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ELECTRONICS & MUSIC MAKER
THE MUSIC TECHNOLOGY MAGAZINE



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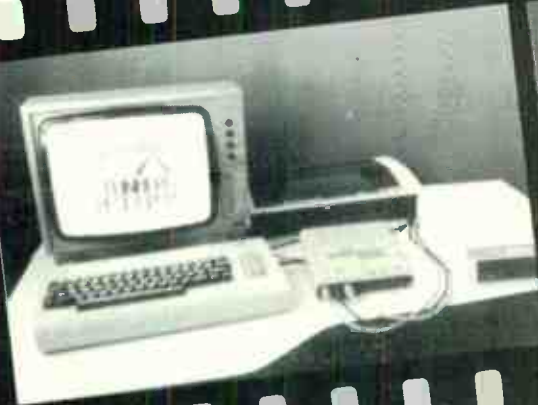
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A complete rundown of all the polysynths, voice expanders and remote keyboards currently available – plus the comments of our reviewing team on each of them.



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In an exclusive interview, this long-standing keyboard hero and Miami Vice music maestro discusses keyboard technique, and what it's like to achieve mass recognition after years of obscurity. Annabel Scott takes note.

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Paul White and Dan Goldstein on how to beat the problems of venturing into a professional studio for the first time. If you're new to recording, the advice is unmissable.

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A specialised sampler for specialised tasks – but will the arrival of cheaper sampling keyboards diminish this rack-mount unit's appeal? Annabel Scott finds out.

Patchwork

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By popular demand, the readers' synth patch page returns with a new look and a new approach. This month, sounds for the Casio CZs, Roland Juno 106 and Yamaha DX7, plus news of a Korg cassette that offers 165 sampled sounds for under a tenner.

ALL TALK, SOME ACTION

It's both a relief and a disappointment to find that, as E&MM Editor, I don't interview as many musicians, composers and producers as I once did. The disappointing bit comes from the fact that talking to the famous can be extremely rewarding, not to mention great fun. On several occasions, I've realised personal ambitions to meet people I've hugely admired – so every time I despatch a freelance writer or a member of E&MM's staff to an interview, I usually hear a little voice that says: 'why don't you go?'

But to be frank, I'm quite relieved that I don't have to go through the whole business of interviewing as frequently as I used to. Because right from the moment you pick up the phone and call the relevant management office, simply *arranging* to be in the same place at the same time as Joe Rockstar can be a harrowing experience. And when you actually get to the rendezvous point, the problems really start.

Ask Paul Tingen, the man responsible for this month's article on producer Steve Nye. Most people are familiar with at least some of the records Nye has been involved with, even though his production techniques are nothing like as obtrusive as those of Messrs Horn, Hine and company. Unhappily for Tingen, the producer proved to be just as quiet in conversation, and although our correspondent did eventually coax some words of wisdom from Nye (see page 74), it was something of an uphill struggle.

E&MM staffer Tim Goodyer had problems of a different nature talking to Bronski Beat and Roger Eno, both featured in this month's issue.

The week he went down to the Bronskis' London studio was the week their single – 'Hit That Perfect Beat' – went Top Five in Britain, so it came as no surprise that only one of the band, Larry Steinbachek, actually turned up,

and that even he was an hour late. Once he arrived, though, Steinbachek showed himself to be as loquacious as any pop hero our man Goodyer has talked to, so the printed interview (it starts on page 18) bubbles with enthusiasm and informed comment.

Also enthusiastic is Roger Eno (feature on page 85), whom TG met up with just before Christmas. Normally, such conversations take place in the Big Smoke, but Brian's lesser-known brother agreed to meet us at the family home in a tiny Suffolk village – and that was where the problems started. After an hour or so's desperate motoring around the East Anglian countryside, we asked a local who pointed us in the direction of 'the big house where that odd composer fellow lives'. Very quaint.

No such worries for Annabel Scott, the writer responsible for this month's exclusive interview with Jan Hammer. Scott still hasn't met the world's most imitated lead synthesiser player, but a transatlantic phone line was all that was needed to produce the fascinating, in-depth story that begins on page 48. We think you'll agree it was worth running up a big phone bill for.

Much less troublesome than many of the above was the process of compiling this year's E&MM Readership Survey, which begins on page 39. For the uninitiated, the Survey is where the people who put together the magazine every month let go of the reins, and let you, the long-suffering reader, have a say as to where we should be heading over the next 12 months.

The response to last year's questionnaire proved invaluable, which is why many elements of it have been incorporated in this year's version. But a lot has changed

during 1985, so it's as important as ever that you let your opinions be known. It'll cost you no more than the price of a postage stamp, and as usual, you stand a chance of winning a free year's subscription to E&MM if you send your reply page in early.

Before you get scribbling, confirmation that we do listen to readers comes in the form of two new arrivals on this month's feature list.

The first of these is Patchwork (page 82), the readers' synth-sound section. This has been re-instated by popular demand, and expanded to include not only details of patches programmed and submitted by readers, but also reviews of manufacturers' own library tapes, disks and chips – of both synthesised and sampled sounds.

Also new is a section called In Brief, encompassing short appraisals of new musical equipment which, for whatever reason, doesn't suit the Simon Trask Pay-Me-By-The-Word style of instrument reviewing. Two of this month's three In Brief products are there because they've already been reviewed in detail under a different guise; the Casio CZ3000 and Roland Alpha Juno 2 are, after all, little more than usefully repackaged versions of existing instruments.

More improvements will probably ensue as the replies to our Survey are analysed during the coming months, but in the meantime, we're off to Frankfurt for the world's most important musical instrument fair (see Preview, page 10). Doubtless it'll be pretty cold outside (I nearly froze to death last year), but the temperature inside the exhibition halls will be warmer than ever, as competition among the leading hi-tech manufacturers heats up.

Watch this space for a report on the new machines that'll make headlines in '86 – and, we hope, improve your music-making into the bargain. ■

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Electronics & Music Maker is published by Music Maker Publications, Alexander House, 1 Milton Road, Cambridge CB4 1UY. ☎ (0223) 313722. Typeset by Goodfellow & Egan, Cambridge. Printed by Thomas Reed Printers, Sunderland. Distributed by Magnum Distribution, London. All material is subject to worldwide copyright protection, and reproduction or imitation in whole or part is expressly forbidden. All reasonable care is taken to ensure accuracy in the preparation of the magazine but Music Maker Publications cannot be legally responsible for its contents. The Publishers cannot assume responsibility for the return of unsolicited manuscripts, photographs, artwork, or projects. Permission to reproduce printed circuit board layouts or to market kits commercially must be sought from the Publisher.

Subscription UK & Eire £15.50, Europe & Overseas (surface) £16.20, Europe (airmail) £23.50, Overseas (airmail) £37.50. Binders £3.95 (inc. postage).

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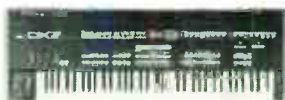
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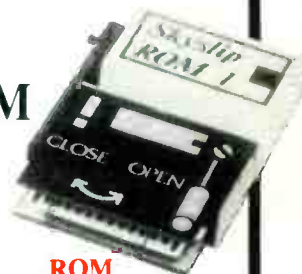
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It's totally future orientated, with all the MIDI features you ever wanted (and probably a few you hadn't even dreamt of). MIDI 2 is what we call it, with the usual MIDI-IN connector to "drive" the MASTERKEYBOARD from a portable/remote keyboard plus two MIDI-OUT connectors. You can tell the BIT MASTERKEYBOARD to "filter out" unwanted and/or incorrect MIDI data, and then assign the "cleaned up act" to one of the MIDI-OUTS.

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Next, let's take a look at keyboard Splits: you get three Split Zones which can be programmed and transposed individually; handle Key Velocity; and control their own set of MIDI Channels. The Zones can even be programmed to overlap by any number of notes.

Did we say "Sequencer"? It's a musical genius right there alongside all those state-of-the-art keyboard functions, capable of storing up to 4,000 notes (Real-Time or Single Step) 64 patches on four separate tracks. You can mix and merge tracks, auto-correct the timing, insert and delete anything from a single note to a symphony, copy sections and assemble Sequences into Songs. Interfacing with the MASTERKEYBOARD PLUS lets you choose between MIDI-Clock, Sync-Clock and Sync-to-tape.

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R.R.P. £399
CHASE PRICE £299 TO CLEAR £149

CHASE BIT 99 SYNTH



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CHASE PRICE
£599

CASH PRICE	£599
DEPOSIT	£60
104 WEEKLY PAYMENTS	£7.97
TOTAL CREDIT PRICE	£728.20

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All the famous Chase Bit sounds are here in what is basically a Chase Bit 99 without the keyboard. Full MIDI implementation. Warm up the sounds of a DXI or any other synth, guitar, etc. with MIDI. Fully programmable. Full dynamics. Adds splits to your keyboard even if it has none. Many other superb features from this top value module.

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£449

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R.R.P. £899
CHASE PRICE £649
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CASH PRICE	£449
DEPOSIT	£46
104 WEEKLY PAYMENTS	£5.28
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R.R.P. £749
CHASE PRICE £549
SALE PRICE £349

CASH PRICE	£349
DEPOSIT	£35
104 WEEKLY PAYMENTS	£4.11
TOTAL CREDIT PRICE	£462.44

SIEL PX jr PIANO



A fully polyphonic touch sensitive electronic piano with 5 presets and stereo chorus. Comes complete with built in amplifier and speaker with stereo output facilities.

R.R.P. £399
CHASE PRICE £299
SALE PRICE £199

CASH PRICE	£199
DEPOSIT	£20
104 WEEKLY PAYMENTS	£2.34
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R.R.P. £1199
CHASE PRICE £749
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CASH PRICE	£549
DEPOSIT	£55
104 WEEKLY PAYMENTS	£6.46
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SIEL PX PIANO



A fully polyphonic touch sensitive electronic piano with 10 presets and stereo chorus. Split assignable keyboard, Tremolo, Sustain and featuring the DNR Noise Reduction System. A true professional instrument.

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X-series Success

Back in the Spring of '85, Tony Wride's Yamaha DX Owners' Club held a Convention in the somewhat cramped surroundings of the Central London Youth Project's headquarters in Covent Garden. The event was so successful (and so crowded) that the Club decided another gathering was in order before the year was out. And so it was that on Sunday, December 8, some 1000 punters descended on the spacious luxury of the Tara Hotel in Kensington, eager to hear the X-series Gospel According to Yamaha.

And, as expected, the event turned out to be a resounding success. Downstairs was given over to the exhibitors: Compumusic (aka the London Rock Shop and their UMI 2B sequencer), Digital Music Systems (CX5M sequencer), Skyslip (ROMs and RAMs), Rittor Music UK (FM MusicWriter and Music Data programs for the CX5), and enterprising CX5-owner David Pearce, who was showing an ingenious program for giving the music computer dual voices, performance memories and a sustain footswitch option.

Yamaha had their own stand in the centre of the hall, with plenty of staff on hand to offer what we shall generously describe as 'expert' advice.

Upstairs, meanwhile, the gargantuan Liffey Suite still wasn't big enough to hold the thronging masses who attended a programme of larger-scale lectures and demos, beginning with Yamaha's Ken Campbell playing the baby DX100. This young, unassuming but clearly insane Scotsman has a knack for explaining things clearly without oversimplifying anything or talking down to his audience. He should go far (Japan, maybe).

Yamaha again did their bringing-academics-to-the-people act by flying Dr David Wessel over from IRCAM specially for the Convention. A packed Liffey Suite was treated to a stimulating and entertaining 45 minutes on IRCAM, MIDI and other great acronyms of our time.

But it was one of Wessel's IRCAM colleagues, Dave Bristow, who rounded things off. Maybe Yamaha should hire the Albert Hall for Bristow in future, because people were lining up outside the doors for this one. The synth programmer's Robin Day gave the usual fun lecture on FM synthesis, taking in some new voicing ROMs along the way, and ending with a 10-minute improvisatory trip through various musical styles and sounds, performed on the formidable KX88/TX816 combination.

So pleased were Yamaha with the day's efforts, they're contemplating doing something similar in other parts of the country. Rest assured: as soon as we have the details, we'll let you know. ■ St

Not as Such...

Maybe it was the pre-Christmas festivities, maybe it was an overload of work, or maybe it was just sheer carelessness on our part. Whatever the root cause, the last couple of E&MMs have carried more than their usual

quota of factual inaccuracies, guaranteed to cause confusion and misunderstanding amongst the magazine's readership.

The first of these cock-ups surrounds David Ellis' review of Digital Music Systems' CX5M eight-track sequencing software (E&MM December '85). In it, the good Doctor points out that owners of cartridge-based packages are somewhat out in the cold if the software is subsequently updated. DMS, in their turn, would like to point out that buyers of their software will have their cartridges updated free of charge as and when each improvement becomes available.

Contact Digital Music Systems at 82, Wilmslow Road, Heald Green, Cheshire SK8 3BG, ☎ 061-437 4788, for more information. Sorry about that.

Apologies, also, to The Music Farm, whose range of sampled-sound tapes was announced to the world in Newsdesk the same month. The company informed us they were streamlining said range just before we went to press, but for some reason not entirely unconnected to production difficulties, the new information wasn't incorporated into our news story.

So, we can now tell you that The Music Farm are supplying their pre-recorded samples on cassette format only, with two tapes housing a total of 200 sounds costing £27.60, including the demon p&p.

Contact The Music Farm, Henfield Road, Albourne, Hassocks, West Sussex, ☎ (0273) 494342, for more info.

Lastly, our apologies to Laurie Westell and SIEL UK Limited, who were written out of existence by a Newsdesk story in January.

For whilst it's true to say that Chase Musicians have bought up a load of existing SIEL stock, the original company is still alive and doing business, contrary to what our report implied.

If you want proof, contact SIEL UK, Ahed Depot, Reigate Road, Hookwood, Horley Surrey RH6 0AY, ☎ (0293) 776153.

Fortunately, the Editor has now replaced his entire staff with a team of specially-trained, highly-efficient and MIDI-compatible androids, so this sort of thing shouldn't happen again. We hope. ■ Dg

Sync and Swim

Fostex, the people who brought you eight-track recording on quarter-inch tape and quite a bit more besides, have just brought out the Model 4050 MIDI Synchroniser/Autolocator. Like several other devices we could mention, this is intended to be the answer to all your drum machine/sequencer sync-to-tape problems - though whether or not it gets foxed by obscure interfacing difficulties, remains to be seen. The machine takes nothing less than the 'professional' SMPTE standard time code to pull all your problematic, non-standard sync rates, including the MIDI clock, into line, using its own onboard SMPTE generator.

The 4050 is also an autolocator that allows you to identify and locate any point in a piece, and also gives you access to a range of sophisticated editing options. Storage to tape of all autolocator points is another useful feature. More from Turnkey, Brent View Road, London, NW9 7EL. ☎ 01-202 4366 ■ Tg



Bristow and Wride try to control the crowds at December's Yamaha X-series Convention in London; they only just succeeded

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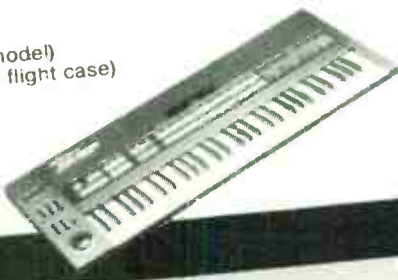
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WISE BEFORE THE EVENT

Newsdesk
Special

We make our way through half-baked press releases, foreign-language brochures and prototype illustrations, to bring you news of the gear that'll matter at this month's Frankfurt Music Fair. *Dan Goldstein*

Compiling this year's Frankfurt Preview has not been that difficult a task. For reasons best known to themselves, the world's leading modern musical instrument companies have done their best to stagger the unveiling of new product throughout this winter – instead of announcing it all in one go in Frankfurt's exhibition halls.

Thus we already know about the cheap Yamaha FM polys and the Roland Alpha Juno range, for instance, because the machines have actually passed through our hands for review well in advance of the Frankfurt show.

Most manufacturers still have plenty up their sleeves, though, as this preview should show.

Akai, for example, are known to have a bigger, better sampler on the stocks. It's called the S900, and its price will be quite a bit higher than that of the current S612 (which will continue in production),

first attempt at a stand-alone programmable rhythm unit, but with a specification that includes 12 PCM sounds, separate audio outputs, and programmable accent levels, it's unlikely to fall on deaf ears. Most significant of all, though, is the RZ1's ability to store musicians' own drum samples in four programmable locations, with a maximum sample length of 0.2 seconds each. You can even loop all four memories together, to store one 0.8-second sound at a sampling rate of 20kHz.

Still on the sampling front, Casio will also be showing their SK1 sampling keyboard, aimed squarely at Yamaha's VSSI machine, but weighing in rather cheaper at under £100. The SK can store only one sample onboard at any one time, but users will be able to shape that sound by looping it, altering its harmonic content, and feeding it through a built-in envelope shaper.

rack-mounted counterpart, the 2002 expander. The Prophet VS is a new polysynth that employs a novel form of digital waveform storage known as Vector Synthesis (hence the keyboard's name). Budding programmers use a joystick for mixing up to four different waveforms at any time, and the VS features a full-size five-octave keyboard, a total of 200 sounds available simultaneously from a combination of ROM and RAM cartridges, splitting and layering facilities, and a comprehensive arpeggiator.

What does it sound like? We'll tell you as soon as we know.

The other purveyors of The Great American Synthesiser Dream, Oberheim, will probably have a quieter Fair, since most of their effort is now going into producing as many examples of the Matrix 6 polysynth as the world demands. They have developed a modular version of the Matrix, though,



Sequential Prophet 2002 sampler

but precisely what sets the two apart in technical and performance terms isn't yet known.

Akai have also put the finishing touches to their AX60 polysynth, first unveiled to the world at the British Music Fair last August. A budget machine, the 60 looks to be a fairly average analogue design, but closer scrutiny reveals a unique routing system that allows samples from the S612 to be altered by the AX60's filtering and envelope sections, and a welcome return to good old-fashioned knobs and sliders on the front panel. It's good to see a major synth company flying in the face of fashion and giving the useless digital parameter access system the thumbs-down. Well done, Akai.

Meanwhile, Casio have a number of innovations in hand, and amongst the most notable of these is the RZ1 digital drum machine. This is the company's

Moving back to the percussion world, Casio also developed a set of touch-sensitive MIDI drum pads, not dissimilar to Roland's Octapad, but eschewing the panel-mount format in favour of a traditional drum kit layout.

And elsewhere, Casio are accelerating the process of incorporating 'professional' features – like Phase Distortion synth voices, piano sounds and programmable rhythm patterns – into their domestic keyboards, thereby narrowing the gap between the two market areas.

No such revolutionary marketing on the Sequential stand, we reckon, but there will be a quieter revolution of an equally fascinating kind.

For the Californians have just completed the design of another new Prophet, hot on the heels of the Prophet 2000 sampling keyboard and its new

which should be as facility-laden – and as comparatively cheap – as the synth from which it is derived.

As usual, there's been little or no advance news from the big guns of US hi-tech musical instrument-making. The Synclavier, E-mu and Kurzweil camps have all been noticeably quiet, though at least the last-mentioned will have the voiceless and keyboardless varieties of their 250 digital keyboard on display at Frankfurt. Don't assume the others are resting on their laurels, though.

Not much news from Down Under, either, where Fairlight have got their £60,000 Series III CMI into production. As ever, we anticipate huge crowds around the company's Frankfurt exhibit, which may make objective appraisal of the new machine difficult.

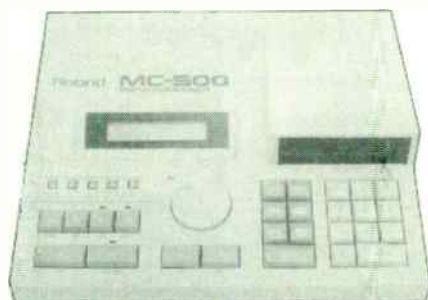
Coming back down to earth a little, we find **Roland** announcing another 500-odd product lines to complement the 3000 they already have.



Technics SX-PX1 digital piano

Exaggerations aside, though, top of the Roland list comes the MC500, a polyphonic MIDI sequencer that aims at combining the functions of the company's successful MSQ keyboard recorders, with those of the equally successful Microcomposers. It's due to cost around £800, and it certainly looks very impressive.

Also on the cards are a new flagship polysynth – the JX10, complete with 12-voice synth section, a



Roland MC500 sequencer

76-note keyboard sensitive both to initial velocity and aftertouch, and a built-in sequencer – and the company's cheapest digital drum machine ever; the TR505 will retail at a modest £225.

Roland have also been devoting a lot of attention toward taking the state of the electric piano art much further during the years to come, and the first fruits of these labours come in the form of the RD1000 combo digital piano (a 16-voice job with an



Ensoniq Mirage sampling module

88-note keyboard, costing around £2500) and a modular version, the MKS20 (£1200). Both machines – and their more domestically-inclined relatives, the HP5500 and 5600 – use a new method of sound-generation not entirely unlike the resynthesis system first developed by New England Digital for the Synclavier...

Technics have stuck to a more familiar technique – Pulse Code Modulation – for their new PX digital
E&MM FEBRUARY 1986

piano series. Flagship of this range is the SX-PX1, a £3600 machine of leviathan proportions, whose facilities include six PCM sounds, a touch-sensitive seven-octave keyboard, MIDI-compatibility, a two-channel sequencer, and even a connection for an optional disk drive, with each disk capable of storing up to 27,000 sequencer notes.

Of course, **Yamaha** have been developing the electric piano for years, and they aren't about to be overshadowed now. Their new PF80 and 70 pianos



Korg Poly 800 II polysynth

are direct replacements for the PF15/10. Both feature 10 FM preset sounds, 16 programmable MIDI functions, built-in tremolo and chorus and a three-band EQ section.

Other machines of interest are percussive in nature, with the RX21L drum machine appearing as



Yamaha RX21L drum machine

Yamaha's contender for a slice of the Latin Percussion cake (it's identical to the RX21 in every respect except sounds), while the company will also be showing their first-ever electronic drum kit, something they've been rumoured to be developing for years.

Rumours are also rife that both Yamaha and Roland will have professional-spec, professional-

innards.

As we reported in *Newsdesk* January, the DSS1 is just one of a whole horde of new Korg machines, which also includes the SGI digital piano (yes, another one), the DVPI voice processor (essentially a vocoder brought up to date), and the EX8000, keyboardless expander variant of the DW8000 poly.

We can also reveal that Korg will be introducing a replacement for the budget Poly 800 at Frankfurt.

Imaginatively titled Poly 800 II, the new synth scores over its successful predecessor in having a built-in digital delay, extended sequencer capacity, and improved envelope generators.

Finally, it's over to Italy for further developments on the **Elka** and **Bit** fronts.

Elka will be reviving the spirit of the Synthex at Frankfurt '86, with the unveiling of two new polyphonic synthesisers, the LX600 and the LX900. Both have 36 preset sounds (of which 32 can be edited), 61-note keyboards responsive to velocity and aftertouch, built-in chorus units, and facilities for keyboard splitting, cartridge dumping and MIDI communicating.

The only difference between the two is that whereas the 600 is analogue (we expect it to be not dissimilar to the Synthex in voice structure), the 900 is digital – though the exact nature of its sound-generating system isn't yet known. Expanders for both models will also be announced.

As for Bit, formerly known as Crumar and distributed in the UK by Chase, they're doing more than any other European manufacturer to stem the Japanese tide. And their consistently inventive R&D department has come up with a couple of real gems for Frankfurt.

First of these is the Bit Masterkeyboard, an intriguing voiceless MIDI synth controller with a six-octave, responsive-to-everything keyboard, a comprehensive MIDI data filtering section, and a 4000-note, four-track polyphonic sequencer, programmable in both real and step time direct from the keyboard. What that adds up to is a fuller spec than any master keyboard currently available, but while some companies are asking over £1000 for their models, Bit want less than £500 for theirs.

Even more exciting is the news that the Italians have successfully developed a sampling module of their own. The sampler – currently nameless – is a 12-bit device with a maximum sampling time of eight seconds, and a sampling rate switchable between 24, 32 and 47.5kHz. The module is velocity-sensitive over MIDI, and also has an analogue sound-modifying section onboard, incorporating a VCF, a VCA, two envelope generators and two LFOs.

One thing is for sure. Frankfurt will keep us busier than ever this year. ■

price sampling keyboards to compete with the American Ensoniq (who already have a sampling expander in production) and Prophet 2000. Both Japanese companies should be exhibiting their sampling wares in Frankfurt, if only in prototype guise.

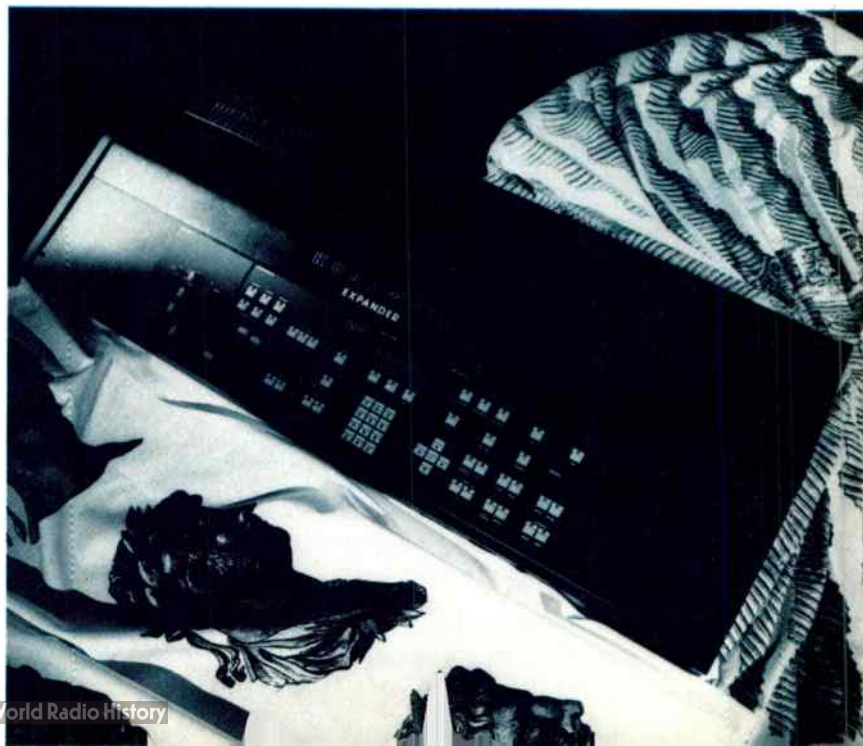
But as yet, only Korg's pro sampler, the DSS1, has been given a model number, a probable price (under £1500), and a flash case for its prototype

At Syco, we never stop searching. Our quest for advanced musical instruments has taken us around the world to the most unlikely people and places. Take Sydney, Australia 1979. In a basement we found two young men experimenting with electronic circuitry. They were Fairlight Instruments.

Of the large number of inventions we discovered, few needed closer inspection. Amongst them were E-Mu's Ell, the Kurzweil Expander and the Linn 9000.

E-Mu, pioneers in the real sound revolution, unveiled the E1 in 1980. The Ell, launched in 1984, has set new standards for sampling keyboards. 17 seconds of sampling time, an eight track SMPTE-based MIDI recorder, eight individual outputs, an optional hard disc, and the Sound Designer software for the Macintosh represent the requests of professional users.

Kurzweil, concerned from the outset with performance based sampling systems, have recently announced the Expander – identical in function to the 250 but without a keyboard, resulting in considerable savings in size and weight. The sampling rate for the Expander/250 has now been increased to 50 kHz





allowing it to reproduce high frequencies with superb clarity.

Linn, inventors of the digital drum machine, released the LM-1 in 1980. This was superseded by the Linndrum, still available and in demand as ever. The 9000 is regarded as one of the ultimate composer's tools – an integrated 32 track, SMPTE-based MIDI recorder and digital drum system. Both sequences and drum patterns may be saved on the optional 3.5" disc. Transport-type controls, similar to those found on tape recorders, make operation of the instrument familiar and simplistic. The sampling option enables the user to create a library of unique and personal sounds.

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Dear E&MM

Pub Promise

As one whose career was launched in the pub rock circuit ten years ago, I greatly enjoyed Tim Goodyer's article 'Music On Tap' (E&MM December '85). Yes, of course today's small flexible line-ups are an ideal way of getting live music back into the boozers. Why haven't more people realised this before?

There was a lot of good advice – and some real fighting talk. To mention that drum machines can replace a 'greasy know-nothing skin-basher' is calculated to give any MU organiser a coronary, let alone an actual drummer...

Trouble is, he's right – a drum machine probably makes the difference between getting a gig and not getting a gig these days: it's unobtrusive, reliable, and you can turn it down! Regardless of whether you're using tape or sequencers though, I'd strongly recommend including a live percussionist in an electronic line-up. The natural frequencies and human feel of maracas, tambourine and so on warm up the sound of a rhythm machine, while the visual movement adds onstage excitement. I don't know why it is, but audiences just seem to prefer it when they can see something being hit.

There's one tip I would add. As Tim points out, a landlord doesn't give a damn about music so long as it brings the punters in: if a place is packed the first night they book you, they book you again. So after you have begged, wheedled, bullied and bribed your way into a first booking, call rent-a-crowd: get every friend, lover, workmate and relation you can think of along to see you play. It isn't a stunt you can pull too often, and needs careful preparation and rehearsal beforehand. And people won't come a second time unless it's good!

Anyway, a really good issue this month – long may you flourish.

■ Tom Robinson
London

Dear E&MM

Mexico Appeal

I'm trying to organise a benefit gig for the Mexico City Relief Fund at the Hemel Hempstead Pavilion on March 9. So far I've been able to get plenty of lesser-known bands to play but, as yet, I'm having great difficulty in getting an act to headline the gig.

I have already put a great deal of work into this event – hassling local traders to make donations, contacting the Mexican Embassy to get a speaker for the opening ceremony and the like – and so far, successes include Kodak agreeing to pay for the hire of the Pavilion and someone donating the use of a large PA system for the gig.

I've contacted various other music papers but their promises of help have proved to be somewhat empty and, because I'm unable to offer free publicity, I'm having trouble in finding the help I need.

I stand to gain nothing from this except 15 minutes on stage with a local band and, of course, personal satisfaction, so perhaps you can publish this letter in your magazine in the hope it will bring somebody forward to take the star spot. I can't afford to pay vast sums of money as I'm no more than an ordinary musician, but I can offer my thanks and the gratitude of the homeless men, women and children of Mexico City.

Anyone in a position to offer assistance may contact me on (0442) 218191.

■ David Martyn
Hemel Hempstead

Dear E&MM

Response Response

I read with interest R Neville's letter (E&MM December '85) concerning keyboard velocity response. Basically I agree with the points raised, and would like to add one or two of my own.

The answer to the question 'Is there any way manufacturers can make velocity sensitivity a variable parameter?' is obviously 'Yes'. It's already a feature of the Chase Bit 99 and the Oberheim Matrix 6, though it should be included as a feature of many more synths. The Roland JX3P's 'Dynamic' parameter adjusts the MIDI Out velocity-sensitivity, so that velocity information can be conveyed more accurately to the Yamaha DX and TXs (which arrogantly don't adhere to the MIDI spec). The Matrix 6 and Prophet T8 go the whole velocity hog and include release velocity, too.

This is not a difficult hardware or software addition, and as such, should be available on more synths. So too should the equally useful feature of individual note aftertouch (à la T8 and Yamaha DX1) as opposed to channel aftertouch, though this is admittedly rather trickier to implement. A string section with different vibrato rates for each voice sounds like an excellent idea, so let's see more of the

big manufacturers implementing these performance controls.

Mr Neville's other main point concerning 'disproportionate volume increases' when comparing electronic keyboards with a piano is also essentially correct. The response scale incorporated in the MIDI spec is a logarithmic one which seems, in my experience, to be an oversimplification of the response of a piano.

Research done by Bob Moog at Kurzweil and by Yamaha for their home keyboards should be adopted to improve the situation. I should also add that the newer controller keyboards such as Roland's EP50 and Yamaha's KX76 and KX88 are much better, thanks to the inertia of their weighted keys. Still, if you've ever tried playing a Hammond organ sound on a weighted keyboard you'll know how very disconcerting it can be.

It seems the two-keyboard setup, with one weighted and one not, will still be with us for some time to come, just as the CP70/Prophet 5 setup has been for a number of years now.

I look forward to hearing other readers' comments on keyboards.

■ Andrew Brown
Rosanna, Victoria
Australia

Dear E&MM

Queries Questioned

I enjoy the lively debate of your Communiqué page – it's good to know there's room for a divergence of opinion in a field as dominated by commerce as music technology.

As a fairly ordinary musician, though, I miss the technical 'Q&A' dialogue of the old-style Interface page. Even if none of the queries answered in a given month were of any direct interest to me, I still found it reassuring that problems which seemed insurmountable could in fact be solved quite easily.

I know compiling such a column (and ensuring all your replies are technically accurate) can't be easy, but how about giving people another chance to submit queries and tips to your team of experts? After all, if E&MM doesn't act as Agony Aunt for the world's synth-playing thousands, who will?

■ Alun Birchenall
Swansea

(Your wish is our command. As from next month, E&MM will have two readers' letters pages: 'Communique' for general debate and discussion, and 'Interface' for specific musical and technical queries – Ed.)

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THE BEAT



When Jimmy Somerville quit Bronski Beat, most critics were preparing to write Britain's brightest electro-pop band out of the news stories and into the history books. But a new singer, a hit single, and some wholesale musical changes have made them think twice.

Interview Tim Goodyer

First came the rumours of discontent, the whisperings that all was not well within the personnel of one of Britain's brightest new pop talents. Then the conflict went public, and the infighting became front-page news. Then, in the summer of '85, came the news that singer Jimmy Somerville had quit Bronski Beat — for good.

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The split raised a number of interesting questions. Those involving Somerville and the Communards belong to another story, but the ones concerning Larry Steinbachek and Steve Bronski, the remaining members of the original Bronski Beat, have now been answered by a new singer, a high-charting single, and a cheerfully optimistic Steinbachek

in a small studio in central London, where E&MM recently managed to track him down.

Nine months ago, many people must have thought they'd seen the last of an electro-pop band who, without Somerville, would flounder and finally sink altogether, another casualty of the fickle hand of pop fate. Some degree of success for Somerville was a certainty. It was he

E&MM FEBRUARY 1986

• • • g o e s o n

who had the distinctive falsetto vocal style, the charismatic personality, and the headline-hitting politics. But he was only part of the clean-cut, catchy electronic dance sound that produced the singles 'Smalltown Boy' and 'Why' – as anybody who took the trouble to really *listen* to those songs (and the album that followed them, *Age of Consent*) would know. So although the two remaining Bronskis knew they'd have to struggle to reassert their pop position, they had every reason to be confident in their own abilities.

The first hurdle to overcome was that of filling the vacant post of singer. In the end, Somerville's successor turned out to be a long-standing friend of both Steinbachek and Bronski, but his appointment wasn't quick, or lightly taken. Steinbachek explains.

'To be fair to him and other people, we didn't just go for the obvious. We wanted to see what was around and what other people could come up with – and we were quite disappointed by a lot of what we saw.'

The unenviable task of trying to sort out likely candidates for auditions wasn't without problems of its own. London Records, to whom the band are signed, first

Confident Larry Steinbachek is the brains behind the Bronski Beat revival. His songwriting talents have benefitted from an unquenchable, infectious enthusiasm for developing technology



suggested temporary alliances with other artists. But the duo had other ideas, and finally, it was left to their management to place an ad in the weekly music press. It didn't name the band, but it did specify a male vocalist, something that curiously failed to deter a number of female enquirers.

The final choice of vocalist turned out to be one John Foster. He and Steinbachek first met when they were 17 and involved in a burgeoning Southend music scene along with the likes of Alison Moyet. Their musical association had continued on a casual basis since then, and made Foster an obvious consideration in E&MM FEBRUARY 1986

Somerville's absence.

'What it comes down to is that for a good working band, you need to have a good working relationship', asserts Steinbachek. 'Obviously it's a bit different for us because we're all gay men. That doesn't necessarily create a different atmosphere but it does make us a bit more sensitive to people's attitudes. We've always found that if there's someone around us who has an attitude that we really don't like, it does affect our work. Life's full of people (cue philosophical tone), and you can't get on with all of them. But John fitted in very easily with us because he shares the same positive attitudes.'

Foster's arrival wasn't immediately announced to either the public or the press, so even when it was eventually disclosed that the Bronskis were three again, his identity remained a secret for a while.

'When John joined we decided we wouldn't let anyone know for six months because we didn't want any pressure. We wanted a chance to work together as three people and establish a direction. In a way we were starting from scratch again. You see, we never saw John coming in to replace Jimmy. It was more a case of wiping the slate clean – we had to build up a rapport and get the processes working again. It was ►



choice for release as a single; in fact, it almost never came about at all.

'We'd originally written a single which was totally different: more of a ballad, really. But whilst we were in a rehearsal room we started doing this "Divine thrash" just to warm up, and it turned into something we got interested in.

'So we went into a cheesy little studio that I won't even name because they were so rude to us, and bashed it down as a demo. London loved it, so we took it to New York to record because that was where we were doing the *Hundreds and Thousands* album remix at the time. But when we got back we didn't like it: it wasn't even as good as the demo. So we went back to the original, put some fresh vocals on it and released it. So the single is actually only the demo – it isn't even arranged or anything, it's just as we put it down.'

A brave move for what was to all intents and purposes a new band, under close critical scrutiny from all quarters.

'To be honest, I *did* see it doing well for us, but the record company didn't share our faith at that time, so it was put back a month. But a good song always wins through in the end.

Foster doesn't represent the only new arrival in the Bronski camp, though, as a glance round the studio readily reveals. The DX7 and Memorymoog – much used in the recording of *Age of Consent* – are still very much in evidence, but they're now accompanied by a varied selection of equipment old and new. Pride of place is given to a Yamaha QX1/TX816 combination, about which Steinbachek is only too ready to enthuse.

'We've had them for four or five months now. The QX and I quickly became very great friends – the rest of the band think I take it on dinner dates! Before we got it, we used to put all our ideas on tape and then muck about with them; now we tend to start on the QX and the TX rack.

'The QX1 has really made all the difference to the way we write, because the first ideas now go into that. Then we're able to work with them before they're committed to tape.

'We've found it a lot faster. For example, we demoed three tracks

for the album on the QX – they were just ideas to start with. We put them in as separate measures and arranged them into songs. Then we took them into the studio, listened through them and tried different structures. The beauty of it is that you can just type in a different structure, hear it right away, and John can sing over it; if it's not in the right key, you can transpose it right away, which is how we've been able to suit every song to the voice very carefully.

'It's also great for 12-inch mixes. All you have to do is type in a different structure and add some more complex bits. Of course, the quality stays great because you're not working off tape. It really comes into its own in manipulating data. You can think of it as more than just musical notes, as something that operates other bits of machinery. Making program changes on the REV7 reverb through MIDI, for instance, can be very effective.

'It's simply a better way of working – it gives you a good song before you even *begin* recording. The most important thing about a song is the performance: if you've got that right, you can spend time getting the rest right.

'Actually, I'm still finding things out about the QX, which is good because any piece of gear we get has to be useful. I think it may be a bit difficult for everyone to use and, if that's the case, then it's no good because it gets in the way of what you're trying to do. But it must be the answer to all of some people's problems.'

The sequencer's usefulness isn't restricted to the studio, either. 'We're going to use it instead of backing tapes for live work. It'll allow us to change the set around freely again, as we used to when we were working with the Portastudio.'

On the sound front, the TX816 hasn't had quite the impact the QX1 has, as its FM technology has yielded some ground to other styles of sound-generation.

'The TX816 provides the rough structure of the song, but not every sound that's going to be on the track – so it's possible I'll only use, say, four channels: bass, chords, melody and counter-melody. Then I'll build on that with other synths because I

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► difficult for the first couple of months but then it started picking up very quickly. It was a bit like a snowball and, by the time we let everyone know who John was, we were back to the situation we were in before: a performing band.

'I think the experience has made us very much stronger as a band. We're much more integrated and we really are working as a trio now. It's sad to say that, for the last two years, that hadn't happened: it was more two people and one. It's a shame because it never started off like that, but I think it's turned out the best way it possibly could.'

Back on their collective feet again, the Bronskis' next objective was a return to the public eye: in short, a single. 'Hit That Perfect Beat' currently stands high in the charts, proof positive of the songwriting talents of Bronski Beat MkII. Yet the song wasn't first

like a combination of both digital and analogue sounds.'

A Pro One, a MiniMoog and an Akai S612 Sampler bear witness to Steinbachek's catholic attitude when it comes to choosing gear. Mention of the MiniMoog, in particular, elicits an enthusiastic grin from the young synth player.

'The MiniMoog is my favourite synth. It's something I can go to and always come up with an idea for a melody. It's like a piano in that respect – it's very quick.

'The Akai sampler is something else I like because of its speed. It's something I think is lacking in a lot of other samplers: you press a button to record, and press a button to load a sound. We've also been using an MDB Window Recorder for the vocals and the QX for triggers.'

In fact, the MDB and the Yamaha machines look like forming the highest level of tech the latest incarnation of Bronski Beat will reach up to in the immediate future. For unlike Somerville's Communards, these boys aren't tempted by the mortgage-scale world of Fairlights and Synclaviers. Part of the reason for this, I suspect, is that Steinbachek and his colleagues don't believe ultimate sound quality to be the key to successful music-making.

'No. I like recording dirty things and distorted things – or heaping loads of reverb onto things, even though it may cut off when you run out of sample time. Any sound is a usable sound – you can't beat a distorted bass drum!'

And it seems things are getting dirtier all the time. The crystal clarity, the pinpoint precision of the Somerville era is slowly giving way to a rougher, rawer production style. Modern technology still dominates the Bronski Beat sound, but it's no longer having things all its own way.

'This time we've been using more real instruments – guitar, bass, some brass. It's quite good fun getting things scored out for people to play. It is fun to emulate things, and we do it quite a lot. But I'd much rather hear a real brass section play what's scored out – it's much more natural to my ears. It comes down to feel most of the time, and I think real musicians push a track along a lot better than a sequencer.'

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And despite the undeniable fact that technology has opened a lot of doors for modern musicians, Steinbachek is adamant that his band would be around even if musical instrument development stopped tomorrow.

'Where would Bronski Beat be without MIDI? Using CVs and gates and a Microcomposer, I guess! We've never had any problems with MIDI, though I've heard some awful stories about people that have; a 20mS delay here, something else there... If you just use one Out you've got no problem. It's only when you're chaining Ins and Outs that things can start getting difficult, and you get around that by using a multi-unit: one In, eight Out. We get a slight delay using Emulator and PPG alongside the QX1, but it's usually just a matter of trimming the start of samples.'

As a lot of bass players are frustrated guitarists, so a lot of keyboard players are frustrated drummers – don't ask me why. Whatever the reason, Steinbachek confesses to being a case in point. And as if to illustrate it, a LinnDrum, a TR707, TR727 and a newly-acquired Octapad litter the room.

'The sounds on the 727 are great. What we've been doing is using the Octapad to play the 727 into the QX1, recording it, quantising it, and adding to it to produce complex patterns that you just couldn't get using a drum machine alone. I love the Octapad – it's a great invention. We've used it quite a lot to trigger percussive sounds from the Akai sampler, and it works a treat.'

What will all this technological tinkering add up to? Well, probably another couple of hit singles to follow 'Hit That Perfect Beat', if the Bronskis' track record is anything to go by. An album is presently in the process of being recorded with the assistance of producer Adam Williams, and here too, there's been a change in the proceedings since the Somerville days...

'We've been approaching it in sections rather than going into the studio for a block of six weeks. Our attitude has really changed. It was good fun, initially, to fly over to New York where all these big bands go, and use lots of amazing equipment, but we just got lost. We

spent a lot of time looking at the directions we wanted to go in and the ways that were most enjoyable and constructive.

'This time we want to approach it in sections and then go away and get some more ideas. So we're doing two weeks at a time recording, then we'll probably do the mix at Hansa in Berlin (second home for Bowie, Depeche Mode and others), because Adam's already worked there and we've heard a lot of good reports about it.'

Once the album is safely under their belts, the Bronskis intend to give their live performances a facelift, too. There are plans to include backing singers and possibly a percussionist, but the biggest change will be more fundamental, as Steinbachek reveals with some relish.

'John's a much more dynamic performer than Jimmy was. It wasn't what we wanted to do before; we got our enjoyment out of the audience response to the music. Now we'll be building the show more around what John's doing, so Steve and I will be emerging from behind the keyboards a lot more. We've got a couple of remote keyboards – a Roland Axis and a Yamaha KX5 – so we can run around on stage a bit more... Oh, and I'll also be playing a lot more percussion. I've still got this idea about triggering the Linn from plastic lobsters.'

With such a preoccupation with sounds and their interaction, surely it's only a matter of time before the name of Larry Steinbachek appears on the other side of a production credit?

'I do like producing – Steve and I have already ventured into it. We did a track with the Bluebells that they wanted to record in an electronic way. We put down some drum machine, sequences and keyboards, and then they added the guitars, vocals and a military snare drum.

'I've also helped other people out before now, and I've currently got a band over from Berlin called Commedia Artists, who I'm doing some demos for. They're about the best band I've heard to come out of Germany since Kraftwerk. They're very much like us in the way we started; they're short of gear, so they come over here and go wild!'

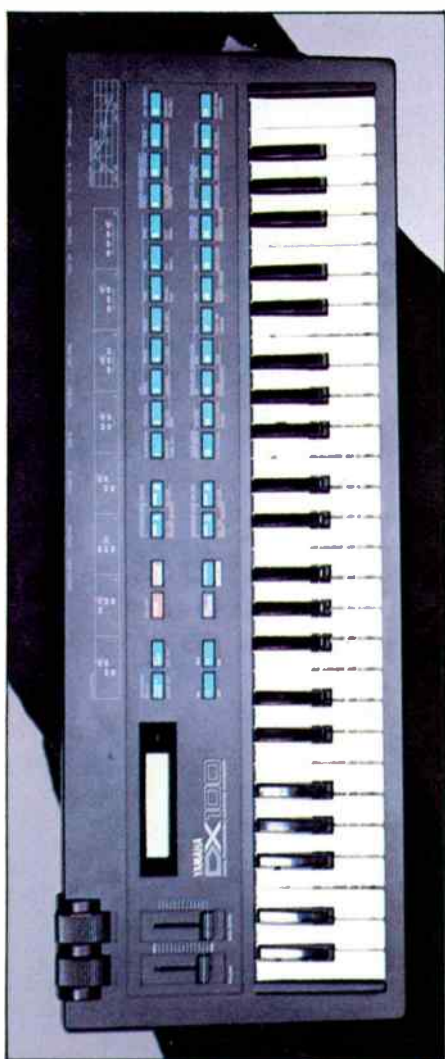
Hit that perfect beat, boy. ■

100

THINGS TO DO WITH FM

At under £350, Yamaha's new DX100 is the cheapest FM synthesiser yet, offers nearly 200 preset sounds, and looks like bringing digital synth programming to thousands for the first time.

Review *Simon Trask Photography Tim Goodyer*



You know, if there hadn't been the pocket calculator, the portable home keyboard and the digital watch, there would never have been the Yamaha DX100. Because like it or not,

the company responsible for mass-marketing the first three innovations, Casio, are the main reason why attention in the Land of the Rising Sun has suddenly switched to small, easily portable versions of larger polyphonic synthesisers. It was Casio who realised, not much more than a year ago, that if you made polysynths cheap enough, you could persuade users of domestic portable keyboards to enter the world of the synth. How many people started with a Casio home keyboard and have since gone on to buy one of the company's CZ synths?

Now Yamaha, whose post-Geneva relationship with Casio is now worse than that between Reagan and Gorbachev, have decided that enough is enough, and launched a couple of synthesisers to tackle the CZs head-on. The mini-keyboard DX100 is pitted against the Casio CZ101, the full-size key DX27 against the CZ1000. And whereas the Casios use their company's PD (Phase Distortion) synthesis principle to produce their sound, the Yamahas use FM (Frequency Modulation), the digital technique that's made the DX7 such a compelling success story. As with the CZ pair, the insides of the DX100 and DX27 are exactly the same as each other, and as befits a portable synth, the DX100 can be powered through either mains or batteries (the latter with a claimed ten-hour lifespan), though this in no way affects the contents of the synth's memory, which has its own battery backup system.

The DX100 is a cut-down version of that previous breaker of price barriers, the DX21. Essentially, this means it can play a maximum of eight notes at any one time, has (most of) the DX21's preset sounds and (virtually) its

synthesising capacity, but no facilities for splitting the keyboard or doubling up sounds on top of one another. The front panel layout should be familiar to anyone who's dealt with a DX in the past, as most of the functions are tried and tested and the front panel is finished in the instantly recognisable DX colour scheme. Unfortunately, the 100 is fitted with the same squidgy rubber switches as the RX21 drum machine, which tend to slip around under your fingers; you need to press firmly to ensure your selection is made.

Frankly, you've got to be prepared for economies like this on a digital polysynth that costs less than £350. What you have a right not to be prepared for is the fact that this DX has more preset sounds on it than any of its predecessors: 192 next to the DX21's 128. In contrast, the editable voice positions which Yamaha call 'Internal' memory have decreased in number from 32 to 24, which means there's less space for people to change those preset sounds. This emphasis on factory voices is understandable, because many people buying the DX100 will be first-time users who'll want to get to grips with the *idea* of a programmable synthesiser before they actually start programming it. And in any case, the 100 goes one better than the DX21 by allowing you access to its preset (ROM) voices *without* having to call them into the 32-voice Internal memory (RAM) first.

The 192 preset voices are selected with the four bank selector buttons and then accessed singly by ▶

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► pressing one of 24 front-panel voice selectors.

But hang on a minute. Orwell was wrong. Four times 24 does not 192 make. It does make *half* of 192, though, and in fact the preset sounds are organised as two 96-voice groups – shame there's no indication of which bank you've currently selected.

Time for clarification of a subject there's been some confusion about. You may remember that the DX21 had 32 'performance memories' – a neat way of putting single, split and dual combinations of the 32 voices in RAM in any order you wanted. Rather than storing actual voice data, these performance memories stored pointers to the chosen voices in RAM. Now, despite what Yamaha's pre-publicity might lead you to believe, performance memories live on in the DX100 in an enhanced form. The 100's equivalent comes in the shape of a 96-position Bank memory (arranged in four banks of 24 positions), with each position capable of storing a pointer to a voice from either the internal RAM or the 192-voice ROM.

There are thus three 'levels' of voice selection which all occur from the same buttons, and which can get a bit confusing. The front panel provides precious little information here – merely a prefix to the voice number in the display (which *still* isn't backlit).

Anyway, the parameters that go to make up a DX100 voice will be familiar to anyone who's encountered a Yamaha FM synth before, though quite how many owners will have done this, I'm not sure. There are four operators and eight algorithms (ie. operator configurations) which form the basic structure within which you work when changing sounds. Each operator has its own envelope generator of the ADSR type to shape the way the sound changes through time, and there's one LFO governing all the operators, with key scaling available in the form found on the DX21. In fact, the only things the 21 has which the 100 doesn't are a pitch envelope generator and a built-in chorus. The former isn't too serious, but it's a shame DX100 owners will have to fork out for an external chorus pedal – some of whose facilities they may have no use for – just to beef up the synth's output.

More encouraging is the fact that the performance parameters (not to be

confused with performance *memories*) are individually programmable for each sound, as they were on the DX21. These include poly/mono selection, pitchbend range, portamento, footswitch assignment, mod wheel pitch and amplitude range, and breath controller parameters.

Other useful features are the key set and pitchbend mode facilities, though neither of these are voice-programmable. The former

and some marvellously funky clav sounds.

The world and his wife agree that FM string sounds still aren't entirely satisfying, and the DX100 doesn't take the state of the art any further. All its string voices sound 'electronic' when sustained, and lack the warmth and expression of the analogue synth breed.

Bass sounds are much, much better – punchy, dynamic and contemporary –

Facilities 'The pitchbend mode options should come in useful if you ever have to convince someone the DX100 is actually a guitar.'

allows you to transpose the keyboard up or down by any interval over a two-octave range at the press of a button, while the latter lets you define the lowest note, the highest note or all notes to be bent when you use the pitchbend wheel; the first two options will come in especially useful if you ever have to convince anyone the DX100 is actually a guitar.

Included in the 100's selection of 192 ROM voices are virtually all the DX21's presets. And I can only recap what I said about them when I reviewed the DX21: they're a very impressive selection. Most of them are usable, and very few of them could really be described as weak.

There's a healthy variety of acoustic and electric piano sounds, for a start, though no electric piano to give the DX7's famous interpretation a run for its money. 'IvoryEbony' is worth singling out, though: an acoustic piano patch that's terrific in its lower register, on both single notes and sustained chords, where the resonance of the real thing is splendidly replicated. Sadly, the sound doesn't quite cut it in the higher registers, even with judicious use of keyboard scaling.

Harpichord sounds are less effective, mainly because they don't attain the complexity of the DX7's equivalents. However, organ sounds (Church, Hammond and beyond) are among the most convincing in the 100's arsenal, along with tuned percussion

whilst there are the unavoidable silly sound effects like 'space talk' and 'ghosties'; I guess they're there to assert the DX100's identity as 'a synthesiser'.

Peering around the back panel reveals MIDI In, Out and Thru sockets, a single audio jack out, headphone and footswitch jacks, cassette and breath controller, sockets and an LED contrast wheel (not found on the DX27) which I could comfortably have done without.

The familiar pitch and mod wheels have been moved back to the rear edge of the synth for the DX100, and have had their size and shape suitably altered. This usefully reduces the length of the machine, and also puts the wheels in just the right place for when you've got the synth strapped around your shoulders. Yes, you can attach a strap to the DX100 *à la* electric guitar, and stride out to the centre of the stage to pose with the best of the axe-wielders. You can wear the synth equally well over either shoulder depending on whether you want to play left- or right-handed, and its compact size and light weight (it's probably lighter than many solid-body guitars) allow it to fit rather well into the across-the-shoulder role. What a pity most British synth players seem happier tucked away in the corner. out of the limelight...

The DX100 has MIDI, of course. To be precise, it has much the same MIDI implementation as the DX21, which means you get such features as MIDI on/off and separate transmit/receive channels (with an Omni receive option, too).

All the DX100's preset voices can become touch-sensitive, if attack velocity is transmitted to the synth via MIDI from a dynamic keyboard. This is a voice-programmable feature, with the sensitivity of each operator independently variable from each of the others. Only problem is, all the preset sounds have been set to zero response on all four operators, which means that if you're in a position to take advantage of this feature, you have to edit all the sounds each time you call them up from the ROM, or else

unnervingly whenever battery power runs low. But with all four sets of batteries that I'd used before it was time to send the 100 on its way (expensive business, this reviewing), the light insisted on flashing regardless of whether the batteries were ageing seriously.

There was also a moderate beating noise evident on both the audio and headphone outputs, which mysteriously disappeared on the audio out when the 100's volume slider was at full. This is apparently quite usual

domestic ends of the small keyboard market. With its velocity reception and eight-octave pitch range over MIDI, it makes a fine voice expander for mounting atop either an analogue polysynth, another of Yamaha's FM digital synths, or, for that matter, one of the many MIDI-equipped home keyboards now available. And whereas a keyboardless expander prevents you from playing two sets of ivories at once, you can reach up from your master keyboard to play a quick solo on the DX100 whenever the mood takes you.

So, a synth which should appeal to a variety of people for a variety of reasons, an important step in bringing complex and versatile music synthesis to the masses, and an instrument that's unlikely to be outdated too quickly. Play it and believe it. ■

Sounds 'Most people agree that FM string sounds still aren't that satisfying, and the DX100 doesn't take things any further.'

store them as RAM voices in edited form. As neither option is particularly desirable or practical, you're inevitably going to end up with a whole bunch of voices that aren't touch-sensitive. A pity, that.

The DX100 is still well suited to being controlled from another MIDI keyboard, though, especially as its miniature keys prevent you from paying over the odds for mechanical parts you don't really need, and it's capable of receiving an eight-octave pitch range over MIDI.

Voice data (single or bulk) is compatible across DX21, DX100 and DX27, so Yamaha's DX21 Editor package (reviewed E&MM December '85) should work with both the 100 and the 27. I was able to transfer voice data successfully between a DX21 and DX100 in both directions – a bonus for any DX21 owners who might be considering adding a 100 to their soundmaking gear.

The manual gives every detail of the 100's MIDI implementation you could possibly need. Things are looking up at last.

You'll not be surprised to learn that the DX100 also has cassette storage, and again, compatibility has been maintained with the DX21, so you can swap sounds from one to the other via the tape method, too.

A small red LED (the only one on the front panel) flashes at you

when the batteries run low, but all the time? Teething troubles, most likely, but check your 100 out on batteries before you reach for your wallet.

Incidentally, enclosed along with the owner's manual are a clever Voice Programming Guide and a Playbook. These effectively supplement the descriptions given in the manual, and provide details of several extra voices, along with invaluable commentaries on the relationship between DX parameters and the voices' sonic components. This is incredibly useful information for all newcomers to FM synthesis, whether their background is home keyboards or analogue synths.

The DX100 scores on several fronts, not least of which is its price: 192 FM voices at under £350 can't be bad, especially when those voices present a broad selection of sounds for just about every conceivable occasion.

Yamaha's designers have put some careful thought into what should and should not go on an instrument of this price; the Bank Memory system is an effective (if initially confusing) way of organising a mass of preset and programmed voices, and presenting them in an accessible way on what is really a very small musical instrument indeed.

Whilst a mini-keyboard is nobody's ideal playing tool, you can play it without having to adjust too much, partly because its shallow travel is just about right for its size.

The DX100 should attract plenty of players into the FM fold for the first time, from both the 'serious' and



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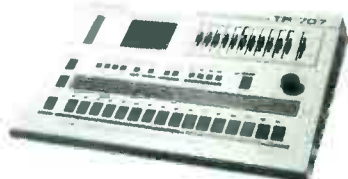
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	CE300 £375	GR77P £1600	TR808 £225
	CE300 £375	GR77Q £1600	TR808 £225
	CE300 £375	GR77R £1600	TR808 £225
	CE300 £375	GR77S £1600	TR808 £225
	CE300 £375	GR77T £1600	TR808 £225
	CE300 £375	GR77U £1600	TR808 £225
	CE300 £375	GR77V £1600	TR808 £225
	CE300 £375	GR77W £1600	TR808 £225
	CE300 £375	GR77X £1600	TR808 £225
	CE300 £375	GR77Y £1600	TR808 £225
	CE300 £375	GR77Z £1600	TR808 £225
	CE300 £375	GR77AA £1600	TR808 £225
	CE300 £375	GR77AB £1600	TR808 £225
	CE300 £375	GR77AC £1600	TR808 £225
	CE300 £375	GR77AD £1600	TR808 £225
	CE300 £375	GR77AE £1600	TR808 £225
	CE300 £375	GR77AF £1600	TR808 £225
	CE300 £375	GR77AG £1600	TR808 £225
	CE300 £375	GR77AH £1600	TR808 £225
	CE300 £375	GR77AI £1600	TR808 £225
	CE300 £375	GR77AJ £1600	TR808 £225
	CE300 £375	GR77AK £1600	TR808 £225
	CE300 £375	GR77AL £1600	TR808 £225
	CE300 £375	GR77AM £1600	TR808 £225
	CE300 £375	GR77AN £1600	TR808 £225
	CE300 £375	GR77AO £1600	TR808 £225
	CE300 £375	GR77AP £1600	TR808 £225
	CE300 £375	GR77AQ £1600	TR808 £225
	CE300 £375	GR77AR £1600	TR808 £225
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	CE300 £375	GR77BI £1600	TR808 £225
	CE300 £375	GR77BJ £1600	TR808 £225
	CE300 £375	GR77BK £1600	TR808 £225
	CE300 £375	GR77BL £1600	TR808 £225
	CE300 £375	GR77BM £1600	TR808 £225
	CE300 £375	GR77BN £1600	TR808 £225
	CE300 £375	GR77BO £1600	TR808 £225
	CE300 £375	GR77BP £1600	TR808 £225
	CE300 £375	GR77BQ £1600	TR808 £225
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	CE300 £375	GR77BS £1600	TR808 £225
	CE300 £375	GR77BT £1600	TR808 £225
	CE300 £375	GR77BU £1600	TR808 £225
	CE300 £375	GR77BV £1600	TR808 £225
	CE300 £375	GR77BW £1600	TR808 £225
	CE300 £375	GR77BX £1600	TR808 £225
	CE300 £375	GR77BY £1600	TR808 £225
	CE300 £375	GR77BZ £1600	TR808 £225
	CE300 £375	GR77CA £1600	TR808 £225
	CE300 £375	GR77CB £1600	TR808 £225
	CE300 £375	GR77CC £1600	TR808 £225
	CE300 £375	GR77CD £1600	TR808 £225
	CE300 £375	GR77CE £1600	TR808 £225
	CE300 £375	GR77CF £1600	TR808 £225
	CE300 £375	GR77CG £1600	TR808 £225
	CE300 £375	GR77CH £1600	TR808 £225
	CE300 £375	GR77CI £1600	TR808 £225
	CE300 £375	GR77CJ £1600	TR808 £225
	CE300 £375	GR77CK £1600	TR808 £225
	CE300 £375	GR77CL £1600	TR808 £225
	CE300 £375	GR77CM £1600	TR808 £225
	CE300 £375	GR77CN £1600	TR808 £225
	CE300 £375	GR77CO £1600	TR808 £225
	CE300 £375	GR77CP £1600	TR808 £225
	CE300 £375	GR77CQ £1600	TR808 £225
	CE300 £375	GR77CR £1600	TR808 £225
	CE300 £375	GR77CS £1600	TR808 £225
	CE300 £375	GR77CT £1600	TR808 £225
	CE300 £375	GR77CU £1600	TR808 £225
	CE300 £375	GR77CV £1600	TR808 £225
	CE300 £375	GR77CW £1600	TR808 £225
	CE300 £375	GR77CX £1600	TR808 £225
	CE300 £375	GR77CY £1600	TR808 £225
	CE300 £375	GR77CZ £1600	TR808 £225
	CE300 £375	GR77DA £1600	TR808 £225
	CE300 £375	GR77DB £1600	TR808 £225
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	CE300 £375	GR77DF £1600	TR808 £225
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	CE300 £375	GR77DH £1600	TR808 £225
	CE300 £375	GR77DI £1600	TR808 £225
	CE300 £375	GR77DJ £1600	TR808 £225
	CE300 £375	GR77DK £1600	TR808 £225
	CE300 £375	GR77DL £1600	TR808 £225
	CE300 £375	GR77DM £1600	TR808 £225
	CE300 £375	GR77DN £1600	TR808 £225
	CE300 £375	GR77DO £1600	TR808 £225
	CE300 £375	GR77DP £1600	TR808 £225
	CE300 £375	GR77DQ £1600	TR808 £225
	CE300 £375	GR77DR £1600	TR808 £225
	CE300 £375	GR77DS £1600	TR808 £225
	CE300 £375	GR77DT £1600	TR808 £225
	CE300 £375	GR77DU £1600	TR808 £225
	CE300 £375	GR77DV £1600	TR808 £225
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	CE300 £375	GR77EG £1600	TR808 £225
	CE300 £375	GR77EH £1600	TR808 £225
	CE300 £375	GR77EI £1600	TR808 £225
	CE300 £375	GR77EJ £1600	TR808 £225
	CE300 £375	GR77EK £1600	TR808 £225
	CE300 £375	GR77EL £1600	TR808 £225
	CE300 £375	GR77EM £1600	TR808 £225
	CE300 £375	GR77EN £1600	TR808 £225
	CE300 £375	GR77EO £1600	TR808 £225
	CE300 £375	GR77EP £1600	TR808 £225
	CE300 £375	GR77EQ £1600	TR808 £225
	CE300 £375	GR77ER £1600	TR808 £225
	CE300 £375	GR77ES £1600	TR808 £225
	CE300 £375	GR77ET £1600	TR808 £225
	CE300 £375	GR77EU £1600	TR808 £225



YAMAHA

DX100 FM PRICE BREAKTHROUGH £349

DX100 battery operated FM Synth mini keys 129 voice ROM

DX21 - IN STOCK NOW - £699

128 Pre-programmed voices - 32 performance memories - MIDI - 8 note polyphonic



RX21 IN STOCK NOW!

9 Voices - 56 Programmable & 44 Preset Pattern Memory - MIDI Compatible - Cassette Storage. £249

REV-7 IN STOCK NOW!

Yamaha break the price performance barrier with the brand new REV-7 19" rack mount unit with remote control. New LSIC technology characteristics. New LSIC give up to 15 early reflections on 1/32 millisecond of initial delay. Power Amp. EQ, M/D, 30 x presents, stereo, 60 x presents (orig. £1199)



£989

DX5 IN STOCK NOW £1999!



YAMAHA

OX1 MEGA SEQUENCER

Incredibly sophisticated state of the art data storage, the most powerful yet! 8 Polyphonic channels, built in disc drive with one megabyte storage (80,000 notes!) Extremely sophisticated editing. Best Yet!



QX7 DIGITAL SEQUENCE RECORDER

Yamaha continues the fabulous X7 range with an incredibly cheap poly, MIDI sequencer! 2 track, 16 MIDI channel sequencing in real or step time! MIDI in and out! Storage! Editing! Like a multi track but with digital quality! NEW LOW PRICE £299



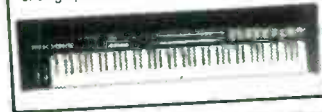
TX7 FM TONE GENERATOR

DX7 half price! Almost! All the functions of the worlds best selling synth in a compact keyboard controlled through MIDI! 6 Operators, 16 note polyphonic 32 memories. LCB display. NEW LOW PRICE £499



KX88 REMOTE MIDI KEYBOARD

Yamaha invent the ultimate in MIDI remote keyboards! Light and portable yet full of features! 88 notes wood keys, beautiful feel! 19 different control effects 192 parameter change possibilities. THE ULTIMATE.



TX816/TX812 FM TONE GENERATOR SYSTEM

System of the future - now! DX7s in a rack creating one sea of versatility. 32 voices 64 memories individual MIDI channel assign. TX8 is ideal solo with two modules and rack mode. TX816 and TX812 modules!



MT44D 4 TRACK

Yamaha have completely redesigned the popular MT44 system with sharp new looks and many new features, LED Display, 6 input mixer, new patchbay etc.



TELEPHONE FOR PRICES!

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SUPPORTED CHEQUES

INSTANT CREDIT INTEREST FREE CREDIT

NOW OPEN



YAMAHA

CX5 MUSIC COMPUTER

Now with new software!! ●RX Editor!! ●Real time recorder!! ●Disc drive!! ●Printer!! ●Hay card reader!! ●And much much more!!

Disc Drive £274 Printer £244 Playcard £53

ALMOST SOLD OUT AND NOT REPEATABLE! PHONE NOW! LAST CHANCE FOR BARGAIN OF THE CENTURY!!! CX5 COMPUTER SYSTEMS HALF PRICE!!!

FANTASTIC NEW LOW PRICE ON CX5 LIMITED OFFER WHILE STOCKS LAST

CX5 + YK01 KEYBOARD + 1 PIECE SOFTWARE £299!

CX5 + YK10 KEYBOARD + 1 PIECE SOFTWARE £349!

SOFTWARE

YRM101 ROM - FM Music Composer	£36	CMW32 ROM - Keyboard Chord Progres	£45
YRM102 ROM - FM Voicing Program	£36	CMW33 ROM - Guitar Chord Master	£45
YRM103 ROM - DX7 Voicing Program	£36	GAR-01 ROM - Graphic Artist (Mouse Paint)	£19
YRM104 ROM - FM Music Macro	£36	FVD-01 Cass. - FM Voice Data I - 96 voices	£19
YRM105 ROM - DX2 Voicing Program	£36	FVD-02 Cass. - FM Voice Data II - 96 voices	£19
YRM301 ROM - Vack MIDI Recorder DC	£39	RDB-01 Cass. - RX15 Rhythm Data I	£19
YRM302 ROM - Vack MIDI Recorder DC	£39	RDB-02 Cass. - RX15 Rhythm Data II	£19
YRM305 ROM - Q1 Voicing Program DC	£39	RDB-03 Cass. - RX15 Rhythm Data III	£19
YRM304 ROM - FM Music Composer II DC	£39	UPA-01 Playcard Program Cartridge	£53
YRM303 ROM - FM Voicing Program II DC	£39	CR-01 Playcard Reader	£26
YRM304 ROM - FM Music Macro II DC	£39	UDC-01 Data Memory Cartridge	£65
YRM304 ROM - FM Music Macro II DC	£39	CA-01 Cartridge Adaptor	£19
CMW11 ROM - Keyboard Chord Master	£45		

*DC = Disc compatible

NEW! SFG05 RX21 Tone Module Cartridge £99!!



YAMAHA

COMING SOON!! FANTASTIC NEW YAMAHA PRODUCTS

DX27

Digital FM Polysynth



A regular key version of the DX100. Its features and specs are nearly identical to the DX100 so you can use it as a MIDI on line controller keyboard. EPOA

PF70/PF80

Electronic Pianos



80 Note, 10 voices, LED display, weighted action, programme editing, MIDI, tremolo chorus, 3 band eq, 16 programmable functions. PF70 £899 - PF80 £999

VSS100

CMX Multitrack Cassette EPOA

Digital Voice Sampling Keyboard £179

SPECIAL OFFERS

GUITARS
PURE MUSIC
PRICE PLEDGE!
any branch
details!

YRM101	£115	YRM105	£399
YRM102	£145	YRM106	£199
YRM103	£659	YRM107	£499
YRM104	£289	YRM108	£499
YRM105	£345	YRM109	£299
YRM110		YRM110	£399

*DC = Disc compatible

E. & O.E.

KORG

DW8000 PROGRAMMABLE DIGITAL WAVEFORM SYNTHESIZER

Hit of the year! Korg get it right with features and price! 8 voice poly/ Korg's original digital waveform system/velocity sensing/built in digital relay/Echo/Flanging/Chorus/MIDI/69 memories. Extremely easy to edit/Dual digital six part envelope generators!



DW6000 6 VOICE POLYSYNTH. NEW LOW PRICE

Korg's 6 voice digital synth, now available at unbeatable competitive price! Features advanced digital sound quality with easy use processing and control/69 memories/Complete sound generation through harmonics synth. encoder in 2x256 ROM chips.



SQD-1 MIDI RECORDER & QUICK DISC
Korg's outright winner! At last an affordable storage system with the speed and efficiency of a built-in disk drive!! 2.8" quick disc/With 30000 note storage/Real or step time/Advanced editing/MIDI/Fast ACCFI/Advanced editing/Punchout/Copy insert/Delete modes.



EX800 POLYPHONIX MIDI EXPANDER
Now at an incredible new low price of **£199.00** (while stocks last)



SPECIAL OFFER
PRICE PLEDGE
Phone any branch for details!

POLY 800
Korg's best selling Synth.
Now at silly price of **£399**

KORG



POLY 800 Mk II
1000 note polyphonic sequencer, programmable digital delay, up to 1024 miliseconds, Programmable Eq. 6 point envelopes



NEW! EX8000 PROGRAMMABLE SYNTH MODULE

Expander version of the amazing DW8000. Many many features. Phone for details

£POA



KORG PEDALS

Complete range in stock, call for details.

DVP-1 DIGITAL VOICE PROCESSOR
PRICE PLEDGE
Phone any branch for details!

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FUTURE



SEQUENTIAL

PROPHET 2000 DIGITAL SAMPLING KEYBOARD

Up to 16 splits/touch sensitive weighted keyboard formats own disk/6 second sampling at 21KHz - 10 secs at 15KHz/Extremely sophisticated

£1999

MULTITRAK £695

Sequential's new advanced polysynth, now at all-time low price. Touch sensitive, powerful on-board sequencer, multi-timbal, MIDI.



FUTURE MUSIC PRICE PLEDGE
The advanced digital drum machine now at this incredible price
Phone any branch for details!
£499



AKAI

NOW AVAILABLE COMPLETE SOUND SAMPLING SYSTEM

Includes complete set of 10 pre-recorded discs



INCREDIBLE NEW LOW PRICE!!!

£949!

S612 MIDI DIGITAL SAMPLER & MD 280 QUICK DISCS

AKAI LIBRARY DISK SETS 20 SOUNDS IN EACH SET!!

SL201 Orchestra sounds.....	£49.90	SL202 Percussive Sounds.....	£59.90
SL203 Chorus + Ensemble.....	£49.90	SL204 Rhythm Section.....	£49.90
SL205 Special Effects.....	£49.90	SL206 Sounds of Japan.....	£59.90
BL100 Blank disk set.....	£29.90	ALL IN STOCK NOW!!	

AX80 MIDI - TOUCH SENSITIVE POLYSYNTH.

All new design and sounds at a crazy price! A wealth of features. Beautiful cosmetics, easy to use

61 keys 8 voice poly/Fluorescent display 32 preset sounds/64 user programmes velocity sensitive midi.



£799

AKAI MIDI RACK EFFECTS

ME100 MIDI Digital Delay
ME15F MIDI Dynamic Controller
ME20A MIDI Sequence Arpeggiator

AKAI COMPACT DISC DRIVE £199!!!

FUTURE MUSIC PRICE PLEDGE
Phone any branch for details!

GREENGATE

DS:3 DX

30seconds 20kHz
£1995



**FUTURE MUSIC
PRICE REDUCE!**
Phone any branch
for details!

30 second sampling at 20 kHz - BANDWIDTH... Yes, THIRTY!
Buying a keyboard sampler/sequencer? Ask if the computer is included. Our's is. For £1995

SIMMONS

MTM MIDI INTERFACE £595



Simmons new super sophisticated MTM now available and is much more than just a MIDI interface. It can vastly improve the dynamics of an SDS7 and give it MIDI capacity for example, or can be used as a pad or acoustic drum trigger, with MIDI out. Incredibly versatile, many other features.

£1199 SDS 9

More than a match for the acoustic kit because it is designed to give you everything the acoustic has to offer - and much more besides - 20 user programmable kits, new pads, 3 snare sounds, rimshot, all digital sounds, midi.

SDS 800

The NEW SDS 800 Series is made up of three different systems - the SDS 800, 400 and 200. Any of which you can use on its own, or as an expandable part of an electronic or acoustic kit.

THE SDS 800 DRUM KIT

- 4 CHANNEL - BASE, SNARE, 2 TOM TOMS.
- FULLY PROGRAMMABLE RUN GENERATOR FOR MULTI-TOM FILLS
- NEWLY DESIGNED PADS FOR EXCELLENT DYNAMICS AND UNCOMPROMISED FEEL

FLEXIBLE SOUND PROGRAMMING
• UNIQUE 'SECOND SKIN' CONTROL FOR HEADPHONE JACK FOR PRIVATE REHEARSAL

EPROM BLOWING SERVICE

Have your own sounds sampled and stored under studio conditions. Equipment suitable for SDS9, SDS7 & SDS1. (Ref: 28, 2764).
Future Music library sounds available EP, O.A. Supply your own favourite sounds on cassette, PCM or 1/4 inch and we will 'Blow' it onto Eprom.
SPECIAL OFFER - 10 Pack 16k Eprams £99.00.

THE SDS 400 TOM TOM SYSTEM

- 4 TOM TOM CHANNELS
- FULL PROGRAMMABLE RUN GENERATOR
- NEWLY DESIGNED PADS
- FLEXIBLE SOUND PROGRAMMING
- UNIQUE 'SECOND SKIN' CONTROL
- HEADPHONE JACK

THE SDS 200 TOM TOM SYSTEM

- 2 TOM TOM CHANNELS
- NEWLY DESIGNED PADS
- FLEXIBLE SOUND PROGRAMMING
- UNIQUE 'SECOND SKIN' CONTROL
- HEADPHONE JACK

MUSIC

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**SUPPORTED
CHEQUES**

**INSTANT CREDIT
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CREDIT**

CASIO

CZ5000

- On Board Sequencer
- Keyboard/61 Keys (5 octaves)
- Sound Source: PD (Phase Distortion) system
- Voices: 16 (1 DCO) or 8 (2 DCOs)
- Modes: normal/tone mix/key split/sequencer
- Programmer: 32 preset voices (fixed), 32 memory voices (exchangeable), write, compare recall



CZ101/CZ1000

- Keyboard/49 Keys (4 octaves)
- Sound Source: PD (Phase Distortion) sound source system
- Voices: 8 (using 1 DCO) or 4 (using 2 DCOs)
- Tone Memories (Preset): bank of 16 (preset)
- Tone Memories (Programmable): bank of 16 (internal)
- External Memories (RAM Cartridge): bank of 16 (cartridge optional)



- Compare Area: 1 (compare+recall)
- Programmer Section: preset, internal, cartridge, compare+recall, tone select 1-16.

SZ1 SEQUENCER

- 4 Channel Sequencer with on Board Memory of 3600 Events (expandable)
- 4 Channels
- Manual recording: 3600 notes max.) real time recording (1800 notes max.)
- Editing: copy, insert, delete, clear

- Tempo - = 40 - 255
- Metronome: ON/OFF
- Repeat: ON/OFF
- Clock: INT/EXT
- MIDI: IN/OUT
- External Memory: cartridge (RA-5 option) or cassette



**COMING SOON
NEW
CASIO CZ3000!**

CARLSBRO

AMPLIFICATION

Full range always in stock at all Future Music branches. High quality but low priced British amplification at its best.



SESSION

AMPLIFICATION

Best Comp. at best prices always stocked at Future Music e.g.
Session 100 75. 1 x 12 combo £175
Session 100 75. 2 x 12 combo £275
Session 100 75. 2 x 10 combo £295
For further details

LC electronic

Pedals for the perfectionist



INCREDIBLE QUALITY!!
SUPER LOW NOISE!!

- Chorus/flanger £157.00
- Dual Parametric Eq £84.00
- Sustain Eq £94.50
- TCX11 Phasor £126.00
- Booster/Distort £94.50

Fender

THE SOUND THAT CREATES LEGENDS NOW AT ALL FUTURE MUSIC BRANCHES WITH A GREAT NEW 1986 LINE UP!!

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| 80's Tele Strat £395 | Squier Tele £239 |
| Squier Tele Strat £249 | Katana £529 |
| 60's Vintage Tele £389 | Squier P. bass £279 |
| Contemporary Strat £475 | Squier Jazz bass £319 |
| Telecaster with humbuckers £429 | Contemporary P.J. bass £399 |
| | Squier Katana bass £299 |

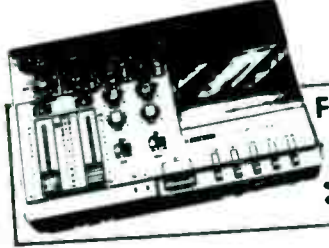
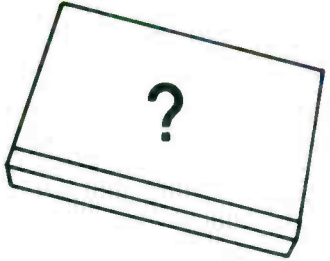
NEW

FOSTEX 260 MULTITRACKER

- ★ 2 Auto Locate Memories
- ★ Dual Parametric Sweep Eq
- ★ 2 Auxiliary inputs per channel plus 2 line inputs
- ★ Switchable Dolby C Noise Reduction
- ★ LCD Counter
- ★ A host of other features

Fostex

Accessit 'Exciter' now in stock plus complete range



FOSTEX X15 NEW LOW PRICE! £245
 * MN15 Compressor/Mixer £39 *
 Complete Accssit range in stock.

FOSTEX B16 16 TRACK SYSTEM PACKAGE!!
B16 + SEC 18/8/2

Join the personal multitrack revolution with Future Music 16 track recording! The world's most successful 16 track recorder on tape. Call for up to date price and details on the B16 package and 8 other 16 track packages.

FOSTEX 260 MULTITRACKER TRACK CASSETTE RECORDER £599



FOSTEX A2 1/4 INCH RECORDER £499

FUTURE MUSIC SCOOPS!!

FOSTEX X150 MIXER IDEAL FOR USE WITH ANY 8 TRACK RECORDING SYSTEM £399



Fostex

A80 8 TRACK

- Look at these incredible new features!!
- Redesigned cosmetics with bargraph meters
- SMPTE timecode track
- Dolby C
- Improved signal to noise ratio + 20DB
- Record on all 8 tracks live
- MIDI interface for controlling synths on



450 MULTITRACK RECORDING MIXER

- Completely redesigned cosmetics and routing system
- Bar graph integral meters
- Pre and post 3 band parametric eq
- In line monitoring
- Input solo ● 2 aux sends ● Phantom powering



4030 SYNCHRONISER

- MIDI ● Computer interface synchroniser will lock AVD10 to audio or audio to video! Optional 4035 controller!!
 - 4030 Synchronizer £1695
 - 4035 Controller £1695
- All new and unbeatable value!

4030 AUTOLOCATOR £995

For use with 4030, A20 and B11 models!!! Incredible features! ● Autolocator has digital LED display and is totally programmable (minutes, seconds, bars, notes!!) Tempo change in realtime ● SMOTE time code



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FUTURE MUSIC



WS-A70E

RAMSA

for professionals

Incredibly high-powered monitors at very affordable prices!! Now in stock at all Future Music branches.

The WS-A70E represents the end-result of intensive research into the nature of the human hearing system. It is compact for easy handling, but at the same time features a high power handling capacity, and wide and even sound dispersion allowing a wide projection angle.



WS-A10

The WS-A10 is a bass reflex micro sound monitor with performance comparable to much large units. The single, 12cm full range speaker has a frequency response from 50Hz to 20,000Hz, and a power handling capacity of 160W (Continuous program), making it perfect for a wide range of applications.

WS-A200E

Compact High - Power, Speaker System
 With this speaker system, all the power and reliability of a big P.A. system has been packed into a compact single unit, backed up by extensive R&D and field testing. The WS-A200E provides high quality sound in a flexible speaker capable of performing in a variety of situations. An accurate constant directivity creates a real P.A. presence. Aside from its superlative tonal qualities and performance, the WS-A200E is sturdy and durable in construction. It is perfect for any type of show on the road in diversified performing situations, from indoor to outdoor. Maximum Sound Pressure Level: 129dB. Equivalent to 1.2kW input (measured on the EIA RS-426-A standard)



SHURE

The Sound of the Professionals

Just a few of the world's finest microphones! All in stock at every Future Music branch and at very competitive prices.

SM 10 A, SM 12 A, SM 14 A

Dynamic
 Designed to solve many problems of drummers, keyboardists and guitarists who sing as they play; staying "on mic" as they move around while playing; keeping vocals isolated from instruments;

being unable to hear vocal monitor; drummers hitting the boom stand with the sticks. The dynamic microphone capsule is noise-cancelling. Response is designed for close-talking, with strong, professional sound quality.



SM 90/91 Condenser

Model SM90 is a "pressure zone" omnidirectional unit.

PE 66 Dynamic

Shure finest PE instrumental microphone. Really comes through when close miking is important.



SM 58 Dynamic

The world-standard professional stage microphone, with the distinctive Shure upper mid-range presence peak for an intelligible, lively sound.

PROLOGUE by SHURE

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Casio CZ3000 Polysynth



And so it goes: the 101 begat the 1000, the 1000 begat the 5000, and the 5000 begat the 3000. To be fair, Casio aren't the only synth manufacturer to follow the Sylvester Stallone School of Marketing ('if you've got a good idea, flog it to death'), a fact which goes to concoct a very busy, and extremely competitive, lower end of the market.

The CZ3000 is basically a stripped-down version of the 5000, and in its attempt to find a niche of its own, it's jettisoned the onboard sequencer of the flagship model (see Simon Trask's epic CZ5000 review, *E&MM* June '85).

Surprisingly, Casio have also deemed it necessary to replace the Memory Transfer feature (whereby sounds can be saved to normal audio cassette) with a MIDI Thru socket, absent on earlier CZ models. Seeing as the 3000 is pitched at a less affluent market than the 5000, this seems a curious omission. Cartridges may provide speedy access to more sounds, and are invaluable when playing live, but cassette storage is the only choice for prolific home users hoping to build up an extensive, but inexpensive, library of sounds.

What the 3000 has retained from big brother, though, is not to be taken with a pinch of sodium chloride. Like all 'pro' Casios, it uses the Phase Distortion method of sound synthesis, a curious hybrid of a system that aims to offer something approaching FM versatility and clarity, combined with something approaching analogue accessibility and friendliness.

The new CZ offers 16-note polyphony in single DCO mode, eight in double. Tone Mix mode, whereby two sounds can be layered over the entire five-octave keyboard in four-note polyphony, and Split Mode (split-point adjustable over the whole range, but with no overlapping) are also available.

Each voice comprises two DCOs, two DCWs and two DCAs, and each of these boasts its own eight-stage envelope, which is pretty flexible.

It's a pity Casio haven't seen fit to give the CZ3000 a bigger memory, though, as its 32 preset and 32 user memories look pitifully few compared to what's being offered by some of the competition. That said, the similarity between the 3000's voice architecture and that of analogue synths

means that programming good sounds of your own entails serving only a brief PD apprenticeship, even if you're a relative novice. And bear in mind that the availability of Casio voice-editing programs (some being examined by *E&MM* staff as you read this) for popular home computers will soon make the creation of new sounds easier still. The software should enable storage of banks of sounds to cassette and disk, too.

Subjectively, the 3000's sounds don't let the CZ family's good reputation down. The machine has the technology – assuming you have the manipulating talent – to produce a broad selection of strong, characterful sounds, though in some cases, the limited range of preset voices means you have to do a lot of editing before you start reaping rewards. The strings presets, in particular, lack the sweetness of some of the 3000's competitors'. Still, a modicum of programming work should get you some fat, 'analogue' lead synth sounds, a few delicate tuned percussion impersonations, some chunky, hard-edged brass, and a collection of clanging metallic creations (thanks to the onboard ring modulator – nice one, Casio), plus a lot more besides.

The stereo chorus goes no small way toward giving the sounds some movement, but more interestingly, the final stages of the envelope shapers come in handy for introducing subtle reverb-type effects as a sound releases.

Sadly, neither touch-sensitivity nor aftertouch appear to be high on Casio's list of priorities. And the 3000 won't recognise velocity or aftertouch data via MIDI, either, so any human feel has to be injected through the synth's programmable performance wheels.

The CZ3000 has plenty of competition, make no mistake. But its appeal lies in being able to offer a challenge to users of conventional analogue synths, without presenting them with the programming complexities of FM. And when you consider the range of sounds the 3000 can produce, it's not difficult to see that this approach is paying big dividends. ■ *Trish McGrath*

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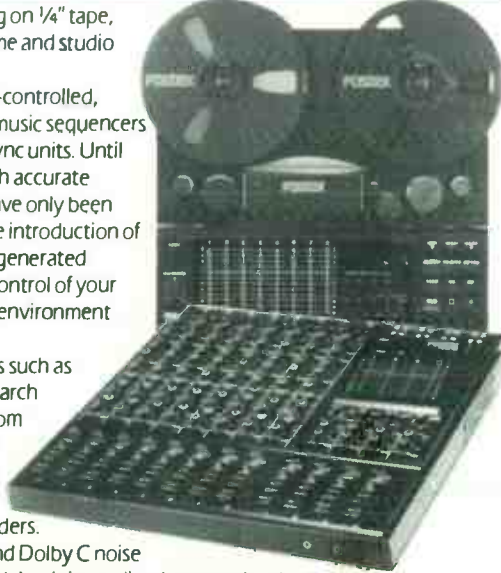
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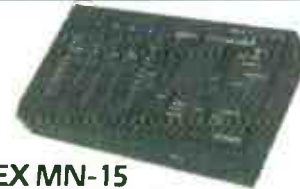
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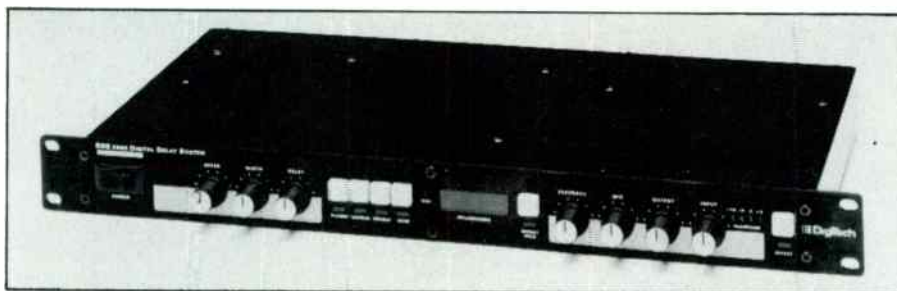


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DOD RDS3600 Sampling Delay



Is it a DOD or is it a Digitech? Well, strictly speaking it's both. The company behind the RDS3600 is DOD of America, specialists in footpedal effects, but now branching into more sophisticated, rack-mounting units under the Digitech banner.

Externally, there's little distinctive about the Digitech rack gear; but then, putting something in a 1U-high, 19" rack-mount format doesn't leave much room for aesthetic flair anyway.

Internally, however, the 3600 does have some distinctive characteristics. It's capable of performing most of the commonplace digital delay functions, and if you're in any doubt about how to go about creating these, the front panel provides four pushbuttons marked Flange, Chorus, Double and Echo; pressing one of these gets you a preset delay time from which to begin work.

In fact, manipulating the DOD's delay parameters is quite a bit easier than doing the same job on a lot of other units, thanks mainly to an excellent central LED display that tells you where you are at any given time. You still have to keep pen and paper handy, though, because this unit has no programmable memory locations.

More noteworthy is the 3600's ability to generate unusually long delay times. The maximum is 7.2seconds, which should be long enough for most people, and though this inevitably results in a reduced bandwidth (4kHz), the original signal is still perfectly recognisable after the long wait. If you want higher sound quality, you can opt for more sensible delay times of 3.6seconds (8kHz bandwidth) and 1.8seconds (16kHz). The only problem is that the delay time switch is located, perversely, at the back of the unit, so it's not going to be easy to reach if you put the DOD in a rack. Signal-to-noise ratio is a creditable 85dB, though, so the 3600 is quieter in operation than many low-cost delays.

But one of the DOD's major selling points is its ability to freeze whichever sound is currently living in its memory, for infinite looping or one-shot triggering. To sample a sound, you simply apply a pulse to the rear panel Sync socket to initiate the process, and once the sound has been captured, pressing Repeat Hold locks it into memory. From

there on, any subsequent pulses – from a drum machine's trigger output, say – cause the stored sample to be replayed.

Coupled with this is an external modulation input, through which you can feed the output of a suitable low frequency oscillator which, in turn, will modulate the sampled sound – useful if you like experimenting with alternative modulation waveforms. Applying an external mod input in this manner disconnects the DOD's internal modulation section automatically.

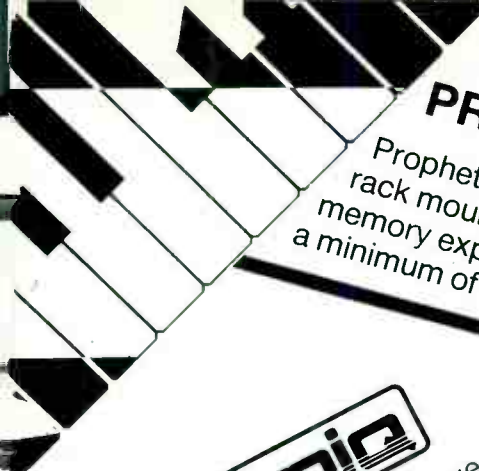
Sadly, though, this is the extent of the 3600's sampling facilities. There's no means by which you can control your sample's pitch remotely from a synth keyboard, MIDI, CV or otherwise. So the facility's musical usefulness is definitely limited, unless remote triggering is your only requirement.

Speaking of triggering, there's also no means of beginning the sampling process automatically. This makes it difficult to synchronise the sound being captured with the sampling procedure, and even though a bit of practice goes a long way here, I can't help but feel a sound-activated trigger wouldn't have put much extra on the 3600's manufacturing costs.

All in all, the digital delay market is becoming increasingly hard-fought and complex – though the extra activity isn't necessarily making designers build more innovative machines. The RDS3600 is fairly typical of the current breed of sub-£500 models, and as such, offers a mix of useful functions and missed opportunities. Its flexible modulation section and long maximum delay time are both highly praiseworthy features, yet its sampling section is good only as far as it goes – and it should have gone a lot further.

Incidentally, DOD also produce an alternative, less facility-laden delay in the form of the RDS1900. This offers a 1.9second delay time at 15kHz bandwidth, but no triggered sampling, no external modulation input, and no way of increasing the delay time. The choice is yours. ■

Prices RDS3600, £435; RDS1900, £250
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Roland Alpha Juno 2 Polysynth



Although there's currently a proliferation of competent machines at the lower end of the synthesiser market, very few of them respond to the ferocity with which you hit their keyboards. Until now, the only sub-£1000 synths that sound louder when you hit them harder have been the Bits One and 99 and SIEL's DK70/80 – Italian designs all. Yamaha have yet to come up with one in this price range, and Casio have yet to come up with one, full stop. Well, with the introduction of the Alpha Juno 2, big brother to the Juno 1 reviewed in *E&MM* January, Roland have taken the lead among the Japanese manufacturers, and offered a poor man's synth with a touch-sensitive keyboard.

The Juno 2 is in fact almost identical to the Juno 1, save for that five-octave touch-sensitive (attack velocity and aftertouch) keyboard. So apart from its extra length, the newest Juno looks to all intents and purposes exactly the same as the 1.

Voice structure on the big Alpha is carried over from that of the cheaper model, which means a straightforward, traditional analogue system with a single DCO per voice, a high-pass filter, LFO, VCF and VCA sections, and a built-in chorus. The 'Alpha dial' parameter access system, handy octave up/down facility and versatile Chord Memory features are all present and correct, as are the usefully backlit LCD and flexible MIDI implementation. And like most other Roland polysynths thus far, the Juno 2 is six-voice polyphonic, where eight voices would have been preferable.

New to the 2, though, is a RAM cartridge facility, which provides a third group of 64 sounds to go with the 64 preset and 64 user-programmable patches inside the machine. Thus, hey presto, you get instant performance access to 192 sounds – as many as are to be found on Yamaha's newest DXs, but more easily accessible, and with a much higher proportion of user-programmable sounds. The cartridge facility also allows you to save sounds individually or in bulk from the Juno 2, and to load sounds in bulk into it. Only problem is, the cartridges don't come cheap – and Roland have removed the cheaper Alpha's cassette storage facility. Even if you're not over-enamoured with cassettes (and who is?), you can't deny

they're a cheap storage medium.

Roland have also given the Juno 2 a new set of preset and 'memory' sounds – presumably a late decision, because our review model still had the Juno 1's sounds in it. So, unfortunately, it's a case of No Sounds, No Comment. As long as they've kept those lovely Junostrings I'll be happy, but in the meantime, all I can say is that I'll keep you posted.

Velocity and aftertouch sensitivity are voice-programmable features on the Juno 1, so the newest Juno doesn't add anything in that department – it merely makes the sensitivity accessible from the synth itself. Playing the Juno 2, however, I soon realised you need to apply an inordinate amount of pressure on the synth's keys to bring the aftertouch effect in; some small alteration to the keyboard's responses certainly wouldn't go amiss.

Much better news is that Roland have just announced a programmer, the PG300, which will work with either of the Alphas, and which allows you to twiddle lots of dedicated controls for easy, rapid editing of sounds. Other manufacturers please take note – then we can kiss goodbye to the digital access nightmare...

The Alpha Juno 2's main *raison d'être*, meanwhile, remains its dynamic keyboard, and many people who can't justify the expense of a JX8P will no doubt welcome a comparatively affordable touch-sensitive Roland synth. The plushest Juno yet offers nothing new in the sound department – but that does at least mean you're getting familiar sound textures, programmable in a familiar way.

My main criticism – save the high cost of memory cartridges – surrounds the Juno 2's lack of any split/dual facilities; together, they could have turned one instrument into a pair at a single, easy and cost-effective stroke.

But if the new sounds live up to the promise of the Juno 1, there won't be many disappointed with the upmarket Alpha. ■

Simon Trask

Price Alpha Juno 2 £779; M64C RAM cartridge £80; PG300 Programmer £200 – all RRP's including VAT
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READERS' WRITES

Another year, another E&MM readership survey. The magazine has made a number of changes in the 12 months since we last asked your opinion on its progress, so it's probably about time you got a chance to tell us what you think of those changes, and what further alterations - if any - you'd like to see us make as E&MM sprints into its sixth year.

Fill in the questions that follow, cut the whole page out (or photocopy it), send it to us, and your comments will be taken into consideration. Now's the time to give us all a big vote of confidence, pick out a few specific areas for attention, or tell us where to put our magazine, depending on your viewpoint.

This isn't just a token show of concern on our part - we're genuinely interested in what you have to say. In fact, so keen are we to hear your side of the story, we're offering a year's free E&MM subscription to the first ten reply forms pulled out of the hat on February 28.

Thanks in advance for your help.

PART 1: YOUR GEAR

Here's a list of modern musical instruments and auxiliary equipment. Please tick the box alongside the instruments you use regularly, and specify make and model on the line underneath each one.

- Computer musical instrument 1
-
- Digital polyphonic synthesiser 2
-
- Analogue polyphonic synthesiser (MIDI) 3
-
- Analogue polyphonic synthesiser (non-MIDI) 4
-
- Monophonic synthesiser 5
-
- MIDI drum machine 6
-
- Non-MIDI drum machine 7
-
- Dedicated sequencer (MIDI) 8
-
- Dedicated sequencer (non-MIDI) 9
-
- Organ 10
-
- Portable keyboard 11
-
- Electric piano 12
-
- Acoustic piano 13
-
- Electronic drums 14
-
- Acoustic drums 15
-
- Electric guitar 16
-
- Acoustic guitar 17
-

- Bass guitar 18
-
- Home computer 19
-
- Music software package 20
-
- Delay unit 21
-
- Reverb unit 22
-
- Graphic/parametric EQ 23
-
- FX pedal 24
-
- Amplification 25
-
- PA equipment 26
-
- Microphones 27
-
- Tape recorder 28
-
- Mixer 29
-
- Other (please specify) 30
-
-

PART 2: YOUR MUSIC

- Are you in a band? 31
- Or do you play your music solo? 32
- Do you play original compositions? 33
- Or simply arrangements of previously written material? 34
- Do you gig fairly regularly? 35
- Do you record material in a studio? 36
- If you do, is the studio at home? 37
- Or is it a commercially-run facility? 38
- Would you class yourself as professional? 39
- Semi-professional? 40
- Or amateur? 41

If you could place your music in one or more of the categories listed below, which would it be?

- Electro-pop 42
- Electro-funk 43
- Conventional pop 44
- Instrumental electronic music 45
- Conventional rock 46
- Jazz/jazz-rock 47
- Progressive rock 48
- Avant-garde 49
- New wave 50
- Ethnic 51
- Classical 52

PART 3: YOUR VIEWS

In your answers to the questions below, tick the first box if you'd like to see E&MM devoting more coverage to the subject under discussion, the second if you think our present level of coverage is about right, and the third if you'd like to see less of it.

- Interviews with musicians and composers 53 54 55
- With studio engineers and producers 56 57 58
- With development engineers and scientists 59 60 61
- Appraisals of new synthesisers 62 63 64
- Of new portable keyboards 65 66 67
- Of new drum machines 68 69 70
- Of new electronic drum systems 71 72 73
- Of new sequencers 74 75 76
- Of new amplification 77 78 79
- Of new effects units 80 81 82
- Of new computer music systems 83 84 85
- Of new computer music software 86 87 88
- Of new studio equipment 89 90 91

More coverage Same coverage Less coverage



- | | | | |
|----------------------------------------|------------------------------|------------------------------|------------------------------|
| | <i>None covered</i> | <i>Some covered</i> | <i>Less covered</i> |
| ▶ Record reviews | <input type="checkbox"/> 92 | <input type="checkbox"/> 93 | <input type="checkbox"/> 94 |
| Readers' demo reviews | <input type="checkbox"/> 95 | <input type="checkbox"/> 96 | <input type="checkbox"/> 97 |
| Concert reviews | <input type="checkbox"/> 98 | <input type="checkbox"/> 99 | <input type="checkbox"/> 100 |
| Video reviews | <input type="checkbox"/> 101 | <input type="checkbox"/> 102 | <input type="checkbox"/> 103 |
| Instructional features on music theory | <input type="checkbox"/> 104 | <input type="checkbox"/> 105 | <input type="checkbox"/> 106 |
| On music technique/performance | <input type="checkbox"/> 107 | <input type="checkbox"/> 108 | <input type="checkbox"/> 109 |
| On music composition | <input type="checkbox"/> 110 | <input type="checkbox"/> 111 | <input type="checkbox"/> 112 |
| On computer technology | <input type="checkbox"/> 113 | <input type="checkbox"/> 114 | <input type="checkbox"/> 115 |
| On studio recording | <input type="checkbox"/> 116 | <input type="checkbox"/> 117 | <input type="checkbox"/> 118 |
| On video techniques | <input type="checkbox"/> 119 | <input type="checkbox"/> 120 | <input type="checkbox"/> 121 |
| On electronics | <input type="checkbox"/> 122 | <input type="checkbox"/> 123 | <input type="checkbox"/> 124 |
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| News items | <input type="checkbox"/> 128 | <input type="checkbox"/> 129 | <input type="checkbox"/> 130 |
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| Readers' technical queries | <input type="checkbox"/> 134 | <input type="checkbox"/> 135 | <input type="checkbox"/> 136 |
| Free classifieds | <input type="checkbox"/> 137 | <input type="checkbox"/> 138 | <input type="checkbox"/> 139 |

If you have any specific feelings about E&MM not covered by the questions above, please use the spaces below to list them.

The magazine's editorial content

.....

.....

Its writing style.....

.....

.....

Its photography.....

.....

.....

Its visual presentation.....

.....

.....

Do you buy E&MM every month? 140

More than six times a year? 144

Or less than six times a year? 148

Aside from E&MM, which of the following publications do you read regularly, occasionally, or not at all?

	<i>Regularly</i>	<i>Occasionally</i>	<i>Never</i>
--	------------------	---------------------	--------------

Melody Maker 149 150 151

Sounds 152 153 154

New Musical Express

155 156 157

International Musician

158 159 160

One Two Testing 161 162 163

Sound on Sound 164 165 166

Home & Studio Recording

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Studio Sound 170 171 172

Sound Engineer 173 174 175

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Please state your occupation

.....

Does this occupation directly involve music? 220

Studio engineering or production? 221

Computing? 222

Electronics? 223

Video? 224

Education? 225

Your annual income:

Less than £5000 226

£5000-£7500 227

£7500-£10,000 228

£10,000-£12,000 229

£12,000-£15,000 230

£15,000-£20,000 231

Over £20,000 232

The average amount you spend on musical instruments and related equipment each year:

Under £250 233

£250-£500 234

£500-£750 235

£750-£1000 236

£1000-£1500 237

£1500-£2000 238

£2000-£5000 239

£5000-£10,000 240

Over £10,000 241

Please feel free to ignore this section and fill it in only if you wish your questionnaire to be included in the draw for ten free subscriptions to Electronics & Music Maker. All information given will be treated in the strictest confidence - and thank you again for your co-operation.

Name.....

Address.....

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Now post this entire page (a photocopy will do) to: E&MM Readership Survey 1986, Music Maker Publications, Alexander House, 1 Milton Road, Cambridge CB4 1UY.

When an innovative new technology produces great sound and still passes Sequential's tough requirements for quality and ease-of-use, what's the result? A New Prophet.



Introducing the radically different Prophet VS, an eight voice synthesizer that produces a wave of sound so big we almost named it Tsunami. It's a standout performance instrument based on a new digital technology called Vector Synthesis. It's easy to program, it's made in America by Sequential, and it offers the full range of features and commitment to quality that is expected in a Prophet.

What is Vector Synthesis?

Briefly, complex sound waveforms are stored digitally (with a minimum of 128 waveforms—including white noise—always available). A sophisticated algorithm is employed to dynamically mix up to four of these stored waveforms together to create sounds. Both subtle, and powerful changes in timbre are easily accomplished—even during a live performance—using the joystick.

New waveforms can also be easily constructed and modified by the user via the joystick. These features are unique to the VS.

Made for Performance!

The Prophet VS offers more immediate control over changes in timbre than any synth ever designed. The ability to control and modulate stereo panning, voice oscillator mixing, and stereo chorusing in real-time, as well as instant access to 200 programs via ROM and RAM cartridges are just a few of the features making the Prophet VS a necessary instrument for performing artists. Additional features include a velocity and pressure sensitive 5-octave keyboard with programmable split, and the most versatile arpeggiator available to date—offering new options like polyphonic voicing, rests, and layering.

MIDI? The PROPHET VS MIDI implementation is matched only by the PROPHET 2000.



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The PROPHET VS, along with the PROPHET 2000 in keyboard and rackmount versions, can be heard at SEQUENTIAL's stand at the Frankfurt MusikMesse, 9.OB26, and very soon at your nearest Authorised Sequential Dealer

For further information on the PROPHET VS and other fine instruments from the SEQUENTIAL range, please send a £2 postal order made payable to SEQUENTIAL INC to: Sequential (Europe), PO Box 16, 3640 AA Mijdrecht, The Netherlands.

SUPER

Roland's new PAD8 Octapad looks innocuous enough, but it could revolutionise

Strange though it may seem, there are now almost as many noiseless musical instruments on offer as there are noisemaking ones. MIDI is what's to blame, of course, because MIDI is what's making musicians realise the value of playing the same sounds from different instruments. For them to be able to do that, the hardware manufacturers have started building boxes that are used to control other boxes, rather than act as instruments in their own right.

Such a box is the Roland PAD8 Octapad, though unlike many of the silent instruments, this one looks as though it might make some noise of its own, as it has eight rubber pads on it that serve a fairly obvious musical purpose; it certainly isn't a mysterious, uninviting unit in the black box tradition.

The PAD8 allows you to use sticks, fingers or whatever takes your fancy to play the sounds of MIDI instruments. Most obvious candidates for the job of being controlled are MIDI drum machines, but that doesn't stop you linking the Octapad to a keyboard instrument for triggering pitched sounds. The Octapad provides dynamically sensitive control of your sound source, primarily through having touch-sensitive pads onboard, but also by means of up to six external electro-pads (optional) which can be connected to the unit via inputs on the rear panel.

Logistically, the PAD8 can be used free-standing or mounted on a standard tom-tom holder, the idea being that many drummers will want to site it somewhere close to the rest of their kit. Its wedged-shaped profile and high-impact silver plastic construction convey a convincing hi-tech image, underlined by Roland's new logo emblazoned across the unit's rear edge. It's tough, too. So tough, in fact, that it's even possible to stab at the rubber-membrane buttons on the PAD8's control panel with smart raps from a drumstick – though this is not to be recommended.

The onboard pads are arranged in two rows of four; the configuration is a playable enough size if you're using a PAD8 on its own, but might present problems if you try



any tricky interplay between the unit and regularly-sized drums or pads. Like the casing, the black plasticised playing surfaces are very tough, being fashioned from the same material featured on Roland's PDI 0 and 20 pads. For the uninitiated, these offer a certain elasticity, but are quite limited in terms of 'feel'. It's better than the old Simmons SDS5 riot shield stuff, but some way behind the new SDS9 and, of course, real drum heads. Still, these considerations are only really going to be of significance if you're a drummer used to hitting something more sympathetic; if you aren't, you're unlikely to find the Roland pads wanting.

One of this Roland's really clever design points, and one that should have other electro-drum manufacturers tearing their hair out wondering why they didn't think of it first, is that despite the pads' close proximity to each other, false triggering has been avoided by 'out-of-phase' switching. This means that hitting one pad instantly turns it on, and all the others off – but at such a speed that the entire process is completely undetectable. Neat, and it works.

To the right of the playing area are a vertical series of five status-indicating LEDs, and beneath these, the main two-digit LED

display. The lower half of the control panel is occupied by four Edit Buttons, which correspond to the status LEDs' Curve, Note Number, MIDI Channel and Sensitivity functions. There are also two Step Up/Down incrementor buttons (these don't auto-repeat as you hold them down, but parameter values can still be set fairly quickly using a Skip function). Beneath all this lie four buttons which you use to access the PAD8's quartet of patch memories – more on these later.

Round the back, there are jack sockets for Patch Shift and Program Change footswitches, an Edit Protect switch (leave it on if you want to make sure the Octapad's memory isn't erased accidentally), MIDI In and Out sockets, six External Pad inputs, and sundry other items.

Fine. But what can you do with it all? First off, individual voices may be assigned, via specific MIDI channels, to any of the pads. So if the PAD8 is being used alongside a drum machine, for example, each instrument – snare, hi-hat, toms and so on – can be played through its own pad. If you're using one of Roland's own range of MIDI-equipped machines – TRs 707, 727, 909 and, presumably, the new 505 when it appears – with the PAD8, the system can be set instantly to a play-ready state by holding down a couple of buttons while switching the unit on. If you're using anyone else's MIDI gear, though, you have to assign each voice or sound to its own pad manually. Having said that, one of the Octapad's most economical companions could be the Korg

OCTAPET

the way percussionists see their music – and how musicians see percussion.

Alex Murray & Nigel Lord

MRI6 drum voice module – so long as you don't mind playing in real time only.

Being a clever little so and so, the PAD8 can memorise four different eight-way combinations of voice-to-pad assignments, along with five other parameter edit functions. The full range of these functions includes the following: the setting of MIDI channel numbers so that specific voices on drum machines, or individual notes on synths, may be accessed; pad sensitivity; dynamic control (ie. output level in relation to striking force), which Roland refer to as Curve; Minimum Velocity, which sets the level relative to minimum pad striking force; and Gate Time, which controls the duration of any of the accessed sounds. Using these parameters, you can construct a complex envelope to reflect, as much as possible, the nuances of your playing style.

Clearly, voice-to-pad assignment and the setting of MIDI channel numbers have to be set individually for each pad, but the really interesting thing about the PAD8, from a performance aspect in particular, is that the other four parameters can be set individually too. In other words, sensitivity and dynamics (say) can be adjusted separately for each pad/voice combination – which adds enormously to the machine's versatility, and makes it a far more expressive instrument. Bear in mind, though, that your connected MIDI instrument will have to be capable of receiving sensitivity data for that expression to come through.

This is particularly so given the added facility of being able to recall any of the four combinations of parameter values by pressing the appropriate Patch Preset button, or by using a footswitch to step through the four patches repeatedly.

If you put your mind to it, it's possible to envisage some fascinating applications of the PAD8 when used in conjunction with various sound sources. With a synth connected, you can assign a particular note to each pad, so that if you have a percussion voice

programmed into that synth, it becomes possible to set up a range of eight perfectly-tuned drums in descending thirds, fifths or indeed any musical interval. (A MIDI number of 60 denotes Middle C, 59 denotes B below Middle C, and so on).

Additionally, it's quite possible to connect the Octapad to a synth and drum machine simultaneously, with say the bass, snare drum, hi-hat and cymbal voices assigned to four of the pads, and a synth sound to the other four. If you're lucky enough to have a multitimbral MIDI synth such as a Casio CZ or a recent Sequential model, so much the better: you can set a different synth sound to a different MIDI channel, and thence to a different pad on the Roland. You could be luckier still, and possess sufficient numbers of MIDI synths to prevent your selection of sounds appearing samey. The permutations are endless – your bank balance may not be.

The PAD8 also has the ability to transmit program change information, so you can alter synth voices remotely from the controller. The idea is that you set up a program change in advance, by determining a Bank Group and Bank Number combination for a particular pad, and using the table included in the manual in conjunction with the program change table that should (with luck) be included in the manual of your chosen MIDI sound source. Then, simply by hitting the relevant pad, you send the program change information down the MIDI channel to the chosen device (with all previous MIDI Channel/Note number information remaining unchanged). So with one flick of your wrist, the connected DX7 Patch 14 (Funk Bass), flips over to Patch 25 (Marimba). Wonderful stuff.

And the good news doesn't stop there. As we mentioned earlier, the PAD8 also incorporates an analogue-to-digital interface that allows up to six external pads to be connected. The input is designed to work with a wide range of electro-pads from an equally wide range of manufacturers – which if you think about it, makes the Octapad a convenient, economical means of

MIDIifying an existing set of pads.

Once you've done that, anyone who can tap out a rhythm on a table can also gain access to sampled sounds from drum machines or keyboards, can start, stop and record drum solos or musical sequences on machines like Roland's own MSQ700, and can even alter settings on MIDI-equipped delays and reverbs. Again, the possibilities are truly endless.

Roland themselves envisage the Octapad selling to bands with drummers and a drum machine, to the percussionist who wants access to unusual, synth-based sounds, or to the performer who'd like to inject a little spontaneity into a drum machine backing. Certainly, if you're a drummer or musician already in possession of a suitable drum machine or synth, then the PAD8 offers a whole range of potentially inspiring musical and performance options.

The inclusion of both MIDI Out and In, on what is basically a 'MIDI Out' device, is primarily for the purpose of connecting two PAD8s together, but can also be used to interface the unit with other instruments – and therefore other players.

In most respects, then, the Octapad proves to be a machine of brilliant design and intriguing possibilities. Maybe it isn't quite the clever so and so that it might be; flexible though the PAD8's MIDI and routing options are, it could surely do with having a bigger memory – four patch presets seems tantalisingly few. And although it's inevitable given the inherently complex nature of the MIDI system, the Program Change function does seem messy and too involved – even if it is a great boon in live performance.

But none of this takes much away from the Octapad. It's a unique instrument, capable of opening a lot of doors for musicians who like to hit things to make their noise, but who are looking for new ways of doing so. Given that there are more finger-tappers than there are 'real' musicians, it could even encourage non-players to take up the hobby of making music. And from there, anything can happen. ■

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FIRST TAKE

It's every musician's dream to make each recording a great one, but all too often, the first studio experience is an expensive disappointment. We offer some advice on how to protect your wallet and your ego. Paul White & Dan Goldstein

Most musicians have something to say on the subject of recording (usually different things). From the richest to the poorest, from the oldest to the youngest, from the most experienced to the most innocent, all have their views on how to make the most of studio time. You hear them often, waffling interminably about how anything less than 24 tracks is completely useless, or how nobody should ever start a recording session without a Lexicon.

The problem with this sort of talk is that it ignores one vital element of most early recording adventures, namely that there are two sides to a session: the musicians and the recording engineer. Failure by either to

do their job properly can result in disaster, so getting the views of just the one side isn't really all that helpful, even if the musicians you're listening to have aims not dissimilar to your own. If endless mistakes and disappointments are bad news for players, they're equally bad news for engineers and studio owners, so it makes sense to get some feedback from both sides of the mixing desk.

The typical band (is there really such a thing in 1986?) turns up for their first session with only a limited idea of what recording involves, and quite often, they have some potentially damaging misconceptions about what a studio needs to produce good results. Generally speaking, musicians not versed in the ways of the recording process think that the more tracks a studio has, the better the results of playing in it will be. Which is not, strictly

speaking, true. In fact, the specific hardware a studio offers isn't really an issue at this point at all. A good engineer will know if the equipment he has is up to the job, so long as you brief him properly first.

But before you reach even that stage, make sure you know *why* you want to make the recording in the first place. Is it simply for your own amusement? Is it to make demos to get gigs or a record deal? Or is it intended to produce a recording suitable for dedication to records or cassettes for you to sell commercially? If the third possibility is the case, you'll probably need to use a more sophisticated studio than you would if you were only recording a demo. That's not to say that you can accept shoddy workmanship for demos – you can't. But a tape with a bit more hiss on it will be fine for making demo cassette copies, provided it is well produced and properly played: remember that you're trying to sell your music, not the studio.

Now we come to the talking. Choosing a good studio from a page full of tempting-looking adverts is virtually impossible, but there are ways you can narrow the field down. Most obvious of these is simply to ask around among the local musical community; if one studio in particular emerges as being recommended for its competent engineering, decent range of facilities, and fair rates, go for it. Once you've decided to visit a studio, always discuss your proposed session with the resident engineer before committing yourself to time there. This applies as much to full-time, professional studios as it does to home-based facilities.

When consulting the engineer, you'll need to discuss the line-up of your act to find out how many tracks you're likely to need, and you'll also have to decide whether to do everything in one take or build up the composition in layers: there's no point taking this sort of decision later. From this quick and easy analysis (you'd be amazed how many people overlook it entirely), you'll be able to judge whether the studio has enough tracks to do your music justice or, at the other extreme, whether you're going to be paying for tracks you don't really need.

There are a few more specialist, but no less critical, considerations. The question of whether you're using real drums or a drum machine can exert a telling influence, for example, as very few home-based setups can accommodate a full acoustic kit, and fewer still can get a good drum sound out of one and onto tape.

Consider, also, the number of overdubbed parts you're going to record, as these need to be allowed for in the track-planning stage. If your Technical Editor had a fiver for every time he's filled up a tape, and then had a band decide they want to add another guitar solo they hadn't

previously told him about, he'd have sold all his recording gear and gone into property development long ago. As a general rule, acoustic drums require a minimum of three tracks to themselves if you're going to stand a chance of getting a decent drum sound, and remember that if you're going to get the best out of an electronic drum kit, a drum machine, or a sequencer that has individual outputs for each of its voices, you'll need to devote a track to each of those voices. Anything with a stereo output (and these days, that means most polyphonic synthesisers) will need two tracks if you want to record it in stereo. All other instruments and voices will need a track each. Of course, tracks can be bounced down to make more tracks available, but do this more than once and chances are you'll find the drop in sound quality unacceptable.

If you've succeeded in finding a studio with a good reputation, the engineer will give you honest, objective answers to your queries, and you should respect his advice. If, however, he dodges your questions or fudges the answers, be extremely wary and refuse to be fobbed off.

Before the big day actually comes, make sure you've really got your songs properly rehearsed, and that everyone concerned knows the arrangements inside out. Obviously, this will be a lot more important if you're a nine-piece ensemble than it will be if you're playing and recording solo. But no matter how many you are, knowing every detail of your material's composition is essential if you're to

'Musicians not versed in the ways of recording generally think that the more tracks a studio has, the better the results of playing in it will be.'

minimise the number of mistakes you make and, as a result, maximise the amount of time you have at your disposal to do more constructive things, like getting the mix right (see later).

Particularly crucial if you're playing with a band is ensuring that everybody will perform as they should during a session that involves a lot of overdubbing; bear in mind that, if none of you have recorded in a studio before, this'll probably be the first time you've played your music in little bits,

instead of all at once. Bear in mind, too, that pleas of 'We can't play this without the vocals' will be met by a tired, despairing look from the engineer which, roughly translated, means: 'What the Hell is this bunch of under-rehearsed, incompetent, and utterly talentless wallies doing in my studio wasting my time?' Practising beforehand with a cheap tape recorder will help you locate and rectify any dodgy elements of your performance, even if the sound quality is a bit on the rough side.

Luckily, the advent of modern sequencers and drum machines means you can store a lot of musical information and simply replay it, to perfection, at the touch of a switch when you arrive at the studio. Yet even this approach, which should theoretically save you masses of studio time, not to mention hassle, is fraught with dangers for the inexperienced. And again, preparation is the key to avoiding them. Make sure you have standby disks/cassettes/chips for all your digitally-stored material, just in case the first copy goes up in smoke. Make sure, also, that you've recorded ▶

your material properly and that you aren't likely to change your mind about something as soon as you hear it over the studio monitors; editing digital data can be even more laborious than going over a passage you can't quite play time and time again.

Next we come to another area all too frequently overlooked by recording newcomers: tuning. Far, far too many people still persist in turning up to record with a vintage set of strings on a guitar which has about 12¼ semitones to the octave. Fit new strings, preferably the day before you begin recording to give them time to settle down, and check the octaves, adjusting the bridge saddles where necessary. If you want a bright, slappy bass sound, do the same with the bass guitar. And if you don't possess a tuner between the lot of you, go out and buy one; it'll pay for itself in studio time on the first day alone.

Almost all modern electronic instruments (synths and so on) are factory-tuned to concert pitch (A-440Hz), so you should have no problems there, even if you avail yourself of a studio's in-house

keyboards: cock a careful eye at any control marked 'transpose' and you should be OK. Conversely, if you happen to be recording the odd ancient ethnic musical instrument that operates over a peculiar scale and/or has no tuning facilities onboard, remember to tune your more modern instruments to it from the start, or you'll have to resort to varispeeding.

You may be lucky and come across a helpful engineer who'll set up some of your instruments for you while the drummer is still getting his kit out of the Transit, but just as likely, he'll sit

'If your amps hiss like a boa constrictor in a deep-fat frier, get them fixed well in advance of the moment the Engineer presses Record.'

back in his chair with his arms folded, watching the money clock up as you struggle to get your act together.

Before you go over the studio's gear with a fine-toothed comb, check your own equipment – especially amplifiers – for any bugs likely to hinder the progress of an otherwise noise-free session. If your amps hiss like a boa constrictor in a deep-fat frier, or crackle and hum at the slightest provocation, get them fixed well in advance of the moment the engineer presses Record.

It's understandable that so many musicians dream their first recording session will yield results of impeccable quality. Sadly, it's also true that far too many bands grossly over-estimate the quantity of material their finances – and the time they buy – will allow them to produce. Inevitably, trying to record too many songs has one of three consequences. Either you discard some of the pieces halfway through the session when it becomes apparent there simply isn't enough time to get them all done properly; or you cut corners and end up finishing all the songs to a standard that does none of them justice; or you just run out of time and finish nothing, which usually results in everybody emptying their pockets, foregoing alcoholic beverages for three months, and saving up for some more studio time so that all the material can be sorted out.

The most efficient way to work is to put the backing tracks down for all the songs, then all the vocals, and finally any additional bits of decoration (solos

and the like) that need overdubbing. As it frequently takes a couple of hours to set everything up and get it sounding right, you should aim only to get a maximum of three songs done in a day, unless you have everything very well planned and are confident that you can do more. Don't forget to add time for the mixing stage which, for reasons we'll go into later, can be a good deal more time-consuming than many people realise.

So now you've made all your preparations, decided that professional realism is preferable to over-confident elaboration, and you're about to enter the world of professional recording. Everything from here on in should be plain sailing, so long as you adopt the same efficient attitude that pervaded your preparations. Treat the whole thing like a military operation. Ask the engineer where he'd like you to set up, and once everything is working, get tuned up and check that the sound meets with your approval. If there are a lot of you, don't all play at once or decide that this would be a good time for an impromptu practice. Once the engineer has got his mics in place, he'll probably ask you to run through a song so that he can get the levels right – you'll get a chance to practice then. After this, don't alter any volume settings without telling the engineer, otherwise you may put in the performance of a lifetime only to find that the meter needles are wrapped round their end-stops and everything is distorted to buggery.

Other clever tricks to be avoided include the following: tapping your foot on one of the legs of the mic stand; starting to talk at the end of a take before the final cymbal crash has died away completely; and moving mics without the engineer's permission. If this sounds like Colditz rather than an environment likely to produce a creative musical experience, that's partly our intention. Recording can be as demanding as a carefully-timed escape from a PoW camp, but if you are reasonably thoughtful and the engineer is on your side, it can be a lot of fun, too. And in any case, most of the band can relax once all the backing tracks are safely out of the way, and the spotlight turns to the vocalist.

For singers who've never really heard themselves because of loud backing and non-existent foldback, the first foray into a recording studio can be a painful experience of self-enlightenment. Being clamped between a pair of headphones through which you can hear yourself clearly above everyone else frightens a lot of people, so don't worry. If you're responsible for the major part of the vocal chores (backing singers have it comparatively easy), you'll doubtless have trouble coming to terms with the fact that you're perhaps not quite another Paul Young after all, but take

heart: you should be able to ask the engineer to feed a bit of echo or reverb into the cans, which'll help to lull you into a false sense of security.

Your problems don't end there, though. There are some further rules governing how you approach singing in a recording context, and one of the least flexible is that you should avoid

'For singers who've never really heard themselves before, the first foray into a recording studio can be a painful experience of self-enlightenment.'

moving around too much in front of the microphone. It may be easy to get carried away with the music, but swaying from one side to another won't get you anywhere; you'll probably end up having to do another take because the vocals varied so drastically in level first time around. If you prove troublesome in this respect, a considerate engineer will resort to sticking your nose to a drum stick attached to the mic stand, which is none too comfortable.

When all the tracks are down on tape and everyone has dropped in chunks to replace passages with mistakes in them, it's time to get on with the mix. For the uninitiated, the mix is that time when everyone wants to be the loudest except the singer, who suddenly doesn't want to be heard at all. Respect the engineer's advice, at least to start with, and remember that a good mix doesn't mean all the instrumental parts being equally as loud as each other: if anything, quite the reverse is true. Once the engineer has set up a rough mix, you can ask for subtle changes of pan position, EQ and level, but while this is going on, make sure you're listening to the song as a whole, not just your part. And don't be tempted to try to bury an iffy bit of playing or singing under yet another overdub; it'll only clutter things up.

Your engineer may feel you're responsible enough to take care of the reins for a short time while he goes and gets a Chinese take-away, and if you're reasonably conversant with mixing techniques (Portastudio experience will prove invaluable here), this should be

great fun. Beware of getting bogged-down with the number of available facilities, though. It's a trap that's all too easy to fall into, and once you're in it, you'll be struggling to get out again.

The danger looms even larger when it comes to using outboard effects. These are wonderful things (more wonderful now than ever, in fact), but used to excess, they can destroy a recording. Use a little reverb on the drums and vocals, by all means, but don't swamp them. More vicious effects like flanging should be used in small doses if they are not to become wearing, and the same applies to heavy repeat echoes.

Be careful, also, to avoid clichés. Particularly dreadful (and popular) ones include repeat echoes on the last words of lines and at the ends of songs, flanged drum patterns, and panning from side to side during guitar solos. Try to find effects to suit the song: if it doesn't need any, stick to just a tiny amount of reverb to take the dryness off things.

But this problem doesn't end with simply applying each common effect in the right quantity in the right place. There's also the dilemma of being faced with a battery of weird and wonderful new goodies, trying to get weird and wonderful results out of them by fiddling aimlessly, and finishing up with three hours less to complete the mixing and no new effects to show for it. In much the same way as complex, unfamiliar in-house synthesisers should never be used with anything other than extreme caution, so outboard units should be treated with similar care. As technology advances, so these units become capable of creating ever wider ranges of effects, with a corresponding increase in the number of possibilities they present the end-user. Even relatively low-cost machines such as the Yamaha REV7 and Roland SRV2000 digital reverbs offer a vast range of variable parameters difficult to grasp

'You might think you'll spot any nasty moments as they happen, but music has a habit of sounding quite different the day after, when your hearing has returned to normal.'

fully in a week, let alone a couple of hours. The moral? If you decide to start tampering with any studio gear that represents even so much as partially unfamiliar ground, keep an eye on the clock. Stick to tried and tested sound-

treating principles and don't attempt anything too fancy.

When the mix is complete, run off a cassette copy and check it on a home hi-fi system or car stereo. You can guarantee that whoever else listens to your recording after the event won't be doing so over studio monitors, and what sounds great in the studio may sound less impressive outside. If you're optimistic and think your recording may be the recipient of some airplay, take a small radio-cassette machine into the studio with you and see how it sounds.

If you're hiring the master multitrack tape rather than buying it (remember that a single reel of 1" tape now costs in the region of £40-50), ask the studio to keep it intact for a few days so that you can remix or replace any bits that are unsatisfactory. You might think you'll be able to spot all these at the mixing stage, but music has a habit of sounding quite different the day after, when your hearing has returned to normal.

In fact, the problem of retaining objectivity during mixdown is what leads many people to record and mix on entirely separate occasions, days or weeks apart. It doesn't make much sense to mix more than one song at any one time, which means that during mixdown, it's quite possible you'll listen to the same four-minute piece of music 20 times in succession. And if you've spent the last four hours recording that piece of music, that's the last thing you should be putting yourself through. ■

hammer

STRIKES OUT!

Jan Hammer has been the idol of a whole generation of keyboard players for years, but only with the success of *Miami Vice*, the TV cop show phenomenon for which he scores the soundtrack music, has he gained the commercial recognition he deserves.

Interview *Annabel Scott*



Czech-born Hammer first hit headlines as the most inventive jazz-rock keyboardist of his generation; he pioneered several unique playing styles including a remarkable lead guitar imitation, played from portable keyboards like the one shown here

Amazement, relief, an almost infinite amount of pleasure. Jan Hammer's reactions to the phenomenal success of *Miami Vice*, due in no small part to his own musical contributions to the show, are refreshingly human. In talking to the man himself (if only over the tenuous link of a transatlantic telephone line), it becomes clear that his success is very much down to hard work, that it is simply just reward for years of toiling on the fringes of musical innovation and experimentation.

It's difficult to appreciate that there are many people, even within the worlds of music, film and TV, to whom the face of Jan Hammer is completely new. Maybe this is because much of the man's background is in none of these fields, nor in pop or electronic music, but in the more esoteric areas of jazz-rock and live improvisation. Hammer's so-called 'new musical style', the searing synth guitar melodies, sequenced electro patterns and full-frontal drums package he developed for the *Miami Vice* series, is in fact no more than the latest extension of what he's been doing, in various bands, for the last 20 years.

Hammer's pedigree reads like a Who's Who of the modern jazz world. His first band, formed at school in Prague, was a trio that included Weather Report founder Miroslav Vitous. In 1966, Jan and Miroslav gained scholarships to the Berklee School of Music in Boston, and when Soviet tanks rolled into Czechoslovakia, Hammer decided to become a US citizen. Early in 1970 Hammer joined the Sarah Vaughan Trio as composer, arranger, conductor and keyboard player, and in 1971 he began to play in New York with John McLaughlin, Jerry Goodman, Billy Cobham and Rick Laird.

Eventually this group evolved into the phenomenon known as The Mahavishnu Orchestra, and it's interesting to note how each of the musicians involved in it experimented in stretching the boundaries of jazz, using electronics. British guitarist McLaughlin was one of the first musicians to use guitar synthesisers extensively, starting with the 360 Systems polyphonic unit (on 'Inner Worlds', for instance); Cobham

experimented with electronic percussion and often modulated his drum sound through digital effects on his solo albums; and Goodman (who recently re-emerged on ex-Tangerine Dream man Peter Baumann's new American label) created some of the strangest sounds anyone has ever heard emanating from an electric violin.

Hammer's role in Mahavishnu was demanding – an up-front, often improvising lead synthesist with staggering technique, he developed a shoulder-slung keyboard to allow him to move around on stage. After two studio albums and a live release, Hammer left Mahavishnu to record the impressive *Like Children* album with Goodman, and then to form a new band, The Jan Hammer Group. At this stage, Hammer built the studio which has been the venue for all his recordings to date: Red Gate Studio, located in a farmhouse in upstate New York.

After a second JHG album, *Oh Yeah*, Hammer toured and recorded with guitarist Jeff Beck and went on to release *Melodies*, and then a solo effort – *Black Sheep* – on which he played keyboards, drums, guitar and an astonishing lead guitar synth patch.

A new band was formed for the self-titled album *Hammer*, after which the player went back to the guitar world for two collaborative LPs with Journey's Neal Schon. These albums, coupled with some film work, were profitable enough to help Hammer buy a Fairlight for his studio, and in 1982 he began a collaboration with guitarist Al DiMeola which resulted in the albums *Electric Rendezvous*, *Tour de Force* and *Scenario*.

But Hammer's recent history, as far as his climb to TV fame is concerned, begins in 1983 when he scored the films *A Night In Heaven* and *Gimme An F*. Although neither film was widely distributed, they did give Hammer an opportunity to express his feeling for the visual aspects of music, a discipline which comes to the fore in each style-soaked episode of *Miami Vice*, the TV Cop genre's answer to *L'Uomo Vogue*. How did Hammer become involved with the series in the first place?

'It's quite simple really. The series was directed by Michael Mann (who had already used Tangerine Dream for his feature

films *Thief* and *The Keep*), and I met him through a mutual friend around the time he was working on the music. I happened to have a couple of tapes with me which I played to him, and they went so well with one of the scenes that we eventually used them virtually unchanged in the pilot episode. After that I began to turn out up to 20 minutes of music for each episode.'

Producing that quantity of carefully synchronised and stylised music every week for a whole season can't be easy, but Hammer says his Fairlight has been an enormous help.

'I first saw the Fairlight around 1981/82 and the price was prohibitive, but the movie soundtracks raised the money and it soon paid for itself. It allows you to work very quickly and to come up with all sorts of styles, from classical to old-fashioned jazz. Before that time I'd used an Oberheim DS1 digital sequencer and the Sequential Polysequencer, but this was something completely new. Obviously it took some time to learn how to use it – it didn't come easily – but I had a voracious appetite for the thing and there are really only a few major commands.

Hammer clearly feels at ease with electronics now, but what gave him the first impetus to take up electronic keyboards and stride around the stage with them?

'Years of frustration at not being able to jump into what rock 'n' roll is all about, which is having fun! It makes an enormous difference if you can just come forward to the edge of the stage – so in 1976 we started experimenting with a modified keyboard from a Moog modular system, with left-hand controllers added.

'Then we had something called the Powell Probe, which was designed by Roger Powell initially but which has been very much modified by Jeremy Hill to make the unit I now use. It's got a four-octave keyboard which is really the ideal length – five octaves is just silly – and similar electronics, but better controllers including a Stratocaster tremolo bar. There are two or three about, but it's not an easy instrument to play; you really have to learn how to use it. I'm about to have MIDI fitted to it, though I've been able to transmit MIDI from it ►

► in all sorts of roundabout ways for a while.

'Of course I use the Probe for live work, but I also use it in the studio because it makes you play in a different way, rather like Chuck Berry. I can take any sound, even a flute sound, and using the Probe I can give it a certain inflection which would make any listener think that it was a guitar playing.'

But as our history of the man's progress shows, his technological armoury hasn't always been anything like this comprehensive. Yet although he has struggled, like most keyboardists, against primitive gear, Hammer's constant search for hardware innovation has brought him rich rewards, not least in the form of a retrospective equipment checklist that makes interesting reading...

'From 1975 to 1980, with the Mahavishnu Orchestra, we all used Acoustic Control amps and I started by creating a makeshift polysynth with a Fender Rhodes piano and a frequency shifter. Then we had all the usual things like the Polymoog, which had that stupid pitchbend ribbon which some people still use, and the Jupiter 8. After that I had the Probe connected to a modular Oberheim system, and now I use it in the studio with a custom Oberheim six-voice synth. Later I had a MemoryMoog, then around 1982 came the Fairlight.'

Undeniably, Hammer's jazz background gives him a degree of keyboard technique uncommon amongst pop musicians – but does this mean he never has to use hi-tech aids like sequencers?

'I love sequencers! In fact, I don't think my technique is as sharp now as it was with Mahavishnu, but the point is that a sequencer has a relentless feel to it – the repetition has a merciless effect which can be very 21st Century.'

'I can humanise sequencer passages by synchronising them to tape and treating the sync tone with a digital delay, or I can program a Fairlight voice to act as a sync tone in various ways. I also use the random arpeggiator on the Jupiter 8, which is a wonderful facility and creates some great delays as it tries to catch up with incoming MIDI information through an MD8 interface.'

After some initial resistance on his own part, Hammer has now made the Yamaha DX7 a firm favourite. Like many keyboard players, he's aware that the machine's FM presets have been plundered until there is no more originality to be gained from using them, but at the same time, he acknowledges he'd now be lost without a DX of some kind.

'There were clichéd analogue sounds, there are certainly clichéd Fairlight sounds, and there are clichéd DX7 sounds. But it's by far my favourite-feeling performance instrument at the moment, particularly because of the way the upper harmonics pop up as you use the keyboard velocity. I use an Apple micro with a visual editing system to create sounds because that's much more spontaneous than having to keep lots of parameters in your head.'

'As for Fairlight sounds, I've kept Orch 5, for instance, but used by itself it's a dead giveaway now. I use it pretty sparsely, and through MIDI layering it's OK. It's when you use these sounds subtly and collage them together that you start to have unexpected effects coming up.'

Aside from his keyboard adventures, Hammer also has a long history as a drummer, and though he doesn't play acoustic drums much these days, his percussion sounds have some unique qualities. And many of them, it seems, start life in a perfectly standard LinnDrum.

'As far as the percussion goes, the LinnDrum does the basics and the Fairlight does the funny stuff. My technician Andy Topeka makes new Linn chips for me using a Commodore EPROM blower, and I sample a lot of percussion sounds off my old multitrack master tapes. I've lots of tapes of different drum kits – the snare on the *Miami Vice* theme, for instance, is an old Ludwig metal-rimmed snare being hit cleanly on the rim with gated reverb. I use quite a lot of effects on samples, sometimes while they're playing back, but often as I'm taking them so they have built-in ambience. I don't think it matters how you get the effect, as long as it sounds the way you want it!'

So how does Hammer build up the basic track for a typical *Miami*

Vice piece?

'A single sound, perhaps an exotic Eastern sample or a drum sound, dictates the feel of the piece, and the drums, congas and occasional bass are all sequenced on the Fairlight's Page R, linked via MIDI to other instruments. Occasionally I use the Fairlight's simpler Page 9 real-time sequencer, or the MemoryMoog's built-in polyphonic sequencer via its MIDI output.'

Hammer has controversial views on the MemoryMoog. While so much of the keyboard-playing fraternity regards Moog's last polysynth as a pale reflection on what the original, monophonic MiniMoog was capable of, Hammer puts faith in it because, in practical terms, it beats its forebear hands down...

'Who wants to struggle with unstable MiniMoogs when you can have a stable, polyphonic version with MIDI and a sequencer? I've kept two of my old MiniMoogs, but only for sentimental reasons – though I do sample off them occasionally.'

After laying down the sequenced tracks, Hammer adds solos and chordal work, often through a Sundown valve amp and MXR flanger for the dirty, distortion effect that is one of his sonic hallmarks. All his tape machines are now synchronised to video, though in the first days of *Miami Vice* he was playing blind and synchronising purely by ear. A Lynx Timeline synchroniser now allows him to do 'more funny stuff and tighter scoring', and his current studio setup also includes an automated Sound Workshops Series 34B console, complete with independent level and mute programming and 24 busses.

Asked how *Miami Vice* has changed his working methods, Hammer responds with hearty, unrestrained laughter. 'I didn't have to change anything! I've been working this way for seven years and I was resentful that I wasn't having that much recognition. I was definitely moving towards a more rock 'n' roll feel though, and now I have lots of film offers to work in that style and I'm having to turn a lot of them down. But *A Night In Heaven* is still in the can as far as I know, and



Miami Vice will soon be back on British TV, with a soundtrack spiced with music by contemporary pop artists, but a basic soundtrack penned, performed and produced by Jan Hammer. This isn't his first venture onto the small screen; some while back, he wrote the signature tune for Channel 4's *The Tube*

Secret Admirer, which was my best soundtrack, is coming out on video and being shown on Cable TV in the States.'

Let's change the question, then. Now that Hammer's had a degree of success which should allow him to do anything he likes with his home studio, what changes is he likely to make?

'Well, I've been using an IBM PC computer for sequencing and for automation, using a system called DiscMix. I'll probably be using that a lot more, and Commodore want to give me an Amiga as well. I'm working on some songs with Colin Hodgkinson and I'll wordprocess the lyrics for those, though of course you can also wordprocess on the Fairlight. Also I have Roger Powell and Cherry Lane Technologies coming over to show me some new software sequencing packages.

'One problem is that I do miss playing real drums, but it's hard to bash about with two kids in the house! I'm a professional keyboard player, a very rudimentary rhythm guitar player — just good enough to get away with it in the studio — and a drummer just for fun. Like a lot of people who sing in the shower, I'm a much better drummer in my head than I am in real life, but the Fairlight allows me to realise what's in my head perfectly.

'So I'll probably be updating the Fairlight to Series III eventually, though at the moment the software isn't debugged and my Series IIX has most of its advantages, apart from the 16-bit sampling.'

And as the next series of *Miami Vice* goes into production, what plans are there for the future?

'Well, I don't intend doing *Miami Vice* after the second season. The album and the single have both been at Number 1 and that gave me a feeling I can't describe — it was like winning the World Cup. I can do some more films, possibly including a *Miami Vice* film, and I'd like to do a second album of the music and take some of it on the road. I'd probably use the Fairlight to play sequences, the drummer would have to play along from a click, and I'd probably take a bass player as well.'

Jan Hammer on stage in the UK would be quite an event (he's already appeared on *Top Of The*

Pops, which he describes cryptically as 'a good gig'), but for those who can't wait, there's the prospect of soaking up more of his devastating guitar impersonations, 'rude drum sounds' and Fairlight pyrotechnics in the second series of *Miami Vice*.

Look out for an onslaught of Hammer film soundtracks as well, and keep in mind that, as the man's long and winding background proves, this sort of success is all based on long, hard work. As Hammer himself concludes, 'the last year has been great for me — after so long in the business, all this has been like an unspoken dream come true'. ■

D A T A F I L E

Jan Hammer

Red Gate Studio:

Equipment Roster

Series IIX Fairlight CMI with Page R
MemoryMoog
Yamaha DX7
Roland Jupiter 8
Powell Probe keyboard controller
Sundown valve amp
MXR Flanger
LinnDrum
Rockman personal amp
Kepex noise gates
Lexicon 200 digital reverb

Selected Discography

With the Mahavishnu Orchestra

The Inner Mounting Flame ('71)
Birds of Fire ('72)
Between Nothingness and Eternity ('73)
Best Of ('82)
(Columbia)

Solo

The First Seven Days ('75)
(Nemperor)

With Jerry Goodman

Like Children ('75)
(Nemperor)

With The Jan Hammer Group

Oh Yeah ('76)
Melodies ('77)
(Nemperor)

With Hammer

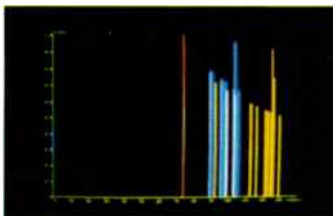
Black Sheep ('78)
Hammer ('79)
(Elektra/Asylum)

With Jeff Beck

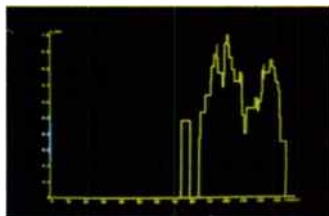
Wired ('76)
Live ('77)
There and Back ('80)
(Epic)

Soundtracks

A Night In Heaven (A&M '83)
Gimme An F (EMI '85)
Miami Vice (A&M '85)



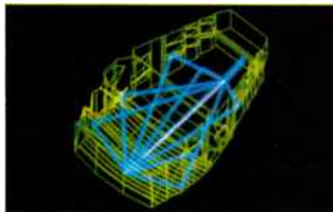
■ Early reflection graph



■ Perceived early reflection characteristics

Early Reflection Simulation Example Based On a Specific Hall Design

■ Hall simulation (1st reflection)



■ Hall simulation (early reflection pattern)



REV7

The REV-7 is a highly professional, MIDI compatible, stereo programmable digital reverberation system. It is also an extraordinarily powerful studio effects unit.

Natural reverberation is the most complex of the 'time domain' effects to be replicated with true fidelity. It requires ultra-high speed circuitry capable of processing an immense amount of data very quickly. It also requires the implementation of very sophisticated software based on a thorough understanding of real-world acoustic responses. Thus, in the past, a top-quality digital reverberator has always been very expensive.

By designing their own purpose-built LSI (Large Scale Integration) micro-processors specifically to meet all these stringent requirements, Yamaha have achieved an astonishing cost breakthrough. So that, at the price, no other device even approaches this kind of quality, flexibility and simple musicality.

With 16-bit linear quantisation, a sampling rate of 31.25kHz, a 12kHz bandwidth, a dynamic range of between 78dB and 84dB (depending on effect selected) and 3-band sweepable equalisation, the REV-7 creates astoundingly accurate simulations of a variety of acoustic environments based on exhaustive real-world research. And on top of that,

Yamaha engineers have also built in the capabilities of virtually every other time-domain processor you can think of.

Within its memory banks are stored 30 factory preset effects which range from natural-sounding halls of various sizes through chorusing, delays, stereo repeats, flanging, phasing, flanged reverb, gated reverb, reverse gate and more. All these effects can be edited to a fine degree and there are another 60 user-memories in which to store your own creations.

Here are some of the adjustable parameters for a reverb effect:

1st Reflection 1 to 100ms after direct sound, 0 to 100% level) - the time delay between the direct sound and the first reflection.

Initial Delay 1 to 100ms) - the delay between the direct sound and the onset of reverberation.

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No amount of words can fully describe the effects of either the REV-7 or REV-1 - you'll want to hear them for yourself. If you're not sure quite where to go for your hands-on demo, please contact Yamaha's Pro Audio Specialist, Alan Martin, on (0908) 71771. He'll give you the low-down on their new UK Stockist line-up and price guidelines for REV-1.

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THE NUMBERS GAME

Dynacord's MCCI looks like just another MIDI 'black box', but it performs more than a few useful sound-layering and composing tasks. *Simon Trask*

One of MIDI's most important, most effective uses is the layering of sounds from different instruments. However, a good many practical problems stand between musicians and accomplishing this seemingly straightforward task, and so far these problems have not been met with a concerted approach by the major instrument manufacturers.

The problems stem from the MIDI protocol requirement that any patches you might want to combine all have the same patch number. In practice, this is rarely easily achievable (it may not even be desirable), as different manufacturers count in different ways (some start at 1, others at 0) and arrange their instruments' memories in different configurations of groups, banks and sub-banks.

Given that the major MIDI instrument makers don't seem to be too interested in improving matters, it's up to the growing band of peripheral gear designers to rectify things. Dynacord's MCCI MIDI computer is a case in point. It addresses the problematic area of patch changes over MIDI – and does it with such thoroughness and imagination that it could become a near essential acquisition for pro keyboard players and for many studios, for whom its not inconsiderable £480 asking price will be quite easily justifiable. As the manual so charmingly puts it, 'The MIDI finds its place in a new dimension'. Quite.

The MCCI has one MIDI In, four MIDI Outs and a MIDI Thru nestling on its back panel. Thus, before you even get into the MCCI's real role in musical life, you've got yourself a MIDI splitter box, with all input being passed on through the MIDI Outs as well as the Thru. The Thru socket is useful for instruments which don't require the unit's patch-changing services (drum machines are prime

candidates), leaving the Outs free for those that do.

You'll probably have figured out by now that the MCCI sits fairly and squarely between master and slave instrument(s). Essentially, it works in the following way: an incoming patch-change sent from your master machine calls up a user-programmed memory in the MCCI, which assigns four patch numbers – one to each of its four MIDI Outs.

A practical example will probably make this clearer. You select patch 11 (say, electric piano) on your master DX7, then patch number 11 gets sent to the MCCI. This calls up the corresponding memory on the MCCI (actually memory 10 – the MCCI starts from zero while most synths start from 1), which in turn sends patch number 17 to a

JX8P on MIDI Out 1 (to play strings, shall we say); patch number 77 to a Matrix 6 on MIDI Out 2 (brass), patch number 43 to a DW8000 on MIDI Out 3 (how about a flute?) and patch number 24 to a McGrath CAM1 on MIDI Out 4 (bagpipes). And all this is selected instantaneously from one button-press on the DX7 – brilliant.

If you decide the bagpipes don't mix well with the other sounds, you can always change patch number 24 to patch number 15 (cosmic kalimba), and store the change in memory for future use.

The MCCI has 200 of these memories (termed Master Programs) onboard. It arranges these in two banks, which is useful because it means you can call up an alternative set of 'slave' sounds, which ▶



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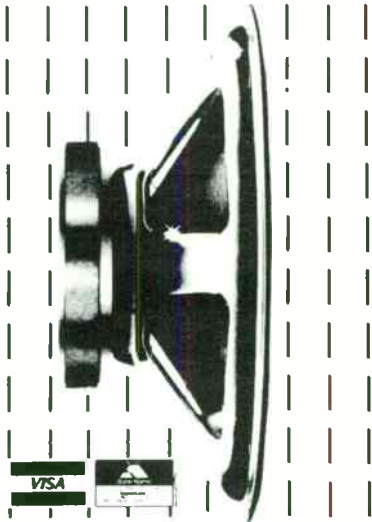


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► can be used either with the current set of 'master' sounds or an alternative set, say from a cartridge.

U

nfortunately, the MCCI's inability to work with patch numbers greater than 99 or 100 can be a hassle, because any patches higher in number than this (I'm thinking of Roland synths especially, and also Yamaha's latest DX100) are excluded from the Dynacord's operations unless you're prepared to copy them down into accessible positions.

Another quibble is that if you're using an instrument such as the DX7 as your master, its ability to transmit only 32 patch numbers means that the MCCI's potential will be greatly underused. A little more thought might have suggested an option to divide the existing two banks into three more banks each - which would have been a more efficient use of the Dynacord's memory, and would also have allowed more sets of sonic configurations to be stored in the unit.

The only other limitation of the MCCI's way of doing things that occurs to me concerns multitimbral keyboards like Casio's CZ range and Sequential's recent polysynths. Because the Dynacord can only send a patch change on one MIDI channel for each of its Outs, you can't use it to send patch-changes to several voices (each of which are on a different MIDI channel) when your multitimbral synth is in mono mode. A pity, that.

In addition to patch-changes, though, the MCCI's program memories can also store a MIDI channel number for each Out socket, and one for the In. This allows the machine's memories to be selected by patch-changes on a specified channel, and the four chosen patch numbers to be transmitted on individually specifiable channels.

These facilities start coming into their own when you're using the MCCI in conjunction with a sequencer (preferably one with a Mix facility like the Korg SQDI, Roland MSQ100 or Steinberg Pro 16), positioned between the sequencer and the slave instruments whose sounds are being controlled.

Ever keen to check the practicality of theoretical flights of fancy, I tried out the above procedure using a Steinberg Pro 16 sequencer, Roland Alpha Juno 2 and Casio CZ3000 polysynths, and a Yamaha RX11 drum machine (the Dynacord passes on all timing information). The results were very impressive (pity 'bout the music though), even when the patch-changes were whizzing past at a fair old speed. It soon became clear that you could also enter master patch changes from the front panel 'on the fly' without any untoward effects occurring, which is obviously useful for trying out changes before recording them.

A track on the sequencer can be dedicated to 'master' patch changes capable of selecting the MCCI's memories on an otherwise unallocated MIDI channel. The four patch numbers can then each be assigned to any MIDI channel, and thus to any musical part. In this instance, the Dynacord becomes less a device for layering sounds, more a sophisticated means of arranging a song. You can alter your sonic combinations in an instant by changing the relevant patch number(s) on the MCCI, and even rearrange which parts will change

patches in the course of a sequence by altering the patch-to-channel assignments. The only problem is that one MCCI may suddenly not be enough...

T

he machine also has a number of what Dynacord term 'special functions'. One of the most useful of these allows you to switch the master display default between showing master/slave patch numbers and MIDI channels, while another function switches between User A and User B memory banks, and a third allows you to choose between Omni mode (all channels) and Poly mode (channel specified individually for each memory) reception of master patch numbers.

You can also select between 'transparent' and 'filter' modes: the former allows all received data to be passed on through the MIDI Outs, whilst the latter blocks all data on the four Outs except for patch and mode changes.

Yet even that little lot still leaves quite a few more functions. For instance, you can set the same reception channel for all the MCCI's program memories (useful for the above sequencing procedure), send Omni On, Poly On or System Reset commands from the machine (between them, these three commands should vanquish the dreaded MIDI drone - though not all synths respond to them).

And Dynacord have managed to cram one more facility into the MCCI, in the form of a MIDI analyser. When you've entered the Analyser mode, the machine stores MIDI data played from a master instrument or sequencer. Using the Mode buttons, you can then step through this data at your leisure on the MCCI's smaller LED displays, with the current event number appearing in the master display. The usefulness of this facility will depend on whether or not you're into MIDI at the 'numbers' level (including hexadecimal displays), but if you are, then this is clearly a very useful bonus feature. If you aren't, you'll probably feel that the precious bytes of MCCI memory used up could have been put to better use: more program memories, or perhaps the bank facility I mentioned earlier.

Incidentally, selection of the MCCI's memories can be achieved over MIDI from a connected instrument or from a Dynacord remote controller, as well as from the front panel's keypad - so there's no need to worry about the unit being stashed away in a distant effects rack. Also of great value to studios is the MCCI's ability to dump and load its two memory banks via MIDI - though suitable software will be required first.

Despite the small criticisms I've made, the MCCI is a very professional unit that does a much-needed musical job, and does it well. Its price is high (though not appreciably higher than a lot of other MIDI black boxes), but if you're looking for a lasting solution to MIDI patch-change problems, or a quick and easy way to work on the arrangement of sequenced songs, there's simply nothing to touch the MCCI. ■

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OUT T·A·K·E·S

Another set of reviews spanning the media of record releases, readers' demos and live concerts.

VINYL T·A·K·E·S



Grace Jones *Island Life*

Island LP

Nope, not another new release hard on the heels of *Slave to the Rhythm*, but a compilation of Ms Jones' previous vinyl achievements, from kitsch obscurity to, well, kitsch celebrity. The familiar assault-course voice is powerful throughout, complemented by tighter-than-tight rhythm sections and stunningly different arrangements to form a unique late-night dance soundtrack that has spawned a host of failed imitators.

The *Island Life* story begins in 1977 with the LP *Portfolio*, from which are taken 'La Vie en Rose' and 'I Need a Man', both of them slushy cabaret items typical of Jones' early musical excursions. Things are brought right up to date with the title track from *Slave to the Rhythm*, but it's the bits inbetween that are the essential Grace Jones: 'Private Life', 'Love is the Drug' and 'Pull Up to the Bumper' (currently a single re-release) are all vintage examples of eighties nightclub chic, with the chanteuse making cover versions appear new by singing them as if she detested the originals.

Yet despite the inclusion of these, *Island Life* is too much of a mixed bag to succeed. There was always more to Jones than could reasonably be summed up in a brief spell, just 58

as there was always more to the producers and musicians who shaped her records. This is probably the best compilation Island could have made of Jones' work, but sometimes a compilation just isn't enough. ■ Tg

Beasley/Jenkins/Prema *Records Compilation*

AMP LP

No doubt Mark Jenkins' name will be vaguely familiar through his contributions to *E&MM* and *Melody Maker*, and perhaps that of Ashok Prema will ring bells from last year's UK *Electronica*, at which both he and Jenkins played. Anyway, these two have joined forces with drummer-turned-synthesist Peter Beasley, formed a new label called AMP Records, and released this compilation album as a vehicle for their own work.

The LP contains six tracks – two from each artist (except Beasley, who, with undrummer-like guile, manages to include two shorter numbers in the guise of one) – in which each is free to explore 'the best of modern synthesiser music in all styles' as the press release professes the label to represent. Fortunately, the album fails. Fortunately because if it was an accurate representation of the current state of the genre, we'd be locked somewhere in 1973.

Beasley's opening track 'Ollie's Camera Looks' sets an unremarkable standard that only Prema's closing 'Three's a Crowd' (drum machine demo tape meets Indian film music) manages to surpass. In the interim, we're presented with a melange of sub-Tangs, sub-Kraftwerk and sub-Jarre exercises, bereft even of a decent production job.

Beasley's minimalist piano (or is it Mirage?) piece, 'Cherub', is played with sensitivity, and his 'Parchal Papaguio' does at least resist the temptation to introduce another groggy-sounding drum box. Yet only Jenkins' spot-the-keyboard interlude on 'Take a Chance' provides any real entertainment at all, and even then it's only by accident.

Too lightweight to be considered artistic, too 'serious' to have mass appeal, the AMP Records Compilation is nothing more than three men so immersed in their influences, they've lost sight of what they've bought their instruments for.

Future plans for the label include releases from Neuronium's Michel Huygen and jazz composer/arranger Neil Ardley. Let's hope they have something more original to say. ■ Tg

Software

Electronic Universe

ICLP

Software are two German synth composers – Michael Weisser and Peter Mergener – who look as though they ought to be in Tangerine Dream. Actually, it's just as well they aren't with the 1986 Tangs, because if they were, they wouldn't be able to make records as bright, as delicate or as tranquil as *Electronic Universe*.

OK, so the title is terrible, and the sleeve design does look like all the other IC sleeve designs. But if what's on the cover is outdated cosmic pretence, what comes out of the grooves is much more down-to-earth: a series of swirling electronic tone sketches, carefully assembled into larger, more ambitious pictures (this is a double album, by the way).

Like Eno's best ambient work, *Electronic Universe* can happily be taken on two levels. You can put it on and ignore it, and it'll act as a soothing backdrop while you get on with something more physically stimulating (*Aerobics? – Production Ed*). Or you can listen to it more closely (preferably on headphones) and admire the simple beauty of its chord structures, the cunning of its polysynth arrangements, and the empathy with which Software's electronics feed off Toni Schneider's haunting flute improvisations.

Just occasionally, Weisser and Mergener drift too far into Jean-Michel Jarre synth arpeggio country, but within five minutes, they return to the calm sanity of strings, white noise and woodwind. Fine New Age Music indeed. ■ Dg

Paul Hardcastle

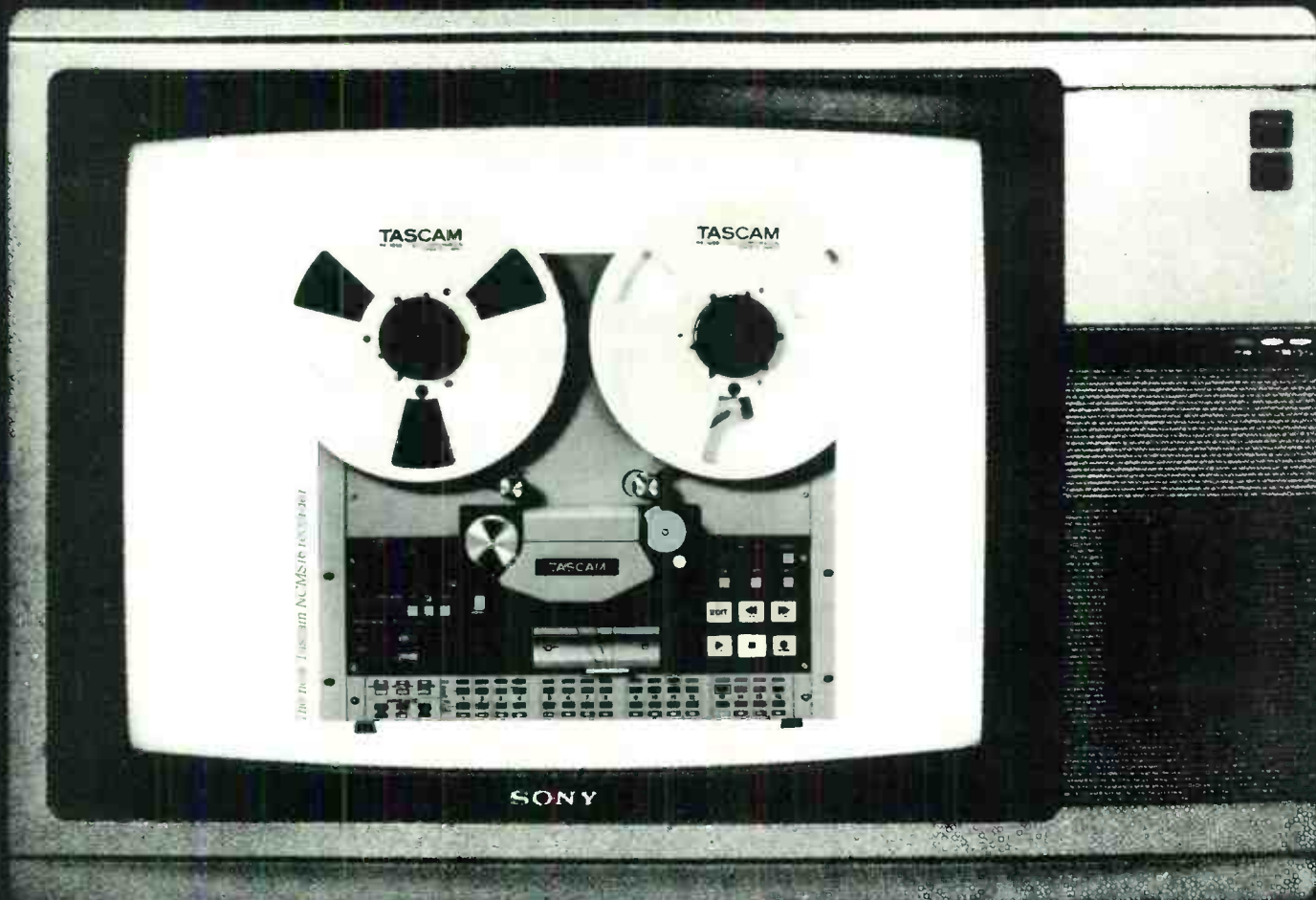
Paul Hardcastle

Chrysalis LP

Following the landmark that was '19' and the subsequent disappointment that was its follow-up, 'Just for Money' comes *Paul Hardcastle*, the long-awaited LP.

The hit singles are here (this '19' is an interesting remix) but it's an earlier instrumental single release, 'Rain Forest', which seems more comfortable in the context of the album. Why? Because the rest of the album's instrumental content is about as inspiring as a collection of Shakatak demos, and not very good ones at that.

The vocal pieces are better, but not by much. 'Don't Waste My Time' (Carol Kenyon ▶



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▶ taking the vocal reins) runs into a serious repetition problem, leaving only Kevin Henry to make 'Better' only marginally more so.

The production is slick, the arrangements are note-perfect, the sounds are well programmed, the performances are impeccable. The album is boring as Hell. ■ Tg

Talk Talk

Life's What You Make It

EMI 45

It's been a long time since anything was heard from Mark Hollis' Talk Talk camp, but we're reliably informed that they've been very active and much appreciated in foreign lands in the meantime. Now they've returned home with plans for a new album, and a little more time for their fellow countrymen.

But first, a single. Talk Talk were always more a band of songwriters than pop stars, and so it is with 'Life's What You Make It', a downtempo number that needs more than the cursory, half-attendant ear the popular marketplace usually proffers.

An offbeat repeated piano figure provides a framework within which the band weave a deliberate rhythm and an understated melody. Doubtless a good live song, but lacking in the aural gimmicks that sell singles, methinks. ■ Tg

Laibach

Die Liebe

Cherry Red 45

The Yugoslav industrial town of Trbovlje has not, as yet, played a big part in shaping the development of 20th Century popular music. Somehow, I doubt it ever will.

But it has at least given us Laibach, political idealists banned in their own country for holding views incompatible with those of the State, and a band who describe the Western music press (that's us) as 'an extended hand and dictate of the market economy which shapes its truth according to the momentary needs of the market logic'. Personally, I'd deny that till they locked me up, but what I can't deny is that Laibach's music is utterly compelling.

'Die Liebe' is to pop music what the Centre Georges Pompidou is to architecture: a skeleton of a song (not even a song, really) that turns itself inside out to reveal its composition to all and sundry – regardless of their interest in music. Anarchic industrial clatterings collide with innocent organ chords and soothing, simplistic synthesised and sampled doodlings, the whole given a central core by a repeated wartime recording of the voice of a German woman uttering the words 'Die Liebe' ('the love').

Aha! The hook! Not exactly, but I'm keeping an eye out for the Laibach album all the same. ■ Dg

Drum Theatre

Living In The Past

Epic 45

Only the second single release from a new signing, and one that looks set to build on the (limited) success of its predecessor, 'El Dorado'. Drum Theatre combine high technology, traditional ethnic instruments and commerciality to produce a tight, complex music rich in unusual textures and brimming with natural feel.

'Living In The Past' – not the old Jethro Tull song – is an unlikely collision of styles and purposes, a meeting of several seemingly irreconcilable musical features, but somehow it all works. Chaotic percussion succeeds in conveying an infectious beat, for instance, where logic dictates it should fail miserably.

But best of all, turning the single over reveals 'Seventh Sign' which, if anything, is more infectious than the A-side. Heralded by an elephantine guitar note that Adrian Belew would be justifiably proud of, the flip houses an untoppable fusion between hi-tech precision and African swing. And it's got 'get up and dance' written all over it. ■ Tg

LIVE T·A·K·E·S



Howard Jones

NEC, Birmingham

Perhaps Howard Jones invented pop, or maybe pop was invented for Howard Jones. Either way the end result is the same: Jones is one of its undisputed masters.

He's come a long way from the early one-man-and-mime-artist days and, whilst the silent, expressive Jed Hoyle is still as active as ever, the Jones band now includes brother Martin on bass guitar, drummer Trevor Morais

and, on this occasion, guest backing vocalist Afrodiziak.

Jones' prowess both as technician and musician is evident throughout the set. He masters an elaborate keyboard arrangement with remarkable casualness, and delivers his work as faultlessly as Soviet gymnasts deliver theirs.

Needless to say, the playlist reads like a 'Best of Howard Jones' compilation album, with only one new number – 'You Know I Love You, Don't You?' – to give the audience any surprises

(they probably didn't want any, anyway). The lack of adventure probably has as much to do with having to rehearse a band as it does trying to write new material.

The band members play their part as well as they can, though, with Morais especially exciting. How the Hell anyone manages to cover a full drum part using just a pair of hands amazes me, but I could find no gap in the arrangements.

But enough of the music. What really matters tonight is the visuals. It transpires that the gig is being filmed for a video, and the presence of numerous cameramen on and around the stage helps heighten the excitement of an already abundantly enthusiastic audience. The stage set is disappointingly simple in design, but it's done that way deliberately to make sure you notice Hoyle's mime.

Early on, I realise that one of the original reasons for including Hoyle in the Jones touring party is Jones' own lack of visual impact.

What does steal the show visually is its culmination in a guitar solo. Jones has no guitarist in his band but, being a resource-

ful individual, he discovers that he can overcome the problem with a remote keyboard controller, a sampler and a bloody good guitar sample. After an unexpectedly spectacular development in the form of a rotating keyboard riser, our Howard scurries around the stage, taking us through a series of 'guitar' histrionics, and plays a series of classic riffs and 12-bars with stunning conviction. Looks like it's no longer the drummer that's an endangered species.

Yet just as the main body of the set was a departure from the one-man-band approach, the encore is a welcome return to it. Come the encore, the band do not reappear with Jones, but instead he runs through three numbers, including the excellent 'What Is Love?' and the painful 'New Song', solo with electronics. And much to our surprise, everything works wonderfully.

I went into this gig welcoming the addition of other musicians to the HJ line-up, but after witnessing this comparison between the two, I can't help but wonder if both of us are mistaken. ▶

■ Tg

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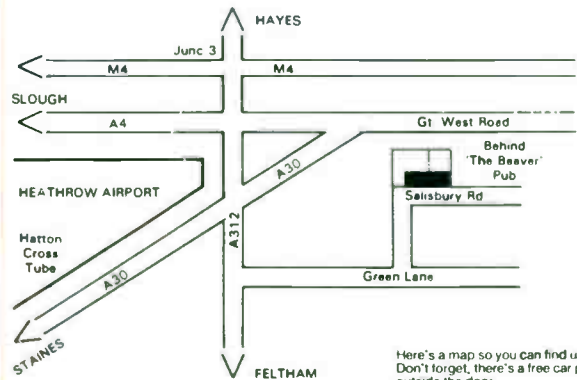


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DEMO T·A·K·E·S

► Techno-folk-rock? Yes, that's what we thought. But that's exactly what Nottingham's **Splinter** claim to be purveyors of. The band are a mixed couple with Petras Saduikis in command of keyboards and drum machine programming, and Marian Chapman providing the vocals, bouzouki and mandolin. They play folk songs to folk people in folk clubs. But they do it using a bizarre mixture of the modern and the traditional: drum machine and sequencer lines come off tape with live addition of further instrumentation and vocals. The DX7 surfaces as provider of some splendid 'acoustic' sounds, and acts as an effective bridge between the old and the new. It's a bridge that certainly comes in handy when you've got a river as wide as this to cross. The songs are traditional both musically and lyrically, and a million miles away from what's being churned out by the major record companies in the mid-1980s. Yet the combination of elements works surprisingly well, and the songs are forcefully delivered. They claim their audience like them. Frankly, so do I.

Every so often (but not all that often) DemoTakes receives a tape intended for the commercial or radio jingle market. I don't know if anyone out there is under the misconception that this is an easier route to financial success than the pop charts – if they do, they're in for an unpleasant surprise – but whatever the motive that lies behind them, some of these demos are good, some not so good. Fortunately for **Matthew Roberts**, his tape is a well-produced, well-recorded collection of brief but reasonably imaginative instrumental ideas; thus he avoids falling into the 'not so good' category. Some of these ideas have already found a home in an audio-visual context though no further details are available. The music's particular strength lies in good playing – particularly the fluent soloing – and modest but effective production.

It's seldom that we get a lot of cover versions of songs, so to continue this month's novelty theme, we've got just that from Australian **Supporting Artists**. Not all the songs are covers, admittedly, and there's some good

original stuff alongside competent renditions of Howard Jones' 'What is Love?' and U2's 'Pride'; I'll make no further reference to the multitracked guitars on the Hallelujah Chorus, though. Aside from a wonderfully convincing Thompson Twins vocal, it's worth mentioning the band's recording method. Using a relatively unelaborate setup of TEAC A3340 four-track and a Yamaha CX5M/TX7/DX7/RX11 arrangement synced to tape until the final mix, Supporting Artists have managed to leave three tracks free for vocals and guitar, whilst compromising only a little on sound quality. Which only goes to show what you can do if you buy the right gear and read the right magazines.

Now this is what I like to see. An E&MM reader making a considerable improvement over his previous contribution to DemoTakes, regardless of six months of inactivity. **Marvin Wilson** is the musician in question, and on his latest submission, he combines elements of Tangerine Dream (again) and Ultravox to produce five eminently listenable instru-



mental tracks. The quality of the music is in keeping with the general upward trend shown by the majority of readers' efforts, and shows just how far a little thoughtful synth programming can go. A successful mix of abstract and harmonious sounds and some conventional but unobtrusive drum machine programming occupy the listener's attention, whilst clean production prevents the ear from tiring of the entirely synthetic palette. Elusive melodies drift in and out of the mix, spiced with the odd bit of utterly inspirational synth playing, so there's no falling asleep to this man's undiscovered endeavours. Keep up the good work. ■ Tg

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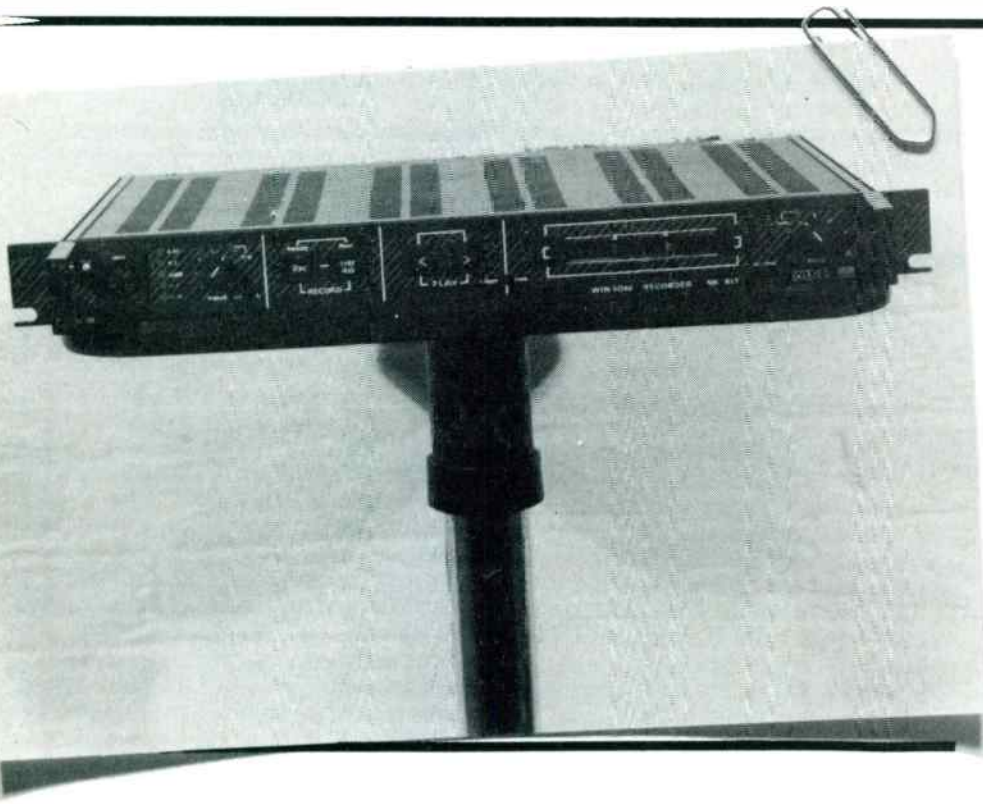
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WINDOW



With myriad cheap sampling keyboards poised to assault the musical instrument world, do we need another upmarket, monophonic sampler? A Swiss company called MDB think we do. *Annabel Scott*

Specialised gear for specialised tasks – a principle the MDB Window Recorder illustrates rather well. It's clearly priced for the professional market, but that's inevitable when we're dealing with recording fidelity on a par with that of Compact Disc.

Still, you might reasonably argue that, with the imminent arrival of a plethora of low-cost, polyphonic sampling keyboards from the Japanese, the MDB will have its work cut out trying to compete. To an extent that's true, but don't forget that in the recording studio, high-quality monophonic sampling still has a great many applications, from reproducing instrumental sounds to spooling in whole vocal choruses – given sufficient sample time.

And rather than turning an

AMS or some other upmarket digital delay to long-duration sampling and playback techniques, the Swiss manufacturers behind the Window Recorder suggest that you buy one of their units for half the price, and take advantage of its more extensive sampling facilities. An AMS unit capable of six seconds of sampling costs around five grand, while at its launch, the MDB offered six seconds for just £2750. The original unit could be expanded to give 24-second sampling, while the mass-production 12-second variant (which now costs £2995) can be expanded to give up to 48 seconds of sampling.

And the sampling quality? Sixteen-bit linear, exactly the same as Compact disc. In fact, you can sample a CD into the Window Recorder and be quite unable to tell the difference on playback. I know, I've done it.

The 'Window' bit of the name is a horizontal LED ladder on the

front of the 1U, 19" mounting machine, which steps along as a sample is played or recorded to show you exactly which point in the sample you've reached. This is invaluable for precise editing, as we'll see later.

The most important controls on the MDB are the black 'window end' buttons. These allow you to work from either end of the sample, so that pushing Play six times in quick succession in edit mode gets you up to normal speed, forwards or backwards, while lower multiples take you down to very low speeds and allow you to edit sounds to a resolution of 22 microseconds – which isn't very long, I can tell you.

The window buttons then allow you to define new start and end points for the sample, simply by hitting them while you're in edit mode. So, tailoring sounds to your exact specification is dead easy; if your intended sample happens to be in the middle of a piece, it doesn't matter, because you don't have to get anywhere near it on your first sampling attempt.

If your intended sample is at the start of a piece, the MDB allows you to capture it with an Auto Trigger facility on the audio input. The input takes the form of a suitably 'professional' XLR jack, and the trigger level from Ready mode is around -3 on the LED input scale. The input has a High/Low impedance switch adjacent to it for level matching, and as we've just mentioned, the LED window begins to step along as soon as the sampling function starts.

It's also possible to overdub sounds on top of one another. Instead of hitting Record you simply hit Overdub, and the new sound is added without wiping the old one. You can repeat this process many times (as many as 20 or 30 times, claim MDB) and thus come up with extremely complex layered samples, though this inevitably involves a slight drop in recording quality for each overdub you make. The

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only problem with this particular layering function is that if you hit Overdub accidentally while there's no sound being input, your original sample becomes slightly degraded automatically.

What can you do with your sample once it's in captivity? Well, first you can tune it using the right-hand Tune control, which gives a range of one octave up or down. Then you can trigger the sample with a pulse applied to a rear panel socket, and control its pitch via a one-volt-per-octave CV input. This means that, like the keyboard-modified AMS, the Window Recorder can be controlled from a cheap one-volt-per-octave monophonic synth like the Roland SH101, and you can then play tunes with your sample.

Either a +5V or -5V gate will do to trigger the sample; the +5V pulse is re-transmitted at the start of the sample to pass on to other pieces of equipment such as additional samplers or synths. Another pulse appears at an adjacent socket at the end of the sample to silence any peripheral equipment if necessary; presumably this is aimed at ARP synths and similar 'problem' instruments.

More interestingly, the Window Recorder boasts a MIDI In socket which, like the CV function, gives two octaves of monophonic control over the sample currently held in memory. Velocity information is recognised and responded to by the Swiss machine's software, so a DX7, or a sequencer programmed from another dynamic keyboard such as a Roland JX8P or Korg DW8000, can produce dynamically varied sample response. These techniques will be familiar to many from the cheaper, polyphonic Akai S612 Sampler, but aren't yet available on the more expensive AMS delay.

The Window Recorder's rear panel also features a computer interface for a dedicated disk drive to save samples; and yes, the MDB will 'forget' the contents of its memory on power-off unless you save to disk. Price for the disk drive, incidentally, is yet to be announced.

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Although the Window Recorder can't act as a digital delay, it does have a Hold Mode which allows you to repeat a sound endlessly (and that sound can be a whole chorus of a song if you want it to be) and the ability to play sounds backwards. And the window isn't just to show you whereabouts you are in a sound; it can also be used to help edit out and replace small sections of a sample, a process that can extend to individual words, phrases or notes.

All in all, this is an exceptionally advanced facility that should offer plenty of scope to even the most active imagination. You can drop in to Record mode at any point in a sample and drop out again when you've replaced your duff phrase or note, and if you've played along carefully, you can't hear the join.

Personally, I reckon the Window Recorder will find particular favour in the field of advertising jingles. Since these are usually about 28 seconds long, you could easily stick a whole jingle into an expanded unit and prepare 10-, 15- and 20-second versions simply by editing or overdubbing the sample. The 12-second to 48-second sampling expansion was originally expected to come in for around £600; bear in mind that if there are any six-second models still around, they can't be expanded past 12 seconds.

Does the Window Recorder represent good value for money? Well, if it weren't for the fact that there's nothing else quite like it on the market at the moment, the MDB would look pretty poor return for your greenbacks. But the fact is that the Akai sampler is of much lower quality (although polyphonic), and the AMS needs a lot of modification and mucking about before it's transformed from a digital delay into a controllable sampler.

One minus point that is annoying is the fact that you'll have to spend more money on a disk drive if you want to save your carefully-sampled MDB

sounds. Some AMS users save sounds on tape, while many more would be offended by the very idea of using the same sound twice, and so aren't bothered either way.

But the Akai certainly experienced a surge in popularity once its disk drive became available, and though the two units are poles apart in terms of design philosophy, the principle's the same: how much time are you prepared to spend on a sound if you know that it's lost forever once the power goes off?

That aside, the MDB performs superbly. As a first entry into the musical equipment market (though I vaguely recall mention of an MDB Polysequencer a few years back - was it the same company?), it's a wonderful, thoroughly laudable achievement. The bottom line is sampling quality, and on that basis alone, the MDB has no competition.

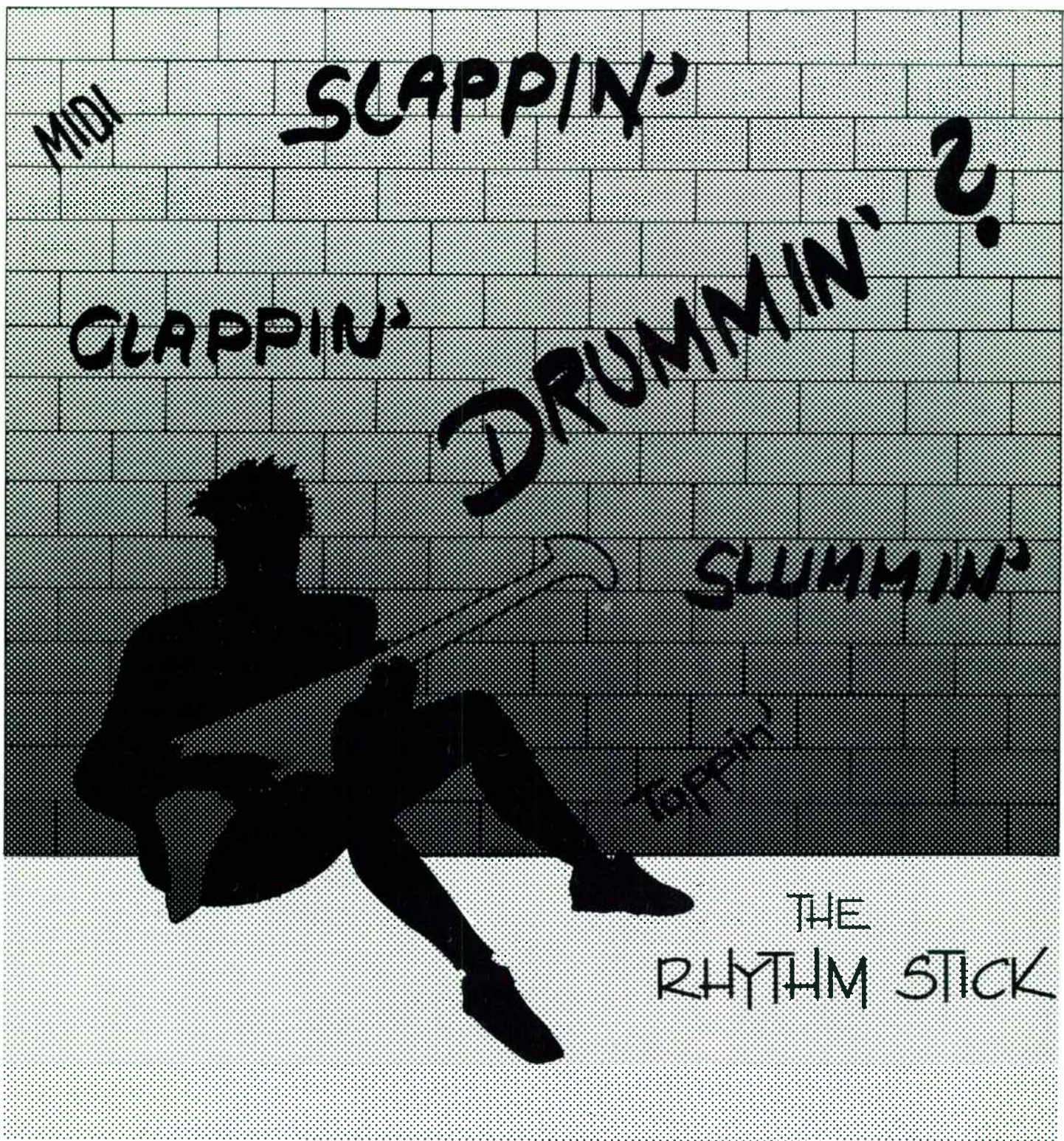
It is a specialised instrument, though, and you'd have to be reasonably well-off to invest so much in a unit that offers monophonic sampling and nothing else. If you'd be happier with something polyphonic, go for the Akai S612 and put up with the quality loss safe in the knowledge that your wallet is no longer a redundant item. If you want MIDI-controlled monophonic sampling for everyday use, go for a Korg SDD2000 sampling delay, and spend the money you've saved on instruments to sample into it.

But if you want to be able to sample 48 seconds of music, take out two notes, turn it backwards, overdub it twice and still have the quality of a Compact Disc, you need a Window Recorder. ■

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Checklist

E&MM's buyer's guide to end all buyer's guides, with a rundown of all polysynths, voice modules and remote keyboards currently available and soon to be unveiled.

This, ladies and gentlemen, is the only regularly published, regularly updated price guide in the modern musical instrument scene – something that's made it essential reading for musicians the length and breadth of the UK, and beyond.

But Checklist is more than just a price guide in the conventional sense. Because as well as listing available products and their typical selling prices, we also include some brief specification details, and the comments – for, against, and summing-up – of E&MM's reviewing team where possible. That way, you get some idea not only of what machines are available, but also of their relative specifications and how they compare in performance terms.

February is traditionally Frankfurt Musikmesse time, which means the biggest single unveiling of new machines in the musical instrument calendar. We already have preliminary details of some of the synthesisers that'll be on show in Germany this month, and many of these appear in

the list below – though obviously, our comments will have to wait until the gear passes through our reviewers' hands. Among the most intriguing of Frankfurt's launches will be Sequential's new Prophet VS, which features a new sound-generating process known as Vector Synthesis; Akai's AX60 budget polysynth, which first appeared in prototype form back in August '85, but which has been extensively refined since; and a new low-cost machine from the company who currently make the world's best-seller – Korg.

If Checklist has a somewhat half-complete look to it this month – Frankfurt is the reason why. Next month's E&MM will contain a full report on the exhibition's proceedings, and, to coincide with the currently burgeoning interest in sound-sampling, a subtle re-structuring of Checklist to include all available sampling machines, from the cheapest modified delay unit, to the most complex computer-based keyboard system.

See you then; same time, same place.

POLYSYNTH

Checklist

AKAI

AX60 – £TBA Six-voice, two-oscillator per voice analogue polysynth; 16 preset/programmable voices, five-octave keyboard, stereo chorus, arpeggiator; filter envelope and chorus can be used to edit samples on S612 sampler. Due for release early Spring 1986. To be reviewed.

CASIO

CZ101 – £345 Four/eight-voice, two/one DCO per voice, Phase Distortion polysynth; 16 preset and 16 programmable voice memories, four-octave miniature keyboard. **+** Excellent range of both 'analogue' and 'digital' synth sounds, five-octave MIDI-compatible octave range, voice layering,

comparatively easy to program, built-in ring modulator, 16-voice RAM cartridge storage, eight-stage transient envelopes, fine MIDI implementation; **■** small, short keyboard, awkward bend wheel; **■** revolutionary Phase Distortion principle offers value for money without sonic compromise – if you can stand the mini-keyboard.

CZ1000 – £495 Spec as for CZ101, but with full-size, four-octave keyboard. **■** The professional's Casio: nothing around to beat it for versatility, ease of programming and MIDI features at this price level.

CZ3000 – £695 Spec as for CZ5000, but without sequencing facilities and memory dumping to tape. **■** Not just a clever bit of Casio re-packaging, synth is genuine alternative to top-of-range 5000, for people who'd prefer not to have to pay for sequencer.

CZ5000 – £975 Eight/16-voice, two/one oscillator per voice Phase Distortion polysynth; 32 preset and 32 programmable voice memories, five-octave keyboard, built-in eight-track step- and real-time sequencer. **+** Twice the 101/1000's synth facilities means correspondingly greater sound potential, excellent multitrack sequencer is far more than just last-minute afterthought, useful multitimbral MIDI implementation; **■** undynamic keyboard, no separate outputs for multitimbral voices; **■** the last word in Phase Distortion synthesis, and it works a treat – so don't let the name put you off.

CHASE

Bit 99 – £699 Six-voice, two-oscillator per voice analogue polysynth; 63 programmable voice memories, five-octave velocity-sensitive keyboard. **+** Superb range of analogue sounds, both acoustic and electronic, plenty of keyboard performance options; **■** no sequencing or arpeggiation features; **■** all in all, probably the best budget analogue poly, now has better MIDI implementation and programming facilities than Bit One predecessor, and at a lower price, too.

CHROMA

POLARIS – £1699 Six-voice, two-oscillator per voice analogue polysynth; 132 programmable voice memories, five-octave velocity-sensitive keyboard. **+** Good, rich analogue sound, neat onboard sequencer, extensive interfacing facilities include wide range of MIDI options; **■** complicated to use, overpriced, some design priorities now outdated; **■** a synth with a lot of potential for those with enough patience to exploit it, but the competition is already too tough, and getting tougher all the time.

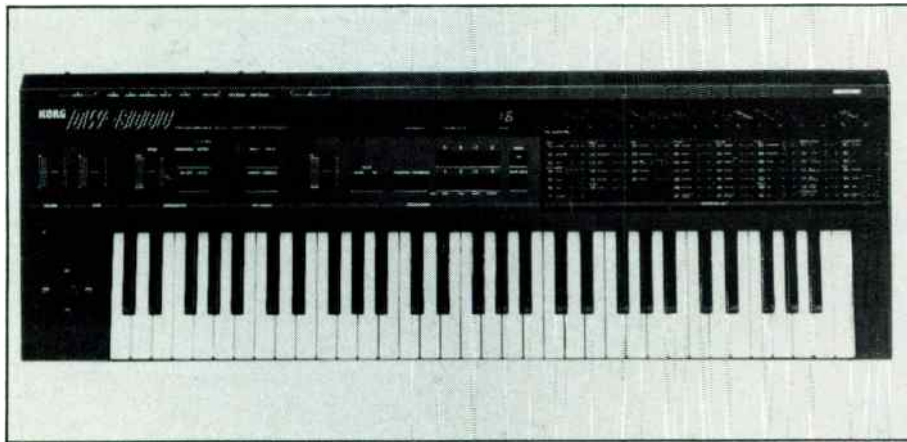
ELKA

Synthes – £999 Eight-voice, two-oscillator per voice analogue polysynth; 40 preset and 40 programmable voice memories, five-octave keyboard. **+** Considerable (but largely ignored) sonic versatility, split and layering facilities using two MIDI channels, onboard four-track sequencer, digital ring mod; **■** not much, though it won't sound like a DX7; **■** good facilities for its (recently reduced) asking price: if this is your sound, go for it.

KORG

Poly 800 – £449 Six-voice, two-oscillator per voice analogue polysynth; 64 programmable voice memories, four-octave keyboard. **+** Competitive price, three six-stage envelopes, onboard sequencer and chorus unit, portability; **■** only one filter for all six voices, ▶

▶ short keyboard, the world's best-selling polysynth, in spite of its limitations. **DW6000** – £699 Six-voice, two-oscillator per voice, digital waveform generation polysynth; 64 programmable onboard memories, five-octave keyboard. **+** First synth to combine clarity of digital voicing with easy access of analogue synth configuration, six-stage VCA & VCF envelopes, built-in chorus; **+** keyboard has no velocity or aftertouch sensitivity, poor feel of performance control joystick; **+** the polysynth world's biggest technological compromise – but it works, and you can pick it up very cheaply now.



DW8000 – £1075 Similar in spec to DW6000, but with pressure- and velocity-sensitive keyboard, built-in DDL. **+** Factory presets are more impressive than 6000's, DDL is more than just a gimmick, dynamic keyboard makes a big difference; **+** feel of keyboard and joystick could be better, digital access system little improved by new panel layout; **+** corrects most of the DW6000's faults, yet costs less than its predecessor did when it was launched – therefore a real contender.

OBERHEIM

Matrix 6 – £1750 Six-voice, two-oscillator per voice analogue polysynth; 100 single and 50 multipatch voice memories, velocity- and pressure-sensitive five-octave keyboard. **+** Unparalleled complexity and versatility of synth section means huge quantity of different available sounds, quality is good, too; **+** of all the synths that shouldn't have digital parameter access, this one has the worst programming compromise; **+** traditional analogue poly that makes brilliant use of modern technology, makes Oberheim quality affordable thanks to new Japanese manufacture, so demand is already outstripping supply.

Matrix 12 – £4599 Spec similar to that of two Xpanders controlled by dynamic keyboard – see Xpander entry for details.

OCTAVE PLATEAU

Voyetra 8 – £3999 Eight-voice, two-oscillator per voice analogue polysynth; 100 programmable voice memories, velocity- and pressure-sensitive five-octave keyboard. **+** Excellent sonic potential in the American analogue tradition, built-in polyphonic sequencer and arpeggiator, comprehensive split and layering facilities; **+** hideously involved system of parameter access makes editing a real chore, dollar-inflated price-tag, difficult to get hold of in UK; **+** competent, professional synth system – at a price.

ROLAND

Alpha Juno 1 – £575 Six-voice, one-oscillator per voice analogue polysynth; 64 preset and 64 programmable voice memories, four-octave keyboard. **+** Best-sounding Juno yet, light weight and compact size, backlit display; **+** short, non-velocity sensing keyboard, sound lacks individual character, 'Alpha dial' doesn't make digital access system much easier; **+** takes state of the Juno art appreciably further, but see Juno 106.

Alpha Juno 2 – £799 Spec as for Alpha Juno 1 but with five-octave, velocity-sensitive keyboard. **+** Better suited to role of main poly instrument than the Alpha Juno 1, but for correspondingly more money.

Juno 106 – £699 Six-voice, one-oscillator per voice analogue polysynth; 128 programmable voice memories, five-octave keyboard. **+** Ease of use, built-in chorus; **+** beginning to sound a little dated; **+** a classic among budget polysynths, to some degree overshadowed by new Alpha Junos, but proper, non-digital controls mean it's still a contender. Also available: **Synth Plus 60** (£899), circuitry of Juno 106 in domestically-acceptable format (built-in amp and speakers), unlikely to venture far outside the average living room.

JX8P – £1199 Six-voice, two-oscillator per voice analogue polysynth; 64 preset and 32 programmable onboard voice memories, five-octave pressure- and velocity-sensitive keyboard. **+** Another example of Roland squeezing new sounds out of old design techniques (the 8P competes with the best of the analogues), voltage controlled mixer section, RAM cartridge voice storage, good MIDI implementation; **+** only eight memories hold aftertouch and performance data, requires optional PG800 programmer for sound editing to become straightforward; **+** lacks character, but ultimately a rewarding and versatile analogue poly that proves Roland aren't going to be left behind without a fight. Coming soon – top-line JX10 with 12 voices, 76-note keyboard, aftertouch, price around £1900. (To be reviewed.)

Jupiter 6 – £999 Six-voice, two-oscillator per voice analogue polysynth; 48 programmable voice memories or 32 patch presets (for split programs), five-octave keyboard. **+** Inherently flexible and versatile programming system, excellent sonic potential, split-keyboard facilities, sophisticated – and syncable – arpeggiator; **+** no velocity- or pressure-sensitivity, might just have too many facilities for its own good; **+** excellent analogue synth that continues Jupiter tradition admirably, but complex control layout has meant shortage of takers, hence newly attractive price level.

SEQUENTIAL

MAX – £399 Six-voice, one-oscillator per voice, multi-timbral analogue polysynth; 80 preset voice memories, four-octave keyboard. **+** As SixTrak; **+** also as SixTrak, but not readily user-programmable without CBM64 and software; **+** tries to be computer peripheral and voice expander in one, succeeds in being neither.

SixTrak – £499 Six-voice, one-oscillator per voice multi-timbral analogue polysynth; 100 programmable sound memories, four-octave keyboard. **+** Unique (in this price range) multi-timbrality extends to built-in six-channel sequencer, 'stack' mode and MIDI; **+** awkward parameter adjustment, short keyboard, synth doesn't actually sound too impressive; **+** in the process of being displaced by newer MAX and MultiTrak, therefore very cheap.

MultiTrak – £799 Six-voice, one-oscillator per voice analogue polysynth; 100 programmable voice memories, five-octave, velocity-sensitive keyboard. **+** Adds 'professional' facilities to SixTrak spec; **+** doesn't add anything better in the sound department; **+** new low price, and the only choice if you value sequencing and MIDI facilities above sheer sonic potential.

T8 – £3499 Eight-voice, two-oscillator per voice analogue polysynth; 128 programmable voice memories, six-and-a-half octave keyboard sensitive to pressure and velocity. **+** Excellent analogue sound capability, weighted-key action and individual aftertouch for each key, fine split and layering facilities, built-in sequencer; **+** heavy on the hand and even heavier on the wallet; **+** professional instrument at a professional price.

Prophet VS – £TBA Eight-voice polysynth using new Vector Synthesis technology. Five-octave, velocity-sensitive keyboard, stereo chorus. To be reviewed.

SIEL

DK70 – £399 Portable synth with spec similar to DK80. To be reviewed.

DK80 – £499 Six-voice, two-oscillator per voice analogue polysynth; 10 programmable and 40 preset voice memories, velocity-sensitive five-octave keyboard. **+** More facilities for the money than just about anything; **+** 40 fixed memories, basic sound could be better; **+** really astonishing value for money, even better now that distribution has changed hands, even if first impressions might not be all that favourable.

WERSI

MK1 – £TBA 16-voice polyphonic Fourier Synthesis polysynth; five-octave velocity- and pressure-sensitive keyboard. To be reviewed.

YAMAHA

DX100 – £349 Eight-voice, programmable FM digital polysynth, 192 internal factory preset sounds, 24 programmable voice memories, 96 performance memories, four-octave mini keyboard. **+** Excellent sounds (many shared with DX21), portability, performance memories, mains and battery operation, velocity-sensitive via MIDI; **+** small size makes programming fiddlier than ever, professionals won't like small keys; **+** potentially, the synth that could bring FM to millions of non-musicians, makes an excellent MIDI voice expander for pro players.



DX27 – £499 Spec as for DX100, but with full-sized, five-octave keyboard. *To be reviewed.*
DX21 – £699 Eight-voice, programmable FM digital polysynth; 128 internal factory preset sounds, 32 programmable voice memories, 32 performance memories, velocity-sensitive over MIDI, five-octave keyboard. **+** *Broad selection of factory sounds that rival DX7's for quality, useful voice-specific performance memories, inclusion of split and dual modes, probably easier to program than first-generation DXs, cheap;* **-** *undynamic keyboard, no cartridge storage facilities, could still do with a better display;* **+** *only the first in Yamaha's three-pronged assault on the march of the budget polysynth, and mightily impressive, shows company haven't been resting on DX7 laurels.*

DX7 – £1250 16-voice, fully programmable FM digital polysynth; 32 voice memories, five-octave velocity- and pressure-sensitive keyboard. **+** *Immense sonic and programm-*

ing versatility still unmatched by any competing instrument, vast range of custom-designed hardware and software now available to accompany it from a variety of sources; **-** *a real pig to program, hence many preset sounds becoming clichéd, still niggling doubts about its ability to recreate fat, traditional analogue synth sounds;* **-** *an industry standard like no synth before it, and justifiably so – if only it was as easy to edit as it is to listen to...*

DX5 – £2999 FM digital polysynth, spec similar to two DX7s with additional performance memories; 76-note touch- and velocity-sensitive keyboard. **+** *Excellent sound and facilities;* **-** *beaten on price by Yamaha's own DX7/TX7 combination;* **+** *now you've a choice between convenience and cost, though sizeable back orders for the DX5 indicate some people are wealthier than is good for them.*

DX1 – £8999 16-voice polyphonic, FM digital

polysynth; 64 programmable voice memories, six-octave velocity- and pressure-sensitive keyboard. **+** *Easier editing than cheaper DXs thanks to comprehensive control and display layout, marvellous weighted-action keyboard has individual aftertouch for each key;* **-** *bulky, weighty and outrageously expensive;* **+** *thoroughly desirable – the ultimate dedicated FM poly, but logic says it's outclassed by cheaper hardware from the same stable.*

EXPANDER

Checklist

AKAI

VX90 – £TBA Similar facilities to AX80 poly, but in 19" rack-mounting format. *To be reviewed.*

CHASE

Bit 01 – £699 Similar in spec to Bit 99 poly, in rack-mounted casing. **+** *Puts excellent analogue sounds in a modular format well-suited to the needs of digital synth owners, factory presets are sonically matched to corresponding Bit 99 voices, rack-mounting convenience;* **-** *a little pricey next to Bit 99, still the odd MIDI hiccup;* **+** *stands out as being the most cost-effective analogue unit*

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KORG

EX800 – £249 Identical in spec to Poly 800: 64 programmable voice memories, built-in sequencer. **■ All the plus and minus points of Poly 800, but now ridiculously cheap, thus a splendidly affordable analogue expander.**
EX8000 – £TBA Identical in spec to DW8000: built-in digital delay. *To be reviewed.*

OBERHEIM

Xpander – £3945 Six-voice polyphonic analogue/FM digital hybrid synthesiser; 31 LFOs, 30 EGs, 12 oscillators, 90 VCAs, 100 programmable voice memories, recognises MIDI pressure and velocity information. **■ Vast range of sounds both analogue and digital, easier to program than most digital access designs, matchless programming versatility; ■ only the cost; ■ brilliantly conceived and superbly built – if you can afford it, don't hesitate.**

ROLAND

MK57 – £950 Rack-mounting MIDI voice module incorporating separate melody, chord, bass and rhythm units. *To be reviewed.*
MK510 – £895 Sixteen-voice polyphonic piano-family voice module, velocity- and pressure-responsive, 16 preset voice memories. **■ Neatly styled, built-in chorus/flanger helps strengthen sound output; ■**

eight voices accessible through mother keyboard only, expensive for what it is; **■ only really of value if you've got a keyboard – and a playing technique – that'll do it justice.**

MK520 – £1200 Piano module using new resynthesis system of sound-generation, available April. *To be reviewed.*

MK530 – £775 Same overall spec as discontinued JX3P poly, but 64 programmable voice memories, responds to velocity and pressure information. **■ It doesn't sound bad; ■ requires optional PG200 programmer for conventional 'pot' control; ■ as modules go, not particularly inspiring.**

MK580 – £1800 Similar spec to discontinued flagship Jupiter 8, but improved: eight-voice polyphony, two oscillators per voice, 64 voice memories and 64 patch preset memories onboard, fully responsive to velocity and aftertouch information. **■ Wonderful range of analogue-type sounds, optional RAM packs can hold 128 voices or patch presets; ■ again, requires optional programmer (this time the MPG80) for editing not to be a chore; ■ an excellent package, notably good value next to other Roland modules, but price puts it firmly in the professional league.**

SIEL

Expander 80 – £299 Similar in spec to DK80 poly, but only monitimbral. **■ Incredibly cheap, so lots of features for your money, cartridge storage facility unexpected on a machine of this price level; ■ presets are identical to DK80's, hence more than a few sonic disappointments; ■ currently one of the cheapest ways into analogue MIDI synthesis, and a godsend to the impoverished – it's not brilliant, though.**

YAMAHA

TX7 – £599 Identical in spec to DX7, with addition of performance memories for each voice. **■ A logical upgrade for all DX7 owners; ■ but not so much fun if your controlling synth is analogue, as you won't be able to program it without software; ■ Yamaha's most economical route to FM duplication.**

TX216 – £1899 Two DX7s (or one DX5) in rack-mounted format, with facility for adding TF1 modules (one DX7's worth) at £449 each. *For comments see TX816.*

TX816 – £3999 Essentially eight DX7 voicing modules in one rack, each with its own MIDI connection. **■ Who could say no to eight DX7s? ■ MIDI implementation could be better; ■ the ultimate FM music synthesiser – no self-respecting studio should be without one.**

CONTROLLER

Checklist

AKAI

MX76 – £TBA Six-and-a-half octave, velocity- and pressure-sensitive, weighted-action splittable keyboard; 96 voice selectors. *To be reviewed.*

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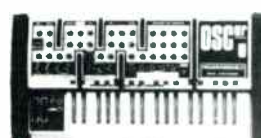
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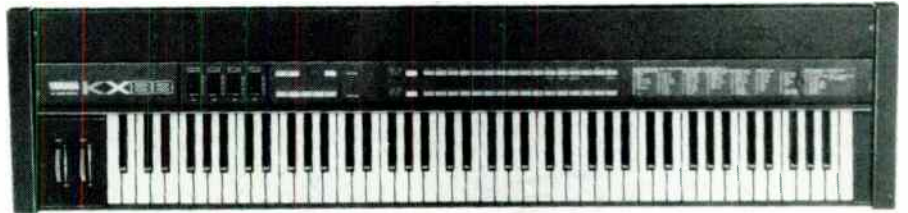
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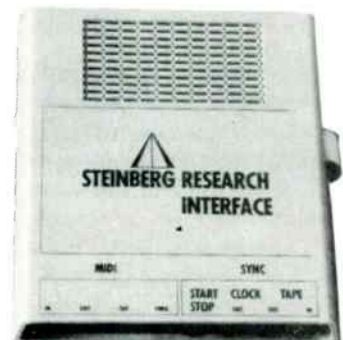


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THE MUSICIAN'S PRODUCER



Steve Nye belongs to a rare breed: producers who prefer to bring out the best in musicians, rather than impose their own ideas. In his first-ever interview with the British press, Nye explains some of the philosophies and techniques that underly his work.

Interview *Paul Tingen* Photography *Matthew Vosburgh*

As I rush, headlong, through London traffic of frightening, pre-Christmas proportions, desperately seeking a black cab, I think of the first time I met Steve Nye.

It was at a club in Amsterdam called the Milky Way. I had come to see Nye in his musician's role, playing piano for the Penguin Café Orchestra, but my ultimate goal was to set a time and place for an

interview with the man, his first ever for the British press in an engineering/production career spanning nearly 15 inventive years.

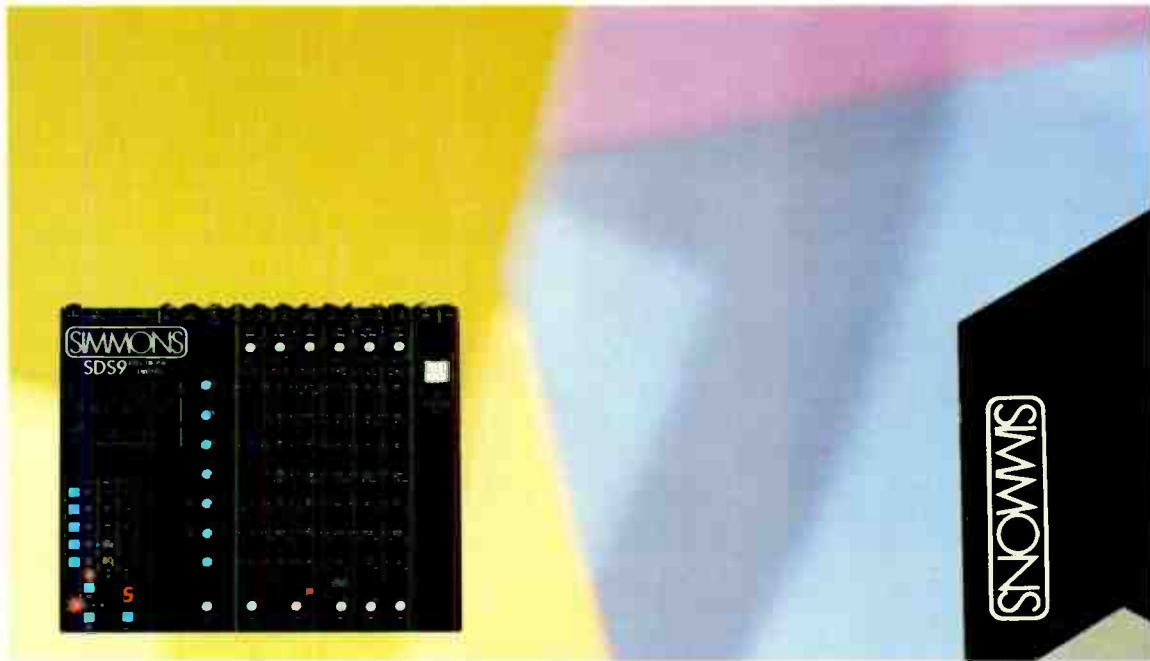
I find myself wondering why he hadn't been interviewed before. Rupert Hine discovered him as a tape-op at London's Air Studios, whence Nye had gone on to engineer (and, later, produce) for a whole bunch of illustrious musical

names, from Frank Zappa to Stevie Wonder, from Roxy Music to Karl-Heinz Stockhausen. More recently, he's worked alongside the likes of XTC, Murray Head, Clannad, The Cure, The Pretenders and Pete Townshend. Not a list of credits to be sniffed at, certainly.

Hine has described Nye as having 'a very musical awareness of both pitch and time, and a real artistic ►

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► flair' – qualities that have shown themselves most explicitly in Nye's most celebrated work: his involvement with Japan and David Sylvian. He co-produced Japan's swansong *Tin Drum* album and Sylvian's solo follow-up, the utterly wonderful *Brilliant Trees*.

The PCO's Amsterdam concert proved to be an erratic but attractive

Nye is a friendly man. Throughout our conversation, he continues to pour me tea (later wine) and offer me scones and cakes. One particularly stodgy, overweight cake inspires him to comment that 'today's music is not at all an influence on me'. He admits that he listens mostly to 'classical music,

what they wanted to do', remembers Nye. 'All they knew was that they wanted something different. Neither David nor the band ever did any demos, so there was never anything to listen to. They'd begin recording tracks without knowing quite what was going to happen by the end – David didn't even have lyrics a lot of the time. It was all pretty experimental. They hadn't done any rehearsals at all: we just went in and started recording. It was very exciting, and we were working on a very small budget, too, which added to the atmosphere and the concentration.

'At the time we were just working on stuff, getting excited about ideas and trying things out, but very little was pre-meditated.

'One of the strangest things was David and Richard Barbieri (Japan keyboardman) working simultaneously on synthesiser sounds in the studio. Sometimes they would drive me crazy. Each of them would regularly spend two whole days just trying to perfect a single sound. All I could do was sit there with both of them in the same room at the same time, and things became pretty difficult.

'David restricted himself to a Prophet 5, and Richard divided his time between an OBX and a modular Roland System 700, so the technology they were using was quite old. But the sounds which they created were like instruments you'd never heard before. They didn't sound like synthesisers at all – they were more like something acoustic and organic. Nothing went "bzz, bzz", or sounded anything like the digitals and sampling machines of today. I find that, no matter what you put into a lot of the latest instruments, they have this nasty sort of electronic sound, a kind of honkiness which I've never liked.'

After eight weeks of recording, Nye mixed *Tin Drum* at Air. And although the album's recording had been decidedly unconventional, the mixing stage proved to be typical of this producer's method of working...

'The way I work is to try to get all levels, balance and sounds right whilst still at the recording stage. So I put reverbs and delays straight onto tape, because they're part of the sound. And the band themselves usually put delays on, anyway.

'Then all I do in a mix is blend all the tracks together and maybe compensate for a few echoes that needed to be different when I recorded them; if you put down a synth, say, and it's one of the first instruments you've recorded, it can be difficult to judge how big a track is going to be and what kind of reverb you need, so obviously things have to be corrected a bit.

'Sometimes I have a picture of the overall sound beforehand, but mostly I don't. A lot of the time,

'No matter what you do with a lot of the latest digital instruments, they have an electronic feel to them, a honkiness that I've never liked.'



occasion. The Orchestra has a strong tendency toward over-simplicity, yet their music has an indefinable richness and sparkle. Nye's one-hand piano parts – part sympathetic integration, part anarchic improvisation – are quietly compelling, like so much of his work in more conventional musical fields.

On meeting him after the concert, I find Nye displays a real-life character similar to his stage one; externally relaxed, but clearly possessed of a busy, inventive interior that is barely penetrable.

But here I am a couple of months later on my way to see Nye again, this time in the glamorous surroundings of the London Hilton. I arrive late (67 people ahead of me in the bank queue), but Nye doesn't seem to mind, and treats me to a very English tea, complete with live harp accompaniment. 'Not really my sort of place', says the producer, looking disapprovingly at the forced, superficial luxury that surrounds us. Little do I know that I shall soon be encountering a few of the sort of problems which *might* just be one of the reasons why Nye hasn't been interviewed by a British magazine before...

For the most part, producers communicate easily (it's part of their job) and talk a great deal. In general, they're all too willing to display this ability to journalists like myself, but sadly, Steve Nye is hopelessly deficient in matters of this sort. He has the disconcerting habit of intoning two or three words as an answer to most questions, forming phrases like 'I don't know' or 'I can't remember'. Early on, he sets the tone for the rest of the interview by referring to modern music technology as 'all that crap'.

which probably has a big influence, unconsciously, on my musical outlook. So I'm not very interesting to talk to as far as electronics go.' He laughs. I am beginning to see that I may have an uphill struggle ahead of me. For a man considered to have been a major catalyst of rock music's musical and artistic development over the last decade, his words are remarkable.

Seeing as Nye's work with Japan and Sylvian is his best-known and his most innovative, I opt to take our talk from there.

'They'd done the two albums before *Tin Drum* at Air with John Punter', the producer recalls. 'So I'd seen them around and they'd obviously heard me work in various places. They wanted to try something different for their next album and they asked me to do a few tracks first to see how it worked. At the time I was doing a lot of engineering work with the Yellow Magic Orchestra, of whom Japan were big fans, so I suppose they asked me mainly because of that.'

It seems 'Talking Drum' was one of the three songs Nye recorded at The Manor during those trial sessions (Q: 'What were the other two?' A: 'I can't remember'). They showed a marked change in Japan's style with which the band were delighted, so Nye stayed. His appointment worked, too, for whereas the preceding *Quiet Life* and *Gentlemen Take Polaroids* LPs had seen Japan in melancholic, introverted and nostalgic mood, Nye's dry, simplistic production allowed the band's quirky new rhythms and striking synth sounds to emerge with clarity, without being obtrusive.

'At the beginning of the sessions the band didn't have much idea of

what I'm producing is governed by the sound of the studio, or the sound of the band's instruments – not by what I might like the end product to sound like.

'If I had to choose a *magnum opus* out of all my work to date, then...yeah, I guess it would be *Tin Drum* – probably because it was appreciated by so many different kinds of people all over the world. I thought the album was very innovative; it worked because the sounds the band got from their synths had a lot of character, and because my approach to engineering is musical rather than technical. I always try to capture the *feeling* behind a song, or the kind of atmosphere it has, by putting it into the sounds that are being used. I didn't consider the synth sounds on *Tin Drum* to be separate; they became part of the track, blended into it in a very musical way.'

Things are picking up. Nye is talking more freely, coming out of himself. I am optimistic, but the respite turns out to be brief. I ask him what his 'musical approach' actually consists of, and a long, painful silence follows...

'It's difficult for me to analyse that. It's just a question of how I hear things, a question of personal taste. I just make music sound the way I want to hear it, and that's all I can go for, really. I can't say to myself: "today's records sound *this* way, so that's how I'll record". I take everything as it comes along, and it's all very intuitive. I don't think about it; if I started to think, I'd probably get confused.'

Nye continued to employ this 'take it as it comes' philosophy during his co-production of *Brilliant Trees*, on which Sylvian's mood returned to its previous melancholy, while the music moved into a more richly textured area, away from the Japan idiom. The record (E&MM's Top Album of 1984) involved a number of guest musicians whom Sylvian had gathered around him, including Can founder-member Holger Czukay.

'He came down to the studio (Hansa in Berlin) after everyone else, but his role was quite big, what with his guitar-playing and his dictaphone. The dictaphone is like a piece of low-tech office equipment; it does a similar job to a sampling machine, but its inherent sound quality would put most producers to shame. It has this little speaker which makes a terribly scratchy noise, but the atmosphere of the sounds couldn't be made in any other way, really. Holger would record a trumpet, and next to it a couple of vocal tracks; he could then move the playback head along the tracks, backwards and forwards or up and down. It sounds a bit like tuning a radio, but it's unique.

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'Again, I was just acting as a mediator between the musicians and the record on *Brilliant Trees*. My job is to ensure that the ideas the musicians have come out and work – and to point out any ideas that seem incongruous, ideas that need to be changed.

'The atmosphere is the main thing. Once I understand that, I just carry on developing it. But it's difficult to talk about, especially with an artist like David, for whom emotions and intentions are extremely subtle. It's not easy for him to communicate to me.'

Two artists who find it difficult to communicate? Sounds like an interviewer's nightmare. Luckily, though, the Nye/Sylvian collaboration has given the world

'My only rule is: there are no rules. I don't go by any set plan because situations are always different.'

some remarkable and memorable music, and may continue to do so, if and when Sylvian chooses to release his second album. Nye takes up the story of the follow-up that hasn't, as yet, followed up.

'The album was supposed to consist of two parts: some music David did for a video in Japan (*Steel Cathedrals*, now available on cassette), and the stuff he recorded with Nigel Walker (now released as a 12-inch EP, *Words with the Shaman*). He didn't like that album as it was last year, so he asked me to listen to it and record three more songs to replace the side that Nigel did. So I recorded three songs, mixed them, remixed them, remixed the instrumental, put it all together, cut an album from it, and then... he didn't like that, either. Now, I'm not sure *what* the album is going to be.

'David seems to be indecisive at the moment and there's nothing I can do about that. He has changed in that he tends to take a lot more time and care over things, but now and again he seems confused. In David's case, though, my experience is that what he's taking time over *will* work out in the end. Some people, if they have a lot of time in the studio, just wank around – and that's when it's my responsibility to get things going again.'

Some producers refer to Steve Nye as 'just a good engineer' and 'not a real producer at all', simply because his contribution to a record's overall arrangement isn't as obvious as that of so many other producers. Yet there is an undeniable consistency that runs through his work,

especially the Sylvian/Japan material, XTC's *Mummer*, Murray Head's *Shade* and Clannad's *Macalla*. Doubtless, also, Bill Nelson's soon-to-be-released latest long-player – which Nye has just finished recording in the States – will be recognisably his work.

Not surprisingly, Nye attributes his consistency of output to a similar consistency of attitude.

'It's all a matter of using my musical feeling. Obviously I'm always contributing lines and patterns, but generally I just bring out what I feel an artist is trying to do. I don't go in for all the psychology, though. I don't give singers pep talks, or make people feel at home by being Mr Nice Guy or whatever.

'My only rule is: there are no rules. I don't go by any plan because situations are always different. That's basically my philosophy.'

It turns out that Nye's aversion for preconceptions is what lies at the heart of his limited interest in new electronic gadgetry.

'Obviously I find out what new pieces of equipment can do. But I don't play with an instrument, come up with a sound and then say: "that's a good sound, I must use it on something". You can't try to fit an idea of your own onto another idea that an artist is already trying out.

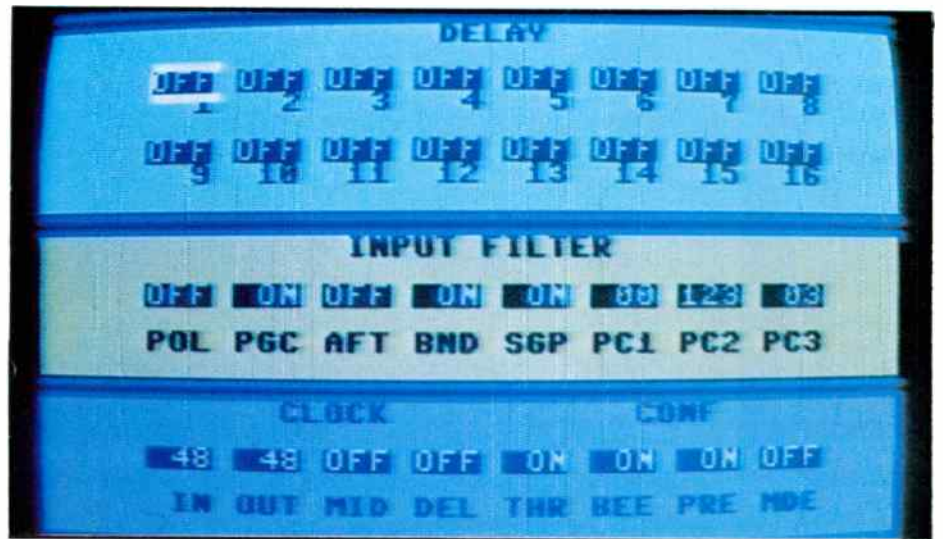
'That does at least mean my records don't sound like anything else that's going on today. I'm not using DX7s or Fairlights or rhythm machines. My work sounds different, and I do think people *need* music to sound different. To my mind, music is what's really lacking today. There's too much electronics and not enough music.

'The Penguin Café Orchestra is a prime example of the side I'm working on, the musical side. It's what I always come back to. It's simple, it's very strong, and I don't really know where its character comes from. We're like a musical family; we're close to each other and we just enjoy playing together.'

Later, as I watch the evening traffic thinning out, London's heartbeat slowing to a calmer pace, I remember another member of the Penguin Café Orchestra, Simon Jeffes, explaining his hatred of categorisation, his preference for listening to music with an open mind (see interview, E&MM January).

It strikes me that the two Penguins have much in common. Possibly, they share the oriental view that one gains wisdom 'through knowing nothing and observing like a child'. Does that apply to Steve Nye, a producer who does his job almost by not doing a job at all, and who finds communication almost impossibly difficult?

Next time, I'll ask him. ■



PROFESSIONAL CONDUCT

Pro 16 is the model number of a new MIDI sequencing package for the Commodore 64, Steinberg Research are the people behind it. The principle is familiar, but for once, the software is friendly enough to earn the tag 'professional'. *Simon Trask*

MIDI software for home micros has come a long way in a short time. From an uncertain beginning in which musicians didn't know quite what they wanted or what they could expect, and programmers certainly didn't know what musicians wanted, we've now reached a stage where MIDI software deserves to be taken seriously by just about anyone

interested in keyboard-based recording. It's safe to say that, in the UK, Umusic's UMI system for the BBC micro has set the standard. Now Steinberg Research, a German company limited on experience but big on ideas, have introduced their Pro 16 MIDI sequencer, which follows in UMI's footsteps as a prime example of professional-quality software that should get a lot of heads turning, and a lot of minds thinking. It's distributed here by the Oxford Synthesiser Company, and its asking price is refreshingly realistic. ►

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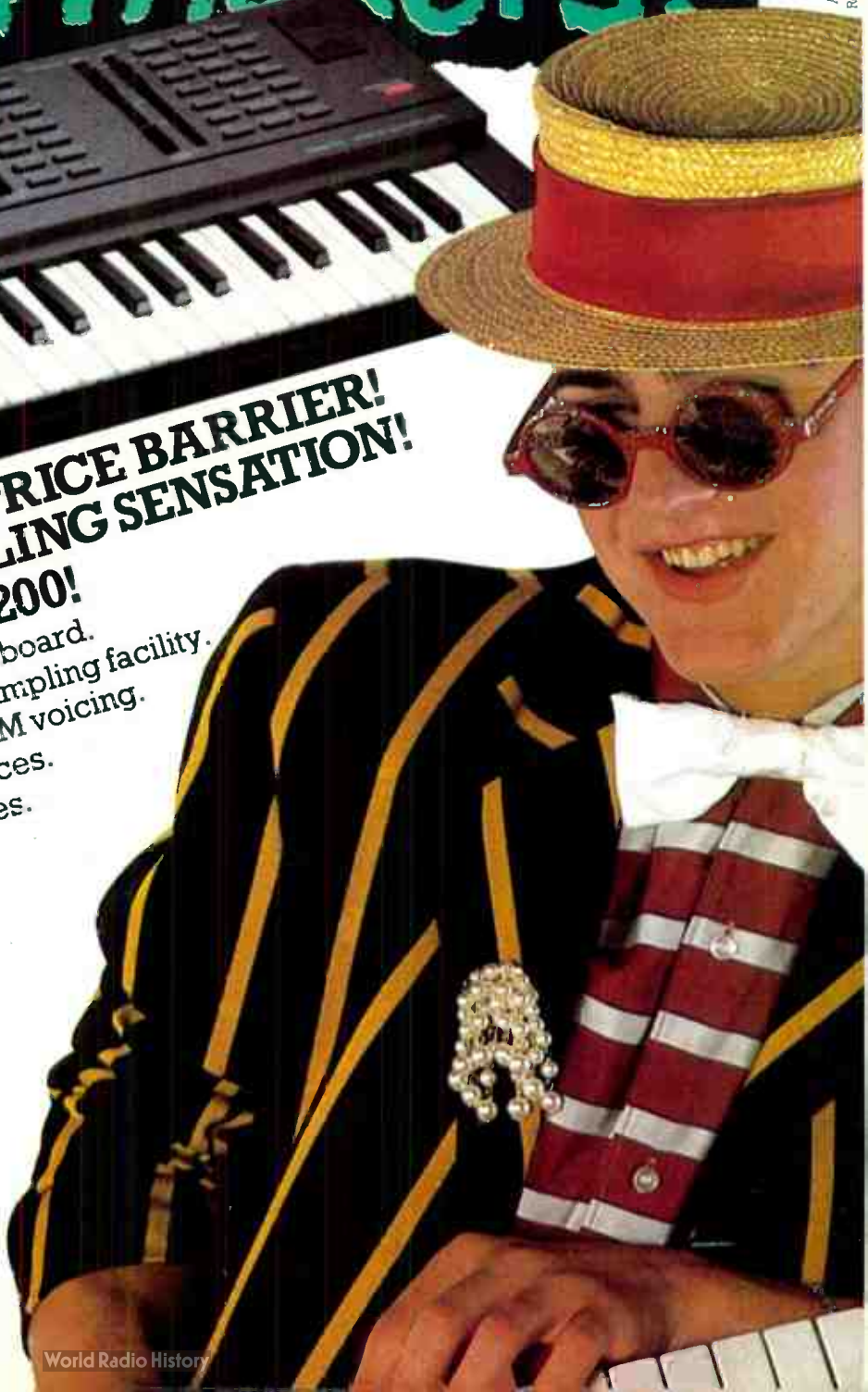
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► What's more, Pro 16 runs on the veteran Commodore 64, so if you've got one left over from the days when Space Invaders and Pacman were all the rage, now's the time to dust it off and *really* make it work for its keep. Even if you're not one of the hordes who bought a 64 and made Commodore a fortune, a computer and disk drive shouldn't cost you too much nowadays. And for anyone who's bought one of Commodore's newer C128 computers, Pro 16 is compatible with that machine, too, even if it doesn't (yet) make proper use of the available 128K memory.

As for the cost of the sequencer itself, Steinberg (and importers OSC) have been pretty successful at keeping prices down. The software and Steinberg's own MIDI interface (which has MIDI and non-MIDI connections) will set you back just £225, while if you opt for the MIDI-only interface card, you'll need to cough up only a measly £130.

But Steinberg haven't stopped with a sequencer. They've also come up with a scorewriting package to complement it (which we'll be reviewing next month), and this, combined with the sequencer and interface, comes to some £150 less than the UMI package, which doesn't have a scorewriting facility at all. For those of you who want instant accessibility (one of UMI's attractions) as opposed to a 90-second wait courtesy of the notorious Commodore disk drive, Steinberg will be making the sequencer and scorewriter available on a plug-in cartridge (separately or together). Prices aren't available yet, but you can bet they'll be more than the disk versions.

Like UMI, Pro 16 is a 16-track real- and step-time sequencer which adopts a pattern-based approach to recording. But the way it goes about organising its patterns and its single song is somewhat different – and, to my mind, ultimately more successful, if initially harder to grasp.

Pro 16 has 64 sequences, each of which contains 16 tracks – with a track in this context equating exactly with a pattern. These sequences can be chained together in a 256-step song. It's perhaps easiest to make an analogy with 16-track tape recording – which is what Steinberg have clearly modelled Pro 16 on. Thus a sequence corresponds to a length of 16-track tape, and making a song is similar to splicing together those lengths of tape.

From this, it should be clear that track 11 in one sequence is different from track 11 in another sequence – each track is unique. But Pro 16 also allows you to copy any track to any other track (in the same sequence or a completely different one) and to copy whole sequences and sets of parameters to other sequence positions – all of which allows you

to build up your recorded material very quickly. It's a shame, though, that Steinberg haven't taken the tape-recording analogy further and included familiar fast-forward and rewind facilities for quick access to any part of a track or sequence. What they *have* included is a Reset facility which restores the program with data intact in case of a crash.

Pro 16 has a stated capacity of 8000 notes, but that's before you start introducing memory-gobbling things like pitchbend, aftertouch, modulation and so forth. Still, there should be enough for most standard song applications.

Before we go any further, it's worth bearing in mind that Pro 16's tape-style organisation isn't always kind to your computer's memory: because the software organises its tracks/patterns in preset sequences, any new combination of parts in your material requires a new sequence. So even if some of those parts remain the same, you end up duplicating data in memory. In contrast, UMI's approach doesn't entail duplicating data and is consequently more memory-efficient.

A distinctive feature of Pro 16 is that virtually all of its parameters are presented and accessed from a single screen display. Fortunately, the result is uncluttered and easy to follow, thanks largely to a sensible and pleasing colour layout.

The display is divided into four areas: Track Table, Function Table, Textline and Song Table. The Track Table presents information on the status of the 16 tracks of the currently-selected sequence. You can assign each track within a sequence to any of MIDI channels 1-16, and turn each track on or off; the Table also indicates (by colour-coding) which tracks have already been recorded on. It's also possible to mute all but one track at the press of a button – an invaluable feature, and one which deserves to be more widely adopted on sequencers. You can activate the Solo function for any track, turn tracks on and off, and alter MIDI channel allocations whilst a sequence or song is playing back.

The Textline provides a means of highlighting the currently selected parameter, but it's also the point at which you input any text – in this case, names of files. The Function Table is where you enter values for such parameters as tempo, time signature, track length and quantisation value. The good news is that tempo (variable between 40-240 beats per minute) is programmable for each sequence. It's also possible to increase and decrease tempo in real time while a sequence is playing – a useful performance feature.

The package allows a maximum of 64 bars per track. With a maximum specifiable time signature of 16/4, this means

the longest recording length is effectively 256 4/4 bars. So at a tempo of 120 BPM, for instance, you could record for upwards of eight minutes. Steinberg have included a real-time clock display at the bottom of the screen, which shows how long a sequence or song has been playing for.

Each track within a sequence can be assigned a different time signature for recording purposes: if you really want to, you can mix parts in 4/4, 3/4, 4/8 and 7/8 with impunity. Being an awkward sort of reviewer, I tried this out – with undeniably successful results. Time signatures can be anything from 2/16 to 16/4, which should be enough to please most people.

Tracks within a sequence can be of differing lengths, and each track will loop independently within the overall sequence length (which is defined by the longest track). Apart from allowing you to do Steve Reich impersonations, this can be a useful way of saving on memory.

Quantisation values range from four to 96, ie. crotchets to triplet hemidemi-semiquavers, and take in all in-between values including triplets. The value can be altered as you come to record each new track within a sequence, and you can mix triplet and straight values on different tracks.

There's also a programmable transpose facility, which can act either on individual tracks or on a whole sequence; this is particularly useful for trying out parts in different octaves, and can be activated whilst a sequence is playing back.

Pro 16 also includes a 'mix' facility, as previously found on Korg's SQD1 and Roland's MSQ100 sequencers. This is an invaluable feature which mixes incoming data from your master synth with any sequence data emerging on MIDI Out, and which therefore allows you to hear any new parts in their full multi-instrument sonic glory – or simply on the instrument they're intended for. It's an invaluable feature, but it really ought to be available in playback mode as well as during recording and 'idling'; if it was, you could try out sounds in context before taking the plunge and recording.

Once you've created a few sequences you're going to want to chain them together, and this is where the Song Table comes in. The column to the right of the screen displays 25 steps in the 256-step Song, each step being equivalent to a sequence. The currently-highlighted step/sequence is the one which is called into the track table for recording, editing and playback.

The column display can be scrolled in either direction to reveal the number of steps you have remaining. You can insert and delete steps and sequences into the song chain, but there are no block delete or move facilities, nor anything in the way of sophisticated song-structuring features. However, seeing as a sequence number of zero is used to terminate song playback, it's

possible to effectively have any number of songs within the song chain – a useful feature allowing you to make the most of the Song facility.

Basic operation of the sequencer has been kept as simple as possible. The cursor keys move a cursor 'box' around the screen to enable you to select parameters, and function keys govern increment/decrement and on/off settings. As well as this, useful single-key shortcuts take you straight to the Record option and to track 1. On the minus side, it's all too easy to call up a new sequence accidentally and not realise you've done so until it's too late.

In addition to the main display, Pro 16 has a second page on which you can define clock values for connection to non-MIDI drum machines, a whole array of MIDI input filters (for pitchbend, aftertouch, patch changes and three user-definable controller codes), and a time delay value for each track. Delay values relate to the tempo of the music, and can be individually set to any value from semiquaver triplets to a semibreve.

The Pro 16's step-time facilities are usable, but not particularly endearing. You employ the familiar procedure of inputting from a synth keyboard, with durations and rests indicated by tapping keys on the QWERTY keyboard.

As with real-time recording, you can use the on-screen bar and beat position displays to help you keep track of where you are, and of course, any other parts play along with you (in step time – a distinctly odd experience). But I can't help feeling that step-time is better suited to a graphical display format, something the Steinberg software doesn't offer. There are no specifically step-time editing features, either.

The main editing facility on Pro 16 is a simple system – again related to tape-recording – of punch in/out. This erases what was previously on the track, and you can drop in and out as many times as you like during the course of a track.

However, when you discover that this particular punch in/out facility is activated by holding down the 64's Commodore key, you know that music software hasn't *entirely* grown up yet. What Pro 16 should really have is an on/off footpedal input to the interface, allowing you not only to play with both hands, but also to concentrate fully on the music. As it is, you have to make sure music keyboard and QWERTY keyboard are fairly close to each other.

Various other editing facilities allow you to alter the quantisation of a track after it has been recorded, cut short a track and lengthen a track. However, as all these require a track to be played through its entirety, the longer the track, the longer

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they take.

Now, assuming you've managed to come to grips with the Steinberg sequencer in reasonably quick time (and it isn't impossible), you're going to want to save your musical ramblings for posterity at some stage. Pro 16 allows you to save and load complete songs to disk, to overwrite, rename, or erase a song, to catalogue a disk and to format a disk. Not a lot to complain about there. Still, I can't help feeling the software's usefulness would be greatly enhanced by a facility for saving and loading individual sequences; it would certainly encourage use of the sequencer as a musical notepad, rather than as just a song composer. How about it, chaps?

Good news on the interfacing front, though. The Pro 16 has full MIDI syncing capabilities: timing bytes, Start, Stop and Continue codes, MIDI song pointers, you name it. This means, first of all, that you can sync MIDI drum machines and additional sequencers to the software, with the latter acting as either master or slave. It also means you can slave the sequencer to a SMPTE-based tape recording system (via units like Roland's SBX80 or Fostex' new SMPTE-to-MIDI converter), which makes the Steinberg system suitable for professional recording applications. Better still, OSC's policy regarding upgrades on disk is to make them available through dealers at a modest price (under £10) to cover handling costs. A sensible policy, and one that should insure Steinberg users against suffering the symptoms of premature obsolescence; if the Germans come up with a handy add-on, you can add it on without worrying about extending your overdraft.

Summing up, it's easy to see that a great deal of thought has gone into the development of the Pro 16. The result is a powerful, flexible and above all easy-to-use sequencer, which lets you do most of the things you want to do, quickly and with the minimum of fuss. If you want to use it simply as a real-time recorder, the Steinberg fulfils that role admirably without casting too great a shadow on your creativity. If you want to involve yourself more deeply in track editing, assignment and composition, the software offers plenty of avenues to wander down – far more, in fact, than almost any dedicated sequencer currently made. The availability of a scorewriting package could be an important added bonus, too.

Pro 16 is a professional sequencer. Fortunately, it's available at a price affordable by the many, rather than the few. ■

Prices Pro 16 sequencer £90, TNS scorewriter £120, Interface £135, MIDI and Sync card interfaces £40 each, all including VAT
More from OSC, Gladstone Court, Gladstone Road, Headington, Oxford OX3 8LN. ☎ (08675) 5277



Or should that read 'Return of Patchwork'? As our brilliant and dashing Editor has mentioned in his waffle this month, readers have been constantly requesting the revival of 'their page'...one even added that Patchwork was 'the best feature in E&MM' – which, it must be said, did wonders for our egos.

And so Patchwork is back – but with a difference. We'll now be including short reviews of sound libraries (cartridges, disks, cassettes, chips and so on), for all types of synths and sound samplers. So even if you've given up trying to program your mega-synth, there'll still be some information on sounds supplied by manufacturers and enterprising individuals.

But otherwise, Patchwork survives on being fed – by you – with decent patches for a wide variety of synths. So dust 'em down, and send us your favourite sounds on a copy of an owner's manual chart (coupled with a blank chart for artwork purposes), not forgetting a brief description of your sound, and what musical purpose you feel it's best suited to. Patches please to: Patchwork, E&MM, Alexander House, 1 Milton Road, Cambridge, CB4 1UY.

Korg STP2000 Sampling Sound Collection

Price £7.99

Intended primarily for use with Korg's own SDD2000 sampling delay – though obviously usable with any sampler – this collection spans 165 different recorded sounds, all housed neatly on one cassette. That figure doesn't mean there's necessarily that much variety; there are no fewer than 22 electric guitar samples, and only one fewer saxophone recordings, so the tape space gets eaten up pretty quickly. But Korg have good reasons for devoting so much space to essentially similar-sounding samples – each one has different pitch and/or envelope characteristics from any of the others.

The STP2000 groups families of instruments together, so that the first side contains sound effects, drum sounds (both acoustic and electronic), human voices and strings, while the flip houses brass, guitars and pianos.

The best samples are the most off-the-wall ones, probably because more familiar sounds stand up less well to comparison with our mental picture of what 'the real thing' sounds like. Thus record scratches, 'orchestra hits', whistles and fireworks are striking in their precision and clarity. Much the same can be said for that old Japanese favourite, the shakuhachi – but why only one sample of this when there are six electric pianos, three closed hi-hats, and a canary?

The collection's cassette format obviously imposes restrictions on sound quality. There's no way you're realistically going to capture nearly 165 sounds on a piece of tape only a matter of microns thick, and there was some annoying pre-echo on our copy.

Yet given these limitations, the overall sound quality is commendably high, with many samples having benefited from careful miking and the addition of reverb. Each sound is prefaced by a serious BBC announcer's voice to tell you what it's called, and an easily locatable tone. There's even a set of instructions on how to sample from the tape properly.

For what it costs, this collection is something no sampler owner should be without. ■ Dg

Casio CZ101/1000 'Starshine'

Delite Nystrom
Stockholm
Sweden

Although one of the simpler patches we've had in to test, 'Starshine' is a very creditable, and usable, synth sound. Whether it lives up to the author's description of a "star-twinkling attack with a heart-melting 'Wish You Were Here'-style sustain" is a matter for subjective argument, of course. And even if it isn't quite your cup of tea, it's

a useful starting point for some further editing: try taking the Octave Range down to -1, and applying Ring Mod for a different but equally interesting result. ■

PARAMETER

LINE SELECT	MODULATION		DETUNE				VIBRATO				OCTAVE	
	RING	NOISE	+/-	OCTAVE	NOTE	FINE	WAVE	DELAY	RATE	DEPTH	+/-	RANGE
1+1'	-	-	+	0	0	07	1	62	39	06		0
(1,2,1+2,1+1)	(ON/OFF)		(+/-)	(0-3)	(0-11)	(0-00)	(1-4)	(0-99)	(0-99)	(0-99)	(+/-)	(0-1)

1

DCO 1

WAVE FORM	
FIRST	SECOND
3	0
(1-9)	(0-9)

E N V (PITCH)								
STEP	1	2	3	4	5	6	7	8
RATE	0							
LEVEL	0							
SUS/END	E							

DCW 1

KEY FOLLOW
8
(0-9)

E N V (WAVE)								
STEP	1	2	3	4	5	6	7	8
RATE	99	37	37					
LEVEL	99	23	0					
SUS/END	S	E						

DCA 1

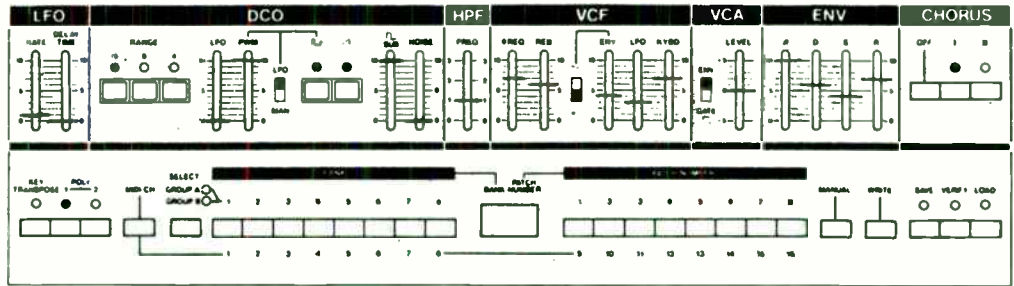
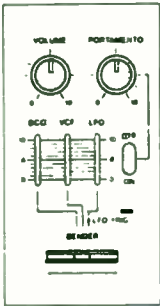
KEY FOLLOW
0
(0-9)

E N V (AMP)								
STEP	1	2	3	4	5	6	7	8
RATE	99	58	33					
LEVEL	99	90	0					
SUS/END	S	E						



Roland Juno 106
'Space Sitar'
 R S Treadwell
 Holbeach
 Lines

As if the very idea of a Space Sitar wasn't enough, the creator adds that another effect can be obtained by setting the DCO's LFO to 4. We had to substitute an Alpha Juno 2 to check out this cosmic creation, so we're not altogether sure what resemblance the translation bore to a patch intended for the 106. However, our version was a nicely atmospheric sweep, well suited to haunting film music and gentle instrumental introductions... What's yours like? ■



Yamaha DX7
'Resin Bass'
 Robin North
 Mount Pleasant
 Swansea

17	7	SAW DOWN	17	46	35	0	ON	0	OP
ALGO-RITHM	FEED-BACK	WAVE	SPEED	DELAY	PMD	AMD	SYNC	PITCH	AMPLITUDE
LFO									MOO. SENSITIVITY

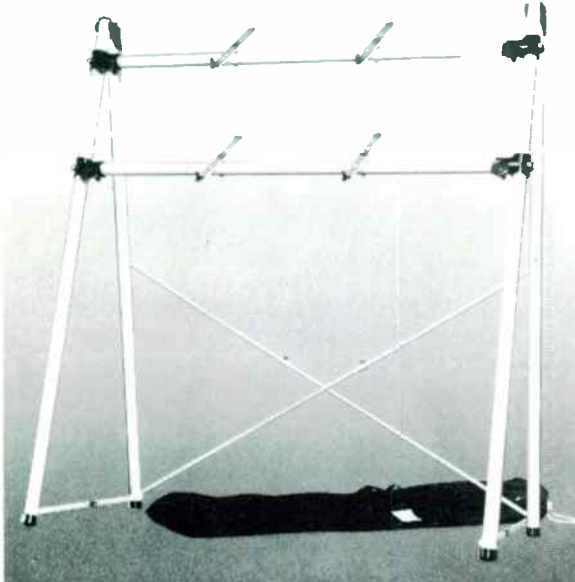
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
POLY/MONO		PITCH BEND		PORTAMENTO											
		RANGE	STEP	MODE	GLISS-ANDO	TIME									

OP	6	R	14	00	0	53	64	44	52	99	25	0	E4	-L	+L	25	0	2	54	0	C2	Resin Bass							
5	R	3	00	0	48	57	38	54	36	88	74	0	A-1	-L	-L	99	0	0	82	0									
4	R	1	25	0	96	39	20	54	99	23	90	0	A-1	-L	-L	0	31	2	39	2									
3	R	1	00	0	50	72	35	41	99	22	91	0	A-1	-L	-L	98	60	2	10	1									
2	R	0	50	0	99	71	35	58	82	22	87	0	A-1	-L	-L	0	0	1	80	0									
1	R	1	00	0	55	30	45	43	99	22	90	0	A-1	-L	-L	0	0	2	99	1									
MODE/SYNC	FREQ. COARSE	FREQ. FINE	DETUNE	1	2	3	4	1	2	3	4	BREAK POINT	L	R	L	R	K. BOARD RATE SCALING	OUTPUT LEVEL	VELOCITY SENS.	1	2	3	4	1	2	3	4	KEY TRANSPOSE	VOICE NAME
OSCILLATOR				EG				KEYBOARD LEVEL SCALING				OPERATOR				PITCH EG													
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32														
MODULATION WHEEL				FOOT CONTROL				BREATH CONTROL				AFTER TOUCH																	
RANGE	PITCH	AMPLITUDE	EG BIAS	RANGE	PITCH	AMPLITUDE	EG BIAS	RANGE	PITCH	AMPLITUDE	EG BIAS	RANGE	PITCH	AMPLITUDE	EG BIAS														

Now, where would Patchwork be without a sound for the DX7? The original Patchwork page was dominated by Voice Data Lists for the world's most popular digital synth, but now that cheaper DX offshoots are gaining in popularity, how about some DX21 sounds for Patchwork MkII?

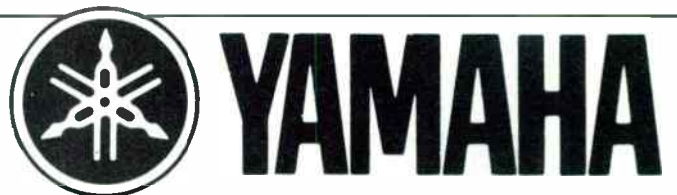
Robin North, a lecturer in Electronic Music no less, sends us his 'Resin Bass' for the DX7, adding that "it's a strong bass with a 'bite' similar to that heard when an orchestral double bass is bowed strongly". So now you know. ■

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S P E A K I N G

After living in the shadow of brother Brian for years, Roger Eno steps out of the shadows with an album of ambient music, some ambitious plans for the future, and more than the odd contentious opinion to voice.

Interview & photography *Tim Goodyer*



Roger Eno is a pop star. Even if, by comparison with most other pop stars, few people have heard of him. Far more people have heard of his brother, Brian Eno, who appeared on *E&MM*'s front cover two months ago; he *used* to be a pop star. Like his more famous sibling, Roger is also a keyboard player of sorts. But, from there on in, the two begin to emerge as entirely different characters.

We managed to track Eno Junior down to a luxurious family house in the peaceful village of Woodbridge,

deep in the East Anglian countryside, where he was engaged in preparation for a world tour, due to take in such exotic locations as Japan and, politics permitting, Italy.

He seemed eager to talk about himself, but first — his brother. 'Being 11 years younger than Brian, it's strange to think we're brothers in a way. When I was six, for example, he'd already left home for Art School, so we didn't really have a childhood together.'

'It was only about four years ago that we actually started seeing each other. That was about the time I

became a professional musician. I stayed with him in New York and we worked in Canada together, but up to that point we hadn't seen much of each other at all. Now it's as if there's nothing been missed. I don't know what other brothers talk about — if it's their childhood days or not — but we talk about the present and the future; those are our main concerns.'

And that lost childhood hasn't prevented the two from becoming very, very close, or as Roger himself chooses to view it: 'He's a very good friend who also happens to be a famous brother.'

A pleasantly refreshing philosophy, perhaps, but it's surely a situation that can't be without its drawbacks. Just how does the fickle, unpredictable world of modern music treat you when you're following a similar path to a successful elder brother?

'There are advantages and disadvantages to the situation. The advantage is the publicity angle, where Brian's success has probably helped draw attention to my work. The disadvantage is the danger of being put into the same category, and having people think I'm just copying Brian. With luck they'll realise, after hearing my album, that we're not so similar.'

This Eno has a manner that is disarmingly casual and amiable (just like his brother, but not quite the way a pop star should be). He laughs easily, and is eager that I should join him in a drink he calls 'home brew' with affection. Eventually, I agree. It turns out to be a pleasant, mildly intoxicating liquor, and one of this star's major vices.

'When I see Brian I'm normally drunk', he confesses. 'He lives in Chelsea, a couple of doors away from a pub where I play on Thursday nights for beer money. I actually do it more to see a bit of the world, because a lot of my work is very insular. But I do get free beer there, so obviously I drink as much as possible — then I go and see Brian.'

'When he comes to see me here we go out for walks and talk together. We really do get on very well, so when we meet up it's always a high point. Brian's a very intelligent man, and that makes him

► nice to have around because you can learn things from him. When he speaks I generally listen, then I mull over what he's said and make my own mind up.'

Naturally, this exchange of brotherly ideas exerts an influence on the work of the younger Eno. But do Brian's comments constitute a welcome outsider's opinion, or a problem to an artist intent on realising his own ambitions?

'Our music's quite different, so it's not as if I'm taking things lock, stock and barrel from a teacher. It's difficult to say how much is coincidence and how much of his influence has rubbed off on me. The fact that we're both interested primarily in slow music, and have our flings into faster things occasionally, is one example. My faster things happen to be bad jazz playing, and his happen to be rhythmic stuff. Both our mainstream interests are in the slow stuff, and I don't think that's coincidence.'

In fact, the musical interaction between the two takes a practical rather than philosophical form, as the younger partner explains. 'We don't often talk about music, but we often play together. We sometimes have late-night sessions improvising together. In that case I think Brian learns more off me, because I'm a better instrumentalist than he is. He's got a real knack of using simple things well – that's probably his strength, that and seeing possibilities in things. When we play together he'll do the simple things and I'll do the trickier ones. It just reinforces the opinion that I'm on the right track, because what we do together sounds nice. It's a bit of optimism, I suppose.'

Roger Eno's confidence in instrumental playing is derived from a classical education at Colchester Music School. From there he progressed to a post as Music Therapist at a hospital for the mentally handicapped, a move which was to have a profound influence on his future work. Unlike Brian, however, he found that electronics clouded the main issue of composition.

'It was all traditional instruments at the college, apart from a small electronics department which basically consisted of a VCS3. I toyed around with that for a while but I felt it was a novelty rather than

anything substantial. It was good fun, but nothing I did had any real essence to it, so I thought: "Seeing as I'm not good at this, what am I good at?"

'At first I diversified and taught myself how to play a lot of instruments, but now I find myself specialising – not necessarily in instruments, but in my method of writing. The last two years' work have definitely come out of one person and I feel that's a good thing. I find I concentrate a lot more on a classical idea, rather than experimenting. It's the writing I'm primarily concerned about.

'What puts me off electronics, particularly in pop music, is that unless you use them well, you end up with a sort of homogenous sound. In pop music there's always a Flavour of the Month, and you're setting yourself up to follow a trend when you buy something like a DX7 or a Fairlight. Who uses them in constructive ways? In my opinion, very few people. Brian is one of the few artists doing anything exciting in the electronic field. Other people buy instruments and then think: "Brilliant, we've got everything we need for a band!" And that's where it stops. They don't stop to think about the possibilities of the machines. I think I'd fall into that trap. It'd take me too long to learn to use anything as I'd like to, and that time should be spent doing something else – writing.'

If Eno is to be seriously credited with a vocation, it must be that of composer. It's not a rôle he undertakes lightly, which, considering his previous occupation, shouldn't come as a great surprise.

'Part of the job in the hospital was relaxing people, and I thought there might be a future in it. I was interested in how music can slow you down as well as hype you up. What I like doing is relaxing people, and I asked myself why the music worked, why some music agitates you and other music calms you down. Apart from the rhythmic element, which I discounted because rhythmic music can still be relaxing if it's in the hands of someone like Steve Reich or Philip Glass, what is it that affects you?

'I looked into it and decided that for the last 250 or 300 years we've had very similar scales. Then there is harmonic movement – it's become pretty standard that you have

chords that lead the ear naturally to other chords. You feel comfortable with particular sets of chords, you feel you can sit down and relax with them. So consequently I tend to write in a traditional vein where the chords are known: they flow into each other, it's not something that frightens the listener.

'An extension of this is how parts move within the chords: melodic music was originally primarily vocal, and, up until the virtuosi of the world came along, instruments were such that you had to play in a vocal style. Because they were crudely made, you played as someone would sing – there was none of this flashy violin work. That again is a natural thing: to hear a melody that you can sing. So within the chord movements, there are vocal intervals. All this makes listeners more comfortable, because they know what's going on. I'm trying to use what people already know, in a slightly original way.

'My method of composition is basically to use a traditional medium to create emotive music to definite ends. You decide what mood it is you want to create, and you know that a minor key will make people sad – it's like choosing a palette of colours to work from. I've thought about this such a lot that I know which musical elements make people feel a particular way – I recognise what they do to me.

'That's why I'm interested in the reasons for my music being so popular in Japan. The Japanese have had a completely different cultural upbringing to us, and it's only in the last 40 years that they've adopted the West completely. I wonder how they listen to someone like Stravinsky, it must be quite alien to them.'

In keeping with his preference for traditional forms and familiar methods, Roger Eno is more likely to listen to the work of classical composers than he is to go out and buy a bunch of chart twelve-inch singles.

'It's mainly Erik Satie that I listen to now, along with a lot of other classical stuff – even some Beethoven. He was a genuine artist in the sense that if someone didn't like something he'd written, then they'd have to lump it and leave it for another generation to discover. You don't see a lot of that around any more. He was writing for himself, which I think is a good thing. If you set yourself up to be

your own judge, you come to a point of honour; if you've copped out, you know it. If you really have respect for yourself like that, then you're going to produce good work. Maybe it's a very old-fashioned way of looking at things, but that's how I try to approach them.'

The prostitution of the composer/musician in the commercial pop arena is not a by-product of the profession that finds much favour with our Roger. Consequently, the art-vs-money dilemma has been easily resolved, with money coming off a firm second-best. A pop star who doesn't like pop? You'd better believe it.

'The commercial pop approach is so alien to my way of thinking. There's been very little money involved in a lot of the things I've done. They're done for prestige, because I think they're good and that they ought to be listened to. It probably means I'm going to be very poor for the rest of my life, but it also means I can honestly say I'm convinced of what I'm doing.

'If you're going to do something for yourself, you've got to be a bit radical first of all, then you can afford to become more liberal once you know what it is you want to do. You've got to say: "I've got blinkers on, I'm going to learn my form". I think I know what I want so I can afford to listen to more now, because I know it's not going to influence me.

'I'm not really interested in pop music at all. I'm probably quite wrong in writing it off completely, but it's not what I would consider to be an honourable musical form. What I'm really interested in is something that's not just ephemeral, but something that will be around for years to come. In the pop world your working parameters are really pulled in. You haven't got the freedom to express yourself properly.'

But having freed himself from all restrictions, Eno finds the first thing he needs to start composing is a paradox: the establishment of limitations within which to work. In the wrong hands it would be a self-defeating approach, but it's just the sort of thing a pop star would do.

'Restricting myself, working within limitations, is part of my style. I don't think it's quite the same as pop, because there the field imposes the limitations on you,

whereas I've got limitless possibilities. My work doesn't have to be commercial, so I can do anything I like, really. It's a strange paradox, I agree, but by imposing restrictions on yourself, you free yourself. It's difficult to explain, but if you have rules to work by, you become more resourceful. That's why there are some good pop records – people realise that having limitations can be useful, and they work to them.'

All this theoretical musing has, of course, resulted in the release of a solo album. What self-respecting pop star doesn't make one of those? The album is titled *Voices*, and it's the composer's first solo venture. It involves the combined talents of brother Brian, who 'hit a few notes',

'A lot of Satie's music has been abused in the past. Musicians used to playing Liszt find it tricky to play slow stuff that needs a different approach.'

and Canadian engineer Dan Lanois, who both produced the project and contributed a little acoustic guitar to it. And like many recent recordings to issue from the Eno stable, *Voices* was recorded at Lanois' studio in Canada. The facility has a reputation for turning out moody, evocative ambient releases with great consistency, but quite what makes it special isn't clear; it certainly has little to do with hardware facilities, as most of the albums recorded there make use of only a limited range of gear. *Voices* is no exception.

'It's primarily a piano album, but there's also a DX7 and an old Yamaha CS80, which is a brilliant instrument. There's also a string bass and a beautiful model of a 15th Century renaissance recorder on there.

'The beauty of the album is that you can put it on and, when it comes to the end of both sides, you can put it on again. I wanted to create a continuous mood and it seems to have worked. On albums that have a fast track and then a slow track and so on, the mood is broken up and I don't really like that. Often I find I have records that I only know one side of, because the mood of the other side doesn't suit me.

'The writing of *Voices* took place in my parents' summer house, in about three weeks of intense work. I tend to work like that: three months of no ideas and then a couple of weeks of concentrated work – up early in the morning 'til very late at night. Virtually all the tracks were then demoed in my little eight-track studio, because I wanted to maintain that mood. The demos were pretty rough, but that was the seed of the idea. If you're not careful you can lose that once you start to work on it. That hasn't happened this time, so the finished tracks sound quite like the demos.'

Of course, any pop star worth his salt has a mind full of ambitious plans for the future. What, I wondered, are Eno's?

'For the future I'm thinking of moving towards even less popular music, along yet more classical lines. I'm tending toward string music because of its relaxing effect.'

But it's not only his own music that beckons this enthusiastic musician. In true pop star style, Eno is actively contemplating doing cover versions of other people's material, just by way of a change.

'I'd like to do an album of Satie's music. That'd be with Brian and Danny doing the treatments, so the overall effect would be similar to *Voices*. I like his music so much, and I'd like to approach it in a similar manner to the way Tomita treated his work, but keeping to the original instruments and creating treatments that would have been impossible to produce until the '80s, using things like the AMS.

'I think a lot of Satie's music has been abused in the past. Musicians who have been used to playing Liszt find it tricky to play this slow stuff that demands a different approach. They find it hard *not* to put any expression into it, *not* to play it flamboyantly. You don't have to play it fast, and in fact, you hardly have to put any expression into it at all. But for them it's like getting paid for doing nothing, and they start to interpret it in their own way, so you either get piano records that, to me, aren't quite there, or you get all these different versions for two guitars or orchestral arrangements. Some of them are good, but there's not been one that's satisfied me as yet, so I'd like to do it myself.'

You see, it's just as I said – Roger Eno is a pop star. ■

FRENCH LESSONS

Could the rest of the world learn from a new range of digital drum machines just unveiled by French innovators RSF? After playing with their DD30, we think so. *Jean-Paul Verpeaux*

Like so many modern musical instruments, the RSF DD30 drum machine is a black box. So is its smaller brother, the DD14. In fact, while most other hi-tech manufacturers have only recently started putting their electronics in sleek, inoffensive-looking cases, the small French company responsible for this new range of drum machines have been packaging their designs in unobtrusive boxes for some years. For RSF, internal flexibility has always been more important than external flash.

The happy result of this policy is that their instruments have always looked trim and business-like, even if the quietness of their appearance has often belied the complexity that's lain within. The Kobol series of analogue synth expanders – the instruments which made the company's name and which, incidentally, found enthusiastic users among members of the Depeche Mode/Vince Clarke school of plink, plink, fizz synth programming – looked dull and uninspiring, but their internal configuration was a work of genius: every variable parameter could be regulated by an external control voltage. In other words, the Kobols offered the versatility of a telephone-exchange modular synth system in a compact, rack-mount format, long before microprocessor control enabled synth designers to implement parameter patching in software.

RSF's drum machines aren't quite as revolutionary in concept. But they do offer something genuinely different in a market sector where new products are becoming increasingly predictable, and, unusually for European instruments, their wide range of facilities carries no price penalty whatsoever by comparison with Oriental opposition.

They're still deceptively innocuous to look at, though. At first glance, the DD30 looks as though it offers a selection of seven drum sounds. That doesn't seem like very many in 1986, so you look a little closer and realise that there are actually 14 voices listed on the front panel in two rows. But no, that still doesn't tell you anything like the full story: the DD30 offers a grand total of 28 drum voices, far more than any competing machine. And for once, that number doesn't include huge ranges of

identical voices, tuned in 11 different ways to form 11 different sounds. As well as the usual bass, snare and hi-hat samples (a couple of each for variety's sake), the RSF presents you with all manner of Latin-ish goodies like agogos, shakers, handclaps, and finger-clicks (the French call them 'snaps'), plus a quartet of electronic tom-tom sounds in addition to four acoustic ones. If this machine was a Yamaha, it would have '28 Interesting and Usable Drum Voices' emblazoned across its front panel.

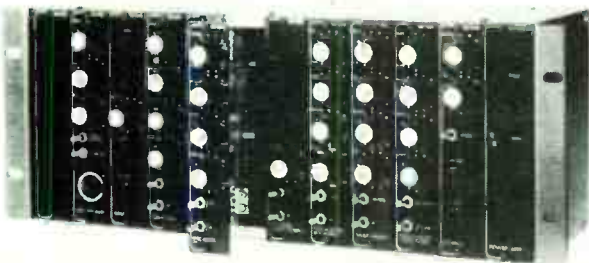
There are other, even less immediately obvious, refinements that set the DD30 apart from the crowd. Crucial among these is a facility for programming volume and accent levels *individually* for each instrument and for each pattern. And when it comes to programming notes, the RSF has a recording resolution unsurpassed by anything from Roland, Yamaha and the rest, as we'll see later.

But back to those sounds. We now know that there are 28 of them, and a quick shuftly across the DD30's *derrière* reveals that these emerge from the machine either in the form of a preset stereo mix, or individually through 10 shared output channels. They can also be triggered remotely in a variety of ways.

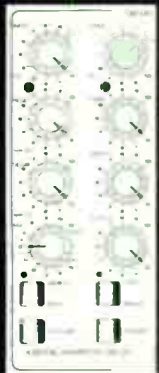
Inevitably, there are some restrictions. There's the usual conflict of interest between snare drum and rimshot (the two can't be sounded on the same beat), and open and closed hi-hats (ditto). Both these feats are impossible for a live drummer to achieve, but that doesn't make their omission musically justifiable; drum machines are supposed to *reduce* live limitations, not pander to them. A few of the more obscure percussion voices suffer from a similar limitation in that they can't be used together within the same pattern, but if this is the sort of compromise designers need to introduce in order to keep prices down, I don't think we should worry ourselves too much.

In any event, these programming considerations pale into insignificance alongside the sound quality of the voices themselves. In the DD30's case, the sounds are of a uniformly high standard. That makes a refreshing change from machines that offer a selection of sparkingly lifelike voices, spoiled ▶

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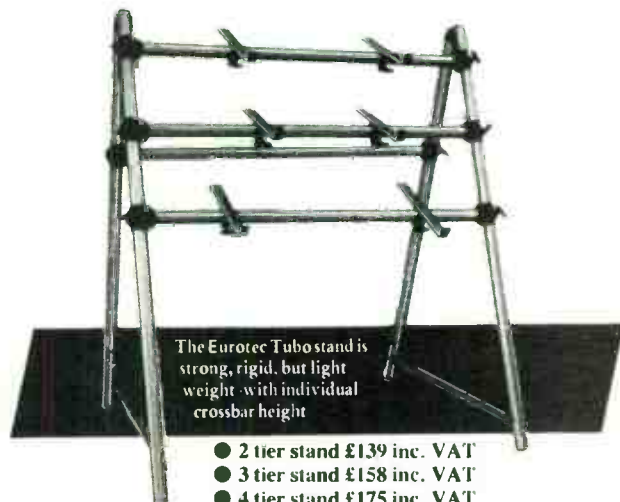
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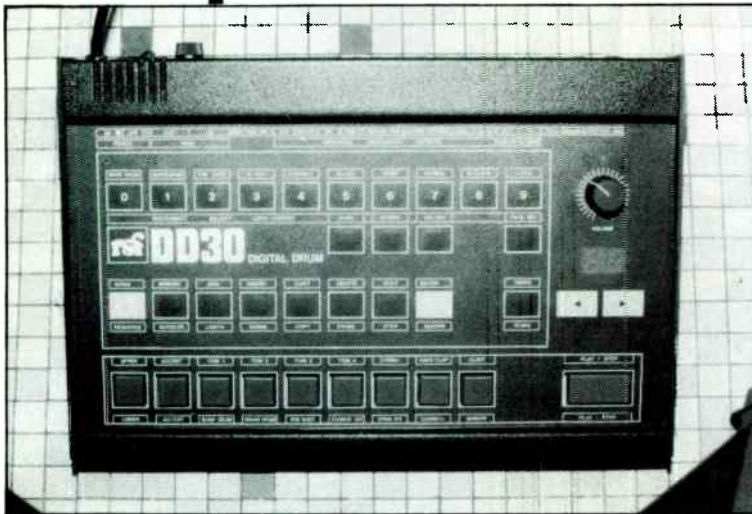
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by the presence of two or three below-par ones. The factors responsible for the RSF's good turnout are primarily its 12-bit sampling resolution, and the care with which the sounds have been digitally recorded. Each voice is as free from noise as any I have heard in this price bracket.

None of this sound quality would be much use if you couldn't program the DD30's voices into patterns easily and flexibly. Fortunately, you can.

The machine's onboard memory can hold a maximum of 100 patterns, each of which can be any length between 1 and 99 quarter-note beats. Well, that's not quite true. If none of your patterns is longer than a bar or two, you'll fit 100 of them into the machine's memory with ease; but if a decent percentage is especially long, you'll have to put up with storing fewer of them. The moral? Construct your songs out of shorter patterns.

In addition to the storage space for user-programmed patterns, the RSF has enough memory to store no fewer than 30 factory-preset sequences, permanently in non-erasable ROM. But these aren't just useless demo programs: you can edit them yourself (changing a couple of beats or altering the thing out of all recognition) and store the results in the section of the machine's memory you can get to.

You can also incorporate both preset and user-programmed patterns into songs. The maximum number of these you can store permanently (ie. even during power-down) is 30 – but again, you'll only be able to dump this number if all your songs are of a reasonable length.

But of critical usefulness in the way the RSF puts songs together is the fact that, even when they've been assembled into songs, your

patterns retain the instrument bank, volume and accent levels, and even the tempo you've programmed for them. In song mode, adjusting the tempo control results in all the patterns within your current song changing proportionally. If nothing else, this facility means the RSF is alone among competing units in being relatively easy to use in live performance – no more scrambling around in the dark between songs, desperately trying to adjust the tempo before the rest of the band launch into the next number.

The DD30 excels itself in its programming facilities, too. For whereas so many of its competitors divide each beat into 24 pulses (enabling you to program at a decent, but not incredible, level of resolution), the RSF splits each quarter-note into 96. So, should the situation demand it, you can write notes as short as 1/64 note triplets. More conventional values are also possible, of course.

Yet despite its fearful resolution, the DD30 is not a difficult beast to program. You can write patterns in either real or step time, or a combination of both. In real time, programming can be accomplished either voice-by-voice or by using several instruments at a time, whichever is appropriate. Note entry is made easier by a metronome and a display of current beat number, but in most respects, the RSF isn't the most visually helpful of drum machines. Not for the French the sophistication of extended LCD help messages or programming grids: just a couple of seven-segment alphanumeric, a sprinkling of flashing LEDs, and that's yer lot.

More helpful is the DD30's auto-correction facility, which has user-programmable resolution for each individual instrument – wonderful if your real-time writing is a bit sloppy but you want some percussion instruments to stay that way.

In step-time mode, the display indicates first the beat number, then your quarter-note location (between 0 and 96). Each note entry is confirmed by a beep from within the machine's innards, so in spite of the RSF's lack of a grid display, you're unlikely ever to be left wondering whether or not you've programmed something on the intended beat.

Auto-correction isn't, of course, a viable option in step-time mode, but there is a 'swing' function, common to both modes of recording, that's useful for spicing up rhythm patterns by introducing slight timing variations.

When it comes to editing facilities, you could be forgiven for thinking the DD30's designers have left *nothing* out. All of them are usable regardless of how you've programmed your patterns, and a wide range of options (concealed beneath a plethora of shift-function controls or 'Page 2', as RSF would call it) enable you to insert and delete instruments either at a single stroke or beat by beat. It's with the editing controls that you set values for parameters such as tempo, pattern length, instrument bank, instrument levels, and so on, and song composition is aided by the usual pattern-copying functions.

The DD30 talks to the outside world through a variety of different interfaces. There's MIDI In and Out, with which you can synchronise the machine to other MIDI-language speakers using the MIDI clock (over which the RSF can ►

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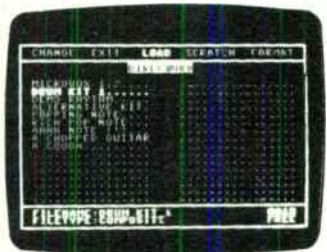
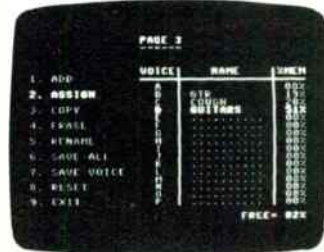
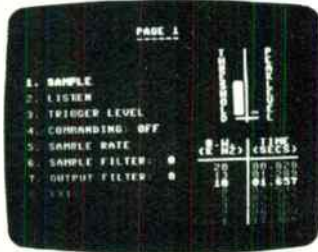
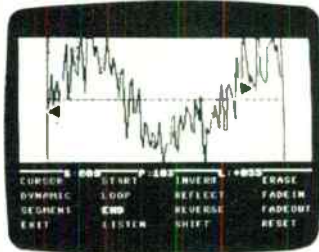
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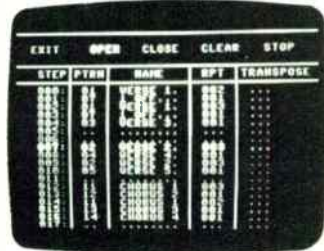
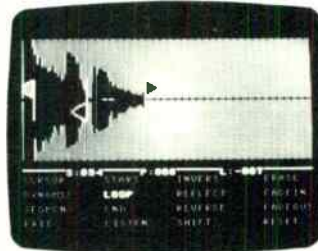
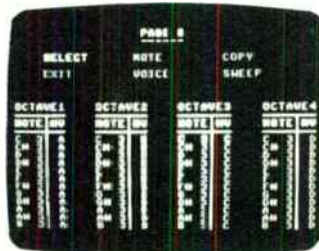


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A tape interface allows you to link the DD30

Programming 'Even when they've been assembled into songs, your patterns retain the instrument bank, volume and accent levels, and tempo you've programmed.'

to an ordinary cassette machine and save your favourite patterns for posterity, a process that takes between two and three minutes. Sadly, this is the extent of the RSF's external storage facilities: you won't find the luxury (or speed, or convenience) of plug-in RAM cartridges or MIDI dumping software unless you feel like writing some of your own.

But the cassette sockets also act as the gateway to a sync-to-tape facility, something that will be welcomed with open arms by studio users of every description. In fact, running the DD30 from a click-track on tape is just one of the syncing possibilities open to you if you're thinking of using the machine together with any others. The second is the MIDI clock mentioned above, while the others revolve around pre-MIDI syncing standards. An internal clock, running at 96 pulses per quarter note, allows the RSF to act as master over a number of other instruments using the same resolution, while an external one – switchable to a clock rate of 24, 48, or 96ppqn) gives other machines the power to tell the RSF what to do.

What all this adds up to is a digital drum machine whose design is far from revolutionary, but which has a conspicuously better range of drum sounds, and the facilities to make them usable, than anything else in the sub-£1000 price sector. Its smaller stablemate, the DD14, sacrifices some of the more wayward percussion voices but little in the way of programming features. And there's also a flagship model, complete with user-sampling, waiting in the wings for release early in '86.

The sad part of this story, though, is that RSF don't presently have a UK distributor, as Syco have now stopped dealing with them. That's a shame, because it means this country's musicians – and the people who sell them their gear – may not get the chance to look at some of the best machines currently being made. It's to be hoped that this situation is only a temporary one, but in the meantime, RSF are selling DD drum machines direct from the address at the end of this feature.

Alternatively, you could check out a local music shop while the rest of the party goes scouring the shelves of a Calais hypermarket for cheap bottles of Chateau Plonk. ■

Prices DD14, F3800 (approx £400); DD30, F4940 (approx £500)

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The ads we carry are placed under appropriate classifications and arranged in alphabetical order, so they're easier to read through. If you've several items for sale and would like them included under different headings, simply copy the form and we'll comply with your instructions.

Keyboards

ARP QUARTET polyphonic £150. Korg DDM110 £120. Both immaculate, bargains, gone MIDI. Wanted, CZ101, p/ex? Bill ☎ 01-444 6755.

CASIO CT201 29 presets, beginner's bargain, £95. Oberheim OBI, 'Hammer' sounds, cheap, £350. Vantage Bass guitar £90. ☎ (0602) 411185.

CASIO CT202 fully polyphonic, 49 presets, full-size keys, boxed as new £200 ono. Ben ☎ 01-471 5914.

CASIO CZ101 still in box, give away at £275. Graham ☎ 01-726 4900 day, 01-660 7057 after 7pm.

CASIO CZ1000 brand new £350. Ibanez stereo chorus £35. Four-tier keyboard stand £80. ☎ Bournemouth (0202) 294817 evenings.

CASIO MT30 £70. VL Tone £15, Amdek Rhythm Machine plus percussion synth £70. ☎ (0634) 572381 after 6pm.

CASIO MT65 polyphonic keyboard with 768 combination auto-accompaniment and rhythms, £70 ono. ☎ 061-434 3484.

CASIO MT68 preset keyboard, boxed, excellent accompaniment section: chord, bass, arpeggio, modulation, other effects, only 18 months old. £95. ☎ (0248) 601030.

CASIO MT400V Boxed £130 ono, or swap for SH101 or similar (cash adjustment if necessary). Andrew Storer (B5.14) ☎ (0532) 450586.

CASIO 1000P still boxed with manual and music stand, £150 ono. ☎ West Yorkshire (0977) 82408.

CHASE BIT ONE good condition, need the cash for university, £595. Marcus ☎ Bath (0225) 782516.

CRUMAR DS2 classic lead/poly synth, Europe's answer to the Minimoog, recently overhauled, £220. Mark ☎ (0308) 862592 anytime.

CRUMAR STRATUS polysynth/organ, limited home use only, boxed with pedal, carrying case, £285 delivered. Dewi ☎ (0222) 481448 daytime, weekdays.

DIGISOUND ALPHADAC £95, Voice Cards £70 (fully working), String synth £55, Piano £60, Powertran 1024 £45. 5-octave kbd, £50. Clef Spring synth £55. Bill ☎ Knowle (05645) 78488.

EXCHANGE YAMAHA DX9 (immaculate) for Roland JX3P + PG200, or Prophet 600, or £450 cash. ☎ 051-480 4281.

FAULTY HALF-BUILT Transcendent 2000 monosynth, with construction booklet, £40 ono. ☎ Southampton (0703) 556399 evenings.

FENDER RHODES Stage 73, good condition, £200. ☎ Matlock (0629) 3550.

FENDER RHODES Stage 73 Mk2, mint condition, home use only, £270. ☎ Walton-on-Thames (0932) 231617.

FENDER RHODES 73 Mk3, suitcase, immaculate condition, home use only, £395 ono. Might take p/x WHY? ☎ Malvern (06845) 65848.

HELPISTILL Roadmaster, flightcased electric-acoustic piano, £675. Rhodes Stage 73 piano, £200. ☎ Edinburgh 031-447 1149

JEN SX1000 monosynth, £70 ono. Ibanez 'Flying Pan' stereo phaser, £20. Adam ☎ 01-304 4930 evenings.

KORG DELTA polyphonic synth+strings, 4 oct, £195. Consider swap for BBC micro+software. ☎ 01-471 9783 after 6pm.

KORG POLYSIX Good condition, built-in chorus, arpeggiator etc. Must sell, hence bargain, £325. Roy ☎ 01-882 0517.

KORG POLYSIX vgc, with flightcase £450. Roland Drumatix, £100. ☎ High Wycombe (0494) 443654.

KORG POLY 61 good condition, only £370. Clef Master Rhythm drum m/c, 9 sounds, only £50. Edward Lipski ☎ 01-736 4714 evenings.

KORG POLY 800 MIDI, black keys, 300+ sounds, power supply, manual, boxed. Steve ☎ (0268) 727066 or 729139.

KORG POLY 800 X-type stand, 50 watt amp, all immaculate, still boxed, £350. Derek ☎ 031-336 6287 evenings.

KORG POLY 800 £305. Akai 4000DS MkII £86. Synonics drums £39. Paul ☎ 01-889 5975 for details.

KORG POLY 800 immaculate, £300. OSCar MIDI duosynth, perfect, £320. Can deliver. ☎ (0602) 604484.

KORG VOCODER £250, Casio CZ101 £240, SCI Pro One £180, all ono, excellent condition ☎ 01-472 7788.

KORG VOCODER £125 ono. Delta Poly £310 inc stand. PSS50 Super Section £265. Tony ☎ (0203) 310808.

MAPLIN 3800 SYNTH needs slight attention, £100. Roland TB303 Bassline £50. Patrick ☎ 01-679 3180.

MOOG LIBERATION polysynth, ultimate pose machine, hard case, £375 ono. Korg MS10 synth £120 ono. Both home use only. Tony ☎ 021-426 4814.

MOOG PRODIGY just serviced, £120. Yamaha CS5 £100. Boss DR110 Graphic £85. ☎ Leics (0533) 673581.

MOOG PRODIGY MkII synth, 6 outputs, manual, immaculate condition, £125. ☎ (0452) 230666.

MOOG SOURCE modified, plus 2 Moog Sources, Yamaha CS40M, Roland MC4B, MS02 interface, fully working £2300. Martin ☎ 01-903 4611/(03744) 65674.

OBERHEIM OBI great bass/lead sound, eight memories, flight case, £395. ☎ 01-281 1918.

OSCAR programmable duosynth, excellent condition, home use only, £309 ono. ☎ 01-609 3083.

POLYMOOG keyboard, touch sensitive, lovely instrument with accessories, £249. Casio CT202, 49 sounds, £125. ☎ 01-684 9571.

ROLAND EP11 electric piano, 5 oct, auto-accompaniment, £200 + stand. Roland MKS10 piano module, 16 presets, chorus, flanging, tremolo, effects. Offers 01-570 4205.

ROLAND JUNO 6 perfect condition, hard case, £300. Can deliver. ☎ Durham (0385) 782377.

ROLAND JUNO 6 with hard case, £350. Al or Phil ☎ Tetbury (0666) 52629.

ROLAND JUNO 6 mint condition, home use only, £350 ono. Dave ☎ Derby (0332) 756173.

ROLAND JUNO 6 boxed, £300, plus Roland SH101, £100. Both excellent condition, and with manuals. ☎ Ulverston (0229) 53746.

ROLAND JUNO 6 with stand £300. SCI Pro-One £180. ☎ Farnborough, Kent (0689) 55650 evenings.

ROLAND JUNO 60 JSQ60, £650, excellent, home use. Ancient Wharfedale mixer/amp £100. ☎ Fiveish, Devon (0884) 258596.

ROLAND JUPITER 6 stereo split £800. Juno 106, £500. Both perfect condition. ☎ Basildon (0268) 559872.

ROLAND JUPITER 6 £900. Carlsbro Cobra 90W keyboard amp + cab £200 or p/ex Minimoog D, TX7. ☎ Manchester 061-256 1964.

ROLAND JUPITER 6 stand, immaculate, £800. Digisound synth, 23 modules, custom housing, leads £400. ☎ Cotswold (0451) 21275 evenings.

ROLAND JX3P £500 ovo. ☎ 01-570 9273.

ROLAND JX3P and PG200 £495, or exchange for Yamaha TX7 or Roland TR727. T Winder, 2 Alban Road, Liverpool, L16 1JJ.

ROLAND JX8P, Drumulator, Fostex X15, £1300 ono, or split. Glynn ☎ Reading (0734) 343819.

ROLAND MC202 £105. Korg Polysix £445. Both immaculate and complete with boxes, manual, tapes, etc. Phil ☎ Cardiff (0222) 32751 evenings.

ROLAND MC202 swap for Roland TR606/ cash or sell only £105. Pete ☎ (0382) 738089 after 6pm.

ROLAND SH101 with MGS1 and stand, excellent condition, £140. Roland Spirit 50W amp, good condition £120. Tony ☎ 01-393 9368.

ROLAND SH101 excellent condition, £150. Korg DDM110, digital drums, £150. Both as new, boxed. Dean ☎ Slough (0753) 31049.

ROLAND SH2000 preset synth, £150. HH IC100 instrument amp top, £90. Marshall 50W PA top £85. ☎ Lincoln (0522) 752458.

SCI PRO ONE and Amdek drums, both mint and boxed, £200. Will separate, swap TR909. Steve ☎ (0705) 595704.

SCI PRO ONE twin oscillator monophonic synth, home use only, £180. Mattel Synsonic drums £25. ☎ Wakefield (0924) 825186.

SCI PRO ONE, £180. Octave Cat £165, Moog Opus III, £285. SH101 £155. Solina Strings £175. Korg 700 £80. ☎ Reigate (07372) 44126.

SCI PRO ONE £130 or swap for Korg KMS30. Adrian ☎ Folkestone (0303) 39284 evenings.

SCI PRO ONE, Yamaha CS15, £120 each. Both excellent condition. ☎ Bloxwich (0922) 479414.

SCI PRO ONE excellent condition, with manual and dust cover, home use only, £180. ☎ Fareham (0329) 288300.

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SIEL CRUISE polyphonic/mono synthesiser, splitting, layering of voices, good sounds, good condition, £265 ono. Chris ☎ (0602) 233219.

SIEL CRUISE polysynth, £150. E&MM Spectrum £130. Clef drum m/c £40. The lot for £300 or good drum machine. ☎ (0643) 862152.

SOLINA string machine, £110. SH101 £100. SH09 £90. Amdek Mixer £35. All ono. ☎ Ware (0920) 3149 next evenings.

SWAP DX9, flightcased SH101, MC202 microcomposer plus Korg DDM110 digital drums for DX7 in any condition! ☎ (0707) 324079.

TECHNICS SXK200 Keyboard, PCM drums, RAM pack, chord sequencer with stand and volume pedal, excellent condition, £120 ono. ☎ (0539) 25457.

TRANSCENDENT DPX piano/strings/brass (split keyboard), excellent condition, £100 ono or swap Boss DR110. Terry ☎ 01-388 2206 after 7pm.

TRANSCENDENT 2000 mono synth, excellent condition, boxed manuals, £80 ono. Swap Moog Rouge, Korg MS10/20, MC202. Patrick ☎ Weymouth (0305) 773073.

YAMAHA CS15 monophonic synthesiser, excellent beginner's instrument, very good condition, £195 ono. Yamaha PS30 £195. Graham ☎ (02404) 3330.

YAMAHA CS15D dual channel synth, 29 presets, mixable, VCO 2'-32', VCF, noise, 2VCAs, £235 ono. ☎ Mellis (037983) 415 (Suffolk).

YAMAHA CS60 polysynth £275. Logan String Melody II £175, vgc. Carolyn ☎ Leeds (0532) 687074.

YAMAHA CS70M £600. CS60 £350. Paul Todd ☎ (0723) 370540/2.

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YAMAHA DX21 brand new, boxed, unwanted gift, £625. Louis ☎ Bourmemouth (0202) 294817 evenings.

YAMAHA DX21 stereo chorus, optional flightcase included, mint £550 ovno. Chris ☎ 01-675 7415.

YAMAHA MK100 brand new, semi-programmable, £180. Reply quickly please to: Jeremy Dowse, Commonwealth Hall, Cartwright Gardens, London, WC1H 9EB.

YAMAHA PF10 piano £375 ono. Roland Jupiter 4, £290 ono, or p/x for TX7 FM expander. ☎ 021-355 6639.

YAMAHA PS1000 two months old, 12 solo, 12 orchestra voices, stand, mains, adaptor, £250. Danny ☎ (0491) 575642.

YAMAHA PS6100 Auto-play synth with stand, boxed as new, good FM sounds, give away at £749. ☎ (0222) 736 339.

YAMAHA PS6100 with stand, five octave keyboard, FM sounds, PCM rhythms, auto accompaniment. £500. ☎ Cambridge (0223) 277236.

YAMAHA PS6100 home use only + extras, £750. Ian ☎ Enfield 01-366 3581 evenings.

YAMAHA SK30 immaculate condition, £400 ono. Andy ☎ (0582) 696345 home, 421410 work.

Sampling

AKAI SAMPLER and disk drive, polyphonic, home use only, complete with disks, absolutely immac, boxed, £750. ☎ Birtley (091) 4109442.

ENSONIQ MIRAGE sampling keyboard with noise reduction fitted, never giggered, only £995. Peter ☎ (0229) 33941 evenings. Hurry!

ENSONIQ MIRAGE MASOS, all disks, pro flightcase, £1295. Roland MSQ700, the only eight-track MIDI sequencer, immac, £495. ☎ (044 46) 42681.

GREENGATE DS3 sampler, sequencer, keyboard, with MIDI, looping, delay software, sound library. With Apple IIe £1000, without £750. ☎ 091-271 6403.

Drums

BOSS DR110 with adaptor, new, hardly used, boxed, with manual, bargain at £85. ☎ Colwyn Bay (0492) 518832.

BOSS DR110 mint £100 ono. Boss PC2 percussion synth £35 ono. Jon ☎ 01-734 4257/8 daytime, 01-603 4907 evening.

KORG DDM110 excellent condition, £165. Rainbow DDL1 1-800mS digital delay with sampling etc, £165. ☎ (0243) 512418.

KORG DDM110 £175, DDM220 £135, both as new, with leads. Also SIEL mono-synth £80. Jon ☎ (0246) 451166.

KORG DDM110 digital drum machine with power supply and manual, £140, mint condition. ☎ (0442) 64694 evenings/weekends.

KORG DDM220 digital drums, excellent condition, £125 ono. ☎ 01-472 7788.

KORG KPR77 stereo drum machine with claps, tom, flam, separate snare/clap output and tape dump, £115. Rob ☎ Romsley (0562) 710680.

KORG KPR77 home use only, mint £150. MPC sync track £20. Phonic 10-band stereo graphic £40. All boxed. ☎ 061-445 7422.

ROLAND COMPURHYTHM CR78, vgc. ☎ West Yorkshire (0977) 82408.

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SIMMONS SDS200 twin toms, red, as new £260 ono. ☎ Reading (0734) 477715 daytime.

SIMMONS SDS5 5-piece drum kit, in red, excellent sounds, condition as new, £475. ☎ (0253) 723270.

SOUNDMASTER SR88 drum machine, clock and trigger outputs, 16 programmable patterns, £55 ono. Tony ☎ Sunderland (0783) 76307.

STIX ST305 computer rhythm drum m/c, £50. Eight memories, good condition, excellent first machine. ☎ (052789) 2365.

THE KIT drum pads, £50. Also Roland JX3P, £435 or exchange for Casio CZ101, cash adjustment. Both boxed, mint condition. ☎ 091-266 3433.

ULTIMATE PERCUSSION K2, eight drums plus stands, cases, Zildjian Paiste 2002 etc. Exchange for DX7 or Fostex A80. ☎ (0342) 23094.

YAMAHA RX11 under guarantee, £440 ono. Want quick sale. ☎ (0792) 202027 after 6pm.

Computing

ACORN MUSIC 500 as new, boxed with manual, £125. Can deliver. ☎ (093586) 3306 (Somerset).

ACORN MUSIC 500 synth for BBC B, mint condition, boxed with manual, software £125. ☎ 01-485 1394.

FM MUSIC MACRO ROM, £20. Yamaha Breath Controller £10 (unused). Swap both for spring reverb. 4 Alma House, Ashton Road, Lancaster, Lancs.

GREENGATE DS3 SAMPLER with keyboard, latest software, 75+ samples, disks & Apple II+ 64K, 1DD, Monitor £850 ono. Will sell separately. ☎ 01-856 8027 evenings.

MICON MIDI controller, real and step time polyphonic sequencer for ZX Spectrum, brand new, £99 inc p&p. Richard ☎ (0295) 73536.

ORIC ATMOS great MIDI potential, could be used to control sampler, £100. Marcus ☎ Bath (0225) 782516.

SWAP YAMAHA CX5M for Casio CZ1000, or CZ101 plus negotiable cash settlement. ☎ 01-848 7224 evenings.

TANDY TRS80 model 100, portable computer, ROM BASIC, wordprocessing, RS232 comms, 24K RAM, £300 or swap for WHY. ☎ 01-543 6585.

YAMAHA CX5M large keyboard, FM voicing and composer software, two months old, £300 ono. Stephen ☎ 041-634 0928.

Sequencers

LOVELY PAIR! MC202 plus SH101 with MGS1. Home use, perfect condition, only £225 the lot! ☎ Ashted (03722) 75293.

ROLAND MC202 £120. Clockworks five-channel triggering unit, individual tempo control on all channels, £80. Both ono, excellent condition. ☎ 01-472 7788.

ROLAND MC202 and Bassline, £110 and £90 respectively. Also Dr Rhythm £40. ☎ 01-326 0090.

ROLAND MC202 microcomposer, plus Digisound synth modules: VCO, VCF, Dual EG, Dual VCA, D/A, LFO, only £150. Bernie ☎ 01-890 7413.

ROLAND MSQ100 digital MIDI sequencer, mint condition, £295 ono. N. Lord ☎ Cambridge (0223) 313722.

ROLAND MSQ700 sequencer, perfect condition, £575. ☎ Basildon (0268) 559872.

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BRENELL Mini 8, 8-track £1200. Yamaha GC2020 compressor £130. Accessit reverb, comp, PSU £75. ☎ Clacton (0255) 427132.

DESTINY MIXER parts for sale: inputs £25, output £23, power supply £25, base units £25. ☎ Sedgley (09073) 78017.

DOKORDER 8140 4-channel multitrack tape deck, echo, SOS etc, excellent, £250. Swap Casio CZ101. ☎ 091-266 3433.

EIGHT-TRACK for £32 p/d. Digital reverb, DDL, harmoniser, vocoder, compressors, RX drums, Juno, Challen Baby Grand. Great results. Kevin Hook ☎ (0903) 211056.

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MICROPHONES AKG C414EBs £300. Milab, Sennheiser, Shure headphones very cheap. Dual Turntable £50. Tape, 2" £15; 1/4" £11 (unused). ☎ 01-543 6585.

MIXER 6:2 as new, £55. Panpots EQs, VU meters etc. Or swap mixer & cash for Roland SH101. M Senyk, 41 Regent Park Square, Glasgow 41.

STUDIO WORK part or full time required for dedicated, hard-working, young male. Greater Manchester. Clive ☎ (0706) 65978.

TASCAM 244 Portastudio £395, immaculate, includes books, demagnetiser. Also Teisco SF60 mono synth £50. Westone Paduak £50. ☎ Cheltenham (0242) 519719.

TASCAM 244 Portastudio, £325. Needs new head, otherwise immaculate, careful home use only. Mike ☎ St Athan (0446) 751150.

TASCAM 244 Portastudio, used only once, £550. Roland MC202 £125, TR606 £125, Casio MT65 £90, mint condition. ☎ Highcliffe (04252) 78913.

TASCAM 344 Recorder £650; HH V150 MOSFET amp £160; 2x100W HH B12s, £200; 2x200W JBL 4612Bs £550. Jon ☎ Oxford (0865) 240383.

TASCAM MM20 MIXER system, boxed, unused, £150. ☎ 051-342 6886 or 6198.

TASCAM PORTA ONE 4-track professional recorder, new, virtually unused, £270, includes mains adaptor, headphones, quality tapes. ☎ Beds (0525) 714984.

TEAC I44 Portastudio, just serviced, new head, case, £350. Marshall 4X15 Powercell cab, ex-Gillan, £150. ☎ Sheffield (0742) 589068.

TEAC 3440 + DBX, £550 ono. Tascam M35, £550 ono. Drumulator £375. Ibanez IB424 fretless bass £250. Paul ☎ Leeds (0532) 489453.

YAMAHA RM602 mixer, 6:2, home use only, £210 ono or will swap for Casio CZ101. ☎ Reading (0734) 477715.

Amps

POWERTRAN SP2 200 stereo power amp, £50. Powertran SM6 six-channel mixer, 3FX loops, stereo, rack-mounted £115 ono. ☎ (0303) 212055.

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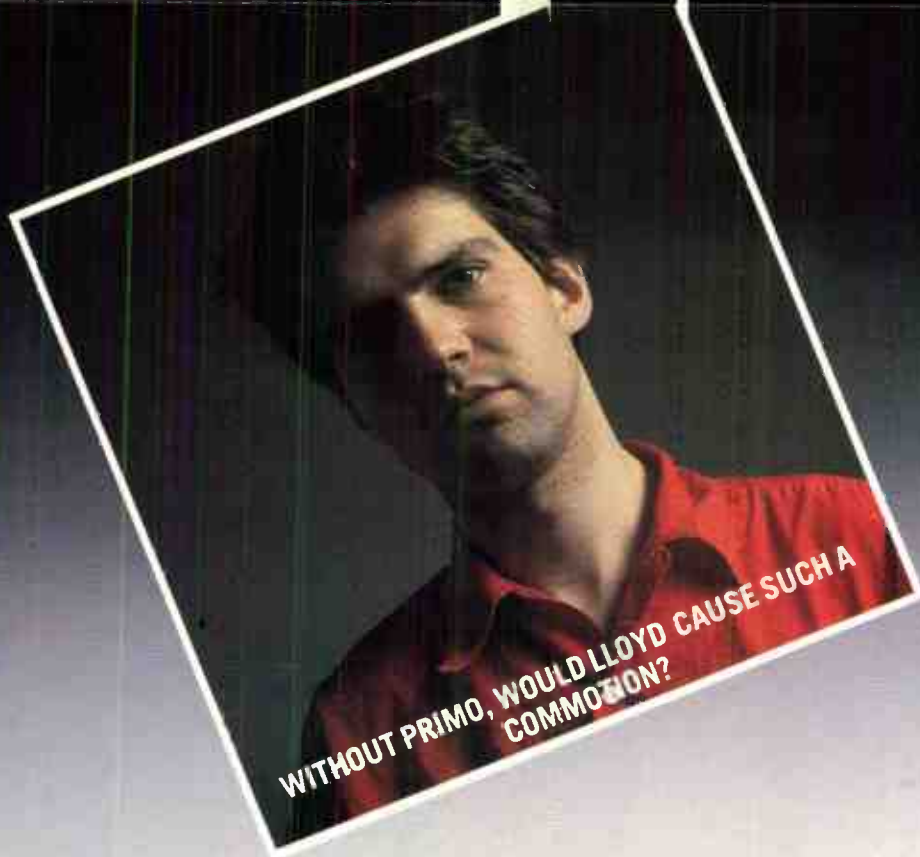
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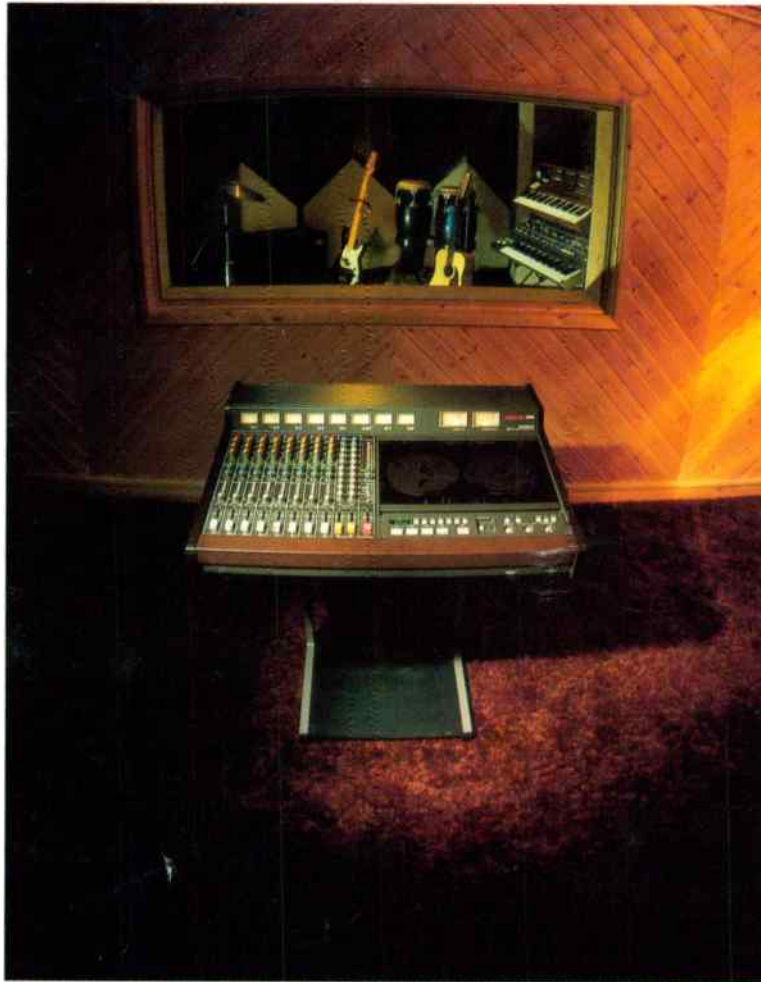
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