquitous EMR. When Pandora announced the development of !Inspiration over two years ago there were cries of delight. But these turned to yelps of anguish when technical difficulties held up development. These were partly attributed to problems in getting MIDI to work with RISC.OS, the Archimedes' operating system, problems which, if rumour is to be believed, Acorn strenuously denied existed.

IT'S A BUGGER

EVEN BEFORE IT hit the streets, !Inspiration had had a chequered career. It was finally announced at the beginning of 1990 - and advertised as available - but didn't appear until September/October.

Even when it was released, !Inspiration was plagued with problems. Early versions were filled with bugs and the program was all but unusable, certainly in a professional context, although Archimedes aficionados have been known to work around the bugs - and save their data frequently.

Hence the delay in reviewing !Inspiration in MT. The review version is v1.03. It's dated January 1991 and fixes nearly all the program-crashers and data-destroying bugs in that early release. However, it seems that Pandora have revised their program numbering policy as the early version was numbered v1.12 - take care that you get the latest version (v1.04 is rumoured to be on the way).

!Inspiration runs on any Archimedes including A3000 and it will run with only 1Meg of RAM, but I wouldn't recommend this as a serious consideration. And you'll need a MIDI interface: !Inspiration was designed to work with Acorn's interface (v3.14 or later) or a 100% compatible such as Pandora's own PM14. A multisync monitor will help, too, although it's not essential. More about this in a moment.

The software isn't protected and is easily installed on a hard disk but the program uses a dongle (they'll love this in schools) which plugs into the parallel port. It has a through socket so you can still use your printer (although mine didn't like running through it). Take care of your dongle - a replacement will cost you £175.

INSPIRED

OPENING !INSPIRATION FROM the menu bar reveals the main Control Panel from which all other functions originate. These take the form of windows, most of which can be opened, closed, re-sized and placed anywhere on the screen.

Here are the tape transport controls, Merge and Overdub toggles, Position and SMPTE indicators, Cue Start and Cue End Markers, Drop In and Out buttons and Tempo control (25bpm-250bpm in increments of .0001 of a beat). You get a warning when the number of free events drops below 500 (100K will store 128000 events). You can toggle the transmission of MIDI timing data on and off and set sync to internal or external. The remainder of the Control Panel contains icons which take you to the other sections of the program - Reel Editor, Sub Group Mixer, MIDI In and Out Patchbays, Cue list, Meters and the Toolbox.

Clicking the menu button over the panel produces a menu with the following headings - File, Windows, MIDI, Undo and Quit. Each of these has further sub-menus, many of which have more sub-menus and so on. The MIDI Menu controls the MIDI Thru function which re-transmits data arriving at the MIDI In socket back out the MIDI Out socket. There are three filters here, for MIDI Thru, Record and Playback which let you exclude data such as pitchbend, aftertouch, controller and SysEx messages from the operation.

There's a toggle for Running Status (although this shouldn't cause problems on current equipment) and Chase Controllers and Chase Notes toggles. These scan backwards from the position from which you're about to play to ensure that the correct controller and program change settings are in force.

You can filter out MIDI mode messages and an All Notes Off option does exactly that in case of the dreaded MIDI drone. Reset Controls will return MIDI controllers to their default settings (few instruments ➢

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The Quit option doesn't prompt you to save your work but you can save the current Setup data so you can continue your next session from where you left off. Nice.

REELY

BEFORE YOU START recording you have to open the Reel Editor. This window consists of two sections and it's really a squeeze to fit them both fully onto the screen - this is where a multisync monitor can help. Mode 16, however, gives reasonable results. But if you're still struggling, you can unlock the two sections to make sure the left one, the Track List, is always in view.

The Track List lists the tracks - all 256 of them. It's divided into 11 columns - Name, Play, Record, Solo, Loop, Delay, Transpose, Velocity, Patch, Group and Instrument. The nice thing is, you can select which columns are shown on the screen. Apart from saving precious screen space, it avoids clutter.

> "!Inspiration's software isn't protected and is easily installed on a hard disk but the program uses a dongle - they'll love this in schools."

You must set a track to Record before you can record, although the program still goes through the record motions even if there's nowhere to put the data. Group routes a track to the Sub-Group Mixer (more in a moment) and the Instrument column lets you set the output buss. If you have Pandora's PM14 you have access to four output busses - 64 separate MIDI channels.

You can swap and merge (but not copy - this must be done from a menu) tracks by clicking and dragging and demix a track by channel (probably the most useful), note (for use with drum tracks, perhaps) or controller. The Tidy button will lift all tracks containing data to the top of the Track List.

A collection of tracks forms a Reel and there can be ten Reels in memory at once. Furthermore, all can play back at the same time. An intriguing prospect, but I expect most users will be happy with one-Reelers.

BAR NONE

ON THE RIGHT is the Bar Editor which displays the music as blocks of bars. You can alter the scale of the display to suit the range of bars you're working with. You can perform cut, copy and paste functions on the bars, highlighting the areas of interest by clicking and dragging.

Above the bar display are a couple of areas in which you can place time signature changes (which appear as little flags) and Cue names. Cues are for labelling sections of the song and when you add a Cue it is automatically put in the Cue Points List. Cues can apply to the whole Reel or to individual tracks. The whole Cue system is very well implemented.

For more detailed edit functions, use the Track Editor. Each track has its own edit window and up to four can be open at once. It's a version of the now-familiar grid editor in which notes are shown as bars on a grid - the higher up the grid, the higher the pitch of the note and the longer the bar, the longer the note. There are a number of sections to this window. The total size, again, is too large for a normal screen although you'd rarely need all the sections on view simultaneously.

Above the grid is a position indicator which shows which note or note slot on the grid the arrow is pointing to. Below this is an event list, although you can't edit events here directly, which is a shame.

Below the grid are several screens for the graphic display and editing of controller data. These include Mod and Pitch Bend Wheel, and Aftertouch. To save scrolling to reach these, you can change the order in which the sections appear in the window using an order list to the left of the window. Cute.

The grid editor has many edit features. A Snap function acts as a sort of quantise to ensure notes sit on certain divisions of the beat. Notes can be selected for editing by rubber banding, from the keyboard display or from a menu. They can be dragged, stretched, contracted, deleted and inserted.

This, in fact, is how notes are entered in step time, durations being selected from a pop-up menu. It works well, except that the menu disappears after each selection and continuous reselection is a nuisance.

The graphic controller editors let you create and edit controller data using the mouse. Again, this works fairly well although the "freehand drawing" approach is ultimately not as accurate as editing the events themselves.

While the plethora of edit functions provide a powerful editor, the varied and various combinations of keypresses required to access them all are far from instinctive.

TOOLIN' AROUND

ONE OF !INSPIRATION'S most powerful and interesting features is the Toolbox. This contains seven data-altering functions - Compress, Invert, Quantise, Scaling, Change, Timestretch and Delete. Operation can be quite involved (it's not greatly aided by sparse coverage in the manual). Basically, you set the range of the event(s) to be modified and the track(s) to be affected. Some functions can act on several types of data so this must also be set. For example, Quantise can affect just notes or all data. Change and Delete include mathematical and logical operations in their setup.

Here's a quick run through the functions: Compress averages data values; Invert can reverse the note (and event) order of a track (so it plays backwards) and pivot the notes around a central pitch; Scaling scales data by varying its value from a start value to an end value (useful for fades and glissandi); Change can convert one type of data to ➢

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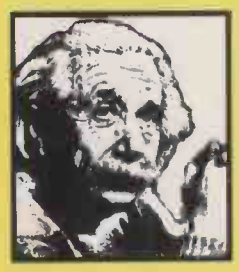

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another and add or merge the result; Timestretch can stretch or compress a section into a longer or shorter space of time, effectively speeding up or slowing down notes; Delete deletes selected events.

The Quantise operation includes some sophisticated functions. For example, using the Pre and Post settings you can limit the quantise effect to data which *should* fall on the specified beat division enabling you, say, to quantise just quarter notes and leaving those in between - eighth notes - alone. There are Intensity and Randomise settings, too, which are drawn onto small graphs. As you can specify the range of data which the Tools will affect, you can apply different quantise effects to different parts of the music.

Having created the ultimate data manipulation device you can save a single Tool or the complete Toolbox - a collection of ten Tool settings. The latest release includes a ten-piece Toolbox containing pre-defined tools such as Velocity Increase, Aftertouch Delete, Fade Out, Half Volume and Velocity Invert.

GROUPS & PATCHES

THE SUB GROUP Mixer looks like an eight-channel mixer with faders, MIDI channel indicators and solo buttons. The Group column on the Track List in the Reel Editor (got that?) links a track to one of these faders.

The Mixer is used to generate MIDI Controller data in real time which can be routed to a track and recorded. You can use it to create mod wheel or breath controller data, for example, even if your master keyboard doesn't have these items. An even more useful function is to link it to MIDI volume to create fade-ins and outs.

> "!Inspiration is potentially a very powerful program, with dozens of nice touches and interesting features, although operation can be involved."

The Meters window contains 16 LED meters which indicate activity on each of the 16 MIDI channels. You can monitor any one of the four busses and select VU or PPM display - it works, too. When problems occur, it's useful to know whether what you're playing is actually getting to the sequencer.

The Input and Output Patchbays allow you to map one buss and MIDI channel onto another. Even if you only have one buss this can be useful: say you have a piano sound on Channel 3 in several parts of your music and you want to try a different sound on Channel 4, instead of changing all references to Channel 3 wherever they occur, simply map Channel 3 onto 4.

!Inspiration's Undo goes several stages further than your average undo function. It doesn't simply reverse your last edit operation - you can Undo all the way back to the start of a session, memory permitting. You can turn off the Undo feature (primarily to save memory) and you can limit the number of undos to one, again to save memory. You can save a history of your undos which is a text file of all your edit operations (could be useful in case of an emergency). Of course, if you save regularly you shouldn't need this.

FILING STATION

THE FILE MENU can save several file types including Tool, Toolkit, Setup (file paths and editor settings) and Network which saves the names of the instruments in the Track List and their MIDI assignments.

But the main file is the Reel which saves all the music. This is !Inspiration's "natural" music file type and uses the MIDI File format. It's worth noting that the early version of !Inspiration didn't save MIDI files with the correct file type, which could greatly confuse the non-technical user, although the problem could easily be resolved by typing the correct file type at the command line.

You can load a Maestro file into !Inspiration and you should be able to save an !Inspiration track as a Maestro file, but this still hasn't been implemented. Instead, the program prompted me to get a 2Meg machine in spite of the fact that it was running in 4Meg of RAM!

I don't know why you would want to save music in Maestro format other than to view the track as music notation. !Inspiration has no notation facilities and Maestro has no printout facility, although you could be devious and load it into Rhapsody and print it out. But That said, Rhapsody can load MIDI Files directly (although it can take a while).

VISITING THE DOC

THE DOCUMENTATION IS well produced although it hasn't yet been updated with the program. More diagrams are needed - often it isn't clear which part of the screen is being described. As a manual, however, it does little more than list functions, although the introduction to setting up is quite thorough.

The program is certainly feature-packed and there are many menus to link the sections - all the more reason why a good manual is essential. There's no attempt at a tutorial and there are many forward references which only serve to frustrate. You won't be surprised to learn that there's no index, although the contents pages are very helpful.

CREATURE FEATURES

FEATURE-WISE !INSPIRATION scores highly indeed. It's potentially a very powerful program with dozens of nice touches and interesting features, although operation can be involved. Its two main omissions are a drum grid editor and notation facilities, which will disappoint some people more than others.

My major quibble is the lack of cohesion between operations. Some sections of the screens, for

example, are brightly coloured for no apparent reason and it's not always obvious if something in a box is for information only or if it is a value which can be changed by clicking on it.

The three mouse buttons produce different results depending on where you click them; on some screens the middle button produces a pop-up menu, on others it alters a value, sometimes it does nothing. Likewise the right (adjust) button may alter a value or open a window.

The latest release is far more stable than the first (which crashed constantly) although a few bugs still remain (I managed to quit the program from the Toolbox and during editing) and it continues to throw up the odd error message which, while not disastrous, is disconcerting. Work on eliminating bugs continues and updates are free - so they should be.

VERDICT

!INSPIRATION WAS RELEASED last year under pressure from several sources. The latest release fixes most of the early bugs and it's now a usable program. However, the existing bugs still need to be fixed and it could really do with decent documentation. A new manual - or at least a tutorial - is reputedly under development.

In the intervening period between announcement and production, the price of !Inspiration has been reduced. It was originally intended to be an amazing £399 + VAT. Now it's down to a more respectable £299 including VAT.

Latest news is that a Junior version of !Inspiration is under consideration which should sell for between £100 and £150, although I suspect that will be some time away as the first priority is to get !Inspiration Senior sorted.

Pandora can be an elusive company to contact so all enquires should be directed to Beebug, or to Sound Proposition who also run a technical helpline - very helpful they are, too. Sound Prop are also developing add-on modules for !Inspiration which will include an Arpeggiator and a Track Save routine.

For a demo copy of !Inspiration send a formatted disk plus return postage and packing to Sound Proposition. Existing !Inspiration owners will receive the latest update in return for the same - make sure you register/have registered.

If you are an Archimedes person looking for a sequencer then - at last - !Inspiration is worth considering. ■

> "You can use the Mixer to create mod wheel or breath controller data, for example, even if your master keyboard doesn't have these items."

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DESIGNING THE FUTURE

IT WAS ONLY A MATTER OF WEEKS BEFORE MT'S ANNIVERSARY ISSUE ROLLED OFF THE PRESSES THAT WE DISCOVERED WE SHARED OUR 10TH BIRTHDAY WITH ROLAND UK. HERE TO MARK THE OCCASION IS A UNIQUE INSIGHT INTO ONE OF THE MAJOR PLAYERS IN THE HI-TECH FIELD. TEXT BY GEZ KAHAN.

VERY FEW PEOPLE have the vision to live up to Roland president Ikutaro Kakehashi's slogan "We Design the Future", but a glance at the last ten years of Roland musical equipment shows how justified that phrase has been. Along the way though, there has always been a two-way flow of information. Synchronicity with musical trends has played a big part in Roland's success, but that synchronicity is in large measure down to a policy of listening to the public and trying to supply what it wants. Requests, commands and selections are passed back along the line to the R&D centre in Japan through Roland Technical Support teams the world over.

Most musicians never consider the realities of musical instrument design: the fact that instruments must make money, the possibility that the designers really did want to make the perfect instrument but were constrained by finances. I was no different, until, quite by chance, I ended up on the other side of the fence, working for Roland (UK) as a Demonstrator and Product Specialist. It wasn't what I'd imagined.

Roland UK, I was informed, believes in the "Work hard, play hard" approach, which at least offered me an interesting

State of the 808 - the beatbox that won't die

life. I was certainly prepared for the "Play hard" bit: that's what led to the formation of the house band, the Booze Brothers. This collection of Roland Sales and Accounts (*not* demonstration) staff based themselves, loosely, on the Blues Brothers; their name was not only reflected in their lifestyle, but every performance was imbued with the same spirit. The "Play hard" ethic also resulted in some spectacular beer-mat fights at Roland dinners during the Frankfurt Musik-Messe. Unfortunately, as I discovered very early on, there was no escape either from the hard work, especially when working with the public was concerned - which is why demonstrators end up diving in the deep end (usually before they've found out if they can swim), driving up and down the motorways from shop to shop and going quietly up the wall as they explain, patiently and for the 14th time that day,

the precise order of button presses required to write an edited tone into the D110's memory.

To make sure that boredom never sets in, spare time is devoted to learning the wrinkles of an ever-increasing diversity of equipment. People who started out with the SH101 have had to get to grips with the D50 and D70; people who started out with a digital delay line now need a mastery of the S770 and S750 samplers (not to mention DM80 Hard Disk recording), and those who in the past were merely stunned by phasers now have to boldly go to the final frontier - Roland Sound Space.

My involvement with Roland happened by a lucky coincidence, when I had to pick up a Juno 60 synth from the Brentford offices. While I was waiting for the paperwork to clear, I popped in to say hello to a couple of mates from a previous life who were doing time in the Service Department. They suggested that I might like to try out the new HP400 home piano which had just arrived in the demonstration suite, hot off the Japanese production line. As luck would have it, this was a grey Maundy Thursday in 1983, and anything would be better than joining the mass exodus of (presumably) young men, who in celebration of the year's first Bank Holiday, had taken it into their collective head to go west and dive like lemmings into the Cornish sea. I wasn't, frankly, impressed by the looks of the instrument, which was designed to go into people's front rooms, whereas I was designed to go into rather disreputable public houses. I was staggered, though, by the tone and response (yes, I know things have moved on since, but eight years is a long time in the musical instrument business). I don't know how long I sat there playing, but obviously long enough for the Sales Director, Fred Mead, to wander past, listen for a minute or two, and then offer me a freelance job as a Roland demonstrator during the British Music Fair later that year.

I took the piano away and boned up on all its attributes and duly turned up on the Roland stand in the sweltering August heat, confident that I knew all I needed to be able to give a perfect demonstration. Confident, but wrong.

Roland UK is given to snap decisions, and at some time between Easter and August it had been decided that I would also demonstrate the new JX3P synth and the PR800 Real-Time Sequencer. All I was told was that they had a wonderful new thing called MIDI and they would link up with practically anything in the known world - but the manuals had been mislaid. I had 15 minutes to find out what MIDI was and how to use it, before I was into three solid days of demonstrations. Later, of course, I discovered that I hadn't drawn the short straw at all; Alan Townsend was dealing with the hi-tech equipment at that show, and half of it had arrived late the previous afternoon on special customs clearance from the R&D centre in Japan. He'd been awake all night trying to work out what they did, how and why they did it, how to explain what they did to a roomful of people and trying to write suitable demo pieces to accompany his demo routine. And he was combining his role as Product Specialist/Demonstrator with his position as Northern Sales Representative at the busiest trade show of the year.

THE FIRST THING to find out in any job is the form: who does what, who used to do what, and who is the most important person to listen to when three people all tell you to do different things. There wasn't too much difficulty in finding out who was who in Roland: at that time the company had only 17 full-time employees, which in itself represented a big percentage increase over the staffing level at the outset. And like most musicians, I was amazed that such a relatively high-profile company wasn't larger.

Forget the image, fostered by *Dallas* and the glitzy record business, of sleek executives in mirror-windowed sky-scrapers, wading through shagpile and tickertape. Even after ten successful years, Roland inhabit a fairly modest, though stylish office block in downtown Fleet (in Hampshire) with a service and distribution outlet in Swansea. Hardly glamorous by Hollywood standards, this is still a far cry from the company's beginnings. In 1981, Roland's building, on a grey Brentford industrial estate, was functional and small. So small, in fact, that the service department was a Portakabin in the middle of the warehouse. Opposite was the demonstration/product training area (another Portakabin in the middle of the warehouse). In 1981 Roland UK had emerged from the ashes of a bankrupt distribution company based in Scandinavia. There was a workforce of about ten people, and the directors had gambled most of their personal possessions on what in hindsight would appear to be a pretty safe thing. But how did the picture look then?

That's the next thing, learn the history. Forget the last ten years have happened. Look around and what do you see?

Something old, something new - MC4 Microcomposer and MC500

Jupiter legacy - The mighty Jupiter 8

Roland on acid - TB303 Bassline

L/A flagship - The D70

➢ TEN YEARS AGO some people were still wearing flares from the *first* time around. I know they were secondhand car dealers and dodgy agents, industrial cleaning fluid salesmen and cabaret singers, but even *they* aren't wearing flares or sideboards this time around - yet. Ten years ago people didn't have faxes *or* filofaxes and they couldn't interrupt your meal in the same way as they interrupt Norman Lamont's meals now because there were no mobile phones and nobody, even in Hampstead, knew more than one restaurant that served Thai food at all, let alone a really good one just round the corner.

"TAKE THE MODULAR SYSTEM 100 SYNTHESISER - NO SINGLE PART OF THIS BEAST DID ANYTHING, AND YOU DIDN'T HAVE TO BE A KEYBOARD PLAYER TO USE IT."

The world was a different place. Men were men, the West Indies were invincible, and computers were either *great* big things that had to have a special room all of their own, or else they were *quite* big things boasting the power of a modern solar-cell calculator. Worse still, Adam Ant was at No. 1.

In 1981, therefore, success for Roland was anything but a foregone conclusion. The microprocessor revolution was only just beginning to hit the music business, and synthesisers were still largely gimmicks, still largely monophonic and still largely expensive. Roland UK's *Roadshow* that year gave a public showing to many of the elements that make up today's catalogue, but many of them were crude and primitive by modern standards.

Take the modular System 100 synthesiser: no single part of this beast did anything, and you didn't have to be a keyboard player to use it. Instead you had to be a rich *Meccano* freak with a penchant for wiring up telephone exchanges. You bought a non touch-sensitive, monophonic keyboard, an oscillator or two - analogue, or more correctly Voltage Controlled, and therefore beset by horrendous tuning problems - bought Voltage Controlled Amplifiers, Voltage Controlled Filters, Envelopes, LFOs, you name it, all as separate components, and then set about wiring the whole thing up (whilst your wife filed for divorce) just to make the sort of noise she could have made by trying to tune the radio into Hilversum on a summer's evening.

Then there were the guitar synthesisers: a similar story. These could be used if you wanted to produce some fairly unpleasant noises (when has a guitarist ever had to resort to electronics to do that?). Under no circumstances, however, could they be described as machines which sympathised with the player. As for the guitarist's bugbear, fast and accurate tracking, forget it.

Roland did have an ace in the hole, though, in the shape of Ikutaro Kakehashi, president of the Roland Corporation, whose vision really began to pay off during that year. There were already SH-series synths, Jazz Chorus amplifiers and Boss effects; an even greater influence on popular music was being exerted through the development of the MC Micro-composers and the CR-series Compu-Rhythms. There was, however, nothing really big.

During this time the first polyphonic synthesisers were appearing, and for most people the Sequential Circuits' Prophet 5 or the Oberheim OBX were the dream machines. Roland had had the four-voice, eight memory Jupiter 4 since 1980, but it was the release of the Jupiter 8 the following year which really put the company into the first division. What was required now was the depth of equipment to back that up, and to allow young, aspiring musicians to make the same sounds as they heard from their idols.

In 1982 came the last of the SH line - the monophonic SH101, at a price which put synthesis, albeit monophonic synthesis, within the reach of almost anyone. Hard on its heels followed the Juno 6 (polyphonic and programmable, but without memories) and then the Juno 60 (which did have memories) and the JX3P, which also had presets.

The classic TR808, announced at the 1981 British Music Fair, was followed by the first generally affordable drum machine, the TR606 Drumatix, at the end of that year. Advances in micro-processing, allied with MC8 and MC4 technology, also produced the low-cost TB303 Bassline and the MC202 sequencer/synth. And while MIDI appeared in 1983, and mainstream instruments continued to get bigger and better, at least in terms of power and parameters, these instruments became "sleepers", waiting to reappear, first among the classified ads in Music Technology, and later as the backbone of the house music scene.

I was lucky enough to come in at the beginning of MIDI, to watch the instrument line burgeoning with new wonder-toys, and to see things which I'd always thought impossible not just come to life, but quickly become commonplace - and then obsolete. Having been wowed by the multitrack MSQ700 sequencer, I was completely knocked out by the MC500, which let me do with music what a word processor could do with prose. Better still, I could hear entire arrangements, with a minimum (say half a ton) of equipment, and hardly any time (say half a day at most) wasted on setting up. At one demonstration (in 1987, only four years ago) I had to use *five* separate MKS100 rackmount samplers to play the strings, brass and woodwind parts for a reasonably simple orchestration, and even then I needed to put in program change messages like they were going out of fashion - which of course they were, because two months later I was shown the multitimbral MT32.

Throughout that time I was bombarded with advice on how almost every instrument, even those which were described in the same breath as "absolutely perfect", could be improved. Fortunately, like my counterparts in Roland UK and abroad, I was equally bombarded with requests for information and suggestions from Roland's R&D department.

Practically every musician can look at an instrument and criticise some aspect of it, and musicians are not noted as being shy about giving their views. Some of them are misguided or misinformed - who, after all, wouldn't prefer a machine that does the same (and more) as the latest hot synth for half the price? And human nature being what it is, satisfaction tends to be a short-lived lapse from type.

What's less usual is to find a design team who will good-naturedly listen to criticism (however diplomatically couched) of their latest brainchild. Roland's R&D team do listen to the criticism, and even to suggestions which border on the ridiculous. Just as in the face of requests for the reintroduction of the Jupiter 8, they patiently listened before pointing out the impossibility of reconciling nostalgia with economic reality, and then went back to the drawing board to see if there wasn't *some* way they could do it. . .

And if you doubt that, just pop into your local dealer and check out the JD800. Who do you think told Roland's R&D department that it should bring back knobs and sliders? ■

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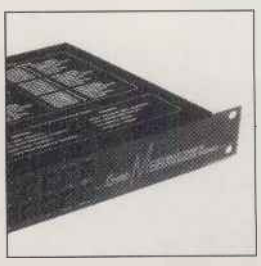

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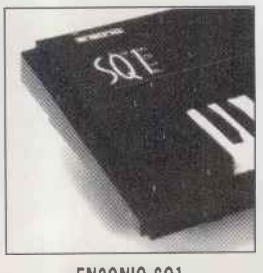

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MC-LITE

PHOTOGRAPHY: JAMES CUMPSTY

Once MIDI had spread its sphere of control beyond simply slaving one keyboard to another, it was really only a matter of time before it took over the light show. . . Review by Vic Lennard.

LIGHT: THE FINAL MIDI frontier, to borrow an expression from a well-known TV series. Seriously though, how useful would it be to be able to dedicate a MIDI sequencer channel to the control of a light show for live work? Think about it - it could signal an end to missed cues and forgotten lighting sequences, and as "live work" covers everything from raves to the theatre, the applications are broad indeed. A further advantage would be that of not needing an additional person behind a lighting desk - good news if you're trying to keep costs down, excellent news if you have trouble finding the right person for the job. . .

Groove Electronics, already well known for their MIDI retrofit work, have released the MC-Lite system. Not only does it offer MIDI control of a light rig, it does it for less than the price of your average multitimbral expander.

MC DAWN

MC-LITE CONSISTS of a 16-channel, micro-processor based light controller, complete with an eight-channel power pack built into a single case. By using a separate, optional power pack, all 16 channels of lighting can be accessed, with the banks of lights for each power pack having an independent MIDI channel. The switching on and off of the bulbs is controlled, not their actual brightness, although various other aspects such as rate of pulsing and decay time can be controlled. Up to 500W per channel is available as standard and optional extras include 1KW per channel and pin-spot/inductive loads.

The main MC-Lite unit is a 2U-high rackmount affair with a pair of handles on the front for ease of installation. The front panel has three sections; eight buttons and LEDs for selection of Mode, Parameter and Value; eight LEDs to show which lights are currently on and off; a Pre-heat amount rotary which keeps the filament of a bulb partially lit when not in use (to increase lifespan and improve response time).

The rear of the unit has two MIDI Ins, marked A and B; the light control information is taken from In A while MIDI Clock, used to send a pulse signal to the lights, is accepted at B. There are also MIDI Out and Thru sockets, although they both appear to act as Thrus, and two LCSI (Light Control Serial Interface - a Groove invention) sockets; Out B for sending controller information to the external power pack for the other eight channels, and Thru A for slaving further power packs from the internal eight channels, ➢

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➢ so doubling up light banks. Unfortunately, Groove have decided to use five-pin DIN sockets for these connections, into which MIDI plugs fit. No matter how many warnings there are within the manual, in semi-darkness and with a racked unit, mistakes are bound to occur, and as the pins in use are numbers 2, 4 and 5, the same as for MIDI, errors are likely to be expensive. The cost-saving reasons behind this decision - both for Groove and someone using MC-Lite - are understandable, but I really feel that this has to be changed.

The output to the lighting bank is in the form of a ten-pin Bulgin socket. A heavy-duty mains switch, fuse and non-detachable mains lead complete the guided tour although, personally, I would have preferred to have seen a removeable mains lead in the interests of safety - permanently attached ones tend to get easily twisted and damaged.

MC EDITING

MC-LITE DOESN'T HAVE a screen so all edits have to be made by the buttons on the front panel with help from their associated LEDs. An LED can be on, off or flashing either slow or fast to indicate which of a number of selections is currently active. Labelled A-H from left to right, A (yellow) LED is used to select one of the 16 Performances (in which the values of all parameters are held), or one of the three edit options. LEDs B, C and D (green) select a parameter to edit, and the current mode is shown via C and D. LEDs E, F, G and H (red) are used to set and show the value of a parameter in a binary fashion, so allowing for values 0-15. It's a bit of a fiddly system to use, but it's effective and a lot better than a non-backlit LCD.

"On the creative side, you don't have to run MC-Lite via a sequencer; a connected MIDI keyboard would do the job just as well."

MC SEQUENCES

THE SIMPLEST WAY to use MC-Lite is to replay one of the 16 preset light sequences from the unit's Sequ mode. These each have 16 steps and can be run from the internal clock, in which case button C acts as a start/stop switch while E, F, G and H select the preset and are also used to control the rate of the internal clock. As the clock is unlikely to be in time with your music, you can change from internal to external sync and import MIDI Clock information from a sequencer (including MIDI Start and Stop commands). As 24 MIDI Clocks are sent per quarter note, there is a parameter (Seq Ext) for setting how many Clocks need to be received before a sequence moves to the next step. Setting up a light show by using this function will take you less than five minutes, but the results are somewhat boring, so let's move on.

MC TRIGGERING

THE MC-LITE'S TRIG mode allows you to assign a MIDI Note number to each light. This uses a Keymap, for which there are four options: the User option allows each light to be set to any MIDI Note.

Base facilitates the setting of a Base Note; the lights are then controlled by this and the seven consecutive MIDI Notes. The Frequency option divides the MIDI key range into eight regions of 16 Notes each; each region then controls one light. Under the Binary setting, one of the 16 patterns from the current sequence is assigned to each MIDI Key, creating a repetitive, 16-note loop.

The User option would be used when you are keying in MIDI Note information specifically for the light show, and Base would be well suited to use with a sequenced line, perhaps on a synth bass. The Frequency and Binary setting, meanwhile, allow you to incorporate an interesting light show into a live performance without needing to create a special sequencer track.

While the brightness of the lights is beyond the control of MC-Lite, the gate time - the length of time the lights stay on - isn't. Here again, MC-Lite offers you four options. The first of these is Fix Gate; here each light stays on for a time which you can set between 100 milliseconds and two seconds. The second, Velocity Gate, allows the lights to stay on for a time proportional to the velocity of the MIDI Note. Key Follow, meanwhile, permits lights to be turned on with a Note On command and switched off when the relevant Note Off is received. Using Hold Gate the lights stay on until the next step in a sequence is received.

As the Controller can effectively handle two power packs, each with eight lights, the Keymap and MIDI channel can be set differently for each of the two banks. However, the same Gate Mode holds for both packs although the Gate Time can be independently set.

There are two other uses for incoming MIDI Notes. Instead of the rate of the sequence steps being controlled by either internal or MIDI clock, you can also control it with MIDI Notes via the unit's Tseq Mode. Any MIDI note received which is included in the current Keymap moves the selected sequence onto the next step.

There is also Meter Mode where the bank of lights acts as a bar meter, showing the average velocity value of the incoming MIDI Note data on the currently selected MIDI channel. One of 16 levels of decay time for the lights can be set, with the fastest giving the best response.

MC FACILITIES

THERE IS PROVISION for the MC-Lite to reverse the direction of a sequence of lights. This would be used in the Meter and Sequence modes. You can also limit the maximum number of bulbs which can be lit at one time - pretty essential if you're using eight 500W bulbs off a 13 amp ring main.

On the MIDI side, MC-Lite responds to MIDI Patch Change commands on the MIDI channel set for either of the two power packs. Program changes 1-16 select the preset sequence of that number, as expected. Groove have extended this application to include the selection of the mode (Trig, Sequ, Meter and Tseq) by Program changes 17-20, while Program change 29 changes the current state of the Direction. It's a

sound idea, as you have a lot more control over the light show through these commands.

One final extra is the use of the second MIDI In port. If you're using MC-Lite in either Trig or Meter modes, MIDI Clock received at MIDI In port B modulates, or pulses, the lights while they are switched on. The rate of modulation is set by the value of the Seq Ext parameter mentioned above.

Groove also make the 12-channel MIDI Gate which accepts MIDI Notes and sends out a voltage between 0v-10v depending on the velocity of the note. However, the output from this unit is via an eight-pin DIN socket, which is intended for current light-dimmer packs and is incompatible with the MC-Lite. Consequently, there appears to be no way to make MC-Lite control the brightness of the attached lights.

VERDICT

MC-LITE MUST BE viewed in the context for which it is intended - a live setup. In the case of popular music (whether it's pomp rock or hip hop), there's plenty of scope for creating a light show which will accentuate the dynamics of the music - in fact, the control is more than I would expect from a "cheapish" device like this. If you want to be lazy, simply use the preset sequences. If you want to embellish your set with a light show which would happily grace a major rock band, the potential is there - it really is up to you.

But there's no reason to restrict the use of MC-Lite to a conventional "band" setup. The facilities are equally applicable to many different forms of audio/visual entertainment - modern dance perhaps, theatrical productions. . . Further applications for a MIDI-controlled lighting system will certainly not escape solo performers already using sequencers - whether you're an aspiring Adamski or trapped on the social club circuit, a perfectly-synced lightshow that comes without the expense of an operator has got to be worth checking out.

On the creative side, you don't have to run MC-Lite via a sequencer; a connected MIDI keyboard would do the job just as well, especially with the various Keymap options. Using the Binary mode, you could happily finger your way around the keyboard and manually trigger through the 16 steps for a particular sequence. When you (or your audience) get bored of that, you could either select another sequence or else run MC-Lite on its internal clock. In fact, there's an optional footswitch which can be fitted and will control various of the functions.

Apart from my strong reservations concerning the LCSI sockets, MC-Lite does what is claimed for it, and in a very usable manner. All you really need now is a sense of adventure and a spare MIDI channel. ■

Prices *MC-Lite, £325; Extra Power Pack, £175; Inductive Load, £50; 1kW per channel, £50; MIDI-Gate, £285. All prices exclude VAT.*
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TENTRAX

Using Roland's MT32 (or related CM modules), or looking for a comfortable introduction to sequencing? Tentrax combines ease of use, integration and affordability in a way that you should check out.

Review by Ian Waugh.

ONE OF THE quiet success stories of recent years must be Roland's MT32. While the gaze of the hi-tech musician has moved inevitably from one state-of-the-art synth to another, the MT32 was snapped up by countless musicians who knew a bargain when they saw one.

Soon after came the CM32L - an MT32 in a box - which was aimed squarely at the computer market. As it had no front panel controls you *had* to control it via software. This was joined by the CM32P - a U110 in a box - and the CM64M - a combined CM32L and CM32P (see reviews MT, January '90). Roland further developed its CM (Computer Music) concept with the addition of accessories such as the CN20 Music Entry Pad and CF10 Digital Fader (see reviews MT, October '90), the PC200 MIDI Keyboard Controller and the MA12C Micro Monitors. Put them together and you have the building blocks of a very neat Desktop Music System - DMS.

The popularity of the MT32 led to its instrument/MIDI channel allocation being adopted as a default by most programmers and musicians who produce song demo files. Even non-MT32 specific files often use channel 10 for the drum track.

While any CM module will work with any sequencer, Roland thought it a good idea to produce a program dedicated to the MT32/CM module concept. The result is Tentrax, which was developed by Steinberg, famous for the infamous Pro24 and state-of-the-art Cubase sequencers. The essence of DMS is that it be easy to use and Tentrax has been designed especially with that in mind.

Tentrax will run on any ST but requires a hi-res monitor. The recording resolution is a quite-respectable 192ppqn (pulses per quarter note). RAM, however, is not apparently allocated dynamically and each track can only hold 5330 events. This may seem like a lot but three tracks on one of the demos (which lasts for four minutes) each contain over 3000 events - it's easy to overrun your event budget if you like to tweak the pitchbend or mod wheels. The program ignores aftertouch completely - which is probably just as well, more so as the CM modules don't recognise it.

Tentrax doesn't run under GEM, which precludes

the use of desk accessories but screen updates are almost instantaneous. Operation is very much mouse-based, however, and very graphic. Neat.

ON THE TRAX

THE MAIN SCREEN is laid out like a ten-channel mixer, so let's run down a channel: at the top is the track number (which is also the MIDI channel); you can't alter this but using the MT32 you won't need to. Voices are allocated to MIDI channels (and thus tracks) rather than the other way around. It's one thing less for you to contend with.

Beneath the track number is a VU meter - and it moves. OK, it sounds trite but they're fun to watch during playback. They actually indicate MIDI velocity, not volume, which could confuse anyone expecting the meters to reduce their level as they pull back the faders. Next is the sound name box which shows which instrument is assigned to the track. This is followed by an info box; clicking here shows how many events the track contains and the percentage of free memory along with the track name, transpose, velocity shift and delay settings. The track name only appears on the Edit screen, not on the Main screen. Altering the values only affects the music on playback, not the original data - good. If you have a CM64 you can elect to use a sound from either the LA or PCM section of the module. Next is a button which switches reverb on and off; below this is a pan pot. Click here and drag the mouse to alter the setting. Use the right mouse button for greater sensitivity. Underneath is a mute button and below this the fader. These are definitely "long throw" and very comfortable. Again, the right mouse button gives greater sensitivity.

MIDI channel ten is the drum track and doesn't have pan pot or sound name boxes. Channel one isn't used by the CM modules and lacks a reverb control. Clicking on the sound name box brings up a list of program change numbers so you could use this with a second expander (MIDI channel numbers are fixed, remember).

Bottom right of the screen are the tape transport controls - Play, Record, Stop, Fast Forward and Rewind. There's a song position counter, a tempo indicator, left and right locators and a record status indicator. This determines the way a track is recorded - with a count-in, no count-in, punch-in or wait until a note is played. There are a few more icons which we'll get to in a moment.

If you have a master controller with pan and volume controls (or a device such as the CF10), adjusting this moves the on-screen controls. This two-way interaction is encouraging. It's comforting to know everything is linked together (pass me my security blanket).

MAKING TRAX

LET'S LAY DOWN a few tracks. You can record in real-time or step-time and select the data you want to record - all, volume, pan, modulation, pitchbend and ➢

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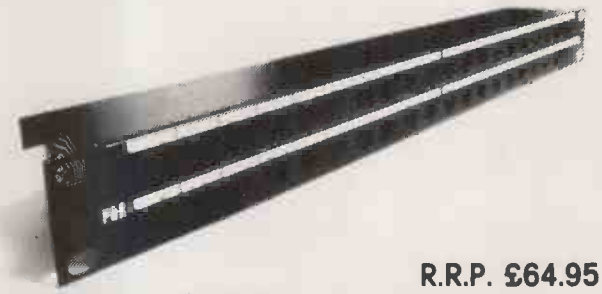

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> "'Normal' sequencer users cannot know the joy of selecting a sound by name rather than by MIDI channel and instrument."

notes. Each option will replace existing data of the same type on the track. This lets you fine-tune a recording by overdubbing volume data (using the faders), say, until you're happy with the result.

You can set the tempo from the Main screen but click on the tempo icon and you can also program sophisticated tempo changes. Stipulate the start and end bars, the start and end tempos, the number of steps (the "smoothness") per bar and whether the change is exponential (slow at the start, fast at the end), linear (regular) or logarithmic (fast at the beginning, slow at the end).

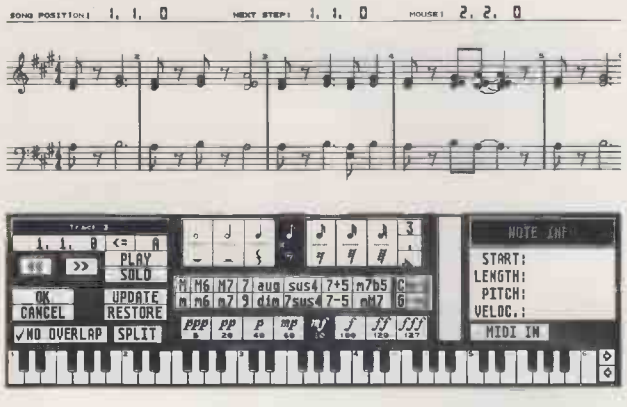
The reverb icon calls up the reverb settings (you want news, read *The Observer*). Select reverb type, time and level and click OK.

Snapshots provide a way of making volume and pan changes for a group of tracks. Select the position in the song at which you want the changes to occur (using Song Position Pointer), make the changes in the mixer panel, select the resolution (number of steps per bar) and select Instant or Fade In changes. These do as their names suggest - Instant makes the changes instantly and Fade In lets you specify a range of bars over which the changes will take place. Brilliant: you can perform similar functions on other sequencers, generally using some form of complex transform function. None have this ease or simplicity.

TRAX FACTS

DOWN TO THE nitty gritty - editing. The track edit icon offers copy, erase, insert, quantise, save and load commands. These are block operations performed in increments of one bar.

The quantise settings range from 1/64th notes to quarter notes and include triplets. You can quantise the position of the notes and/or their length. You can specify the range of bars which will be affected so you can quantise different parts of a track to different values. Each track has to be quantised separately and the effects are not reversible.



The save and load functions let you save parts of a track. Useful for storing favourite drum patterns, for example.

A drum kit icon takes you to the Drum Editor. This is a grid editor in traditional style. It can show one or two bars at a time and you can scroll to any position in the song. Only(!) 20 drums are shown at once. You can select which 20 will appear and also program the other drum sounds, although these won't appear on the grid. I suspect few people will want to use more than 20 sounds in a piece but if you do, it would be better to have a scrolling list of *all* the sounds. The CM modules include sound effects (the MT32 doesn't) which can also appear here. A soundtrack could well use all 20 slots.

You can play the song, loop the displayed section or solo the drum track. The track can be edited as it plays, which is especially useful in loop mode.

Pressing and holding the right mouse button displays a four-icon tool box (an idea incorporated into Cubase - or vice versa) offering pointer (normal mouse), eraser (rubber to you, mate), stick and magnifying glass tools.

The stick (or *baton*, as we say in The Phil) is used to insert hits on the grid. You can set default length and velocity values and alter the grid resolution. The magnifying glass plays the sound of any instrument you click on and shows its exact position in the grid, its length and velocity - all of which can be edited. The length function has little effect on drum sounds but is useful for controlling the duration of the effects. There's a useful copy function to help you build drum tracks but no cut or erase.

The MIDI In icon lets you change the velocity of a note selected with the magnifying glass by tapping a key on a MIDI keyboard. Unfortunately, it *plays* the sound of the key you press, not that of the selected note. You can enter notes in step-time this way, too. The notes you play are entered at the current position of the mouse marker. Fine, but you need to know which keys play which drum sound and these aren't shown on the screen.

You can also record a track in real-time from a MIDI keyboard. This is especially useful in loop mode.

SCORE TRAX

TENTRAX HAS A score editor - one of the cheapest sequencer programs to be able to make such a boast. It is used with tracks one to nine. This can only display one track at a time and its facilities are fairly basic, but they work well and they are easy to use - the DMS concept again.

As in the Drum Editor, clicking the right mouse button produces a tool kit containing note, rest, eraser, magnifying glass and glue tube icons.

You can click notes and rests into the score with the mouse, choosing from a set of durations in the centre of the screen. Position indicators at the top of the screen show exactly where your click is going to place them but these default to the resolution of the selected note. This can be negated (in order to enter a quarter note on the second eighth position in a bar, for example) by holding down the Control key. It's a bit of a faff if you're entering lots of syncopated notes, otherwise it's brilliant. Sharps and flats are entered by pressing the Shift and Alternate key while entering notes. You can specify the split point between the treble and bass staves. An *8ve* display option would have been welcome. The glue tube is used to "paste" two notes of the same pitch together - a tie, in other words.

Notes can be entered in step-time from a MIDI keyboard. This is the method I generally find the quickest and easiest.

Clicking on a note displays its start time, length, pitch and velocity in the note info box at the bottom right of the screen. You can edit these by clicking on

them. Velocity can also be altered by dragging on a vertical bar. You can select a group of notes by dragging a box around them in order to perform block operations such as copy, erase, shift and quantise.

There's also an intriguing chord insert function. You can select one of 16 chord types which can be inserted as block chords or as ascending or descending arpeggios. You can also choose an inversion. Click on the keyboard at the bottom of the screen and the chord plays and appears in the correct inversion. Cute, very cute.

A right click in the note selection area determines the quantise value of the score display. No problem if you've entered a track in step-time but it can make some real-time entries look odd. This is a problem all scorewriters suffer from.

MENU MASTER

TENTRAX IS NOT GEM-based and has one menu. It contains file handling commands, MIDI Thru settings (so input is directed to the currently-selected track), MIDI click and chase events (which ensures that settings such as volume and pan are correct at whatever position you start playing the song).

There is no internal or external clock setting, which is understandable as Tentrax plus expander are intended to make a self-contained unit. Still, should you want to link to another sequencer or drum machine. . .

You can set any time signature for the song, ranging from 2/4 to 15/8 but you can't change time signature within a song. And while the faders normally control volume, they can also be set to control modulation or pitch. This is useful as it means you can record these after the notes, even if your master keyboard doesn't have the wheels.

If memory is running a little low you can try the Reduce Controller Data option.

SOUND TRAX

TO SELECT A new sound, click on the sound name and up pops a screen full of sounds, LA or PCM depending on your module. In the lower left-hand corner is the song position counter. You can scroll through this with the mouse. When you reach a position at which you want a new sound you simply click on it to insert it into the track. These appear in the sound name slot as the track plays.

Previous and Next buttons offer a quick way of stepping from one sound change to another. The only limitation here is that if you have a CM64M you can't mix LA and PCM sounds on the same track.

NOT ONE. . .

THERE ARE TWO manuals supplied with Tentrax. The first takes you through the basics of setting up your DMS - plugging in the computer, making the connections and so on - and explains about TOS, GEM, menus and the mouse. It's a mini primer for using the ST, in fact, which makes sense as the DMS is available in various package combinations. The manual will help the complete novice who buys a DMS to "plug in and go".

The second manual is about Tentrax itself. It's well laid out and starts with a description of the Main screen. I usually hate manuals which tell you what everything does (that's for the reference section) before it tells you how to use it, but this is somehow forgivable with Tentrax - possibly because most functions and operations are fairly obvious.

OFF THE TRAX

AS WITH ANY budget program, I have a list of personal wishes and wants. To make the program a little more helpful, for example, I'd like to have been able to change and see the octave and velocity offset from the Main screen. An indicator to show when a track contained recorded data would be useful too, as would a clock to indicate the duration of a piece (although not all the big boys have this) - so simple yet so useful. Additionally, some of you sticklers for accuracy may like to see the pan positions and volume levels also shown as numbers. Some parameters have to be changed by typing in values. Total mouse control would have been better. And given the price, can I whinge about no score printing facility? No? All right then. . .

Then there's Tentrax' inability to dynamically allocate RAM: I didn't know they made sequencers like this any more - especially Steinberg.

While Tentrax can import MIDI Files, it can't save them. This means you can't give your files to another non-Tentrax user or load them into a scorewriter, or take them with you should you decide to upgrade. This may be the furthest thing from your mind but it does tie - and restrict - you to the program.

VERDICT

TENTRAX IS FUN. The seasoned muso may regard some of the moving graphics gimmicky but they do enhance the use of the program. I like them. "Normal" sequencer users cannot know the joy of selecting a sound by name rather than by MIDI channel and instrument. There's an important lesson here: the way forward for MIDI and software must be a greater integration of software and hardware. It's difficult to achieve given the disparate nature of the beast (MIDI, that is) but fairly easy using a dedicated piece of software.

Tentrax complements the MT32, CM32L and CM32P perfectly. If you have a CM64M, Tentrax would be under-using it somewhat; then again, perhaps this is only so if you regularly construct pieces containing more than nine parts. It's not as sophisticated as some other sequencers but if I had a MT32 or one of the CM modules I think I'd gladly forgo the intricacies of the others for the sheer integration offered by Tentrax - especially if this was my first venture into MIDI sequencing. ■

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"The seasoned muso may regard some of Tentrax' moving graphics gimmicky but they do enhance the use of the program - I like them."

MAKING HISTORY

IN TEN YEARS OF DOCUMENTING THE PHENOMENA OF THE HI-TECH MUSIC SCENE, A LOT OF WORDS - WISE AND OTHERWISE - HAVE APPEARED IN THE PAGES OF MT. HERE ARE JUST A FEW OF THEM.

"As for general portability, the system can be packed into three flightcases - all of which fit into the back of a Ford Capri." *Mike Beecher on the Synclavier II, February '83*

"Rock music is not the area of music most likely to benefit from the facilities offered by the CMI, as the instrument is worthy of more than being a glorified bank of presets." *David Ellis on the Fairlight CMI, June '81*

"Once the first electric guitar was plugged into an amplifier, the effect its volume had wrote indelible writing on the wall for the big bands of swing. The introduction of electronics will broaden the field of music infinitely." *Warren Cann on the Linn LM1, September '81*

"The programming is not easy first time around. You're very familiar with synthesisers, but I bet if you sat and just looked at this, you would not - on a Saturday morning in a shop - have any success." *Dave Bristow on the Yamaha DX7, July '83*

"To get the best from this lovely new machine, you really have to use the old, old method of pen and paper to write down rhythms." *Tony Bacon on the Roland TR606, February '82*

"I don't think there will be a non-programmable monophonic that is going to beat it for some time." *Dave Cromble on the Sequential Circuits Pro One, March '82*

"The Emulator can be a very powerful tool for the creative artist. If enough people take advantage of its capabilities, we are going to make a hell of a lot of money." *David Ellis quoting from the E-mu Emulator I manual, June '82*

"Pre-echoes can be generated in real time, and by selecting the pre-delay time in accordance with an algorithm embodying Fourier synthesis and Bessel transforms, it's possible to create multi-dimensional comb filtering effects, which in turn enables a homogenous ambisonic sound field to be created from a single point source." *Dan Goldstein & Paul White on the Zlatna Panega, April '85*

"Like every new sampler, the S900 may suffer initially from the relative scarcity of library sample disks available for it." *Paul Wiffen on the Akai S900, July '86*

"The Series III is also a multi-tasking system, which means that unlike E&MM's Editor, it can do several things at once." *Simon Trask on the Fairlight III & Dan Goldstein, April '86*

"What we should see as a result is MIDI software that's much easier to use, offers far more musical memory and provides a bigger range of facilities than any package written for today's machines. That, to me, is some prospect." *Simon Trask on the Atari 520ST, July '85*

"But now even the 909 is becoming something of a collector's piece. . . so pick up one of Roland's gems while they're still freely (and cheaply) available. . ." *Tim Goodyer, Roland TR808 retrospective, November '86*

"There's no doubt that digital MIDI sequencing is having a profound effect on the way we record, and maybe even conceive our music." *Simon Trask on Steinberg Pro24, September '86*

"I find it hard to overrate the M1. To my mind it represents the most exciting combination of sampled and synthesised sounds yet produced." *Simon Trask on the Korg M1, July '88*

"At the risk of having multiple paradiddles played across my temples with jackboots, I'd say that the SDX is almost too good to let drummers loose on anyway." *Nicholas Rowland on the Simmons SDX, April '88*

"I certainly never had any problems with tuning stability - but then I'm a pretty stable sort of person." *Simon Trask on the Cheetah MS6, November '88*

"The question on everyone's minds is: will the SY77 be the DX7 of the '90s? That could mean will it leapfrog the competition both sonically and technologically, or it could mean will it be the hardest synthesiser in the world to program?" *Simon Trask on the Yamaha SY77, January '90*

"At the end of this sophisticated (maximum 10,000 note) recording section is surprisingly, just a mono output! Don't despair, though, for a stereo placement module is on its way in '83. . ." *Mike Beecher on the Synclavier II, February '83*

"To my mind, a whole new generation of musicians will be thanking Oberheim for bringing out the Matrix 1000." *Simon Trask on the Matrix 1000, August '88*

"But the biggest innovation must surely be in the provision of MIDI. Gone are the control voltage and trigger ins and outs in favour of this micro controller - a bold first step towards what is likely to become the universal link for the synthesiser." Mike Beecher on the SCI Prophet 600, April '83

"Button 18 is actually the MIDI. You can choose 16 channels of MIDI. In other words if you've got 16 of the DXs linked up in series and you've got a sequence going, I guess you could link a different channel to each note." *Dave Bristow on the Yamaha DX7, July '83*

". . .next you find the 64K RAM card, though there is room for two more memory cards if it becomes necessary in the future." *David Ellis on the Fairlight CMI, June '81*

"Halfway through the song, a saxophone solo: 16 bars of human musicianship amongst the sequences. Nobody is interested in synth solos any more 'no feel. . .'" *Andy Blake on the Akai EWI, April '88*

"Simmons provide a plug-in CMOS memory pack to provide a cheap, quick storage medium which will retain programs for around four years." *Ken McAlpine on the Simmons SDS6, Feb '83*

"Quite simply, EII is audibly superior to any other 8-bit sampling system this reviewer has heard. And if all this can be achieved using the current system, why bother going up to 12- or 16-bit?" *Paul Wiffen on the Emulator II, Nov '84*

"There are considerable numbers of musicians who are not particularly enamoured of the aural effects of sampled rhythm machines, preferring traditional analogue sounds. . ." *Dan Goldstein & Geoff Twigg on the Roland TR909, April '84*

"As Martin Tennant of Yamaha-Kemble put it: 'If I'd had a quarter per cent share in every CX5M that people wanted to buy when it wasn't available I'd be holidaying in the Bahamas now!'" *David Ellis on the Yamaha CX5M, October '84*

"After a couple of hours you're making music. After a couple of days you're ready to set the world on fire. Like I said before, this machine is the argument for drum machines." *Trevor Gilchrist on the Yamaha RX5, April '87*

"Few instruments cause as much stir in the MT office as this: a synth that sounds brilliant, looks relatively easy to program and doesn't cost a fortune. Superlatives are not enough." *Dan Goldstein on the Roland D50 (unwittingly starting an advertising campaign), May '87*

"There's no doubt now that hi-tech recording is moving steadily towards the tapeless studio." *Simon Trask on the Roland MT32, October '87*

"In little more than a year, the range of Atari ST MIDI software has developed dramatically. And it's a trend which shows little sign of abating, as companies who previously wrote for the Apple Mac start to port their programs over to the ST. . ." *Simon Trask on C-Lab Creator, December '87*

"As a machine in its own right, the DMP7 is a step forward of awesome proportions. As an indicator of things to come, its impact could be phenomenal." *Dan Goldstein on the Yamaha DMP7 Digital Mixer, February '87*

"For many electro-musicians, the Prophet 600 will become the ideal reasonably low-cost polyphonic, unlikely to become redundant because of its MIDI link - so now's the time to learn to use a home micro or you'll be left behind!" *Mike Beecher on the SCI Prophet 600 April '83*

"Whichever way you look at it, the D50 is one hell of a good instrument, and one that has already booked itself a place in the synthesiser's hall of fame, long before most musicians have even set eyes on one." *Dan Goldstein on the Roland D50, May '87*

"Whilst kangaroo steak may be an acquired taste, the Fairlight CMI certainly isn't, it's positively addictive." *David Ellis on the Fairlight CMI, June '81*

"Roland's curious TR808, however, continues its insistent rattle from transistor radios, and thumps its way across nightclub speaker systems the world over - three years after the last one rolled off the Hamamatsu production line." Tim Goodyer, Roland TR808 retrospective, November '86

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KORG DW6000, £250; Roland U220, simple playing module, £399; 200W ➤

PA amp, £199. Benoit, Tel: Brighton (0273) 726219.

KORG DW8000, excellent cond, boxed, home use only, £400 ono. Tel: (0373) 826457.

KORG EX8000 analogue digital module, perfect cond, £290 or swap for DW8000. Paul, Tel: Preston (0772) 39124.

KORG M1, 6 months old, still under warranty, £825 ono; Roland E30, top of the range keyboard, with full flightcase, £850 ono. Ian, Tel: 051-264 9222.

KORG M1, £850; Roland U20 keyboard, inc case, £625; Roland U220 expander, boxed, £450; Atari 1040STFM, plus monitor, £400; Carlsbro keyboard combo, plus speaker, £195; Alesis Midiverb II, £130. Pat, Tel: (0952) 460163.

KORG M1, perfectly kept, home use but rarely used, RAM card, £950. Tel: (0908) 615840.

KORG M1 workstation, only 1 yr old, absolute perfect cond, with flightcase, £1000 ono; Yamaha QX5 sequencer, absolute perfect cond, £300; Roland Juno 2 synth, flightcase, only £350. Russell, Tel: 081-954 2317.

KORG M1, immac cond, boxed, manuals, practice amp, £900 ono. Tel: Leicester (0533) 545352.

KORG M1, absolutely perfect cond, 4 months old, Valhala ROM card 3, Ross keyboard amp, as new, £950. Steven Ware, Tel: Medway (0634) 376793.

KORG M1, £850 ono; Roland Pro-E, £350 ono; Roland Space Echo, £80 ono; Fostex X15, £150 ono. Terry, Tel: Norfolk (0603) 700385.

KORG M1, with 2 RAM cards, case and manual, £890. Tel: 061-440 8027.

KORG M1, 3 RAM cards, flightcase, £950 ono. Andrew Drakeford, Tel: (0331) 24791.

KORG M1R, boxed, with manuals, ace nick, ace machine, ace price, £800 ono. Steve, Tel: (0782) 660969.

KORG M1R, with DS8, A-frame, plus powered mixer and speaker, excellent, £1400. Steve, Tel: (0279) 430466.

KORG M1R, plus 19" open-back rack, £575. Dan, Tel: (0359) 21393.

KORG MEX8000 memory expander, £240 in shops, sell for just £59. Jonathan, Tel: (0329) 663048.

KORG P3 piano module, complete with 2 ROM cards, Orchestra Pit combo kit, home use only, £175 ono. Tel: Lancs (0257) 791181.

KORG POLY800, patch tape, manual, £130. Tel: 051-355 2148, eves.

KORG WAVESTATION, immac cond, boxed, 9 months guarantee remaining, £1200. Simon, Tel: (0925) 740628.

MOOG MINIMOOG, Model D, with Kenton Electronics MIDI retrofit, £700 ono. Tel: 031-228 5005, after 6pm.

MOOG PRODIGY, classic analogue synth, £100. Tel: (0778) 347673.

OBERHEIM MATRIX 6, £550; Roland U110, with 4 cards, £425. Ryan, Tel: (0253) 24754, anytime.

OBERHEIM MATRIX 6R, boxed, excellent cond, £499; Memorymoog, offers. Andy, Tel: (0752) 670831.

OBERHEIM MATRIX 1000 module, mega analogue sounds, boxed, as new, £375 ono. Tel: 061-486 6370.

OBERHEIM OB1, your chance to own an analogue monophonic programmable synth, £175 ono. Norm, Tel: (0453) 548393.

OCTAVE CAT analogue synth, complete with manual, mint cond, ideal for house and acid house-type music, 4 oscillators, £225, no offers. Paul, Tel: Leeds (0532) 621396.

ONE POLYMOOG, offers please. Duncan, Tel: Coventry (0203) 610659, eves.

RHODES 760 sample keyboard, 76-note, 30-note poly, 6-part multitimbral, 3 U-series ROM cards, £900 ono. Chris, Tel: 081-533 6273.

ROLAND 100M SYSTEM, perfect cond, £2000. Tel: 071-722 1420.

ROLAND D5, boxed, with manuals, ROM card, £350; Cheetah MS6 analogue synth module, £150. Adrian, Tel: (0234) 218957.

ROLAND D5, £400; Kawai K1, £300; Yamaha TX81Z, £150; Boss DR550, £130; Yamaha AM802 mixer, £180; Alesis Midiverb II, £100. Matt, Tel: 0905 771993, after 6.30pm.

ROLAND D5, new, £350. Alan, Tel: 051-677 8696.

ROLAND D5, boxed, as new, £350 ono; Yamaha QY10 sequencer expander, £200 ono. Tel: Rotherham 701608, eves.

ROLAND D5, as new, £400 ono; Roland SH09, good bass sounds, £80; Korg SQD1, 16-channel sequencer, disks, £95. Rick, Tel: 021-704 2646.

ROLAND D5 synth, 8-part multitimbral, 256 PCM samples, fully programmable, brand new, boxed, £370. Tel: Liverpool 051-709 3714, anytime.

ROLAND D10 synth, mint cond, boxed, flightcase, £495.

ROLAND D10, 16-bit multitimbral synth, £495. Andy, Tel: (0202) 698771.

ROLAND D10, excellent cond, home use only, £450. Paddy, Tel: 051-263 6936.

ROLAND D110 multitimbral sound module, Evolution EVS1 multitimbral sound module, both £510 ono. Roger, Tel: (0787) 78106.

ROLAND D110 module, editor and sound disks, £375; Denard 12U 19" rack, adjustable tilt, £35. Pete, Tel: 081-367 1720.

ROLAND D110, £295; Kawai K1R, never used, £195; Yamaha CX5, with loads of extras, £120. Tel: (0325) 465812.

ROLAND D110, 32-note polyphonic, 9-part multitimbral sound module, superb sequencing piece of kit, £295. Neil, Tel: (0536) 711260, eves only.

ROLAND D20 synth, excellent cond, little home use, inc case, 3 sound cards, manuals, original packaging, £675. David, Tel: (0272) 779502.

ROLAND D20, plus rare PG10 controller, £800 ono. Dominic Hodson, Tel: (0425) 278477.

ROLAND D50, excellent cond, boxed, with manuals, home use only, 128 patches, £520. Phil, Tel: Sunderland 091-548 6124.

ROLAND D50, £600; Roland D110, £385; Yamaha TX81Z, £180. Jeff, Tel: Cambridge (0223) 892938.

ROLAND D50, excellent cond, good home wanted, £495. Dave, Tel: (0582) 451535.

ROLAND D50, £600; TR626, £115; Yamaha SPX900, £400. Simon, Tel: (09592) 4261.

ROLAND D70 plus Alesis MMT8 sequencer, both less than 1 year old, £1200. Phil, Tel: (0203) 619245.

ROLAND E30 intelligent synth, as new, £625 ono. Mac, Tel: (0222) 757484.

ROLAND JUNO 60, plus sequencer, perfect cond, £400 ono; Yamaha RX15 drum machine, as new, boxed, perfect cond, £150. David, Tel: Nottingham (0602) 820826, 24 hrs.

ROLAND JUNO 60, excellent cond, never gigged, with semi-flightcase, £200. Tel: (0923) 670007, between 6-10pm.

ROLAND JUPITER 6, with MIDI update, excellent cond, £400 ono. Mark or Alex, Tel: Bristol (0272) 666682, eves.

ROLAND JX3P, programmer, £200; Korg Poly800, £110; Roland R5 drum machine, £240; Torque T2500R 19" rack reverb, £40; Bose 301 MkII direct/reflecting monitor speakers, fantastic sound, £150. Swap everything for an Ensoniq SQ1 in good cond. All gear excellent cond, all manuals, leads, power supplies. Matt, Tel: (0293) 551297, after 6pm.

ROLAND JX3P, classic analogue synth, good cond, £250 ono. Patrick, Tel: Guildford (0483) 233156.

ROLAND JX3P analogue programmable synth, vgc, with hard case, £250 ono; Roland RS09 organ/strings, old but works, £40. Tel: (0707) 54771, eves and weekends.

ROLAND JX3P, with PG200 programmer, good cond, £500 ono. David Rees-Williams, Tel: (0227) 456552.

ROLAND JX10, 76-note keyboard, 24 oscillators, megasynth, boxed, with manuals, power supply., £750 ono, possible delivery. Nick, Tel: Room F102 (0248) 352653.

ROLAND MKS20 piano module, the ultimate piano sound, £295. Steve French, Tel: Colchester (0206) 230105.

ROLAND MKS30 module, with PG200 programmer, all boxed, as new, with cartridges, £295. Steve, Tel: 091-212 0885.

ROLAND MT32 sound module, £150 ono. Kev, Tel: (0703) 641211.

ROLAND MT32, £230 ono. Paul, Tel: 071-252 8311.

ROLAND MT32, £180. Clive, Tel: (0202) 555443.

ROLAND MT32, LA sound module, vgc, £190. Tony, Tel: 081-690 7106.

ROLAND MT100 mini workstation, sequencer, sound module, drums, plus disks, books, manuals, £500; PSS680 music station, synth and drum machine, £120. Paul, Tel: (0536) 761014.

ROLAND P330 SAS piano module, £400; Alesis MMT8 sequencer, £150; Yamaha RX21L drum machine, £60. All boxed, with manuals. Tel: Swansea (0792) 897426, after 6pm.

ROLAND PG10 programmer, £50, no offers. Jem, Tel: 081-348 6138.

ROLAND SH09, Korg SQD1 sequencer, Roland D5, £420 the lot; Boss DR550, £150 ono. Ben, Tel: 021-705 2557, after 6pm.

ROLAND SH101, mint cond, £100. Colin, Tel: (0803) 311678.

ROLAND SUPER JUPITER MKS80, £900; Oberheim expander, £900; Yamaha TX816, £900; Yamaha DX7IIFD, £700; Akai S900, £700. Marco, Tel: 071-386 8934.

ROLAND SYSTEM 100, Model 101 keyboard, £110 ono; Roland DM30 chorus echo, £40 ono; Yamaha QX21, mint cond, £120 ono; Accessit compressor, £20 ono. Steven, Tel: (0726) 66715.

ROLAND U20, with 8 cards, Roland W30, 23 disks, 2 sample CD, flightcase, Yamaha KM602 mixer, Washburn guitar, Roland DAC10 amp, chorus, overdrive and compressor pedals, Ibanez multi-mode analogue delay, quick sale needed hence sensible offers considered. Jeff, Tel: (0202) 722217.

ROLAND U20 RS-PCM keyboard, boxed, as new, with free Steinberg Twelve ST sequencing software, £625

ono. Tel: Tyneside 091-253 2460.

ROLAND U20, 2 ROM cards, £650; Casio CZ3000, new sounds, £250. Andy, Tel: (0204) 695397.

ROLAND U20, boxed, mint, £675; Kawai Q80, £325. Scott, Tel: (0902) 885459.

ROLAND U20 synth, plus cards, Yamaha DCR20 16-track sequencer, plus 50 MIDI song files, 12 3.5" disks, superb setup, ready to gig, £950 ono. John, Tel: (0702) 298688.

ROLAND U20, still boxed, as new, £620. Julian, Tel: (0283) 75333.

ROLAND U20, RSM-PCM keyboard, superb cond, £595. Neil, Tel: (0536) 711260, eves only.

ROLAND U110 keyboard expander, £300 ono. Andrew, Tel: (0742) 847780.

SEQUENTIAL PROPHET VS keyboard, with very rare software update, boxed, with manual, vgc, ultimate analogue synth, £1300. A Prentice, Tel: 031-440 1797, 9-4.30pm.

SEQUENTIAL SIXTRAK, classic analogue synth, £295. Tony, Tel: 081-314 5116.

SEQUENTIAL SIXTRAK polyphonic digital synth, 100-voice programmable, full sequencer, MIDI compatible, excellent cond, £150 ono. Graham, Tel: (0562) 710986.

TEISCO 1107 monosynth, real collectors item, bargain at £60. Tel: Birmingham area 021-558 0610.

TECHNICS KN800, with disk drive, inc 480 accompaniments, £900 ono. Phil, Tel: (0246) 270583.

WURLITZER electric piano, with sustain pedal, offers around £100; Yamaha CS5 synth, £50. Fab, Tel: (0709) 828655, eves.

YAMAHA keyboard and recording system, Studio Research 6:2 mixer, Yamaha A100 power amp, pair Yamaha NS10 monitor speakers, £500 ono, all new. Chris, Tel: 081-533 6273.

YAMAHA keyboard PA recording system, Studio Research 6:2 mixer, Yamaha A100 power amp, pair of Yamaha NS10 studio monitors, £500 ono, all new. Chris, Tel: 081-533 6273.

YAMAHA B200/YS200 synth, 5-octave, touch sensitive plus aftertouch, MIDI, plus 6 speaker stereo amplification built-in, 8-track sequencer, split and multi-tone facility, cost £850, sell £320 ono. Tel: 061-980 6140.

YAMAHA CE25 synth, 4-octave, velocity and aftertouch, as new, £125 ono. Morris, Tel: 061-980 6140.

YAMAHA CLAVINOVA CLP30 full-size electric piano, 88-note weighted keys, with stand, stool, pedals, 8 tones, MIDI, stereo chorus, as new, £699 ono. Morris, Tel: 061-980 6140.

YAMAHA DX7 synth, Yamaha QX21 sequencer, keyboard amp, £490 the lot. Miskolczi, Tel: 081-342 9646.

YAMAHA DX7S synth, £300 ono. Tel: Southport (0704) 542121.

YAMAHA DX7IID, hardly used, £400. Tel: (0302) 770867.

YAMAHA DX9, top FM sounds, good cond, £200. Lauri, Tel: Manchester 061-881 8610.

YAMAHA DX11 multitimbral synth, velocity and aftertouch keyboard, boxed, immac cond, £225. Duncan, Tel: 021-552 4921.

YAMAHA DX11 synth, £390; Yamaha QX21 sequencer, £120. Both excellent cond, home use only, manuals etc, £500 the pair. Tel: (0704) 821316.

YAMAHA DX11, boxed, manuals, vgc, £320; Slapback Scintillator audio enhancer, £95. Pete, Tel: (0272) 636385.

YAMAHA DX21, with flightcase and manual, vgc, £200 ono. Tel: (0745) 590900.

YAMAHA DX27, vgc, with stand and manuals, £200. Simon, Tel: (0344) 25572.

YAMAHA DX27, hard case, RX21 and QX21, £400 or split; Tascam Porta 05, immac, £250; Korg MS20, £100; EX800, £80; Frontline X8 mixer, £90; Boss DE200 DDL, £80; Sansui hi-fi, Marantz speakers, £150; Casio CSM1 sampled sound module, £80; Aces spring reverb, £50; Roland EM101 sound unit, £80. All good cond, all ono's. Andy, Tel: (0793) 613447.

YAMAHA DX100, psu, immac cond, boxed, manual, £160. Tel: 021-453 3606.

YAMAHA KX88, lovely touch, hardly used, MIDI master keyboard, £750 ono. Tel: Nottingham (0602) 470906.

YAMAHA KX88 MIDI master keyboard, with roadcase, £1000 ono. Paul Samuelson, Tel: 081-969 9394.

YAMAHA PF80 electronic piano, 88-note weighted keyboard, internal speakers, solid Clavinova-style stand, ideal master keyboard, £595 ono. Tony, Tel: Woking (0483) 760841.

YAMAHA PSR4500, as new, £525 ono. Mac, Tel: (0222) 757484.

YAMAHA PSR4500, perfect cond, boxed, mains supply, £550 ono; Casio HT3000 synth, hardly used, £120 ono. Tel: (0375) 670599.

YAMAHA SY22, 3 months old, mint cond, boxed, with manuals, £575. Matthew, Tel: (0509) 650241.

YAMAHA SY55 music synthesiser, unwanted gift, still boxed, as new, £700, no offers. Dave, Tel: (0539) 722487.

YAMAHA SY55 keyboard, 3 months old, boxed, card, manuals, £600. Tel: (07462) 762685.

YAMAHA SY77, mint cond, boxed, with manuals, 6 months old, plus software, £1295 ono. Graham Cochrane, Tel: (0204) 652323.

YAMAHA TX7 expander, with DX droid editor and injector program, 1000 quality DX voices, runs in Cubase desk top, £200 ono. John, Tel: (0482) 45647.

YAMAHA TX81Z expander, vgc, £150. Chris, Tel: 071-722 1420.

YAMAHA TX81Z, £170 ono. Paul, Tel: 071-252 8311.

YAMAHA TX81Z, £200 ono. Adam, Tel: (0602) 229523.

YAMAHA TX81Z, rackmount synth, boxed, with manual, as new, £170 ono; 8-channel mixer, £30 ono. Andy, Tel: (0726) 815461.

YAMAHA YS200 workstation, boxed, with manual, excellent cond, £300 ono. Neil, Tel: (0254) 249125.

SAMPLING

AKAI S700 sampler, £350; Alesis MMT8 MIDI recorder, £150. Perry, Tel: (0895) 673658.

AKAI S900 sampler, excellent ond, £800. Tel: Stafford (0785) 823455.

AKAI S900, mint cond, £800 ono. Adam, Tel: 021-766 7822.

AKAI S950, full memory upgrade, 31 secs - full bandwidth, excellent cond, £1000. Jem, Tel: 081-348 6138.

AKAI S950 sampler, 3 months old, £925; Yamaha DX21 keyboard, £250; speakers, guitars, expanders, headphones etc. Carl, Tel: Wolverhampton (0902) 757527.

AKAI X7000 sampling keyboard, immac cond, boxed, complete with disks and manual, £420. Tel: (0703) 220152.

BOSS RSD10 2 sec sampler delay, £130; Boss RDD20 digital delay, £90; Alesis Micro Gates and Micro Limiter, £60 each. Tel: 081-428 2370.

EMAX SAMPLER, with library, excellent cond, £950 ono. Phil, Tel: Brighton (0273) 735273.

EMAX SAMPLER, with library, excellent cond, £950 ono. Phil, Tel: Brighton (0273) 735273.

ENSONIQ EPS, sampling and sequencing keyboard, 2x memory expander, excellent sound library, perfect cond, home use only, £850. Tel: Brighton 870560.

ENSONIQ MIRAGE sampler, excellent cond, MASOS disk, manuals, plus 50 sound library disks, £590. Tel: 051-339 4930.

ROLAND S330 sampler, 1 yr old, mint cond, quick sale, £650, no offers. Rick, Tel: (0473) 462447.

ROLAND S770 sampler, with 8Meg memory, £2500 ono. Tel: (0455) 611479.

ROLAND U20 RS PCM keyboard, boxed, as new, with free Steinberg Twelve ST sequencing software, £625 ono. Tel: Tyneside 091-253 2460, eves.

ROLAND W30, plus disks, stand and flightcase, £1000. Dan, Tel: (0359) 21393.

ROLAND W30, keyboard sequencer sampler, boxed, as new, many disks, £999. Alex, Tel: Bournemouth (0202) 694904.

ROLAND W30, large library, boxed, manual, absolutely as new, £950. Tel: Suffolk (0440) 707610.

ROLAND W30, 60 disks, mint, boxed, only eight months home use, £1095. Paul, Tel: (0977) 511156.

ROLAND W30, home use only, vgc, £1000. Paul, Tel: (0272) 466519.

ROLAND W30, good cond, boxed, manual, some library, home use only, £1000. Freddie Thompson, Tel: Basildon (0268) 281649.

SWAP FZ1 SOUNDS. Marlon, Tel: Great Yarmouth (0493) 843859.

SEQUENCERS

ALESIS MMT8 sequencer, box, manual, £140. Tel: 051-355 2148, eves.

ALESIS MMT8 sequencer, boxed, manuals, £150. Tel: 051-339 4930.

ROLAND MC202, good cond, with manuals, will swap for Roland TB303. Tel: (0604) 843536.

ROLAND MC50, £450. Dominic, Tel: (0706) 215788.

ROLAND PR100, with disks, and manuals, home use only, excellent cond, £235 ono. Rick, Tel: Brighton (0273) 584802.

ROLAND PR100 sequencer, home use only, 20 disks. Mick, Tel: (0788) 570195.

ZYKLUS MPS SEQUENCER, can transpose all sequences in realtime, totally unique, nothing compares, hardly used, £500. Kevin, Tel: (0473) 686720.

DRUMS

ALESIS HR16, boxed, latest software, mint, home use only, £175. Tel: (0255) 434217.

ALESIS HR16B drum machine, boxed, manuals and chip, £200. Tel: 051-355 2148, eves.

BOSS DR220A drum machine, boxed, with manual, £65. Tel: (0707) 54771, eves and weekends.

BOSS DR550, 16-bit drum machine, 48 sounds inc 808, mint cond, boxed, power supply, manual, £150. Tel: (0703) 220152.

BOSS DR550, practically new, inc psu, new cost £195, sell £115. Tel: 081-642 7884.

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CHEETAH MD16, 5 months old, with manual, £200 ono. Duncan, Tel: 081-397 6984.

KAWAI R50 drum machine, £120. Tel: Lincoln (0522) 531800.

KAWAI R50 drum machine, with manual, £150 ono. Phil, Tel: Brighton (0273) 735273.

KAWAI R100 drum machine, with 2 custom sound chips, great sounds, touch sensitive, MIDI, individual outputs, 100 pads, 100 song, cost over £600, selling £215. Akka, Tel: 081-673 5548.

MUSIC PERCUSSION COMPUTER, 8 electronic drum pads, mounted in flightcase, never used, good cond, £60 ono. Rob, Tel: (0462) 459218.

ROLAND OCTAPAD MIDI drum pads, £135. Tony, Tel: 081-690 7106.

ROLAND R5, £250. Neil, Tel: (0536) 711260, eves only.

ROLAND R8 drum machine, only 6 months old, excellent cond, complete with guarantee, £440 ovno. Tel: 091-276 2877, 24 hrs.

ROLAND R8 drum machine, immac cond, boxed, manuals etc, £450; Korg M1R, boxed, manuals, immac cond, £750; Roland JX3P, immac cond, boxed, manuals etc, £200. Steve, Tel: (0782) 660969.

ROLAND TR505, vgc, separate outs, £90. Steve, Tel: (0733) 241516.

ROLAND TR505 rhythm composer, as new, must sell, £115 ono. Tel: 091-529 4788, anytime.

ROLAND TR505, excellent cond, £110. Kevin, Tel: (0473) 686720.

ROLAND TR606 Drumatix, perfect cond, £75; Roland MC64 memory cartridge, £25. Kevin, Tel: 071-354 3041.

ROLAND TR626, £110; Jim Dunlop Cry-Baby pedal, £50, both as new. Lee, Tel: (0784) 461795.

ROLAND TR707, manual, psu, excellent cond, bargain at £99. Toby, Tel: 071-491 0411.

ROLAND TR909, with manual, excellent cond, £330 ono. Carlton, Tel: 021-643 3762, before 5pm.

ROLAND TR909 drum machine, £350 ono; Korg SQD1 sequencer, £160 ono; Korg Poly800 synth, £150 ono. Craig, Tel: (0742) 750419.

SIMMONS SDS1000, 5-piece electronic drum kit, inc pads, rack, brain and leads, boxed, excellent cond, £350. Ben, Tel: (0867) 74416.

YAMAHA RX15 and Roland TR505, both good cond, with leads, manuals etc, excellent sounds on all, £115 each or £200 for both, all reasonable offers accepted. Dean, Tel: (0202) 764438, days only.

YAMAHA RX21L, mint, manuals, £80. Tel: (0255) 434217.

COMPUTING

ATARI 520STFM, with monitor, Replay Pro 12-bit sampler, comes with disks full of 909 and 808 sounds, swap for Mirage, S220, X7000 or S700. Jason, Tel: (0525) 717557.

ATARI 1040ST, expanded to 2.5Meg, boxed, with SM125 mono monitor and Commodore 1084 colour monitor, lots of original games software, £650. Chris, Tel: (0203) 665741.

ATARI 1040STE, SM124 monitor, Mastersound II sampler, games, art package, F29 flight simulator and joystick, new, boxed, immac cond, only 3 months old, financial situation forces reluctant sale, must sell, £750 ono. Pete, Tel: (0203) 381414.

ATARI ST, 1Meg system, plus SM124 hi-res mono monitor, £325. Neil, Tel: (0536) 711260, eves only.

ATARI STF, with 2.5Meg expansion, SM124 monitor, MIDI software etc, £500 ono or swap for D50, FZ10M etc. Marlon, Tel: Great Yarmouth (0493) 843859.

ATARI STACY, portable, 2Meg RAM, 40Meg hard disk, £1300 ono. John, Tel: (0603) 660123.

GAJITS SEQUENCER ONE for Atari, boxed, original, £25 ono or part exchange for Pro24 plus cash. Tel: (0244) 815117, 24 hrs.

JORETH MUSIC SYSTEM for Commodore 64, MIDI interface plus Composer, Linker, CZ and System 7 editors, cost over £400, must sell, £80 ono. Tel: 091-529 4788, anytime.

MACINTOSH SE computer, £650; Emulator II, £200. Joyce, Tel: (0932) 868563.

MUSIC-X, registered copy, plus MIDI interface, £100 ono. Steve, Tel: 081-301 0777.

1MEG AMIGA, 6 months old, complete with games, design software, warranties, only £320 ovno, will consider p/x with Atari 1040ST with music software. Tel: 091-276 2877, 24 hrs.

STEINBERG CUBASE, v2, brand new Atari MIDI sequencer, £250 ono for quick sale. Tel: (0474) 568382, eves or weekends.

STEINBERG PRO24, v3, sequencing software, with manual, registration form, £45. Phil, Tel: (0273) 735273.

STEINBERG PRO24, music sequencer software, key, manual and disk, genuine software, £90. Douglas, Tel: 061-228 1771, work; 061-764 2485, home.

STEINBERG PRO24, fully legitimate copy, with dongle, £50. Neil, Tel: (0536) 711260, eves only.

STEINBERG SOUNDWORKS for Casio FZ1/FZ10M/FZ20M, Atari ST, invaluable for editing/looping, lots of great features, £140. A Prentice, Tel: 031-440 1797.

STEINBERG TWELVE ST sequencing software, original, with binder etc, £625 ono, with free Roland U20 RS-PCM keyboard, boxed, as new. Tel: Tyneside 091-253 2460, eves.

YAMAHA CX5M, large keyboard, data cassette recorder, FM, DX7 and Composer software, SFG05 voice unit, Bit2, voice filer, games, £100. Martin, Tel: (0353) 666756.

RECORDING

AKAI 1722W reel-to-reel 4-track recorder, as new, only used once, £430. Tel: (0787) 78106.

BEL 24:16:24 mixer, 6 auxs, upgraded, £1500; Urei 811B studio monitors, vgc, £1100;
C-Audio 500W stereo power amp, £300; GPO 200-hole patchbay, inc looms and patch cords, £250; Tannoy Little Red monitors, vgc, £350; stand-easy stands, £80 each; mixer, 19" rack, speakers, Q-play remote control B16, £60; monster flightcase, £120. Tel: (0438) 350544.

B&W SERIES 80, pair, Model 801 studio professional monitors, offers. Enda, Tel: 081-898 7762.

BOSS BX600, 6-channel stereo mixer, as new, great for keyboards, £80; Boss GE7, 7-band graphic EQ, £45. Tel: (0895) 636679.

EX-HOME STUDIO SALE: Seck 12:8:2, Simmons SDS1, half-inch tapes, loom etc, excellent cond, offers. Andy, Tel: 071-622 8182.

FOSTEX E16, very good condition, home use only, boxed, manual, £2000. Tel: (0255) 434217.

FOSTEX 450, 8:4 channel mixer, immac, home use only, £350. Ray, Tel: (0708) 744535.

FOSTEX X26 multitrack tape recorder, home use only, £190. Mike, Tel: (0744) 35567.

JL COOPER automation system, fades and mutes, SMPTE, 32-channels complete, patches, inserts and faders, £3500 ono. Paul Samuelson, Tel: 081-969 9394.

NEUMANN U64 valve mic, inc psu and cables, £1000 ono. Paul Samualson, Tel: 081-969 9394.

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SIMMONS SPM8:2 mixers, Roland SRV2000 reverb, Roland DE200 delay. Peter, Tel: (0229) 838757.

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TANDY 6:2 mixer, good cond, £50. Mark, Tel: Preston 722722, office hrs.

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CASIO FZ1, preferably with memory expansion, must be excellent cond, will pay £550. Tel: (0703) 220152.
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KORG KMS30, Seiko DS250 or DS320. Paul, Tel: (0929) 424097.
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MIDI-TO-CV converter wanted quickly, preferably cheap one, any cond as long as it works alright. Ben, Tel: 021-705 2557.
OBERHEIM MATRIX 1000, any remote keyboard in good cond, full-size keys, Atari 1040ST plus sequencing package. David, Tel: (0925) 814385.
OPERATION MANUAL for Oberheim Prommer, will pay £5. Stuart, Tel: (0795) 842967.
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YAMAHA QX3. Steven, Tel: (0726) 66715.
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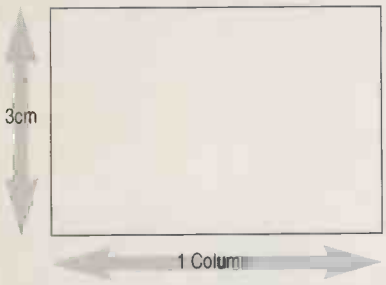

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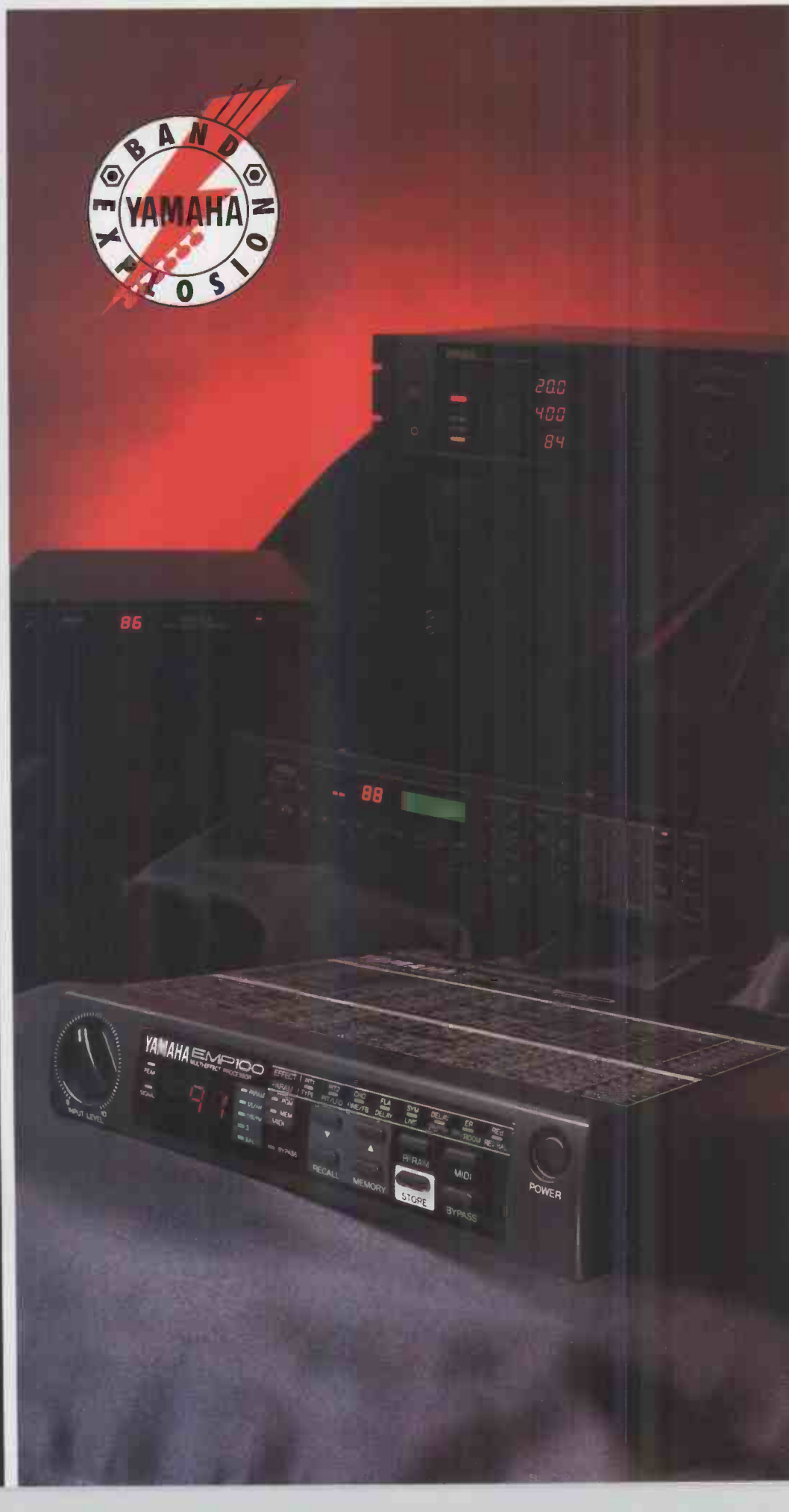

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