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EMM

ELECTRONICS & MUSIC MAKER
THE MUSIC TECHNOLOGY MAGAZINE



Oil and Gold

Shriekback Strike it Rich

Music and Lights

Jansen + Barbieri Michael Nyman UK Electronica '85

Sound and Vision

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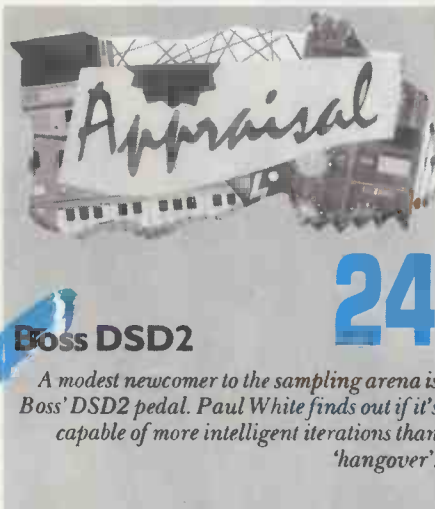
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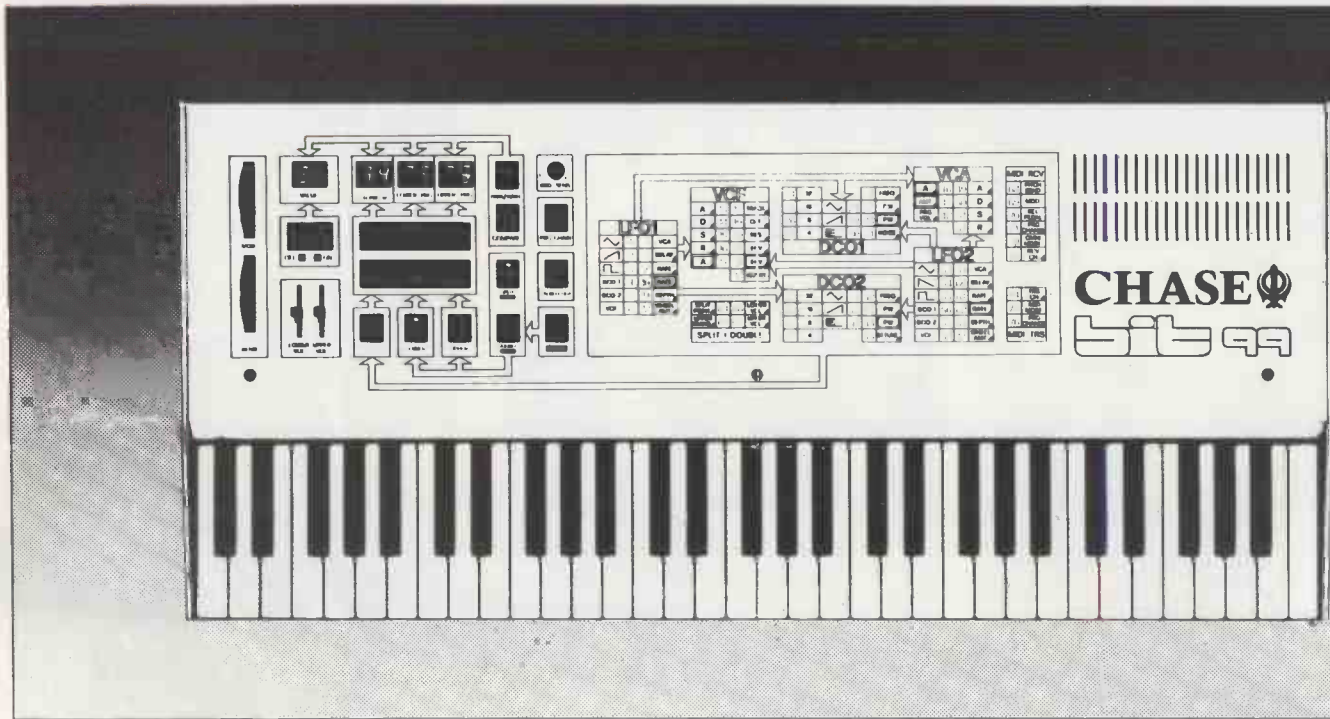
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Checklist

The price guide to end all price guides. This time, we return to drum machines and electronic drum kits, and find a lot has changed in three months.

UK Launch

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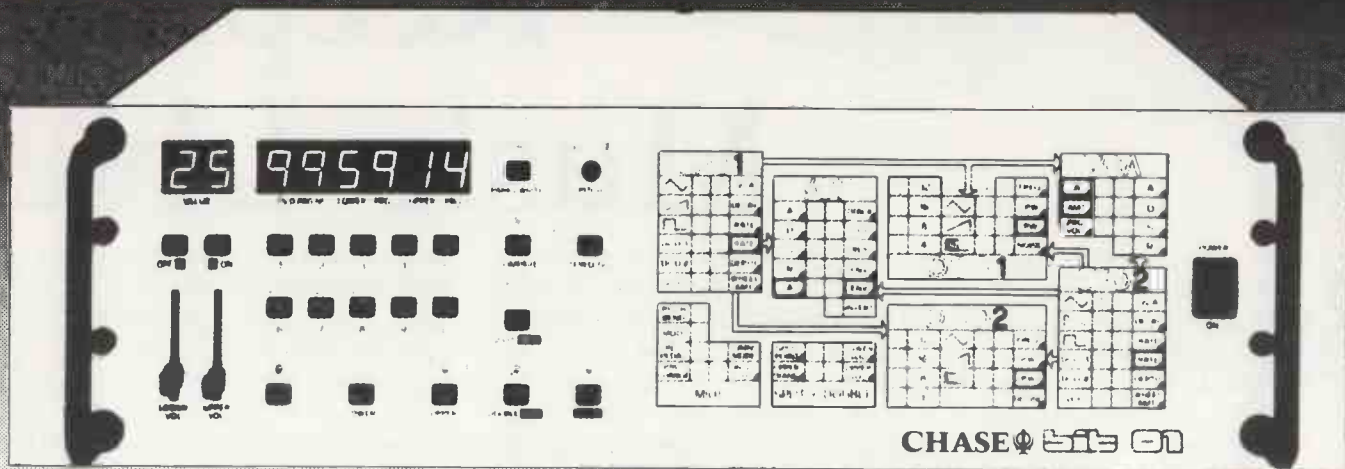
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Comment

Keeping Music Live

Before the euphoria that surrounded the end of August's British Music Fair had died down, those involved in the 'pure' electronic music arena were dragged down to Earth with a jolt. The reason? The failure and possible demise of Britain's only electronic music festival, UK Electronica.

Electronica was the brainchild of Dennis and Jeanette Emsley, co-proprietors of INKEY\$ cassette magazine. In the first two years of its existence, it was a pleasurable, friendly, and commercially viable (though not necessarily profitable) affair. It acted as a launchpad for a number of the electronic music world's most talented composers, and it presented a broad cross-section of musical styles and approaches.

As our report on page 86 details, all that went out of the window at Sheffield in 1985. Some of the music was still pleasurable, true enough. And the enthusiasm of everybody who took part – especially seeing as it was a small miracle the show ever took place at all – was never in question. They deserved better.

But truth to tell, this year's bill lacked the two things you need to pull in a big enough audience: a wide-ranging list of performers, and a

big, big name at the top of it. So we weren't too surprised when the takings at the door of UK Electronica '85 fell some £2000 below target – or when the people behind the scenes started arguing with each other, telling stories, and generally doing their best to forget the happy, friendly atmosphere that was so prevalent in the earlier years.

So much for what went wrong. What's important now is that we find out whether there really is room for an event that specialises in music that involves new technology.

At E&MM, we think there is. There's no reason why the hi-tech arena shouldn't have a healthy calendar of concerts in the same way as any other form of music. The problem is that 'hi-tech' now encompasses just about every musical style you can think of, such has been the success of the synth, the drum machine and the computer. But that could be a blessing in disguise, because the more styles you can embrace, the bigger your potential audience. It's impossible to please all of the people all of the time, but get the balance right, and you'll have no problems getting people through the turnstiles.

Turning back to the British Music Fair, it's become obvious that the

main reason for its success was that it put musicians – not the gear they play – first. Sure, the object of the exercise was to sell more synths, sequencers, drum kits, panpipes and so on to more people. But the soft-sell approach of giving people time to play those instruments, and the opportunity to watch professionals doing the same, worked a treat.

If the BMF has that area cornered, what we need is a show that puts *music* first, and musicians second. That way, the event would attract plenty of people who've never touched a music keyboard in their lives, but have more records than you could keep in your living room and your bedroom put together. And at the same time, displays from the relevant musical instrument manufacturers could keep the musician fraternity occupied in much the same way as similar demos have at previous UK Electronicas.

That, simply, is the gap that UK Electronica's successor (retitled, relocated, and restructured) could easily fill. There's no question that the gap exists, but just how large it is is anybody's guess.

So if you have a view on the subject of live hi-tech music and the way it could be promoted, drop us a line. The future is in your hands. ■

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

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Newsdesk

Two From EMAS

Sunday, September 29 sees another in the EMAS series of electro-acoustic music concerts at the Almeida theatre, London, including a work by Steve Reich for flute and tape. Following this, on Saturday October 27, is a further concert at St John's Smith Square, in celebration of Barry Anderson's 50th birthday. This music will include a selection of Barry Anderson's own work, as well as a Stockhausen piece, 'Solo', for melody instrument and feedback. More from EMAS, 10 Stratford Place, London W1N 9AE ☎ 01-499 2576. ■ Tg

Loughborough Learning

Just when the debate on hi-tech music in education is beginning to hot up (see *Communiqué*), Loughborough University are organising two weekend computer music workshops for the autumn. 'Music on the BBC Microcomputer' will take place from October 25-27, while 'Writing Music Software for the BBC Microcomputer' will go from November 29 to December 1.

Both events will be run under the tutorship of author and composer of computer music Kevin Jones, and are intended for music teachers who wish to develop an understanding of what is still a relatively new musical form. Fee for each is £70, which includes board and lodging and so on. More from The Centre for Extension Studies (PR), Loughborough University, Loughborough, Leics LE11 3TU ☎ (0509) 263171 ext 213. ■ Tg

Apologies to Roland for stating in last month's Checklist that the Juno 106 had been deleted – it's apparently very much alive and well. The offending culprit has been subjected to four hours worth of Motorhead outtakes... ■



C-C-C-Commodore

What's this? Feargal Sharkey giving a CBM64-based sampling package the thumbs up? Well, that's what it looks like. The package in question is the Microvox Digital Sampler, a disk-based system that offers eight user-variable sampling rates up to 42kHz, reversing of samples, a 2000-note real- and step-time sequencer, two 24dB/oct filters, and comprehensive MIDI implementation. It all sounds too good to be true, especially when you consider the expected price is just £229. More information as soon as we can gather it. ■ Tg

Electro Activity

In the wake of this year's UK Electronica debacle, at least one promoter is doing its bit to ensure that the sort of music the Sheffield event acted as a showcase for continues to get an airing in its absence, should it fail to be staged in 1986.

Tonal Productions are the promoters involved, and they're staging a concert of electronic music at the Caribbean Association Hall, Ipswich on October 26. Featured artists are Ian Boddy (a rousing success at this year's UK Electronica, see report for details) and Paul Nagle, and the event is due to get under way at 8pm. Tickets are £3 each, £2 for UB40/NUS cardholders, and can be bought in advance or on the door.

As before, timing will be strictly controlled so that concert-goers from The Smoke have plenty of time after the show finishes to catch the last London-bound train.

If the gig is successful, Tonal hope to transfer their activities to the London area, a move that would obviously increase an electronic music show's potential audience. More from Tonal Productions, 226 Arkwright, Harlow, Essex. ■ Dg

Personal Picking

One Man's View of the PCW Show

Alpha to Amiga

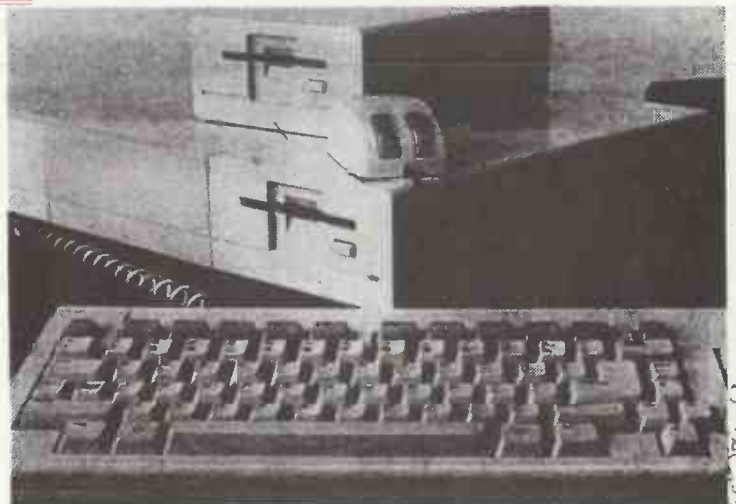
With all the fuss that's being made over Atari's ST range of home micros, it's been easy to forget that another company, Commodore, has been working on a new downmarket 16-bit machine, too. It's called the Amiga, and although it's still somewhat shrouded in wraps of mystery and intrigue as far as Commodore themselves are concerned, that didn't stop Bristol company Metacomco (who designed the Tripos operating system for the machine) from demonstrating it at the Personal Computer World show at Olympia earlier in the month.

Sadly, these demonstrations were by invitation only, and very much behind the closed doors of a demonstration room adjacent to the hacks' watering hole on Olympia 2's balcony (know it well – Ed.).

The half-hour demo your Consulting Editor witnessed confirmed two things about the Amiga: a) the graphics are mind-blowing; and b) the sound is pretty good, too. But one thing that bemused said reporter was a certain well-turned phrase used by Metacomco demonstrator Tim King: 'the Amiga is Fairlight data-compatible'. Funnily enough, that same phrase appeared in the frankly eulogistic review of the Amiga by mega-hack Guy Kewney in a recent issue of 'PCW'. Which makes me suspect that somebody at Commodore has cottoned onto the fact that because the Amiga produces sound by sampling techniques, it shares something in common with the Aussie flagship, and therefore decided to churn out some suitably-worded press releases. Not particularly bright, if you ask me.

But returning to the Amiga itself. On the sound side, there are two 16-bit DACs, each taking two channels of DMA-ed waveforms from the

Amiga's standard 256K of memory. Listening to the sound demo left me in no doubt that this is *quality* sampling. Exactly how high the quality is more difficult to say, because there are conflicting rumours around. For instance, Metacomco's demonstrator gave a bandwidth figure of 15kHz. 'Byte', on the other hand, in an excellent preview of the Amiga in their August '85 issue, mentioned that the output filter 'begins to attenuate frequencies between 5.5kHz and 7.5kHz and effectively eliminates any higher frequencies'. To confuse things further, the Amiga doesn't seem to▷



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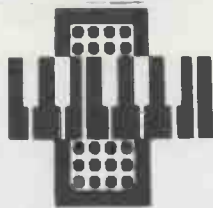
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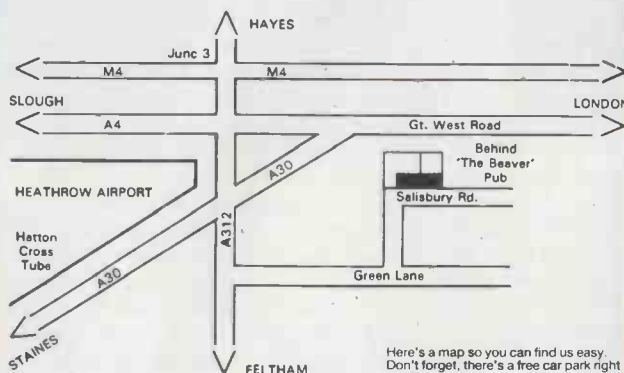
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have an onboard ADC, so it's hard to see how samples are going to get into it. Guy Kewney talked about 'feeding the Fairlight waveforms in through the MIDI interface'. Which is nonsense, of course. Just because the Amiga chucks out sound samples, doesn't mean it has anything to do with a Fairlight.

In fact, it's double nonsense, because the Amiga doesn't even have a MIDI interface as such. What it does have is an RS232 interface that can be operated at speeds up to and including the MIDI rate (like the Hinton MIDIC unit, in fact). So in theory, you could make up a connector to convert the D-type RS232 to a couple of five-pin DINs and get yourself a MIDI'd Amiga. Well, not quite. The trouble is that the RS232 standard doesn't incorporate optoisolators as part of its spec, so you'd have to add those on as well.

Still, the sounds emanating from the Amiga were darn good. Metacomco had a whole disk's worth of different samples ranging from assorted percussion to 'power chord', 'banjo', 'pipe organ', 'sax' - you know, all the stock-in-trade stuff - and aside from a few wobbly loopings, most sounded as if some trouble had been taken in assembling them.

The software running these sounds simply configures the Amiga keyboard in the totally unimaginative form of a music keyboard so that you could play them. Shame that they hadn't got some sequencing routines together for the show.

Various mutterings were being made behind the scenes about the nature of the sampling used in the Amiga. Seems it may use a sort of data compression technique - sampling rapidly when there's lots of waveform activity, less when there's little - and then make use of tables to reconstruct the output. Very interesting, and doubtless there'll be more said on that in the not-too-distant future.

But it was the graphics that really stunned - especially in conjunction

with the sound. Two examples of the Amiga's amazing animation capabilities were provided courtesy of demos by the names of 'Robocity' and 'Boing'. The former showed a street corner scene on some imaginary planet much imbued with a German expressionist flavour (you know, lots of angularity and shadows) and populated by robots out walking their robot dogs. I kid you not. Fantastic stuff, and that was in the low-resolution graphics mode. But 'Boing' was simply sensational. This was state-of-the-art 3-D animation of a revolving ball bouncing off the floor and against walls, complete with earth-shuddering thuds from the sound effects department (probably detuned toms).

The only dampener on all this is that the Amiga isn't due to appear in the UK until next April at the earliest. That's because: a) the machine has to be converted to UK video standards, etc; and b) Commodore have got loads of C128s to get rid of first.

But if you just keep on reminding yourself how good it'll be to have a machine that can simultaneously read a disk, play four channels of sound, and show 16-colour, low-res, bit-plane graphics and eight sprites with virtually no slowing down of the 68000 processor, that wait isn't going to seem quite so bad.

Sorry about the way this piece has also turned into a eulogy to the Amiga. It just goes to show what effect an amazing micro has on the average disenchanting hack... ■

Watcha Tosh

Toshiba's stand put its message across with the none too subtle 'Watcha Tosh, Gotta Toshiba?' slogan of that excruciating TV advert. Their theme was the 'home of the future', which, in the eyes of this beholder, went pretty rapidly from the fairly sublime (digital TVs) to the exceedingly ridiculous (micro-controlled food mixers and cat flaps).

Frankly, I can think of better ways of spending my dotage. But somewhere in between there was an object which intrigued because it bore the initials 'FM'. Surprise, surprise, this was actually an FM synth unit ('capable of 60 instruments') that plugged into the cartridge socket of their MSX micro. Not only that, but they also had quite a reasonable-looking four-octave keyboard that connected to the FM unit in the manner of Yamaha's YK keyboards. No MIDI, though. Curiously, the screen display was remarkably similar to the less-attractive side of the CX5M - you know, the rinky-dink rhythm 'n' chords 'n' bass stuff.

The sound this little arrangement produced was passable enough (and in stereo), but try as I might, I couldn't get the preset to budge from 'STR04'. All of which begs the question: have Yamaha granted a licence to Toshiba for the use of their FM chips? I wonder. ■

Macbashing

If there was one external factor that led me to spend so long thinking about (and writing about) the Commodore Amiga, it was the comparatively uneventful debut of the Atari ST. Though if the PCW show belonged to anybody in particular, it was Atari and their ever-expanding boss, Jack 'The Macbasher' Tramiel. Aforesaid cigar-fancier was in a suitably expansive mood, calling the PCW show 'the best launch I've had'.

According to press releases, over 50 software companies were plying their wares for the 520ST, and most of them seemed to be exhibiting something or other at the show. So, lots of software companies, lots of STs, lots of people huddled over STs, and lots of alarm systems eagerly awaiting the hungry hordes that were about to descend upon Olympia.

Sad to say, though, most of the software seemed fairly lacklustre, or at least, rather stuck in the spreadsheet tradition of business applications. There were a few games, but with the exception of an excellent Mac-like chess program, these looked intriguing rather than stunning. And so far, no MIDI or other music software has proved forthcoming.

When questioned by Tony ('I don't want to push you too strongly on this, but...') Bastable for Channel 4's micro spot, *Database*, Tramiel said about the Amiga, 'I believe it's a very nice machine' (true). And when asked to compare the Amiga's graphics with those on the ST, said, 'I would say it's about 10% better' (untrue - more like several hundred percent). But as the man said, the Amiga is selling in the States for double the price of the ST package. Or as he put it, 'we produce computers for the masses, Commodore produce them for the classes'. Very quotable, that.

But I'm left wondering whether Tramiel and I have the same picture of who 'the masses' are. After all, £749 (the price of the 520ST's starter package) is a long way up from the Spectrum, surely the UK's current micro for the masses... ■

Aftertouch

Music was much in evidence at the show, and most of it reflected an increasing quality and standard. Hybrid Technology's Chris Jordan was doing valiant work on the Acorn stand, demonstrating the Music 500 complete with new keyboard, though competition with neighbouring sound sources detracted from its real potential. Firebird Software (an offshoot of British Telecom) were showing off their recent acquisition of beleaguered Island Logic's C64 version of 'The Music System', complete with DX7 in MIDI'd tow. Commodore were giving prominent place to their clip-on keyboard for the C64, with much banner waving on 'music and micros', so there's every hope that they'll take the musical side of the Amiga seriously when it appears next year. And Music Sales were also on the Commodore stand, showing off an 11-channel FM synth unit (£100) and a four-octave mini-keyboard (£69) for the C64 and C128. And strange to relate, neither had anything to do with the Big Y to which E&MM is supposed to be biased. Well, at least all this activity means I'll still be earning a penny or two from writing for this magazine in the months to come. What a relief. ■ D.

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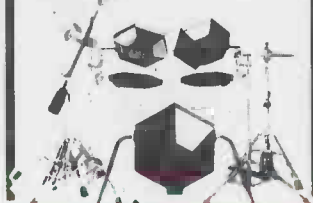


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I would like to set one record straight. Personally, I don't consider these 'new instruments' (music computer hardware packages) are beyond the ken of the music teaching profession. On the contrary, many teachers are now switched on to the applications of computers in music education. It is the hi-tech music industry that has failed, as yet, to come up with a cheap music system that can be used to educate the young.

The BBC B is a case in point. A comprehensive computer with three Mickey Mouse sound channels – the musically trained don't have a monopoly on good taste. The Yamaha CX5 is another: an overpriced micro with superb sound but many practical limitations in the classroom situation. The Acorn 500 yet another. It's a music programmer's delight that doesn't have a music keyboard.

So many opportunities have been missed. We all know that sending information from a keyboard to a computer takes time and bytes, but wouldn't it be good if, for instance, the CX5 could be controlled by eight keyboards using MIDI Thrus, with each keyboard assigned to one of the channels? Were this possible, 16 pupils (two per keyboard) could compose as a group or as individuals. They would also have the facility to manipulate sound through the computer's synthesiser voice channels. And yes, I did speak to Yamaha about such a modification to the CX5, but they didn't seem very interested. This isn't really surprising when you consider that Yamaha have come up with a product that is far ahead of its rivals in terms of voicing quality and software design. The CX5, however, has too many drawbacks to capture a healthy slice of the education market. This is a great pity, as many teachers are eagerly waiting to go to their Parent Teachers Associations with a computer package that could revolutionise music education in the classroom. The only problem is that there isn't yet one available.

Whilst Reading and Lancaster Universities undertake research into the development of music software, there exists a need for better information from you, the press, a display of active interest by the teaching profession and, most importantly, an attitude shown by the hi-tech manufacturers that's less 'we know what's best for you' and more 'we want to know what's best for you'.

Nick Houghton
Bristol

Walk On

Dear E&MM,

I am writing this letter in response to my critics.

First, to IMP: thanks for giving me the 'Pit of the Mouth' award for May. It certainly gave me a good laugh. I had one main objective in writing my original letter, and that was to get some interesting reaction onto this letters page. It's the first thing I read every month, and I suspect a lot of other people do the same thing.

Anyway, returning to the subject of my May letter (the pointlessness of sampling), I now have the agreement of Neuronium's Michel Huygen. So much so that Neuronium intend to print a note on their next album to the effect that they have not used the Fairlight CMI. (Phil Collins did the same on 'No Jacket Required' – Ed.) I am certain that the album will still be fantastic.

I'm also generally unimpressed by digital

synthesis, as quite clearly, it doesn't offer the warmth and depth of analogue synthesis. My prediction is that analogue synths will have a massive revival in a couple of years from now, when people realise that digital equipment cannot really offer them any more than analogue. Just look at this year's UK Electronica. There we saw a good cross-section of both digital and analogue equipment, but the best act was definitely Wavestar, who used only analogue synths.

Finally, I do like 'Zoolook', with the exception of the cello samples.

Paul Walker
London

Sampling Amusement

Dear E&MM,

I've been watching the current sampling debate with amused interest. If I may say so, it strikes me that it's being conducted at a rather basic level.

Surely there are no intrinsically 'good' or 'bad' ways of producing sound for a musical purpose. It seems that there's a sort of 'philosopher's stone' mentality in music: the idea that a particular sound or technique is a magical ingredient necessary for success. At the moment, sampling is regarded as just such a magic ingredient, so logically, the debate on sampling should really be widened out into the larger debate of sounds versus music.

Just flicking through the pages of a good magazine like E&MM reveals the crux of the matter to lie in how sound is used creatively. Many musicians remark (*Tears for Fears*, E&MM Jan '85) on how easy it is to fall into the trap of being bedazzled by the wealth of technology available, instead of sitting down and thinking precisely how to use the necessary amount of technology in the most effective way. Whilst TFF are aware of this danger, it's pretty evident that many people are not.

On the other hand, popular music actively encourages the use of the cliché. Why else would so many musicians use synthesisers with vast sound capabilities, yet still end up sounding remarkably similar to each other? Part of the reason for this is the preset trap, the remainder lies in production techniques. Not only do people choose a particular producer for a particular sound, but there are passing fashions for specific sounds, and certain unwritten laws governing such matters as, for example, the type of reverb used for a snare drum.

It's easy to sit back and criticise, but these things tend to arise not only through lack of imagination, but also through economic pressures – you play safe in the studio because studio time is expensive – and through the desire to record a musical idea without spending too much time knocking the technology into shape.

All this relates to sampling because sampling is simply a way of making sounds. Using samples may be the latest gimmick, and therefore desirable in the gimmicky world of pop, but it's also an alternative to building up a sound from scratch, and to editing an existing synth patch. Choosing an appropriate sound to sample, treating it, and using it in the right musical context are matters that require taste. They can be done very well, or equally, they can be done extremely badly.

True, there are good samples and there are bad ones, but although good ones are obviously preferable, it's also still true that a good musician can do more with a bad sample than

a bad one can do with a good sample. Some years ago, someone wrote to E&MM saying they'd been reading the magazine and had come to the conclusion that some musicians have a physical block, some a mental block, and some a wooden block. If this means that some can't play, some don't know what to play and some haven't got good enough instruments to play, then there's a lot of truth in it. But it isn't the whole truth, and it's even less true now than it was in 1982.

Happily, good instruments are becoming more affordable and more widely available and, in the current trend towards cheaper sampling, we can see yet another technique that was once the preserve of the few becoming the possible means of many.

It's inevitable that such an increase in availability is going to lead to more rubbish. But if sampling is a viable musical proposition, then at least more people now have the means to utilise it more effectively. If it isn't musically viable, real musicians won't use it.

So where's the problem?

Andrew Redhead
Cheshire

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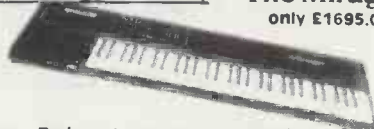
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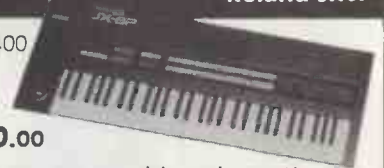
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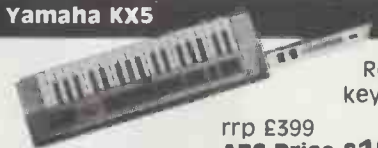


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Worlds In A Small Room.



Free from the constraints of playing with Japan but with an uncertain commercial future ahead of them, Steve Jansen and Richard Barbieri discuss a recent album of ambient music, a forthcoming one of more conventional material, and the current sorry state of British pop.

Questions by Dan Goldstein & Tim Goodyer.
Photography by Tim Goodyer.



If you were a businessman and you were in charge of a band that had been together for seven years and just made the big time, what would you do? You could get the wheels of marketing rolling and milk the hit album for singles of dubious worth. You could withdraw the band from the public eye in the hope that as soon as they returned after the lull, their followers' appetites would be capable of gobbling up just about any old rubbish. Or you could despatch them to the nearest recording studio to record the first eight songs that come into their heads, thereby avoiding the enforced lull by filling it with musical foam rubber.

But if you were Japan, you'd do none of these things. You'd split up instead, on the grounds that you could no longer work together under the strain that old-established group compromises and new-found commercial pressures have brought about. The split wouldn't make commercial sense, of course, but it would ensure at least a brief period of critical credibility, and give you the chance to take a much-needed artistic breather, time to sort yourselves out.

That, in a nutshell, is precisely what Japan did getting on for 2½ years ago, much to the disappointment of their followers and the dismay of the businessmen who thought they controlled them. Singer David Sylvian travelled the globe, surrounded himself with a host of immensely talented musicians, and produced *Brilliant Trees*, 1984's most inspiring long-player. It didn't sell particularly well, but it gained him a lot of respect; the follow-up is due in a month or so. Bass player Mick Karn made a spectacularly unsuccessful solo LP called *Titles* (it sounded good, but the weeklies

couldn't understand it, and neither could the public), then joined forces with Bauhaus frontman Pete Murphy to produce an album under the title *Dalis Car*. That wasn't too successful, either.

Meanwhile, the two 'quiet men' that made up the Japan quartet, drummer Steve Jansen and keyboardist Richard Barbieri, announced their intention to form a band together. An album release looked imminent, but it wasn't forthcoming. Now, in the autumn of 1985, the duo *hope* they'll be able to go into the studio to record it. Why the delay?

Jansen: 'First of all, we had problems getting released from our existing recording contract. Some people at Virgin wanted us to stay but the powers that be didn't. Then we changed management a few times, but the main problem has been connected with our decision not to do any demos. We're not used to doing them, and for us it takes some of the enjoyment away from recording music if you've already done it once before – so much of what we've created in the past has come about simply as a result of working on something in the studio. We were asking a lot of the record companies, to sign us up without any demos whatsoever, so it's taken time to convince people.'

'We think we're just about there now', affirms Barbieri. 'But we can't start recording until the end of November, because Steve is going off to tour Japan with Yukihiro Takahashi. Once we've started it, it should be scheduled for release in about February or March – probably March.'

Is there much material written?

Barbieri: 'Yeah. We've continued writing and experimenting with new material ever since Japan split, but the longer you have material kicking around, the more likely you are to throw it away and do something new. We've probably written quite a lot of stuff that'll never appear in any form, simply

because we're fed up with it now.

'The more you write, the more your attitudes to writing change. I think the material we were writing a year or two ago was probably a bit too personal. If we had contributions from other musicians, other opinions from people, then it could work. But we've been doing all the instrumentation ourselves, and you get a bit bored, just hearing yourself play all the time; things become too predictable.'

'We're definitely going to employ other musicians when we start recording this album. We'd like to try and get a balance between very experienced musicians and quite naive people.'

Jansen: 'It's been a frustrating last couple of years. I've been doing bits and pieces to keep me occupied, like the David Sylvian albums, Propaganda concerts, and going on tour with Ippu Do, which we both did just after Japan split up.'

It seems surprising, though, that two founder members of a band as well known and as well respected as Japan should come up against such a solid brick wall when it comes to looking for an outlet for their future activities. Jansen and Barbieri acknowledge that without the charisma and notoriety of Sylvian or Karn, they automatically stood a slimmer chance of gaining record company approval. But they also admit to being surprised by the lack of reaction they've managed to inspire in people.

Barbieri: 'I think if we'd formed a group with maybe two or three other musicians, made a few demos of some pop songs, and played them to people, those people would have sat up and taken notice. But that's not the way we want to work. We've been through that 'band' thing before, and it all seems a bit childish now.'

'We don't really want that responsibility any more. There are things that we want to do, like filmscores for example, that would be difficult to arrange if we were tied to a band. This way, there'd be no problem. We've got no responsibilities to anyone else – other than to each other.'

Jansen: 'It *would* have been very easy for us to have formed a band and set ourselves up as a sort of Japan splinter group. And we



▷ knew we'd be giving ourselves a hard time by doing what we've done – but it'll be worth it.

'In a way, what we've got now together is the way it *should* have been in Japan. I think if we'd had that element of flexibility in the band, things would have gone a lot better. But there was no way we could have gone off and done other things while the band was still going. There was so much internal pressure within the band for everybody to stay in it. The philosophy was one of "if you give your best elsewhere, we won't have the best in Japan". We had this idea that if anybody did anything else outside the group, it would be diluting the force of Japan.

'But that's one of the things we want to get away from now, which is why I'm able to go off and tour if I want to, and Richard can do what he wants.'

'But while we're doing the album', interjects Barbieri, 'we'll both be totally committed to that, for as long as it takes and as much as it demands. Then when it's done, we can go off and do what we want to do again.'

Jansen: 'We trust each other. We've been working together for the best part of ten years now, and we *know* we can work together. We've worked alongside each other in studios for months on end in the past, and we know it works. The one thing we have in common, if anything, is that we both want to write our own material. We want to play it together and share it, and that's as far as it goes. We live our own lives totally separately, and as long as we can feel that musical bond, that's enough.'

It's difficult, even if you weigh up their musical contribution to Japan and analyse it carefully, to know what to expect from the duo's forthcoming release. In fact,

"We've continued writing and experimenting ever since Japan split... the more you write, the more your attitudes change."

Jansen and Barbieri themselves find comparisons between what they're writing now and what Japan created in their later years ridden with problems. There are going to be similarities, obviously, but how far will they extend? Will the music be *recognisably* that of one-half of Japan?

Barbieri (after a long pause): 'I think it's more normal...no (pauses again), I don't mean normal. I think it'll be more structured, it'll make more sense. Japan, in the end, did come over as a whole and it was great, but there were always a lot of conflicting things going on that didn't really have a place in the songs. I think this will be a little bit more planned, a bit more

coherent.'

Jansen: 'It'll definitely differ in that the main structural fault with Japan's music was the relationship between the bass and the drums. That's going to disappear now. I think the influences will show, and you'll



probably be able to recognise its origin, but I wouldn't say it'll be along the same lines as what we did with Japan.

'We'd like to experiment with things like arrangement, which we did to a certain extent with Japan, but maybe not far enough. We *could* go about it in a conventional way, just asking a guitarist to come in and play a specific riff, but you'd play back a tape of something like that after a week and it might not be very interesting any more. So we think we'll be better off just asking a guitarist to do what seems right for the song, without having to worry about the chords or what we might think about it. Getting a performance from people is the main thing.'

Barbieri agrees. 'The idea is to give other musicians a sort of controlled freedom, so that they *feel* completely uninhibited about what they do, while we retain control over what we eventually use.'

And production?

Jansen: 'We'll probably at least co-produce the album. Ideally we'd have a good engineer and a good producer to work alongside us, to help make those sorts of decisions and add their own input. But we won't be using a producer in the sense of somebody who comes in and works with a band who don't really know what they're doing. We don't need that form of direction because we're experienced enough and confident enough to get along fine without it – but it will still be nice to have some form of outside influence.'

That turns out to be precisely the way Jansen and Barbieri worked to produce a second, more off-beat project that's already seen the light of day in Japan, but hasn't yet found its way into the High Street record stores of the duo's home country. That project is an album of 'ambient' music titled *Worlds in a Small Room*, composed as a soundtrack to a video of NASA space shuttle missions. It isn't too surprising that two musicians capable of coming up with the

diversity of styles inherent in Japan should be able to apply themselves to such a novel discipline. What is surprising is that they're having the same problems getting the LP distributed in the UK that beset them when they were looking for a new record deal.

Barbieri: 'We'd always wanted to do an album of ambient music, but it's difficult to do under a normal contract. Record companies just think they'll lose money on it, which I suppose they probably will. But then Victor in Japan, which is our label over there, asked us to do this NASA soundtrack last autumn. It's part of a series of video albums that they've put out. Steve was in Japan at the time and I was here in London, but we got together in a hotel room in Tokyo and ended up recording the album over there – it took about eight days. And we've surprised ourselves because we're both quite pleased with it, even though we wanted longer to record it.'

Jansen: 'We had to work fast because the album had to be out before the end of 1984, so we got a Japanese engineer to come in and help us out. He'd worked with any number of Japanese artists, and he just came in with his own black box of tricks and his own setup of keyboards. We used him mainly as a programmer. We instructed him to set up sounds we knew would work, but which we didn't have time to program ourselves.'

Barbieri: 'When Japan was still going I used to spend a lot of time programming synths. But for the ambient album, we both wanted to spend more time on composition and arrangement, so it was great to have someone working on sounds.'

The disc comprises instrumental sections written and arranged either by Jansen or by Barbieri (only one piece resulted from a pooling of creative resources), with both contributing performances to each other's pieces. There are no other musicians involved (Jansen says they'd have preferred to have other people participating, but again, time was against them), and only one of the pieces has any form of vocal, provided by Jansen.

'We actually wanted the whole album to be instrumental', explains the drummer turned keyboardist turned singer. 'But the record company wanted something they

could release as a single, and something that would make the album distinct from the soundtrack itself. In the end we talked them out of issuing a single, but the track still had to be included on the album.

'Nobody wants to distribute it in Britain because nobody thinks they're going to make any money out of it. But once we've signed a contract for the more accessible LP, we should have no problems.'

Both Jansen and Barbieri see the difficulties they've encountered as symptomatic of an industry that's becoming increasingly conservative – to the detriment of artists attempting to do anything out of the ordinary. Barbieri is particularly critical of current A&R attitudes...

'All the record companies are interested in now is young bands that stand a chance of making it really big, all over the world. So they want bands that have a good visual image and make music that's easily marketable. That's what makes it so difficult to get people interested in something that's a little odd, let alone anything really new. I'd say the situation is worse now than it was just a few years ago. It seems like we're back to the days when producers totally controlled what a band did.'

But surely Japan succeeded in sidestepping that commercialism by making inventive music and making it successfully?

Jansen: 'Yeah, but I think the teenage girls who bought our records would have bought them if we'd been making heavy metal. It was a case of people buying our stuff because of our image. But I suppose that was OK really, because at least it meant people did listen to our music; they gave it a spin, which they wouldn't have done if we hadn't looked the way we did.'

One of the things that characterised Japan's approach to instrumentation was a studied catholicism, an unyielding determination to create sounds that were new, and to combine instruments from diverse sources in the hope of presenting their public with a previously untried, untested *pot pourri* of musical styles. They succeeded with a consistency few of their contemporaries could have matched, even if they'd applied themselves with the same dedication. But while Jansen and Barbieri remember their Japan days with affection, they're both anxious to point out the flaws in the band's veneer of compatibility and cohesion.

Barbieri: 'It was like a very claustrophobic little unit, constantly striving for perfection. We used to spend hours programming new sounds on synthesisers, trying to think of rhythm patterns that hadn't been used before. And I think a lot of the sounds we used still haven't been matched to this day. Even when we took hold of something very traditional like ancient Chinese music or African music, it was the way we used it, or the way we combined it with other things, that made it stand out from what other people had been doing.'

And that attitude of refusing to accept conventional musical formulae persists, as the instrumentation of Jansen's and E&MM OCTOBER 1985

Barbieri's new album should show.

Barbieri: 'We're definitely going to work just as hard on the sounds this time as we've ever done. We're more interested in acoustic sounds now; we were in the days of *Tin Drum* (Japan's last long-playing studio excursion), but we used synthesisers to try and recreate them. But I'm getting increasingly annoyed with synthesisers, especially modern ones, and the way people use them. I think it's essential to know what you're trying to achieve musically before you approach a computer or a synthesiser, but a lot of people these days just use whatever's inside the machine when they get their hands on it; it might sound great and exciting to them, but it makes their records hell to listen to!'

"We're still into electronic sounds that are completely new, but it becomes more and more difficult to create them."

And not for the first time, the keyboardist's partner agrees wholeheartedly. 'I think the latest technology is in its element when you want to save time and budget. But in the end, the results simply aren't as good. Everybody seems to be using the same Fairlight samples and the same preset rhythm patterns, and the records they're making are just unlistenable. It completely defeats the object of doing something creative in the first place.'

'Some people use technology well – most people don't. But we haven't dismissed it out of hand. We're going to keep it down to a minimum on this new album, using it only when it serves a purpose, not when it's just trying to sound like the real thing and failing miserably.'

Barbieri: 'We're still very much into electronic sounds that are completely new, but it becomes more and more difficult to create them. I've still got the keyboards I've always had – I've stuck with them and I don't really feel the need to change, because up till now they've always given me what I've wanted. In fact, I like the idea of going back to even older synths. I've got an old Roland System 700 modular system which is great; there are sounds there that you've just never heard before, and which you're not likely to hear again. But that's the sort of instrument people seem to have forgotten; they've pushed their old synths to one side because today's are more convenient, more instant.'

'I prefer instruments that let you hear how a sound is progressing as you alter their controls, and I don't like trying to program a system that's just based on mathematics – that puts me off from the start. We did use a DX7 on the ambient album, but we found you had to double it up with a sound from a Prophet to get it to sound really good. I don't like the digital sound: it's close to the real thing but it doesn't really satisfy, and all the sounds have that same digital quality to them. In fact, there's nothing lately that's

caught my attention at all. I suppose that's mostly because I haven't looked out for anything – I don't feel I need it.'

And it seems neither Barbieri nor Jansen needs much in the way of modern chart music as a source of entertainment, let alone inspiration. Jansen confesses to listening mainly to 'classical piano music and Laurie Anderson's *Mister Heartbreak*', while Barbieri finds the application of technology by men like Stevie Wonder, Thomas Dolby and The Blue Nile to be his synthetic limit.

'I just can't listen to the radio any more', he continues. 'If a good album comes out, you're bound to hear it sooner or later, and I think I'm passed the stage where I'll turn on the radio and listen out for a particular favourite song; nine times out of ten, the records are rubbish anyway.'

Yet again, we find Jansen in complete agreement. 'I find it very difficult to ignore any music that might be going on in a room. I can't have a radio on in a room and not listen to it: I find myself listening out for things like the structure and the arrangement. So in many ways, I think having music blaring out at you is more offensive than silence – it's certainly less productive.'

Unlikely though it may seem, Jansen and Barbieri quite fancy their chances of working in an almost total vacuum, attempting to produce music that is almost entirely unconventional, and working with a line-up that's completely flexible and utterly unmarketable – and coming up with a hit single in spite of everything. Why should they succeed where Japan's more glamorous, better-publicised ex-members have failed?

Jansen (talking about his brother, remember): 'David makes very beautiful music. He's made an album and it's won him a lot of friends, and his new one is just as good, maybe better. But it's never going to be really big, because it's too self-centred, too melancholy. I think there's a limit to how much of that people will listen to, and how many people will even try listening to it in the first place. I don't think we could ever make music like that; ours is more likely to be brighter, a bit more "up".'

'As for Mick, I think his stuff is just too avant garde. That probably doesn't bother him very much because so many people still respect him for being a great bass player, but out of the four of us, he's probably the one least likely to make it big again.'

'It would be nice to go through the whole success thing again: to sell a lot of records and get all the fan mail. Apart from anything else, we need some amount of success to convince whoever takes us on that they've made a good decision. But in addition to that, it's nice to know that people appreciate what you're doing, and really, people buying your records is the only pat on the back you ever get.'

If the back-patting duly arrives come next March, Jansen and Barbieri will tour the world ('travel is the greatest inspiration of all' – Jansen) and play in front of half-crazed teenage audiences, make a phenomenally successful follow-up album, and then, just when the going is really good, they may even split up – just to prove that lightning can strike twice in the same place.

It sounds unlikely, but it could happen. All they need to start with is the record deal. ■

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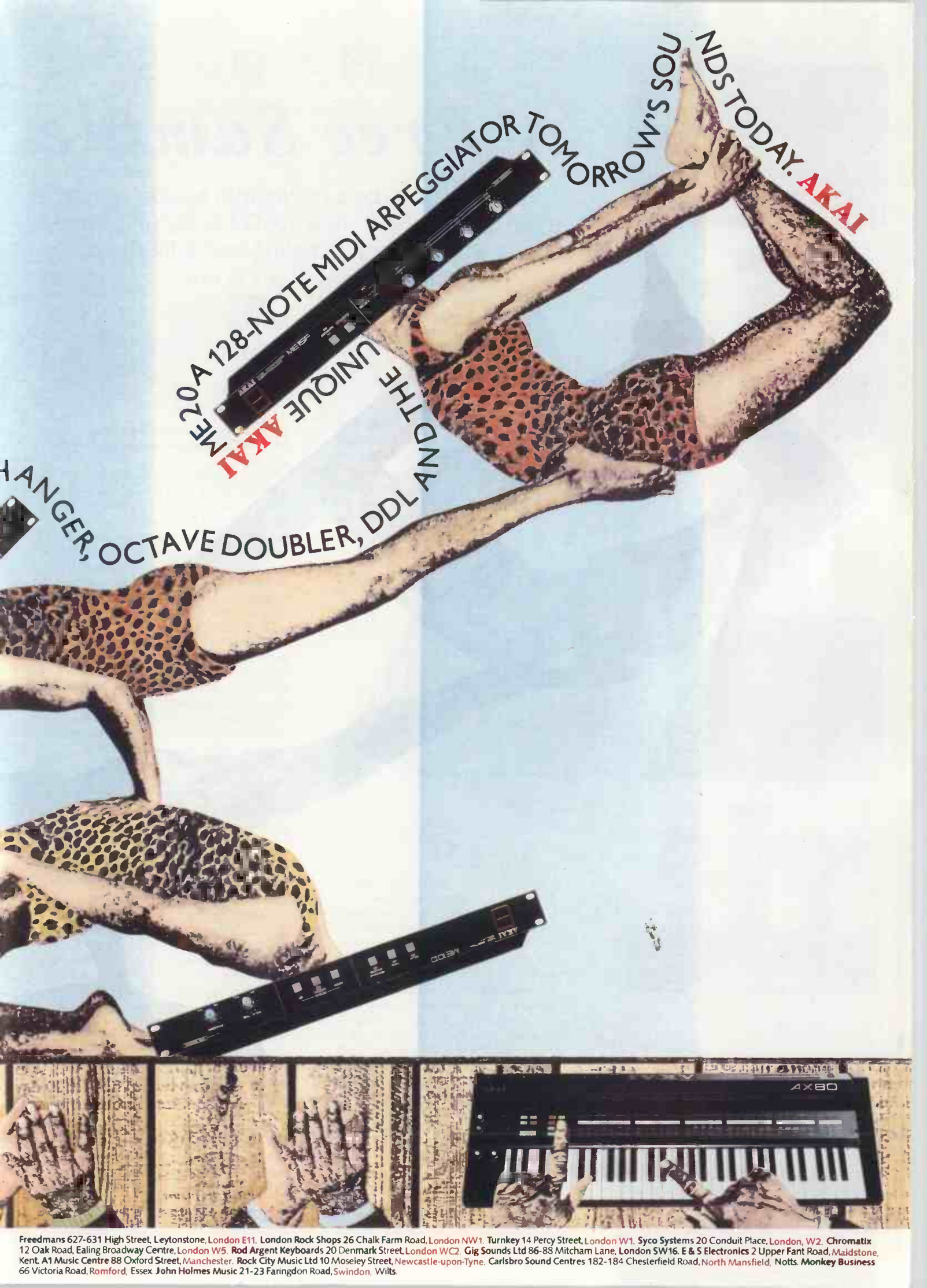
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A L M O S T A Free Sample

It may not quite be a Fairlight in a pedal, but at exactly £200, Boss' new DSD2 delay unit is the closest thing to free sampling we're likely to see for a while. *Paul White*

Apart from its highish price, the Fairlight CMI has one major disadvantage: it's too big. People with beautifully restored Tudor castles or Georgian mansions have no difficulty in dedicating entire hallways to the Computer Musical Instrument, but in the average suburban semi, housing such a £30,000 wonder-machine can be a problem.

Luckily, the Boss wing of the Roland Corporation have come up with what is essentially a similar device, except that it is housed in a footpedal case that looks from the outside

like all the other Boss pedals. But poetic licence must end somewhere, so I might as well say right now that, truth to tell, the new Boss DSD2 is more or less a pedal version of the company's well-established DE200 rack-mounted sampling delay unit. The pedal lacks the rack box's modulation facilities, and as with the DE200, there's no way you can control the pitch of the stored sound in a musically meaningful way: all you can do is change the pitch by using the delay time control (well, I suppose it *could* be musical). Still, there are plenty of wondrous things you can do with the DSD2 if you go out and buy one, make sure you look at the manual, and read this review before you do either.

As Boss fans will know already, all the company's pedals feature FET switching for quiet operation, and the battery is located beneath the pedal for ease of changing. I reckon it would be worth using a mains adaptor whenever possible with this particular pedal, though, as digital circuitry of



this kind eats up batteries faster than a Sinclair C5 (though with much more useful results).

There are only four knobs and one LED on the pedal (which is just as well, as there isn't room for much else), so operation is very straightforward. First comes the E.Level control, which you use to adjust the balance between the dry and delayed components of the signal. F.Back (yes, you've guessed) is the feedback control, which sets up the length of time the echoes take to die away. With this control at maximum, the delay line can be made to oscillate. Delay Time...now that's a tough one: it gives continuous control between minimum and maximum delay time and works in conjunction with the Mode control, which isn't actually a pot at all but a four-position switch. Its first two positions select 200mS or 800mS maximum delay time respectively. The third position is designated Rec/Play, and allows new sounds to be recorded as old ones are replayed - this makes it suitable for rhythm sync effects. In this mode, the stored sound is retriggered either by supplying a trigger pulse or by pressing the pedal when a new sound is recorded. If a single burst of sound is recorded in this way, the mode can then be switched to play only, so that you can trigger the stored sound by pulse or pedal without fear of erasing it accidentally. Employ a high level of feedback when you sample a sound, and you can layer subsequent sounds over the first if the mood takes you. And should you hold the pedal down continuously when the unit is in Play mode, the stored sound is looped continuously until you release the pedal - logical and eminently useful.

No battery backup is provided, so any stored sounds are lost as soon as the power disappears (this happens as soon as you remove the output jack). Last and by every means least is the LED; this tells you if the delay is active or bypassed - and if the battery is past its best.

That just about wraps up the DSD2's controls and what they do. How do you put them to use? Well, if you know what you're doing (and it isn't complicated), you can coax the pedal into doing all kinds of things.

First off, straight echo. The DSD2 gives up to 800mS of delay, and its 7kHz bandwidth means that the sound quality is respectably

Performance 'As a straight echo machine, the DSD2 produces a cleaner, brighter sound than its bandwidth would lead you to expect.'

bright, even if it isn't up to the standard of an expensive rack-mount unit. But there are two more modes of operation that could be of great interest both live and in the studio; these are Rhythm Sync and, as befits the pedal's title (DSD stands for 'digital sampling delay'), Sampling.

Rhythm Sync is what you get when you use the pedal in its Rec/Play mode and synchronise the echoes to an external trigger pulse, in this case connected via an additional jack socket on the side of the pedal.

In Sampling mode, you can trigger a short burst of sound stored in the unit's memory, again using an external trigger pulse of some kind. Look no further than the Trigger Outs on a drum machine for a typical source of such a pulse.

As a straight echo machine the DSD2 does a fine job, producing a brighter, cleaner sound than its bandwidth would lead you to expect, and with a very low level of background noise. In this respect, the new device is very similar to Boss' excellent DD2 delay pedal, but the triggered options add greatly to the flexibility of the DSD2.

Rhythm sync is particularly effective if you

use a drum machine with a programmable trigger output, as you can program the echoes to occur on whichever beats you choose. Lots of contemporary rhythmic sounds can be set up in this way, with guitar and bass sounding very impressive under test.

As a sampler, the DSD2 is also at its most impressive when driven from a drum machine, as the standard percussive sounds may then be replaced or supplemented by a sound of your own choosing. Not only can you store the sound of a crate of Newcastle Brown falling off the back of a lorry, you can also change its pitch up or down by varying the setting of the delay time control. And don't forget that the position of said control when the sound is recorded also has an effect on the stored pitch.

The only tricky thing about using this kind of unit to sample a sound is timing. You have to press the pedal or supply the trigger pulse at exactly the right moment if you're going to stand a chance of capturing the whole sound, from the beginning, without chopping anything off or recording any dead time. With a bit of practice, you can train your right foot into reacting in the correct way at the correct time, but luckily for readers of this esteemed publication, this correspondent has succeeded in sidestepping the problem altogether by designing a simple sound trigger circuit. For further details of this, turn to the November '84 edition of that other esteemed publication, *Home Studio Recording*.

Rhythm sync is one of those things that you really have to try for yourself before you realise how useful it can be, but the benefits of sampling are more obvious. All the

common Paul Hardcastle effects are easily produced, and you can just about store two complete words (if they're short enough) in the 800mS sampling time. The possibility of adding the sound of breaking bottles to a drum machine is quite appealing (or should that have read 'appalling?'), and it's always a source of constant wonderment when some hitherto mundane kitchen utensil turns out to give a really amazing drum sound.

Cheap and (triggering problem aside) easy to use, the DSD2 is the most innovative FX pedal I've seen for a long time. It puts sampling within reach of almost everybody, and adds a useful, decent-quality digital echo into the bargain. Next month: Boss put the workings of an entire Solid State Logic mixing desk into a 1U-high rack-mounting box... ■

DATA FILE

Boss DSD2

Sampling Delay Pedal

Specification 12-bit PCM sampling; sampling time 200-800mS, delay time 50-800mS; frequency response 40Hz-7kHz (sampling/delay), 10Hz-60kHz (direct)

Controls E Level; Feedback; Delay Time; Mode

Interfacing Input & Output jacks; Trigger In jack

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The Fifth Dimension



No doubt about it, the new DX5 fills a yawning gap in Yamaha's FM polysynth line-up. But does it have enough accessible facilities to steer musicians away from buying a modular DX7-based system from the same company?

Simon Trask

A couple of months back, I finished my review of the budget DX21 poly by saying that Yamaha had scarcely put a foot wrong, in terms of hi-tech product planning, since they produced their first range of programmable FM synths in 1983. That range comprised the DX9 (the model the 21 replaces), the ubiquitous DX7, and the DX1, a handbuilt, prestige machine with a suitably prestige price-tag: just under £10,000. What was missing then was something that bridged the gap between the accessibility of the 7 and the higher performance (in all respects) of the flagship machine. It remained missing until a month or so ago, when Britain received its first bulk shipment of a new polysynth called, logically enough, the DX5.

The 5 turns out to be the essence of a DX1 in most important areas – though it lacks some flashy front panel displays, a weighted keyboard, and that holiest of synth player's performing grails, polyphonic aftertouch. Working down from the DX1, the newcomer's sub-£3000 RRP makes it look incredibly good value for money. But it's more realistic to judge its economic worth in relation to the DX7. In fact, the DX5 is essentially two DX7s combined in one instrument, something that wouldn't bode too well for its value for money rating if it didn't have sundry other goodies to boast as well.

First of these sundries is sturdiness, something the DX7 has a little of but the DX5 has in abundance. Being this big and heavy (just look at the pictures) doesn't do

much for the synth's portability, but it does mean it'll take a few studio or gigging knocks before throwing in the towel and losing half its memory.

Turn the thing on, and the DX5's sound quality is instantly recognisable as FM. The structural similarities between this synth and its Yamaha brethren mean that anybody who's ever played with an older machine will feel comfortable with the DX5 almost straight away.

Appearance-wise, the DX5 looks familiar too. Really, it's a tasteful combination of a number of elements from other Yamaha keyboards (mainly the DX7 and DX1), and succeeds in looking rugged, modern and professional all at once. Something old, something borrowed, something blue (or purple, or green).

The DX5's keyboard has a six-and-a-quarter-octave (E-to-G) span, and is capable of responding to attack velocity and channel aftertouch. Whilst its action won't appeal to anyone who likes a firm touch response, it has a light, smooth travel most of the office staff found rather pleasant to play. And with twice the synthetic capability of the DX7, you'll not be surprised to learn that the DX5 has a full 32 notes' worth of polyphony – which must be something of a record in the synth world.

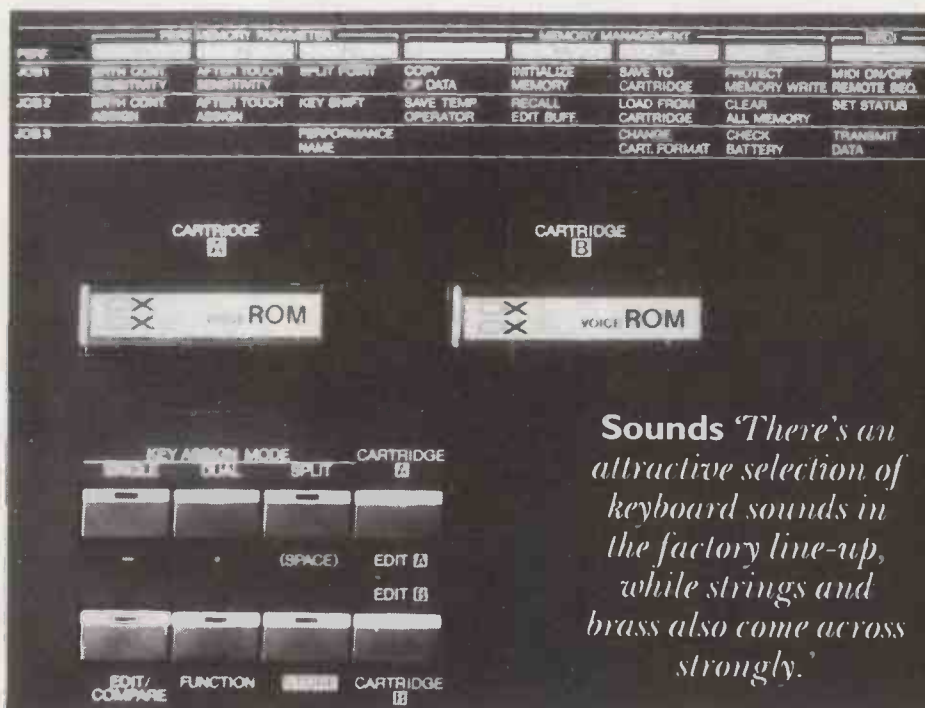
You'll also not be surprised to learn that, with two FM tone generators at its disposal, the 5 features Dual and Split modes of operation – which still leaves you with 16-note polyphony for Dual playing and 16 notes either side of a split (splitpoint is fully variable).

The voice memory is divided into two 'channels' (A and B), each of which has four banks of eight voices. In Single mode, both FM tone generators are dedicated to the same voice, giving the above-mentioned 32-note polyphony. In Dual and Split modes, each generator is dedicated to a different voice, one selected from channel A's memory and the other from channel B's – so each voice has the 16-note capacity of the DX7.

As the DX5's voice parameters are the same as the DX7's, there seems little point in going over what must be familiar territory to a lot of you reading this review. Taking each voice channel individually, the sonic capabilities of the DX5 are neither more nor less than the DX7 – though in the natural way of things, the new machine's factory sounds reflect the increased experience Yamaha's programmers have accumulated in working with FM.

There's a particularly attractive selection of keyboard sounds (pianos, electric pianos and electric grands included), while strings and brass also come across strongly. There's the usual array of delicate struck and plucked voices (including an effective jazz guitar-type sound), some 'standard' percussion sounds such as snare, cymbal and tom toms that come out with varying success, and the usual array of effects such as bombs dropping, (electronic) birds tweeting, and even the sound of traffic (a bit of a disappointment, this one, as a couple of car horns don't really constitute a traffic jam worthy of inclusion in a Renault car commercial).

In terms of pure sonic capability, the DX5 is the equivalent of two DX7s. And where it scores is in the facilities it provides on top of that basic capability. First off, it has 64 onboard performance memories and the ability to read 64 more off cartridge. Performance memories were a feature of the DX1, but have more recently and noticeably made an appearance on the DX21 poly. But whereas each of the 21's performance memories is limited to storing voice position pointers and voice mode, and performance controllers are voice-programmable, the 5 includes performance controller function parameters in its performance memory – a much more flexible approach. Another nice feature of the 5's performance memories is that they can access voices from both the internal and cartridge voice memories, something that makes their application possibilities splendidly open-ended. And even though they aren't voice-specific, the 5's performance memory parameters are



Sounds 'There's an attractive selection of keyboard sounds in the factory line-up, while strings and brass also come across strongly.'

programmable for each voice channel. So in Split and Dual modes each voice has its own controller allocations. This means you can program the sustain pedal or pitchbend, for instance, to be functional on one voice but not the other.

Together with sustain and pitchbend, there are parameters governing portamento, modulation, breath control and aftertouch. Also included is a useful 'output level attenuate' function which allows you to balance voice levels in Split and Dual modes (some voices are inherently louder than others). You can also accomplish this using an A/B balance slider on the front panel, but it's obviously convenient to be able to preset levels. And that's the thing that characterises the DX5 most of all: convenience.

A further useful performance memory function comes under the auspices of MIDI, and goes by the name of 'source select'. It allows you to define either the DX5's keyboard or an incoming MIDI channel as the controlling source for each voice channel (the Oberheim Matrix 12 operates something similar). This is particularly handy in Dual mode, where you can have two voices spread over the entire keyboard, with one controlled from a MIDI sequencer while you play the other from the keyboard.

One of the 'improvements' an upmarket synth should have over its cheaper brethren is in front panel accessibility – a consideration that's increased in significance since digital control made parameter access a maze rather than a motorway. The DX5's bid for easy access takes the form of a larger LCD (2 rows by 40 characters – and backlit, thankfully) and a healthy array of buttons in various groupings across the lower half of the front panel. Generally speaking, these buttons operate at two levels: voice and performance memory selection at one level, edit and function parameter selection at the other. Again, it's an approach that'll be familiar to every DX owner. Each button has a small built-in red LED to indicate when it's activated, but these only function at the voice/performance memory level.

At the other level, every edit parameter is given its own button, and each of the six operators has its own select and on/off buttons (again with their own LEDs). The increased size of the LCD allows all the edit

parameters to be accessed from just five displays – with each display cramming in up to 12 parameters in PPG fashion. This easy access and the ability to view a number of parameters at once makes voice editing an appreciably less laborious task than it is on the other DXs. And that has to be good news.

Spread across the upper half of the panel are the algorithm, EG and keyboard level scaling diagrams carried over from the DX7, and a Function Job table that effectively 'maps onto' an array of performance/function buttons further down the panel. Quite what lies behind Yamaha's fascination with 'Jobs' (they've previously made an appearance on the company's QX1 and QX7 sequencers) I'm at a loss to explain. In the present context, they're merely function parameters, with up to three of them assigned to each button in the aforementioned array. Cross-referencing between the table, buttons and LCD can be a bit confusing at first (especially when you have to deal with 'subjobs' as well, which you have to if you're mucking about with the MIDI functions), but you soon get used to it.

Edit and Function value changes are made using the evergreen data slider and \pm selectors, and the 5 follows the DX21 in making individual Edit buttons double as incrementor buttons.

The DX5 has two cartridge ports on the right of its front panel, one for each of voice channels A and B. These can take 64-voice ROMs and 32-voice RAMs à la the DX7, and slot A can also take ROM and RAM Performance cartridges. Obviously, if you're accessing a Performance cartridge you can't access sounds from voice cartridge A – not serious, but a separate Performance cartridge slot would have given total flexibility.

Neatly, Yamaha have provided a comprehensive set of memory management commands for shunting your voice and performance data around and between the internal and external memories.

The 5 comes complete with two ROM voice cartridges and one ROM performance cartridge, giving you 128 voices and 64 performance memories. Of course, as there are 64 voice and 64 performance memories on board the 5, you have a 'best case'

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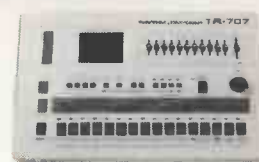
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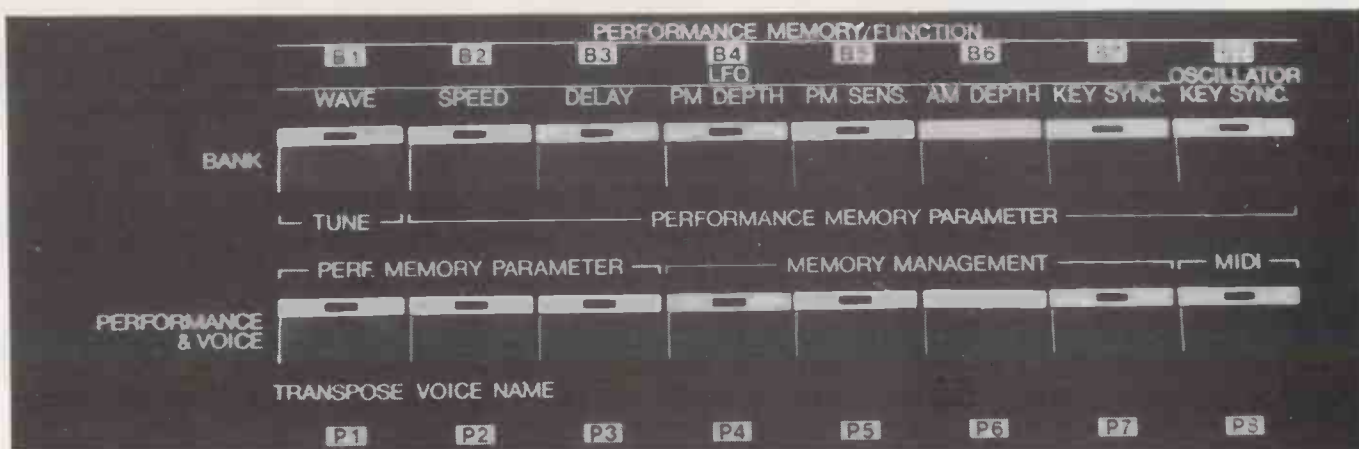
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situation of instantaneous access to 192 voices or 128 performance memories – and that's before you need to get into RAM cartridges.

One happy consequence of the compatibility in voice structure that exists between the DX1, 5 and 7 is that ROM and RAM voice cartridges are compatible across all three instruments. Thus, if you've already built up a voice library for your DX7, you can use it on the DX5 and even combine your voices using the 5's Dual and Split modes. This is going to be good news in studios – keyboard players can bring in their own DX7 sounds and take advantage of the DX5's facilities just by plugging in their cartridges. And for anyone considering trading in their DX7 for a DX5, the knowledge that you don't have to lose your valuable DX7 voice library in the process must make the trade-in a more attractive proposition. (Another possibly happy consequence for DX7 owners is that the DX5 voice ROMs will work with the DX7, but that's a different story.)

A glance at the DX5's rear panel reveals sockets for portamento, sustain, modulation and volume sockets; stereo audio outs and a mix (mono) output (on both phono jacks and XLRs); and one each of MIDI In, Out and Thru. Breath controller input and stereo headphone output (the latter with its own volume control) are to be found in front of the pitchbend and modulation wheels. Conspicuous by its absence is a cassette socket – because when it comes to storage, the 5 is cartridge and MIDI only.

MIDIwise, the DX5 can be set to receive on all channels (ie. Omni on) or on any of the 16 channels individually, and separate transmit and receive channels can be set, too. The two onboard voice channels (let's not get confused here) can also be set to receive on different MIDI channels, which is useful if you're in Dual mode, say, and want to run one voice only off a sequencer. There's also a master MIDI on/off parameter.

The DX5 is also capable of transmitting and receiving MIDI mode changes – but it won't magically transform itself into a multitimbral synth if you send it Omni off/Mono codes, I'm afraid.

Yamaha have also given the DX5 the ability to send MIDI Start, Stop and Continue codes for sequencer and drum machine control – a nice feature which makes a lot of sense and deserves to become a more common feature on synths in general. We shall see whether the 5 is going to set a precedent here. The facility would have been more usable, though, if Yamaha had provided dedicated front-panel buttons for instantaneous access, rather than burying

selection among the general Function parameters.

Anyway, MIDI System Exclusive facilities allow you to dump single voice and performance data, all voices in channel A, all voices in channel B, and all internal performance data over MIDI. The aforementioned compatibility of voice data suggests that in addition to MIDI transfer from DX5 to DX5, you should be able to transfer between DX5 and DX7. And a quick test with office DX7 MIDI'd up to guest DX5 revealed that it *does* work. Single-voice data and 32-voice data (A and B in the case of the DX5) were successfully transferred in both directions. But more interestingly, perhaps, any DX7 voice editing or voice storage program *should* logically work with the DX5 as well.

What's lacking on the MIDI front? Well, separate MIDI transmit channels for each voice channel would have been a good idea, and instead of grouping MIDI data into basic and other event data for MIDI communication on/off, it would be preferable to have individual on/off functions for the various parameters. And seeing as Yamaha obviously realise the value of making performance parameters programmable, it's a shame they haven't extended that programmability to the DX5's performance-oriented MIDI settings. Now that really *would* be comprehensive.

The DX5 is probably the last variation on what is by now a well-worn formula. Certainly it offers nothing strikingly new to the marketplace, and when you consider that it's essentially the DX1 in a slightly different guise, you get some idea of just how old its design priorities are. When the DX1 first came out, split and dual keyboard modes were a bit more unusual than they are now, for instance, but more recently Oberheim, working in the same 'upmarket' price category as the DX5, have shown more imagination with the zone system incorporated into their Xpander and Matrix 12.

Which is not to say that Yamaha aren't capable of applying imagination to this area themselves. Their KX88 controller keyboard (reviewed in E&MM May '85) implemented some of the most inventive MIDI control facilities currently on offer, and I can't help wishing that some of the KX88's MIDI control flexibility had rubbed off on the DX5.

But whatever you do, don't underestimate the DX5. There's the sheer sonic power of two DX7s in one instrument, the ease with which you can access a large array of voices, the (relative) ease with which you can edit voices, and the particular control the

performance memories provide. The DX5 is a joy to play and a joy to use in the broadest sense.

Overall, the convenience of its design format means it's probably preferable to either a DX7+DX7 or a DX7+TX7 combination, at least so long as money isn't your most important consideration.

Yet the crux of the matter is whether it's really worth having this sort of FM sound potential. Fact is, you've got to be *infatuated* with FM to want to spend three grand on the DX5, especially if you already have a 7 kicking around. Because no matter how attractive the proposition sounds, having the synthetic abilities of two DX7s isn't going to make too much difference to your final sound unless you're a confident and experienced FM programmer.

If you aren't, and you want some expansion in the sound department over and above what a DX7 can provide, you're better off looking for an analogue add-on. ■

DATA FILE

Yamaha DX5 FM Polysynth

Keyboard 76-note E-to-G; attack velocity and aftertouch

Sound source FM tone generator; 6 operators × A-B; 32 algorithms

Voicing Single, Dual and Split modes; 32-note polyphonic (Single), 16-note polyphonic (Dual), 16+16-note polyphonic (Split); 1-note monophonic (Single and Dual); 1+1-note monophonic (Split)

Memory 64-voice onboard RAM, arranged in two channels of 4 banks × 8 voices; 64 onboard performance memories, arranged as 8 banks of 8 performance combinations

Preset voices 7 ROM groups: Brass, String, Keyboard & Percussive, Complex, Split, Synth, Effect

Display 40-character × 2-line LCD

Interfacing Stereo outputs (phono and XLR); mix output (phono and XLR); stereo headphone out; breath controller in; portamento, sustain, modulation and volume pedal inputs; MIDI In, Out and Thru; two cartridge slots, both taking 64-voice ROM and 32-voice RAM cartridges, slot A also takes 64-performance ROM and RAM cartridges

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They make scintillating, emotive music with high technology, produce stunning videos, and get more life out of a live performance than almost everybody else. Yet major popular success seems as far away from Shriekback now as it's ever been. Is that a good thing?

Tim Goodyer

I must confess to having found Shriekback something of an enigma for quite a while now. With their schizophrenic

musical personality, split between hard funk and ambient grace, sombre visual image and anarchic stage excursions, they've been a constant source of mystery and bemusement. The band was formed in 1982 by Barry Andrews, once keyboardman with XTC and later a participant in Robert Fripp's League of Gentlemen. He gathered around

him Dave Allen (no, not that one), once bassist with Gang of Four, singer/manager Linda Neville and guitarist Carl Marsh, who now shares singing duties with Andrews. The other original member was drummer Brian Neville, who later left to join Pigbag. None of the band's initial line-up wanted to feel hemmed in by a 'group' format, so



▷ their desire was to avoid commitment within the band and maintain as much flexibility as possible. It was on this basis that a low-budget arrangement with Y Records, with Arista distributing, resulted in the release of a series of singles in '82 and '83.

Carl Marsh, slightly hungover but looking rather more handsome than his stage and video appearances would indicate, remembers the band's formative months clearly.

'From the start it was never conceived as a long-term group, because that was the last thing most of us wanted at the time. We'd all been in groups that had ended up either disappointingly or acrimoniously on their collapse, so everybody wanted something that was not necessarily short-term, but uncommitted in its way of working. But it gelled and gained its own momentum, and the more it gelled the easier it was to work and the better it worked.'

The venture finally resulted in the release of an album, *Care*, on Y Records in March '83. But the association with Y was doomed to failure, as both label and band attempted to expand, with the latter lacking the necessary financial resources necessary. Consequently *Jam Science*, Shriekback's second long-player, was begun on Y Records but completed and released on the Arista label in July 1984.

Now, I was never all that impressed with the Andrews contribution to XTC, so when *Jam Science* touched the critical consciousness and met with a positive response, I was pleasantly surprised. In particular, a slower number by the name of 'Hand on My Heart' was strangely compelling. Still, there were some niggling doubts, the feeling that there was some promise as yet unfulfilled, that the music lacked an intangible 'something' that would give it maturity and total acceptability.

That something duly arrived in the shape of Album Number 3, *Oil and Gold*. Following Linda Neville's departure and the introduction of drummer Martin Barker, the disc brought together previously unreconciled elements, producing a satisfying balance of mood, melody and sounds. Truly, Shriekback's moment had come, and a chat with Mr Andrews was in order. Or so I thought. Sadly, but typically of things journalistic and musical, the arrival of the appointed hour was not accompanied by the arrival of Mr Andrews. But all was not lost, as Carl Marsh, slightly hungover but looking rather more handsome than his stage and video appearances would indicate, stepped in to save the day.

Oil and Gold sees the aforementioned schizophrenia more prevalent than before, with songs that range from traditional, guitar-based chaotic funk to subtle, atmospheric pieces in which technology comes to the fore. The cryptic sleeve notes attribute production to the absent Barry Andrews, but intriguingly, Hans Zimmer's name appears in conjunction with some of the playing and engineering credits, and is also on the receiving end of some 'special thanks'.

'We first met Hans Zimmer when we were doing 'Mercy Dash' (a single released in September '84). He came to bail us out after

Hugh Padgham failed to produce the single. He originally came as an engineer and Fairlight programmer and, from that, we decided to work with him on this album.

'It started off on a co-production basis at Lillie Yard Studios, with Hans fairly much in charge of the production of the initial rhythm tracks. Then things became rather frictional between him and Barry, probably because they both do the same sort of thing, and it just didn't work out. We ended up wasting too much time discussing things, so Barry took over as producer for the last stretch of the album. Then Gavin Mackillop came in to do the mix.

'Hans did a lot of the setting up of sounds at Lillie Yard. He's quite good at that kind of thing and was very good with the Fairlight. You can do quite a lot with it without getting into all the very subtle things like diving inside it and altering all the harmonics. With just a few basic sounds, you can mix them up a bit and then get the control page and mess around with them. It's not really as difficult as all the Fairlight programmers like to make out so that they can keep earning £150 a day for doing it. Hans actually knows what he's doing, so he holds it all together while we plug things in and twiddle a few knobs!

'The studio itself is also very good for that. Not only has it got every bit of equipment that you could possibly want, but it's all linked up together all the time. There are some very extreme keyboard associations going on there – a Fairlight, a DX1, a couple of Jupiters and a DX rack all MIDI'd up together.'

Despite the technical adventure of *Oil and Gold*, its overall sound remains realistic and approachable, evidence that the musicians behind it maintain a healthy respect for things acoustic.

'I think the album's quite good in that respect because, although there are a lot of rich sounds layered together, it doesn't sound particularly hi-tech. The sounds are very diverse. At one point you've got all those keyboards MIDI'd up together in a big splurge, and at another you've got Martin's drum track on 'Faded Flowers', which is just him playing the sticks on the rim of the



drum miked-up very close.'

But involvement with state-of-the-art equipment doesn't ensure unequivocal endearment to it, nor does it preclude the use of older technology that's proven itself capable of accomplishing the tasks assigned to it.

'The DX keyboards generally I find a bit inscrutable. A lot of people use the presets because they don't know how to program sounds of their own. Personally speaking, I really don't like a lot of those preset sounds in isolation. Again, Hans is good at programming the DXs.

'Alternatively, the JP8 is a good, solid, dependable friend, because it's got a few sounds that it does really well. It always

seems to be the case that if you can't quite get what you want elsewhere, you end up going back to the Jupiter and finding it.'

And it all works. The album derives its dancefloor-strength from tracks such as 'Everything That Rises Must Converge' and 'Fish Below The Ice' (the current single release, and receiving deserved airplay attention), while the contemporary answer to *Jam Science*'s 'Hand On My Heart' is a delicate piece titled 'This Big Hush'. This relies on the sound, rather than melody, for its success, with synth layering behind Andrews' ethereal vocal that has almost vocal properties itself.

'On 'This Big Hush' we've used a lot of Fairlight and DX1 MIDI'd together', explains Marsh. 'It's also one of the few tracks where we've used drum machine as opposed to drums.'

'And the vocals?

'This time it's mostly Barry's vocals that are the quiet, stylised ones. I get to do all what he terms the 'cock-rock' ones. I'd never actually done any singing before Shriekback, so as far as I'm concerned, it's always getting better. Previously, if I was at all worried about a vocal I'd stylise it so that I could hide behind the stylisation. I suppose it's from playing live, where you can't get away with that so much, that I went into this album with the attitude that I was going to shout my head off and see how it came out – and it seemed to work alright.'

Nonetheless, if there is a musical barrier that stands between Shriekback and massive, world-dominating success, it's the part the voices play. Marsh and Andrews deliver their message competently enough, but their ranges are restricted, and there's not much room for changes in colour or style.

Things have improved, though, even if the evolution of the band's sound isn't really restricted to specific areas. It's an overall development of the ingredients that were the band right from its inception, something Marsh is keen to draw attention to.

'This album is the first we've done with a major company budget and a bit of promotion behind it – and also, from our end, with a bit of thought behind it. And it's the first time we've had Martin playing drums as a full-time member. The trouble is that record companies tend to get a bit worried when there are never any demos or anything; it's never there until we go into the studio and make it up, so they have to give you all this money for you to go into the studio, and all they can do is hope there's a record there at the end of it. They're pretty happy now, but they'd be a lot happier with a hit single!

'There are a number of diverse angles to the music. There's the very heavy bass and drums funk, and there's the light, almost ambient stuff. They all come out of exactly the same writing process, and we've had some songs that have been quite poppy, so a hit single will probably turn up sooner or



later. We haven't really tried to sit down and write a single but I don't see that there's anything wrong with that method of writing if it works for you.

'During the process of writing the rhythm tracks for the album, various things emerged and subsequently became songs, and each time it went: "That sounds as if it might be a single...or that does...or that does!"

'Nemesis' (the last single) was one of the first suggested, I suppose because it sounds in some ways like a pop record with power chords and such, but the words in it made people a little unhappy with it. Practically everything received consideration at one time or another and I gave up trying to be objective about it, but 'Nemesis' was the one that was chosen in the end.

'In retrospect, 'Malaria' or 'Fish Below the Ice' might have made better singles because they have quite a nice blend of recognisable Shriekback elements and poppiness about

them. 'Nemesis' is actually doing quite well in America and also on European cable stations - it's only Britain that hates us!

'Lyrically we take what naturally happens: it's not trying to sell you anything and it's not a Redskins manifesto or a Billy Bragg song. The words also have to work with the music, and fit in with the atmosphere and pace of the song. Either Barry or myself will say "I want that one", and the track takes shape after that. The lyrics have to work as another overdub on the music, in a similar way to an instrumental overdub.'

But in addition to their instrumental diversity, their recording dexterity and their lyrical intellect, Shriekback have earned themselves a

reputation as a *live* band in the true sense of the term, though not all of that liveliness lies in the medium of music. At a time when a whole generation of bands and solo musicians is losing sleep over the problems of live performance and their attendant sequencer/backing tape dilemmas, not to mention the delicate subject of drum machines and drummers, they're amongst a handful of artists who take to the stage with an energy and aggression generally believed to have become extinct around the same time as the diplodocus.

On the surface of it, it's difficult to see how they could have avoided frequently encountered technical problems like the ones mentioned in the last paragraph, considering the wealth of technology and modern programming techniques they've chosen to employ. But Carl Marsh, slightly hungover but looking rather more handsome than his stage and video appearances would

▷ indicate, has the answer.

'Up to now the policy has been always to treat the studio as a completely separate thing to live work. We don't attempt to emulate what we've done there at all – we just strip it down as far as possible and then rebuild it.'

More in keeping with the way so many technology-laden acts go about performing is the way Shriekback take on additional musicians to help them out whenever they take the stage, to fill the cracks left by the absence of multitracked indulgences.

'On the last live dates we did, there were the four of us plus Lu (a mysterious 'floating' Shriekbacker) to play guitar when I was singing and keyboards when Barry was singing. This time we thought we'd expand

it a bit and take an extra keyboard player as well as Lu, so we'd have everything covered and could reproduce a bit more of that rich texture (cue tone of heavy irony) for which we're so rightly famed...

'So what we've settled for personnel-wise is Barry with his Jupiter, Steve Halliwell with a DX7 – and they swap around a bit – and then Lu and me with guitars, Dave and Martin on bass and drums, and two women backing singers.

'At one time we did have quite ambitious plans to take all the keyboards on tour with us, but we've ended up with the Jupiter – again! In the end we didn't take that as far as we wanted to, partly because of the expense and partly because the rehearsals told us it wasn't really the essence of what we do live.

'Because the album's been done with Martin playing most of the drums, it's been a lot easier to reproduce live. Obviously it doesn't sound a lot like the record, but we're not really too worried about that anyway – people have got the album, so they *know* what that sounds like already.

'In the past the problems haven't been reproducing sounds, but trying to get everything flowing and working rhythmically. We fiddled about with drum machines at rehearsals but didn't like them, and we've tried backing tapes live before and didn't like them either – so we sacked them!'

More than anything else, Shriekback's live reputation has grown up around energetic stage antics to accompany what becomes even more energetic music. Their live performances have raised more than a few eyebrows before now, and the trend seems set to continue unabated.

'The live performances *are* pretty chaotic; our *Tube* performance seemed to have baffled everyone. It certainly lost one of the cameramen: there were about 15 seconds of him wandering around behind the stage filming the backdrop and wondering where we'd gone!

'There's also some pretty memorable footage somewhere of a festival in Belgium last summer. It was energy to the exclusion of everything else. It was good, actually, because I wasn't looking forward to it and all these horrible bands like The Fixx were on, and New Order were headlining. But we were in the right mood for it so we charged on and blitzed the place, destroying half the PA in the process. We got a bit told off for that but we also got brilliant reviews – much better than any of the other bands – so we felt completely justified.

'It was nice to see that it does work on that scale. It's no bullshit: just five guys wearing black clothes playing a fairly standard set of instruments.'

Sounds like live music to me. More than most, Shriekback are capable of producing fascinating, dynamic music that refreshes and invigorates; of using technology in as human a way as logistics – and record company budgets – will permit.

I wish them well. I hope they keep their backs turned on the commercial pressures that have robbed both artists and their audiences of good music and good entertainment. And at the same time, it's worth hoping their style, their attitudes and their music are accepted by a broader, more appreciative following. ■



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THE BEAT GOES ON...

At last, a home computer forms the basis of drum software that could rival budget dedicated machines – with sounds that more than match its programming facilities. The computer is the Commodore 64, the software is the Syntron Digidrum. *Trish McGrath*

Question: How do you combine the flexibility of computer control with a wide range of good drum sounds, without building a dedicated machine and without letting a micro's infernal sound chip get so much as a look in? Answer: you do something along the lines of what a Dutch software house, Syntron, have done with their new Commodore-based Digidrum package.

In essence, the Digidrum software programs the computer to process a pattern of data bytes which, on being received by the hardware connected to the user port, are converted (with the aid of some DACs) to produce analogue drum sounds, which are in turn easily manipulated to form patterns and songs in the normal drum machine run of things. If you wanted to be trendy, you'd call this 'number-crunching'. An obvious advantage of working this way is the almost

limitless number of sounds that can be produced by the unit – the first set of 40 sampled sounds is available now – coupled with the ease of saving sound sets and programs to disk. So let the story begin...

The Digidrum package contains a computer interface which connects neatly (it measures a pocket-sized 7cm X 10cm) to the user port of the Commodore 64, software on either disk or cassette, and a strangely-worded user's manual that reverts to its original Dutch every so often.

The hardware boasts a couple of outputs: audio and trigger (wot, no Sync!). The former, pretty self-explanatory and of quarter-inch jack type, is directly connectable to a PA, mixer, delay, hifi or even the Audio In on your monitor. Less useful is the Trigger Out, emitting as it does one upgoing pulse flank per pattern step, but owners of analogue sequencers and some non-MIDI drum units will probably sit up and take note.

Sadly, there's no tape sync, or indeed any means of getting the software to obey an external clock. Other necessities in the hardware line include a CBM64, disk drive or cassette, TV/monitor and amplification.

Loading the program first time automatically introduces the standard set of drum sounds and demo patterns, and takes a couple of minutes. However, once you've built up libraries of your own, the 'bare essentials' can be booted up in the shape of a Quickloader program, whence you load your customised sound set and songs.

From the main menu, the first option presented is Program Rhythm Patterns, and no less than 50 different programs can be stored in the computer's memory at any one time. Believe it or not, this option presents you with the 38-step pattern grid from which the eight available percussion sounds can be selected and programmed. The instruments are abbreviated to read 'COHDSGFB' at all times (regardless of the sound set you've loaded in), and relate to a standard drum kit comprising Closed Hi-hat, Open Hi-hat, Hi-hat, Drum (small tom), Snare drum, Grand tom, Floor tom, and Bass drum. Before you go raving about the number of sounds available, I ought to point out that only three sounds can be triggered at one time – this arrangement allows the bass drum a channel all its own, the metallic sounds another, and the remainder fighting it out for third place. Again, this assignment relates also to the corresponding sounds in other sound sets.

Programming is carried out in step time only by moving the cursor to the required step and pressing the character relating to the instrument you want to sound. F1 places the end of measure bar at any step, and you can listen to the pattern at any stage of its production by pressing F7. Quite why a simple looping feature isn't available is beyond me, as the way things stand now, you need to enter Song mode to hear the pattern repeated.

Plus points include the option to scroll the cursor automatically to the next beat during programming, or to move backwards and forwards four steps at a time. There's also 'Home', which brings the cursor to the start of the pattern. You can erase patterns completely, copy them to other memory numbers, and vary tempo freely from over a 64-step range. If you want to erase all instruments on a specific step you press Delete, while pressing Shift and an appropriate letter removes a particular instrument one step at a time. But if, as I do, ▶

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- 4 = LOAD PATTERNS + SONGS
- 5 = SAVE PATTERNS + SONGS
- 6 = LOAD SOUNDS
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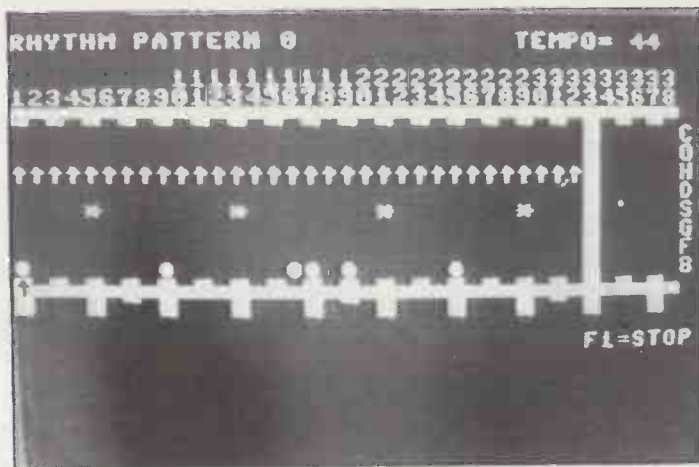
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▷ you tend to build up rhythm patterns instrument by instrument, you'll miss the facility to remove a voice from an entire pattern at a single stroke.

More serious is the fact that you can't actually play a sound without the software remembering it as part of a pattern. What that means is that you can't 'rehearse' a part in any way without having to go back and delete your attempts at producing a rhythm track. A simple 'Record on/off' function would have done the trick, though ideally, there'd be some means of playing over the top of a pattern as it's replaying – but maybe that smells too much of real-time programming...

For all the flexibility provided by the software, the Commodore is sadly incapable of maintaining the screen display while processing a sound. Thus, the monitor presents you with a blank screen once a pattern is playing back. Even during programming, the screen blinks on and off as you input steps, hence a Mute option that allows you to enter beats silently. But even the most basic of dedicated drum machines indicates beats as they go by, and this visual guide is a good indication of where to begin editing. By comparison, 625 grey lines aren't terribly helpful.

When you select **Compose Songs** from the main menu, you're presented with a five-column screen comprising 100 steps of patterns (remember you can program up to 50 different patterns), and you can instruct each pattern to repeat any number of times (from 0-99) on each step. Since each pattern can have any number of beats (up to 38 steps), the time signature can change in the course of a song. And as if that wasn't enough, you've got no less than 10 songs to fill with your rhythmic meanderings, and a disk drive eagerly waiting to devour the entire proceedings courtesy of a **Save Patterns & Songs** menu option.

Options include playing a song repeatedly (albeit with a short pause inbetween), setting the tempo, commencing playback from a particular step in the song, copying a section to another location within the song, deleting and inserting bars, and erasing a complete song.

However, using some of these features introduced a slight bug during the review period, in that any space left after the end-of-song stop-bar mysteriously filled with a multitude of white lines. And simply moving the cursor around the unoccupied screen area resulted in white stop-bars being scattered wherever I ventured. Odd, to say the least, but you can easily redraw the song

screen via a quick retreat to the main menu.

Once playback of a song is underway, the screen display is jettisoned again, leaving you pretty much in the dark as to exactly which pattern or measure is currently playing. So if you do want to assemble up to 50 patterns, repeated up to 99 times each, in up to 100 different steps, you'll want all your wits about you if you're to follow the order of things.

If the programming side could do with some attention on the part of Syntron's software writers, the Digidrum's sounds tempt you to forget all that and accept the package as it is. As already intimated, the software supplied with the basic package comes complete with a set of 50 varied patterns, 10 songs, the Standard Set of eight drum sounds, and a further Glass sound set. All of which should give you something from which to start building up your own libraries from, pending the arrival of further sound sets currently 'in the pipeline'.

There's no need to wait, though. The software as it stands encourages you to customise your own sets of sounds, for besides letting you store eight instruments in one go, it also enables you to store and load back each percussion sound individually. This makes it relatively easy to store, say, a rimshot sound from one set and reload it in place of the floor tom in another set. Take care to apply a little forethought to the operation though, as in the above example, you have to save the rimshot with the floor tom prefix **F /** for it to be loaded to that particular position. Which could mean a bit of disk-swapping if you're not too organised (*who is? – Ed*). I suppose there's a reason for doing things this way, but it does stand in the way of complete flexibility.

And so to the sounds themselves. The Standard Set supplied were surprisingly clean, with the top marks going to the bass drum (like an untreated, undamped acoustic kit sound), the snare and the metallic voices – though I thought twice about using too many tom rolls. The Glass set supplies you with a good selection of tinkly agogo-type sounds, some of which are aggressively metallic, and an alternative bass drum that was more modern and better defined than the Standard one.

Our test disk included two more sound sets. The first batch, Syn Drums, weren't quite what the Doctor ordered, though the toms found more favour than those of the Standard set. But the Latin Selected were right down our street; closely-miked, startlingly realistic cowbell and timbale, a casaba that had even the Publisher shaking all

over (though that may have been caused by something else), and a repeat performance of the Glass set's excellent bass drum.

So there shouldn't be any complaints from the aural receptors, and whereas you tend to reach the boredom threshold fairly quickly when confronted by a dedicated drum machine that has no voice replacement possibilities, the prospect of lots of alternative sets coming out in the near future should keep the appetite whetted for a much healthier period of time.

If there's one sound feature I'd like to see in the next version, it's some kind of Help page or 'Description of Current Sound Set'. Because no matter which instrument is allocated to one of the eight instrument parts, the program grid retains the Standard Set abbreviations mentioned earlier. You need a good ear and a good memory to remember what's what.

Finally, the main menu will **Display Directory, Erase all Patterns + Songs**, and **Set Tempo** at your command, and allows the loading and saving of patterns, songs and sounds to standard formatted disks. Loading times from Commodore's 1541 disk drive aren't desperately slow (patterns/songs take around 12 seconds, a sound set around 90), so you could quite easily manage to reload at a gig so long as the atmosphere was fairly relaxed.

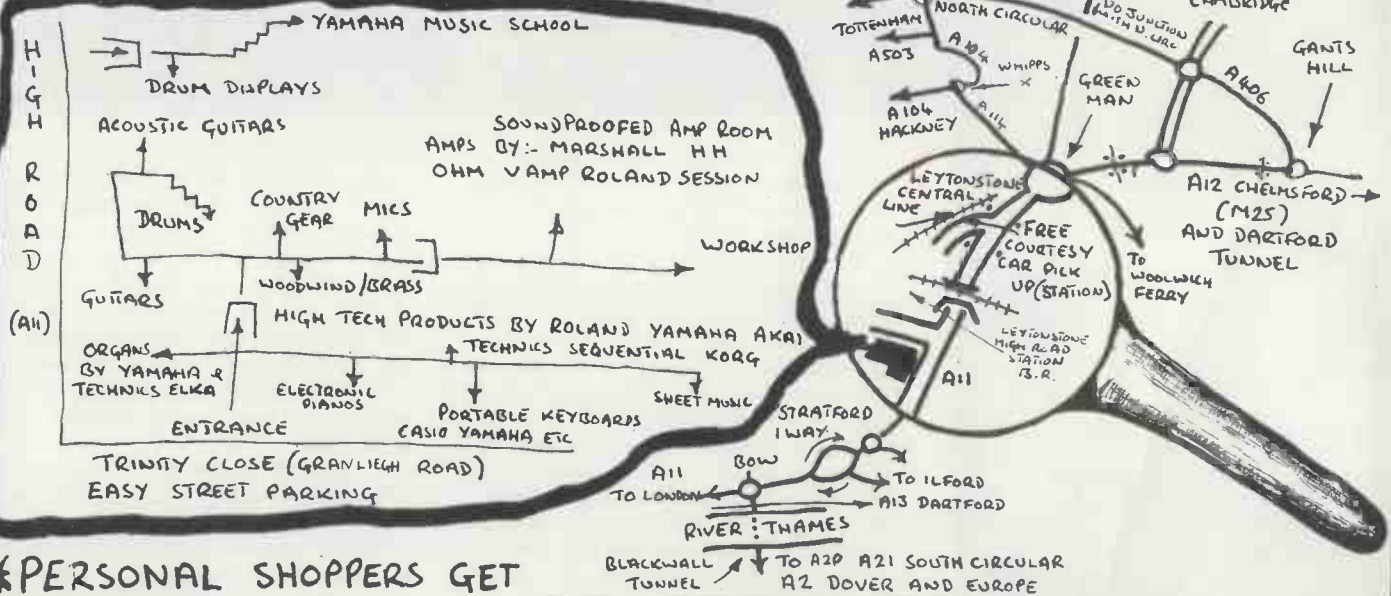
Some better file management wouldn't go amiss, though – like a facility to rename disk files and a prompt to let you know if a file name exists already, or to remind you that you haven't saved the current memory. Meanwhile, you can opt for a cassette-based Digidrum if a disk drive hasn't yet made it onto your equipment list. I didn't encounter one on my travels, but I'd have reservations about the feasibility of using cassettes and staying out of mental institutions simultaneously.

The Digidrum is a flexible, if at times frustrating, percussion module for a very popular home computer. And it seems that just for a change, the press blurb is spot on: 'the Digidrum is for down-market applications, but with an upmarket sound'. Keep saving if you want something along the lines of an Emulator SP12. But think twice before buying a cheap dedicated drum box without giving Syntron's software a trial run. ■

Prices £65 for hardware and starter software, £16 for each sound sample set (40 percussion sounds), both inclusive of VAT. More from Syndromic Music, 35A Grove Avenue, London N10 2AS ☎ 01-883 1335

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TECHtalk



After a first half that dealt mainly with John Chowning's background and the story behind the development of FM synthesis and Yamaha's involvement with it, it seemed worthwhile to ask him what his present tasks included, and what he thought the future had in store for both the academic and the commercial music fields.

How did you get together with Dave Bristow?

I first met David just over a year ago through Gary Leuenberger, who I'd known for a couple of years in the context of the GS1. David and Gary had already worked together on the sounds for the DX products. Anyway, David was visiting California and Gary brought him to see me at Stanford, so I gave him a tour of the lab and showed him some of the work we were doing.

Then at the last ICMC in Paris (see report, E&MM February '85), David was demonstrating some of the Yamaha gear. I told him that I was coming to IRCAM on sabbatical for six or seven months from February of this year, and that I wanted to work on a piece which would use Yamaha FM equipment. So we talked about the idea of collaborating, and of him helping me learn about the Yamaha gear, which I had never really had much

The second part of our interview with John Chowning, inventor of FM synthesis and father of the Yamaha DX instruments that use those principles. Questionmaster *Simon Trask*
Photographer *Jerry Uwins*

hands-on experience with. Happily it's worked out well, and Yamaha have kindly provided us with the gear and provided him with the time to work with me.

We also discussed the possibility of he and I working on an FM tutorial that would cover both the theory and the practice of FM. This is now well under way, and should be available before the end of the year. Unlike the original paper that I wrote, we're doing this for people who are musicians – in a sense, for myself, remembering how I learned and understood with very minimal knowledge of mathematics. We're also doing this bearing in mind that you can also use instruments such as a DX7 as a very effective means of pedagogy – that is, teaching people not only

'People who feared technology felt that it could only create universal sounds – but they didn't understand the power of digital technology.'

about FM but also about acoustics and some aspects of psychoacoustics, which are very important to understand. We hope this will be a great aid for those who want to program FM sounds.

What led you to the idea of writing a piece which would make use of the new Yamaha equipment?

I realised that the GS1 was an instrument with a keyboard which felt comfortable to pianists, and that the sounds could respond to gesture in a way that was natural to pianists. Consequently I felt that some pieces from the 'art music' world could be done with these instruments, and that maybe some really skilled, virtuoso pianists could think about playing these keyboards now. The sounds will obviously not be the same, but what they do with gesture could be captured and effectively used. So I thought about a piece using GS1-like keyboards with maybe a computer

connected so that I could have some kind of control over the timbres under the pianists' fingers. So I proposed this and asked Yamaha if they'd let me have some of this equipment so that I could write the piece for three or four keyboard players. And then about this time the DX7 came out, which was really based on the DX1 and had one of these good keyboards but a better synthesis algorithm than the GS1. It was more sophisticated, and the timbres were more varied and more extensible.

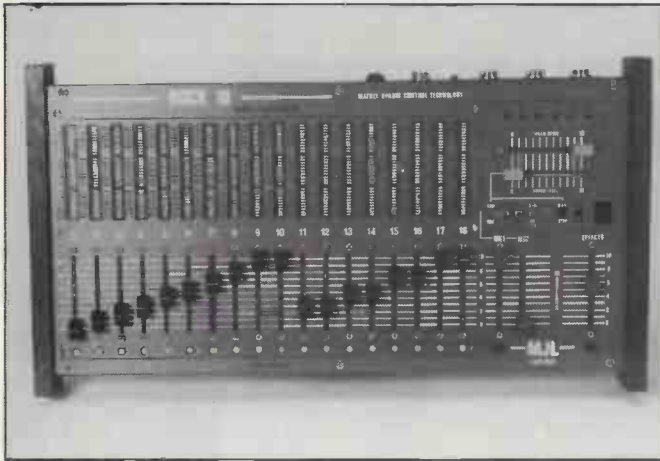
You were used to working with very powerful computer systems. Didn't you find the DX7 a bit of a come-down?

In raw synthesis power that's true, but remember there's some things you can't get at except in real time of the sort that you have on the DX7. At Stanford we have a very powerful digital synthesiser controlled by a PDP10 computer, with absolutely arbitrary control over, for instance, the number of operators, the number of envelope segments, independent segments for frequency and amplitude, and independent frequency of each operator. It's real-time computation, and it could be performed in real time, though we don't have it set up for that because it's used in a time-sharing, lab context.

When I first had experience of the KX88 controlling the DX7 or TX816, I called that real-time squared, because it's another dimension which is not exclusive but complementary to the kind of experience that I've had. It's a bounded system, simpler than what we can do, but it's very well defined, so you tend to explore it in a more extensive way. And there's a kind of control over the synthesis and programming of the synthesis that you don't have unless you have a dedicated, unique system. So I've learnt a lot, and I think it's another qualitative experience – as I said, real time squared.

So at IRCAM I'm working on a piece for three KX88/TX816 combinations that'll be played by three pianists. David and I have been working hard at getting the best piano sounds we can out of the TX816, and we've done rather well, I think. Some of the tones we've produced are appropriate for classical ▶

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TECHtalk



▷ music, and I feel this has an interesting future. In the past, those who feared technology felt that although some interesting sounds might be produced, there would only be universal sounds. But they didn't understand the power of digital technology, and the fact that sounds can be particularised. We can imagine a future where each 'piano' can be particularised to the requirements of the individual player. The technology humanises itself, in a way, when it's understood and used in thoughtful ways. And the more powerful the technology becomes, the more flexible it becomes.

Anyway, we're using the DX7 to develop these piano sounds with a couple of algorithms. I'm asking good pianists to play this piece, and part of the concept of the piece is that as performers they make contact with a world that's very familiar to them, and yet they also make contact with a world that is not familiar to them – but the force of their learning and control in virtuoso gesture is effective. It's not a piano piece, but at a certain point in the piece I wanted to have the best possible piano sounds I could get. We've used a spectrum analyser a bit to get a feel for the spectral aspects of real piano tones, but mainly it's a matter of using your ears. David is a very skilled player, and as I'm not a pianist, his ability has been of very great value. He's worked on some of the high tones, though of course there's been a great deal of sharing of ideas.

The critical thing was finding an algorithm

for producing the very rich bass tones of the piano. So I've used an algorithm which has three operators in a cascade – 16 or 17, I think – and ratios which gave me a large bandwidth but with a lot of energy around the fundamental. The key scaling ability of the DX7 is also of great importance – the fact that you can fade out one operator's effect on the carrier wave and fade in another with perhaps a different ratio to the carrier.

What about the fact that performance of these instruments is rooted in the chromatic scale?

I would like to have control over that. There's a lot of interest within the 'art music' world in microtonality, and in inharmonic spectra coupled to alternative tuning systems (which I used in a piece of mine called 'Stria', composed in 1977). I hope that we can develop systems where the user has control over the division of the frequency space, and I think it would be interesting in the commercial music world, as well, to have the option of not using tempered tuning. A lot of musicians working with old music would love to be able to play with these quite remarkable harpsichord tones in, say, mean-tone temperament. And other musics have other kinds of tuning – Balinese music, for instance. There are lots of reasons to make the frequency divisions finer and available to the user.

Companies like Roland and Yamaha know that, but it's a question of how much extra

'Dave Bristow and I have been working hard at getting the best grand piano sounds we can out of the TX816, and we've done rather well, I think.'

computation they can allow in an affordable instrument. As soon as multipliers become less expensive, for instance, there's a whole world of signal processing that can be realised digitally, and that will be very exciting.

During the years of developing FM, Yamaha were working in a whole different area, namely that of large-scale integrated circuits. This is extraordinarily important, because it's there that we find the power of the implementation. The DX7 has two FM chips, one of which does all the envelope generation and the other all the operator computation. It's through this implementation in VLSI that these instruments can be relatively inexpensive, and yet still be very powerful. Gradually we will have greater control over more and more musically-important dimensions, and frequency control is one of them.

There are other aspects of FM implementation that I think and hope will be realised: the simulation of resonance structures, for

example. These are very appropriate for many categories of timbre, like vocal tones (with sung vowels), bassoon tones and some string tones. These have very strong resonant characteristics which can be nicely done with FM – but obviously it'll take more computation to achieve that.

You work primarily in the 'serious/academic' music world. What, in your view, is the state of that world at the moment?

Well, I think that MIDI is going to change it enormously, and that's much to the good. Ten years ago we had no choice, if we wanted powerful real-time sound generation, but to design and build our own devices. But had there been something on the market we certainly would have purchased it. Why have a unique device if it's always posing problems of maintenance, and which you can't take anywhere because it's big and heavy? So I think the development of MIDI-based instruments, which are modular and have a standard format for control, will be of great importance to 'serious' music.

At the last ICMC at Paris, there was a whole session devoted to MIDI control for the first time. Why? Because this idea of control is of enormous importance to all of us. It means we can construct a system of arbitrary components out of elements, in the same way that when I first began my work with computers, I used a big commercial machine which I designed by controlling modules of programs. The great virtue of these MIDI-based devices is that they are powerful yet affordable. So it's better to use a device like the 4X at IRCAM to do that which is unique to its capability, and use MIDI-compatibility and commercial devices to do what it can't do better. So if you want to do massive FM, get a TX816.

So what do you see as the limitations of MIDI?

Well, in the initial stages people were saying that MIDI wasn't fast enough, because if you tried to put, say, five DXs in series there would be problems concerning simultaneity. But already the industry is solving that through the introduction of MIDI branching units, and there are MIDI processors appearing to tackle all sorts of requirements and problems without the actual standard itself having to be changed. And I think that's very healthy, because it allows people to really understand what's of value in MIDI before the whole standard changes, so consequently any changes will be made with a good deal of forethought. Certainly a new standard will try to maintain compatibility with the ▷

'Everyone at IRCAM, Stanford and so on realises that if you're going to work on something now, it's got to have MIDI.'

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TECHtalk



▷ present standard, because nobody will want to make obsolete all this gear which is appearing now, and that's one of MIDI's greatest strengths.

I think that the value of the research centres, such as the one we have at Stanford, is that they can provide those methods and tools which can only be realised, explored and developed on large computer systems, but which can finally be implemented in more practical ways. This is, after all, what happened in the case of FM. And at Stanford, for instance, one of my colleagues who's a wizard at signal processing, Julius Smith, has a new idea for digital reverberation which maybe in the future will have a very great effect on what we can do in room simulation with affordable devices.

On the other hand, everyone in the world of IRCAM, Cornell, Stanford, UCSD and MIT and so forth realises that if you're going to work with anything today, it's got to have MIDI. Otherwise you're cutting yourself off from a whole development which can be done for you. So although I don't think we'll move just to MIDI-controlled devices, everything we want to do that concerns music production had better include MIDI.

As soon as I get back to Stanford we'll set

up a MIDI studio. It's been a wonderful experience for me seeing the first MIDI studio at IRCAM – the first one in an academic context that I know of. The 4X at IRCAM, which is DiGiugno's very powerful signal processing device, has MIDI In and Out as well, and that's important.

One area where we no longer compete is digital reverberation: we can't do better in the lab than they can do now with commercial products. So the 4X shouldn't spend a single tick of its power trying to do reverberation any more, because it can be done more effectively, at less cost and with more reliability by commercially available devices. MIDI is the answer, and if it's control you're after, MIDI should saturate your thinking.

That just about concludes what John Chowning had to say during the all-too-brief time I spoke with him. Considering we had little more than an hour, he managed to pack an awful lot in – and almost all of it was well worth hearing. It was certainly refreshing, meeting someone from an academic background who was so obviously capable of putting his own work into a realistic perspective, and seeing beyond the confines of the non-commercial arena. There should be more people like Dr John Chowning... ■

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▶ sequential potential

▶ just when it seemed the sampling keyboard contest was a one-horse race, the prophet people come up with an instrument that combines a polyphonic synth with a midi-controlled sampler. we've had a sneak preview of the prophet 2000, and we like what we see. ▶ impressions dan goldstein ▶ polaroids michael manni photographic

in the world of sound-sampling, nothing, and nobody, is safe. A year ago, you had to look hard to find something that could store external sounds within digital memory and let you control the pitch of that sound from a keyboard, but which cost less than £10,000. Now, there's a mass of manufacturers queuing up to offer precisely that, the latest of them being the pioneer of the programmable polysynth, Sequential Circuits.

It's from Sequential's San José, California home that the design of the new Prophet 2000 keyboard originates, and it's there that the £2000 instrument will be made (production should be in full swing by the time you read this). But given the prowess with which Sequential have produced analogue synthesisers in the past (Prophet 5 and T8, Pro One), it isn't surprising that they should be clinging to that technology even now. In fact, their obstinacy is a blessing in disguise, for the 'synth' bit of the Prophet 2000 is the biggest single factor that separates the American newcomer from its immediate competition – present and, as far as we know, future.

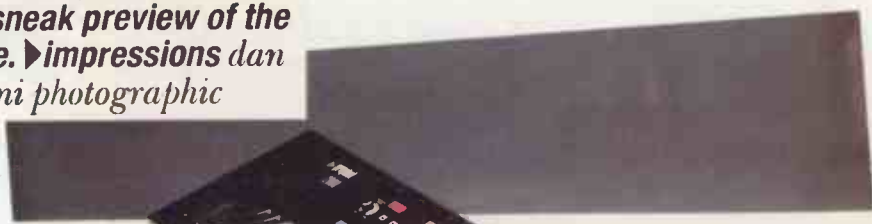
To begin with, Sequential's design people have recognised that the worst thing keyboard players can have when they switch on an instrument is a machine with no sound in it. Thus, the new Prophet (I make it the fifth SCI keyboard to bear the name) comes equipped with a selection of basic analogue synth sounds, stored away in ROM away from prying programmers' imaginations. The sounds are generated using six fairly straightforward analogue waveforms, and you can edit them using a reasonably comprehensive array of familiar user-adjustable synth parameters. These include two ADSR envelope sections (one for the filter, the other for the amplifier) that include a footswitch-activated second release time parameter, and a single LFO with six variable parameters, viz rate, initial amount, velocity amount, amplitude, filter and vibrato.

Some of the preset sounds aren't bad at all, with the piano-type voices standing out as belying their humble synthetic origins. In general, the ROM voices sound fairly modern but very un-Sequential. Those who dreamed of a sampling keyboard that had a Prophet 5's synth voicing circuitry built in are in for something of a rude awakening

when they power up the 2000 – but the dealers should love it for its instant 'demonstratability'.

The synth section on its own would scarcely be worth two grand, though, so the sampling end of things has to be good, too. And it is, even though the model we took a peek at was a pre-production prototype with a lot of software still to be written and more than a few question marks hovering over things like MIDI spec and compatibility.

For the spec-hungry, the Prophet 2000 gives the user a handy (and as yet unmatched) degree of control over parameters such as sample length and bandwidth, sampling rate, input level and so on. The maximum sample time is a highly respectable eight seconds (compared with the Mirage's four), this at a bandwidth of 8kHz. If you value quality over quantity, you can store, say, a three-second sample with a frequency response of 20kHz. The sampling rate is also variable, though you



have to select from three preset values rather than adjust the rate continuously. The Ensoniq scores here, but its highest rate is nothing like the fastest of the Prophet's trio: 15kHz, 31kHz and 41kHz.

Sampling on the 2000 seems a simple enough exercise, aided by the machine's front panel LEDs doubling as peak level indicators, and the alphanumeric display volunteering information on things like threshold and pitch. Knowing just what sort of sample rate, threshold level and input level you need is a matter of trial and error, but that's true of all sampling instruments, really. Still, there's no doubt the new Prophet could do with having a bit more in the way of data display. In the age of the multi-character LCD and the full-colour CRT, the 2000's complement of red LEDs seems decidedly mean – not to mention limited in the amount of information it can provide at any one time. Plans are afoot for the writing of MIDI-based sampling/editing software for various home computers both in Europe and in the States, but that isn't going to materialise for a while, and not everybody has a micro...

Soundwise, and replaying samples taken from the line output of a fairly dodgy cassette recorder, the Prophet held its head well above water. And sampling a digital brass sound from a certain Far Eastern FM polysynth reviewed elsewhere this issue, you had to listen hard to notice the difference.

If you're at all interested in sustaining your sound samples, looping has got to be high on your list of sample-manipulation functions, and the Prophet 2000 is well equipped in this department. It offers not one but two looping facilities for each sample, so there are a total of four user-selectable loop points to be considered: sustain start, sustain end, release start and release end. So even without the envelope controls of the Prophet's synth section, you can take quite major decisions on how your sample is going to behave over time – and act on them without encountering too much operational hassle.

But the Prophet 2000 is likely to win most of its supporters on account of the sheer number of possibilities thrown up by the combination of synth and sampler. Sadly, we scarcely scratched the surface of what might be possible in the afternoon (nay, less) that the new machine was in our

grubby paws, so objective comment on those possibilities will have to wait.

One thing is certain. Sequential have made sure you can use your creations to really 'perform' with by including a number of scintillating 'performance' options. Not only does the 2000's five-octave keyboard have a weighted action and velocity-sensitivity (routable to both filter and amplitude envelopes), but it's splittable at any point you see fit, and you can configure its eight-note polyphony to perform any number of split/layer operations, all transferable/receivable over MIDI. Especially neat is a mapping function that allows you to arrange two layered samples so that the first is audible under normal playing pressure, while the second comes into play as soon as you strike the keys with greater velocity.

None of these performance configurations would be much use if you had to set them up each time you powered up the Prophet 2000, but like most of the machine's variable parameters, their values are all storable to disk, courtesy of a built-in 3.5" microfloppy disk drive. And unlike the Mirage, which forces you to buy ready-formatted disks at vast extra expense, the 2000's operating system does the formatting itself, so all you need buy is standard, unformatted blank disks. Sequential will also be offering an extensive library of factory samples, for the lazy, the curious and the pressured.

When can you expect to see the Prophet at your friendly neighbourhood music store? The beginning of October, say Sequential, though the initial shipment isn't going to be a big one, as everybody expects demand for the synth/sampler to outstrip supply comfortably for at least the first six months of its availability. They're probably right, though we're going to make sure we get our hands on a production model for a fortnight or so before we commit ourselves to heaps of unmitigated praise. By that time, the internal software should be complete, and there's talk that its capabilities will include transmission and reception of sample data over MIDI, a user-variable MIDI baud rate, and multi-timbrality à la Sequential's recent polysynths.

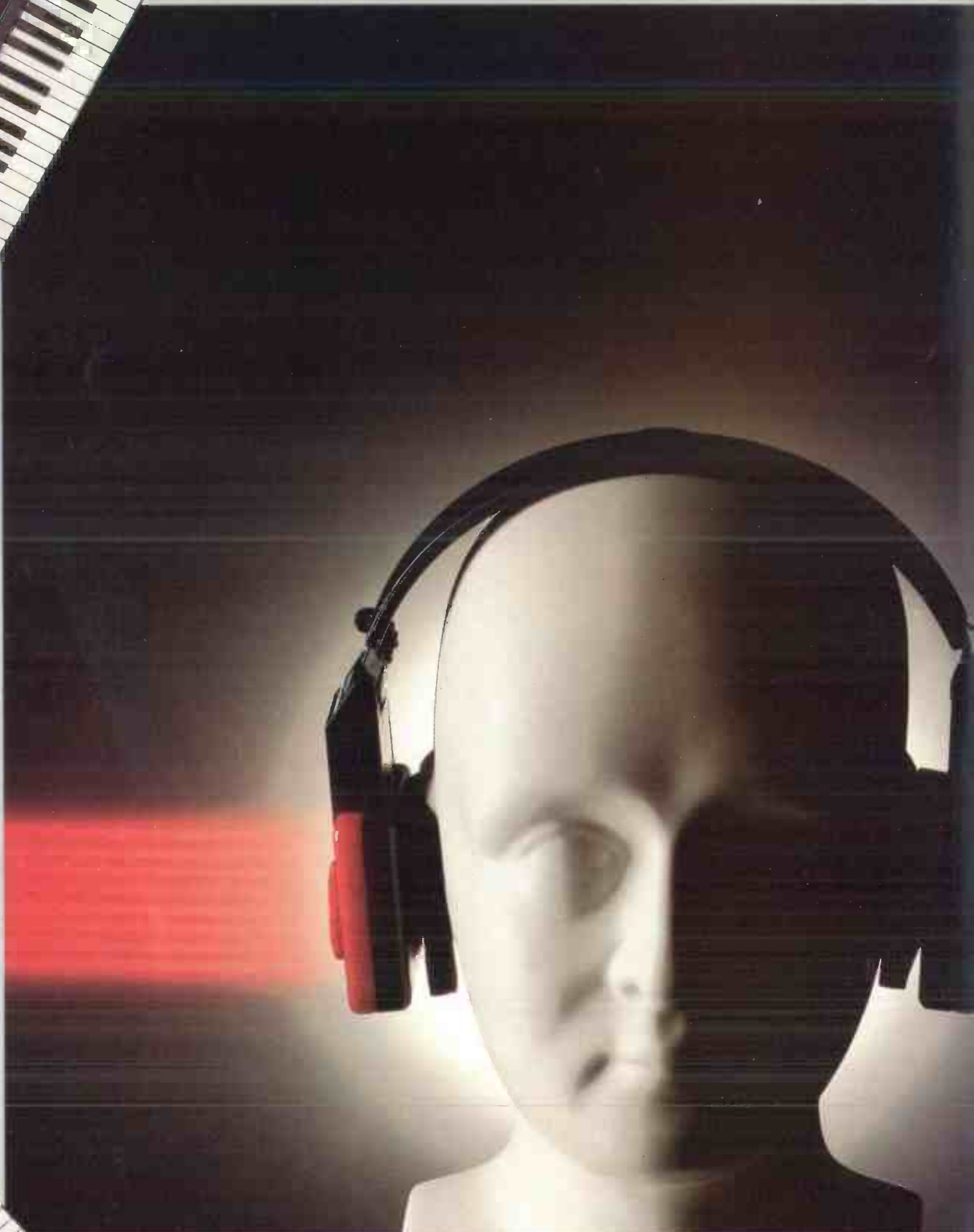
One to watch, definitely. ■

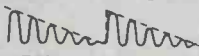


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SYSTEM

Exclusive

The Commodore 64 version of Island Logic's Music System benefits from MIDI and a superior internal sound chip. But is it a sequencer for the serious musician, or an interesting toy for the computer buff? *Simon Trask*

Island Logic's first foray into the world of music software was a version of The Music System for the BBC Micro (reviewed in E&MM December '84), which used the Beeb's internal sound chip to produce all its musical cavortings. Nothing particularly new (or attractive) about that, you might think. But what was mildly wonderful about The Music System were the graphics techniques it employed – all the icon, window and pull-down menu paraphernalia that look like being *de rigueur* on the new generation of 16-bit micros, but programmed on an eight-bit micro. The only thing missing was a mouse.

There still aren't any mice in sight now that the package has been adapted for use with the Commodore 64, but the software writers have affirmed their ability to work wonders with an eight-bit micro. The 64 version follows its predecessor in making use of the host computer's internal sound chip, but this in itself is an improvement, as the 64 uses the superior SID chip. What makes the package much more attractive to pro and semi-pro users is its new-found compatibility with MIDI, though apart from this digital link with the outside musical world, the new system should be familiar to anyone who's encountered the BBC version.

The Music System (or TMS, as the manual calls it and as I shall call it from now on) consists of six software modules, all of which have to be called up from an icon-driven control screen. Whenever a new module is selected, it's loaded from disk with a typical loading time of about 25 seconds, though a further 10 seconds is taken up each time you

return to the control screen. This isn't too much of an irritation, but what it does entail is a fair bit of disk-swapping once you've got a few music files saved on your own disk.

The six Commodore TMS modules are the Editor, Keyboard, Synthesiser, Linker, Printer and MIDI. The first five of these are dedicated to the internal sound chip, but the good news is that music files generated from MIDI input (ie. in the MIDI module) can be translated into internal TMS music files for use by the other modules in the system. Likewise, internal TMS music files can be translated into MIDI music files for performance on professional synths and that sort of thing.

Time to look at those modules individually. The Editor is a step-time sequencer which allows you to work within the context of a traditional music score display with treble and bass clefs, entering a maximum of three monophonic parts (the SID chip has three voices, remember). A vertical white band – which the manual calls the 'note cursor' – indicates the current step, and you enter your music by sliding a note up and down the staves to the correct position and selecting the required note value.

Just by way of a contrast, the Keyboard module is a real-time sequencer which presents you with an on-screen music keyboard diagram, and allows you to enter notes from the Commodore's QWERTY keyboard. In a fit of quite unprecedented honesty, the manual points out that this method of input is capable of handling only a limited resolution and speed. But once you've saved an internal TMS music file created in this module, you can transfer it to

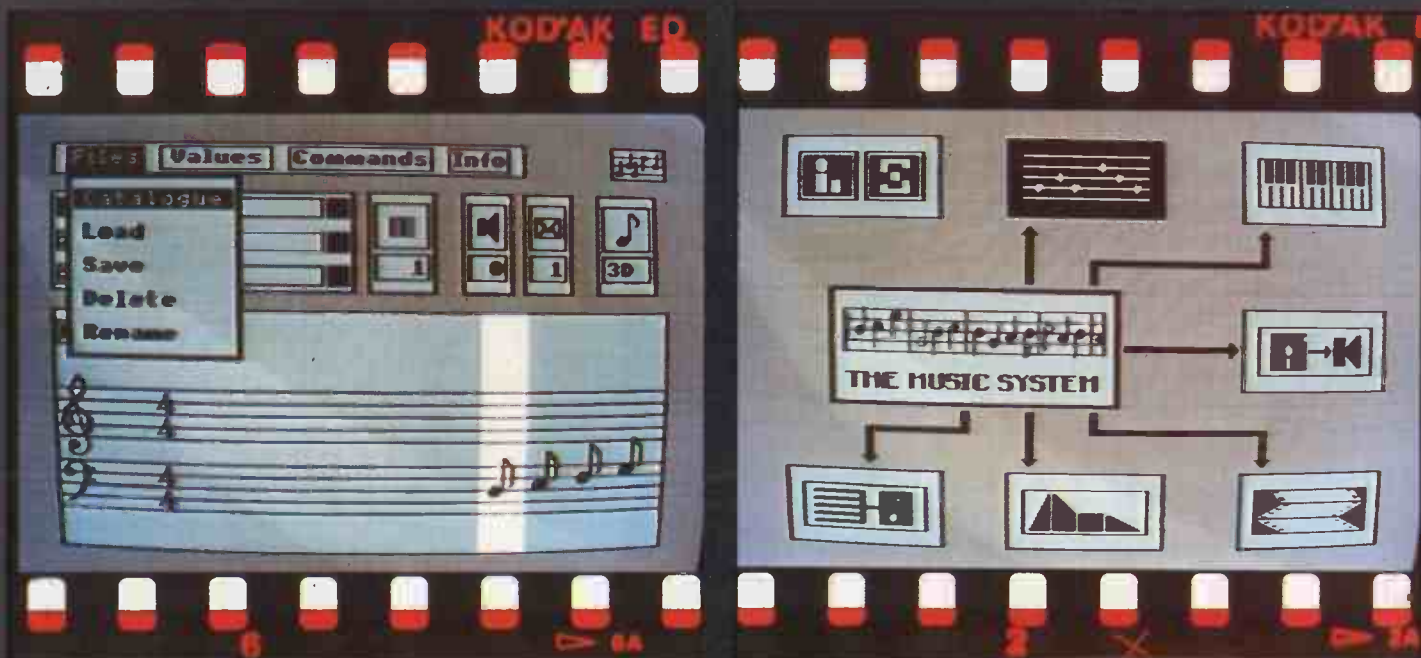
the Editor module for further, much more detailed work.

So, the Editor, Keyboard and MIDI modules represent the three possible ways of entering music into TMS. Of the remaining modules, the Synthesiser allows you to set up 'patches' for the SID chip which you can then use in the music-creation modules, the Printer allows you to print out your musical efforts – complete with lyrics if you're doing a Leiber as well as a Stoller – and the Linker lets you string together up to 26 different music files.

It's worth paying some attention to one particular feature that's common to all the modules: the command line. This is where the pop-up menu concept comes into its own. Four such menus (Files, Values, Commands and Info) may be selected from each screen by pressing one of the 64's function keys, and although the name and overall function of each menu remains the same, the actual content changes according to which module you're in. When you select one of the menus, a window 'pops up' on a portion of the screen, giving the relevant list of options. If the number of options exceeds the window's display capabilities, you can scroll through the menu. A second window overwrites the first if you select an appropriate option, to present further information and allow further action to be taken.

This method of operation applies to all the pop-up (or 'pull-down') menus, and it's both quick and easy. I found it particularly helpful for the way it gave the presentation some kind of visual continuity, instead of transporting me to a dedicated menu screen as is traditionally the case.

As you might expect, Files is responsible for disk access, and allows you to Catalogue, Load, Save, Delete and Rename files. Values presents you with a list of parameters such as key signature, time signature, tempo and resolution. Commands presents a set of macro-level operations which allow you to manipulate the material currently being accessed – the music you've input in the Editor or the sound parameters in the Synthesiser module, for instance. Last of all, Info provides some general hints on things like available note storage space, current note allocation for each voice, and other



global voice information.

TMS uses six file types. There are music files, sound files, MIDI files, Linker files, Notepad files and Text files. The first four are pretty self-explanatory, and of the other two, Notepad files store sections of music in the internal (non-MIDI) data format which can then be used in 'cut and paste' operations on music in the Editor, while Text files are used to store lyrics, and are created and used by the Printer module.

Now that we've got an overview of the system, let's look at the constituent modules in more detail, starting with the Editor, as this is where most of the work gets done (and don't I know it - Ed). The facilities it offers can seem a bit overwhelming at first, but this is a sure sign that the module gives you a fair degree of flexibility when it comes to manipulating notes. And what you *don't* have to do is memorise a set of commands before you can do anything. Why? Because nowhere is TMS' emphasis on good visuals more apparent than in the Editor. Before you know where you are, you're putting notes on the Voice Monitor window display of treble and bass clefs, inserting and deleting to your heart's content. As mentioned earlier, you move a note up and down a vertical 'note cursor' bar, and you can listen to the note at any stage before choosing a note value and moving to the next step. Thus each step is a note, rather than a duration.

The attributes of a step are note pitch, duration and envelope. The envelope can be any one of a set of 15, which you define in the Synthesiser module and save to disk as a sound file. So you can easily have an envelope (and in TMS, an 'envelope' includes waveform and filter definitions as well as the standard ADSR) for each note, should you wish.

A note sequence can be stepped through in either direction at any time, and once an entered note has been arrived at in this scrolling fashion, it can be altered just as if you were entering a new note - and needless to say, steps can be inserted and deleted at will.

The Voice Monitor window can display only one voice at a time, but you can flip instantly between the three voices at any time, and the voices are always aligned. The display is commendably clear, but the lack of any beaming of notes might make things less

clear if you've got a lot of smaller note values flying around.

Key signature, time signature and tempo are global parameters entered via the Values menu. Key signature can be any available key, while the time signature can range from 2/16 to 16/2, and the tempo from *grave* to *prestissimo*. Any note can be redefined across the complete range from double flat to double sharp, and notes can be tied and given triplet status. It's also possible to define repeat sections and first- and second-time repeat sections for each voice.

A further feature is the 'loop section', of which there can be up to 20 in each voice, with each section selectable from the Values menu. A loop section repeats for the duration of the longest voice (or indefinitely if it's the only voice or if all the voices are loop sections), which makes it rather handy if you want a repeating bass line to improvise over, say.

And there's still more. You can set two markers in each voice to define what are called 'macros'. Put simply, these are functions which can act over many notes in a voice instead of one note. Thus, you can transpose by a fixed amount all the notes in a section (this is like a key change, though there's effectively only one key signature per voice), assign the same envelope number to all the notes, or even delete whole sections at a stroke.

There's yet more flexibility to be found if you delve into the workings of the notepad files. Again, you use the markers to define a section of an individual voice to be acted on. In this case, you can copy or move any section of between 1-999 notes to a spare area of memory, whence it can be saved to disk as a notepad file, or copied, or moved into another voice. There can only be one notepad file in memory at a time, but this doesn't pose any particular problems as long as you remember that the limitation is there.

What's really nice about the 'notepad' approach is that it's so open-ended - you can use it in the way that best suits you. One possible use is to append whole music files to one another, so that you can 'build up' files created in the MIDI module which can't in themselves be added to.

I've dwelt on the Editor module because it really is the 'nerve centre' of TMS - even

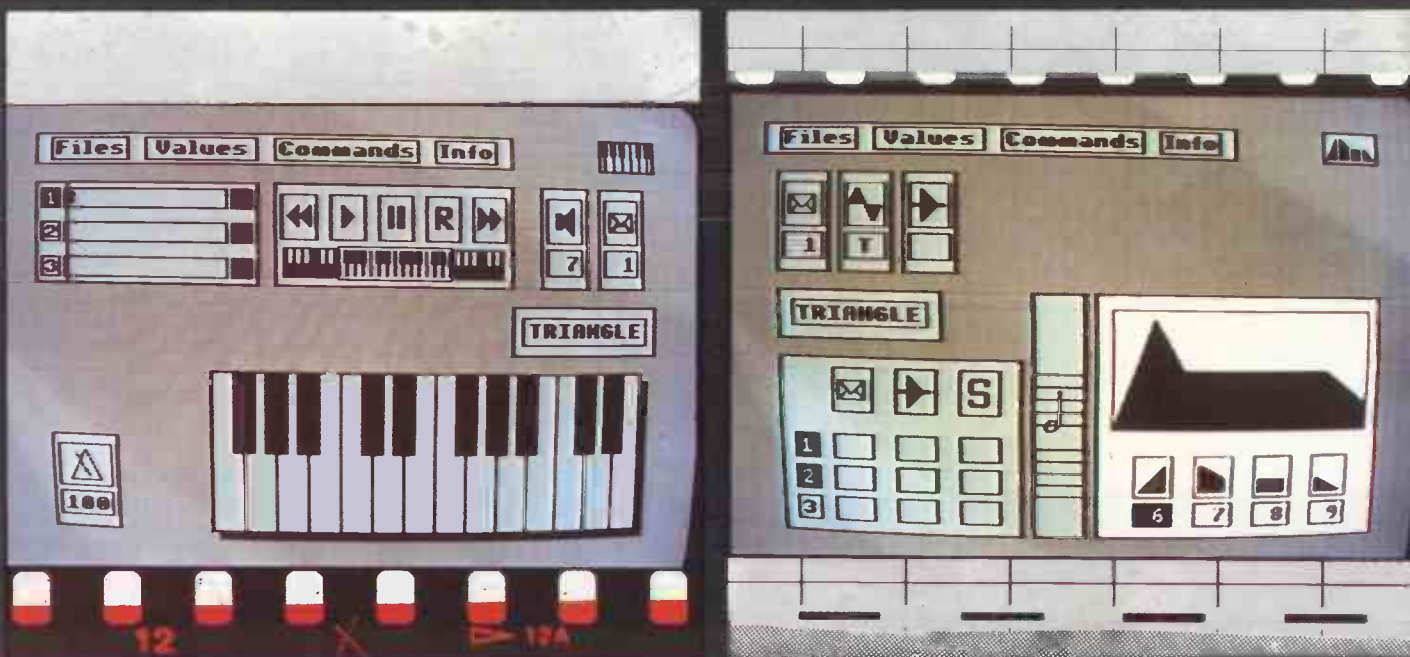
though the MIDI module can be used successfully in a stand-alone capacity.

As an alternative, the Keyboard module isn't exactly my favourite way of entering music, but it does provide anyone who doesn't go the MIDI route with the opportunity to play in something approximating real time. As with the Editor, you can enter three voices monophonically over a four-octave range, and a rough guide to space used/available is provided by three horizontal bars on the screen. The currently-selected voice can be displayed in the Voice Monitor window in both Record and Playback modes, while a third mode with the unfortunate name of Tinkle allows you to play the keyboard without having to record or playback anything at all. Music and sound files can be loaded into the Keyboard module, but only music files can be saved, and your real-time doodlings can't be saved as notepad files - you have to load them into the Editor as music files and then save them into the notepad area first.

The Printer allows your parts to be printed out in a format identical to the on-screen stave arrangement. There are limitations, of course - a music file with more than 255 bars in Voice 1 won't get printed, while bars *must* be aligned across the voices and all non-empty voices selected if you want to see your lyrics. It would have been nice if the module had allowed you to 'tidy up' the score a bit - put in beams for notes where applicable, and add performance indications.

The main point to bear in mind here is that the Printer module is designed down to the limitations of the SID chip. If you're only dealing with SID, that's hardly a problem. But if you're thinking of using the MIDI module, it's worth remembering that the Printer isn't going to be very co-operative if you ask it to print out your glorious six-track polyphonic ramblings.

The Linker module is a handy way of including tempo, key and time signature changes in to a piece. Internal music files can be loaded in any order and then chained together in any order as a sequence. Up to 26 music files can be loaded at any one time (depending on memory available), and sequences can have up to 100 links. The loaded music files can be saved as a Linker file together with the performance sequence, so



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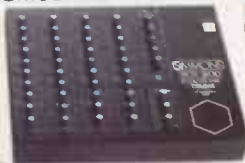
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▷ that the complete file effectively becomes a single composition. What a pity, then, that Linker files can't be transferred to the MIDI module for performance...

The Synthesiser module is where you get to play around with the parameters of the SID chip and create sets of sound patches. These Island Logic people never seem to do things by halves, so the Synthesiser ends up being the most sophisticated editor available for the SID chip. It even manages, through some cunning software manipulation, to include features which aren't normally available from the chip itself.

You can either load a music file and alter envelope parameters in real time as the sequence plays, or try out your sounds with reference to a single pitch which you can determine. In the former case you can, obviously, hear a particular sound in context and take full advantage of the aforementioned loop sections for isolating particular parts of a sequence – though you can't actually set up loops in the Synthesiser module itself, which is a pity.

A 'circuit' of windows provides ready access to the various SID chip parameters, and a graphic approach is used wherever possible, hence the display of ADSR parameters as a block graph which reshapes itself as you alter the parameters. Various macro-type commands are provided for broader control of variables, and as well as SID's standard parameters, Island Logic have implemented a couple of extra features in software. These are two dynamic response envelopes, one of which is a three-stage pitch envelope with a pulse-width sweep option, while the other is a filter sweep which takes the currently-assigned filter type and varies the filter cutoff according to a user-defined sweep 'envelope'.

So for anyone wanting to grapple with the SID chip, this module should provide more than enough in the way of facilities.

But as I've said, what's going to matter most to the pro or semi-pro user is TMS' newly-realised MIDI capability. Before going on to discuss this in detail, there's the small matter of a MIDI interface, without which you won't get very far. Island Logic don't actually market their own interface, which in itself is no bad thing – there are already plenty of the things in existence, all of them incompatible with each other. TMS is compatible with Passport and SIEL CBM64 interfaces, and the makers don't guarantee the package will work with any other MIDI interfaces (and you thought MIDI was supposed to be a standard?). So if you want to hook up your Jellinghaus or Joreth interface to TMS, you're out on your own.

To the software. Basically, what you get is a real-time sequencer with six polyphonic tracks and a total storage capacity approaching 3000 events. It records most standard MIDI performance information: patch changes, sustain on/off, mod wheel, attack velocity, pressure and so on. Pitch-bend information wouldn't reproduce on our test copy, it also cut off all subsequent recorded data (a bug in the software, perhaps). Facilities you don't get are MIDI channel assignment (hard luck if your inputting keyboard is a DX7 or Poly 800), sequence looping, data filtering or edit punch in/out. That sounds like a long list, but remember there are a few dedicated sequencers – costing four times as much as this software and interface combined – that E&MM OCTOBER 1985

don't offer these facilities, either.

On the plus side, you can pause recording simply by pressing the space bar, alter the tempo of your recordings, delete either specific tracks or the whole lot of them at once, record to a metronome pulse generated by the 64's sound chip (remember, SID takes a break while you give your synth a workout) and select tracks for playback individually. And as with the other input modules, you can call up the Voice Monitor window for a display of the currently-selected voice (here in Record and Playback modes).

The MIDI module doesn't provide you with any editing facilities, but you have to

balance this against the facility to convert MIDI files to internal music files for subsequent use in the other modules (followed by conversion back to MIDI files, if you so wish). There are some sacrifices, though, mainly connected with the fact that the rest of TMS' modules were designed to work purely with the SID chip, not for MIDI applications. So for instance, any file you transfer across to the internal system has to be not more than three-voice polyphonic. The system allows you to assign up to three MIDI tracks to a file for conversion, and these should all be monophonic, even though the MIDI tracks can in themselves be polyphonic. Actually, if you assign polyphonic tracks for conversion the system will go ahead and convert them anyway, but any chords will be resolved into rapid staccato arpeggios – so rapid that you can hardly hear them, in fact.

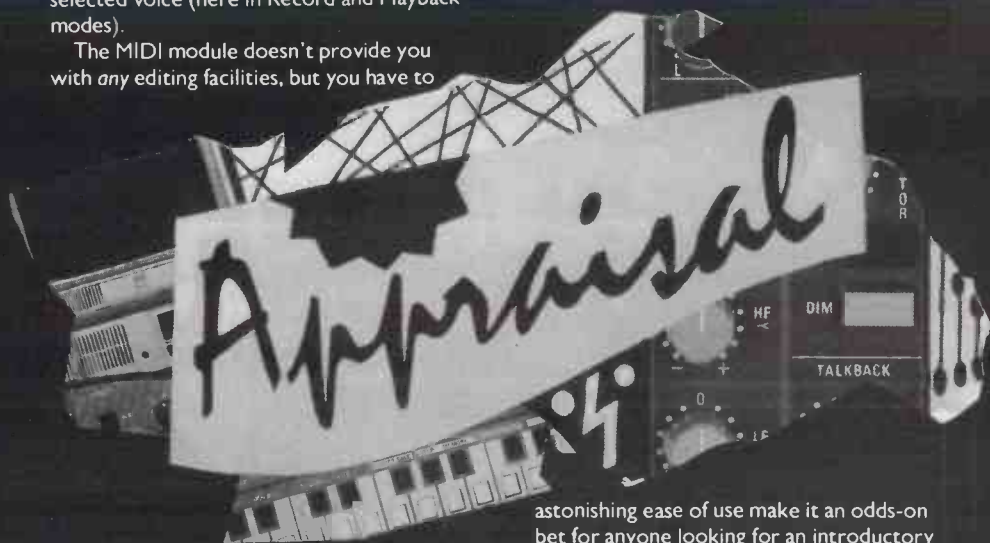
But once you've got over the disappointment of your multi-keyboard sonic attack being reduced to a mere three-part whimper, it's also worth bearing in mind that any MIDI performance parameters apart from patch changes are irretrievably lost in the conversion process. Patch changes are exempt from this torture because as long as they're in the range 0-15, they're converted to corresponding SID chip envelope changes (and reconverted to the original MIDI patch changes on conversion back).

Potentially more serious than these transfer limitations is the fact that you can't use the facilities within TMS as an add-on for a dedicated MIDI sequencer. The MIDI module doesn't respond to MIDI Start, Stop and Continue codes (or, presumably, MIDI timing bytes), which means you can't synchronise it with another sequencer of any description. A lost opportunity, I'd say, though there's nothing to stop you copying parts manually from another sequencer if you want to do some detailed editing or print out your music, for example.

On the whole, the system struck me as

being quite robust, and any operator errors (including those involving disk access) are trapped with informative error messages. The 90-page user manual is as clear and as thorough as its length would suggest, with plenty of diagrams relating to what you actually see on the screen. But like any good book, it would benefit from a detailed contents page and an index – seeing as ours was a draft copy, maybe the final version will include these.

The Music System's wealth of facilities and



astonishing ease of use make it an odds-on bet for anyone looking for an introductory music package that doesn't have to be dedicated to MIDI. If you fit into that category, TMS is the package to go for; no ifs, no buts.

On the other hand, there can't be too many computer-oriented musicians nowadays who are willing to make do with music software based around a computer's internal sound-chip – the proliferation of MIDI-dedicated software has put paid to that. So even with its MIDI capability (and don't forget you'll need to purchase the requisite interface, at maybe three times the cost of the software itself), TMS may not be such an attractive proposition to pro players who value voicing flexibility above all else. In fact, the MIDI module is usable as a stand-alone feature, but any interaction with the rest of the system is designed within the limitations of the SID chip, which, as we've discovered, are really quite serious. The reason that's been done is simply that the poor Commodore doesn't have enough memory to cope with presenting this sort of visual display and processing 16-odd channels of MIDI data simultaneously. A pity, but there you go.

But remember this: The Music System is undoubtedly a model for the next generation of music software written for 16-bit machines such as the Atari ST and the Commodore Amiga. Its price is low enough for anybody interested in music software development to go and get it, just for the sake of seeing how it presents its options – regardless of whether they fit into the muso or the micro buff categories. ■

Release of The Music System is scheduled for October. RRP of the complete system is £39.95 (disk only). The Editor and Synthesiser modules are available together on disk for £17.95, and on cassette for £14.95.

While this review was being written, distribution of The Music System switched from Island Logic to Firebird Software, the games software arm of British Telecom. More from Firebird, ☎ 01-3796755.

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 Rolands new SRV2000 Digital Reverb offers a unbeatable new market leader in digital reverberation! With the worlds first MIDI controllable unit. Look at these features and compare the competitors price! 24 memories! Parametric EQ control for room size PRG delay. Gate/Damping, Rev time MIDI + 6 integrated display, stereo output of up to 99 seconds! Many other features!

NEW

IN STOCK NOW!!

ROLAND DIGITAL DRUM SYSTEM

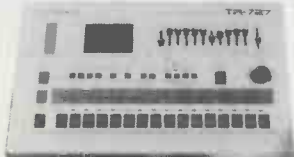
NOW WITH FANTASTIC NEW SOUNDS



State of the Art Sounds and performance DDR30 drum module has PCM sound, sophisticated editing + MIDI in and out. All pads natural feel and fully touch sensitive.

IN STOCK NOW!!
£1395

NEW



TR727 DIGITAL MIDI PERCUSSION COMPOSER

IN STOCK NOW!!
£465

Rolands new TR727 continues their fantastic success in low price, a high quality rhythm unit featuring real and step time, 69 patterns, MIDI, graphic display, independent outputs, memory expansion cartridge. New TR727 percussion sounds include Bongos, Conga, Timbace, Agog, Cabasa, Maramba, Whistle, Quisada and Tubular Bell!!!

NEW



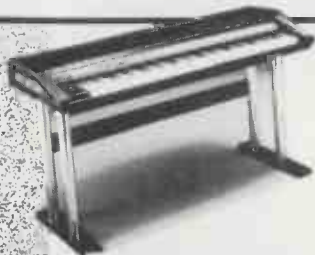
BOSS DSD2 DIGITAL SAMPLER/DELAY

Continuing BOSS's remarkable market domination. The new DSD2 offer the worlds first portable battery powered sampler delay in a compact pedal. Equally versatile as a sampler or delay featuring 200 to 800 milliseconds in sample MIDI with pitch variation and overdub facility! Incredible!!

IN STOCK NOW!!
£175

NEW

FUTURE MUSIC



MKB1000 – MKB300
MIDI KEYBOARD
CONTROLLER

MKB1000 & MKB3000
WITH FREE STANDS (AND
FLIGHT CASES WORTH
OVER £300

SPECIAL OFFER!!

MKS80
SUPER JUPITER
MIDI 8 VOICE MODULE
£1589



MKS20 PLANET
POLYSYNTH MODULE
£769



BOSS MICRORACK SERIES

Range includes:
 RDB-10 Digital Delay £175
 RCL-10 Compressor/Limiter £110
 RBF-10 Flanger £110
 RPH-10 Phaser £110
 RGE-10 Graphic EQ £110
IN STOCK NOW!!



ROLAND PIANO PLUS 50/100 MIDI ELECTRONIC PIANOS

Rolands New Series of HP100/50 Electronic Pianos offer 4 superb new sounds with the MIDI connector! 76 keys stereo, key transposition, built-in speaker, chorus and with touch sensitivity and MIDI channel program assigns capability make an ideal budget MIDI keyboard controller, as well as a piano

IN STOCK NOW

SPECIAL PACKAGE OFFER



ROLAND GUITAR SYNTHS
– GR707 & G700

With a choice of 5 guitars or custom fit your own guitar. Fitted by experts! Call for details!

LIMITED OFFER £1795

SPECIAL PACKAGE OFFER

G303 + G707

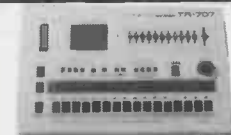
£595!!

ONLY A FEW LEFT

GR300 GUITAR SYNTH
FLOOR UNIT £295!!

TR606/TB303
PACKAGE £299!!

MC202 £175!!
MIDI MC4B + OP8M
£399!!



TR707/TR727
PACKAGE £925
INC FREE CATALOGUE

KEYBOARDS

All keyboards include free stand!

JX8P + stand	£1150
JX8P + PG800 + stand	£1299
JX8P + stand	£599
JUNO 106 + stand	£1999
JPB + stand	£1999
SH101 + MGS1	£225
JUNO 60	£359
JPB	£399
MKB 1000 master MIDI controller	£999!!
MKB300 master MIDI controller	£999!!
AX1S remote keyboard	£399!!

AMPS

JC120 jazz chorus	£475
JC50 jazz chorus	£299
JC77 jazz chorus	£299
CUBE 50K keyboard	£275
SUPERCUBE 40 lead	£199
SUPERCUBE 60 lead	£239
SUPERCUBE 100 lead	£299
SPIRIT 25A lead	£139
CUBE 40 chorus	£199
CUBE 60 chorus	£259

BOSS BARGAINS

DD2	£135
DR110	£125
CE3	£75
CE2	£75
BF2	£99
CE300	£185
DM3	£99
HM2	£49
PG2	£49
HA5	£99
DSD2 sampler delay	£175

SEQUENCERS

JS660	£399!!
MSD100	£329!!
MSD100	£399
MC4B	£399!!
CMU800	£99
CMU802	£49!!
TB303	£175

PA & EFFECTS

SDE1000	£395
SDE3000	£799
DE200	£399
SDE2500 new MIDI	£299

All above available including Delta Sound Sample hardware fitted

EPH001!!	£149!!
SST40 PA speakers	£186!!
SS760 PA speakers	£189!!
SS180 PA speakers	£199!!
SRA2000 digital reverb	£1399!!

SUPERDEALS! ALL EX-DEMO OR S/H

JX8P + PG800 ex dem	£1195
JUNO 106 s/h	£565
TR909	£250
TR808	£250
MSD100 sequencer ex dem	£350
JS660 sequencer	£75
MC4B	£399
RM1200 mixer	£495!!
RM1600 mixer	£995!!

DRUM MACHINES

TR707	£465
TR808	£250
TR727	£465
TR606	£185
CR8000	£299
CR5000	£249
PH110	£125
BOSS MKB100	£49
NEW Electronic kit	£1395

GUITAR SYNTHS

GR300 + GR303	£750!!
GR300 + GR808	£795!!
GR300 + G207	£595!!
GR300 + G505	£895!!
GR300	£295
GR700	£1395!!
G707	£650!!
G707 + GR700 package	£1799

CALL FOR
EXTRA SPECIAL
SUMMER PRICES

JUNO 106 POLYSYNTH



THE WORLD'S BEST SELLING ANALOG SYNTH!
 NOW ONLY
£699!!
MIDI – 128 MEMORIES

JX8P TOUCH SENSITIVE POLYSYNTH



Rolands Brand New Digital Analogue Polysynth with optional PG800 Programmer
AVAILABLE NOW JX8P £1165



YAMAHA GRADE 1 HIGH TECH DEALER

DX21 IN STOCK NOW £599

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



NEW

RX21 IN STOCK NOW! £249!

9 Voices – 56 Programmable & 44 Preset Pattern Memory – MIDI Compatible – Cassette Storage



NEW

DX5 IN STOCK NOW £2999

Digital programmable synthesizer. State of the art performance yet affordable! 76 Key velocity sensitive with aftertouch 16 Note Polyphonic (dual) or 2 note Poly (single) 128 Memories, 6x2 operators 32 Algorithms! Split channels! MIDI 8 parameter digital EQ!



NEW

REV-7 IN STOCK NOW £1199



Yamaha break the price price performance barrier with the brand new REV-7! 19" rack mount unit with remote, simulates any reverb characteristics! New LSI chips give up to 15 early relections and 99.9 milliseconds of initial delay. Parametric EQ. MIDI, 30x presets, stereo, 60 user memories!!!

NEW

QX1 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!



PHONE

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, LCD display! Low Price!



PHONE

TX816/TX812 FM TONE GENERATOR SYSTEM

System of the future now! 8DX7s in a rack creating unbeatable versatility. 32 voices per module individual MIDI channel assign. TX8 12 ideal starter with two modules and rack expandable with additional TF1 modules!



PHONE

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! Just like a multi track but with digital quality!



PHONE

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.



PHONE

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.



PHONE

202 NEW KINGS ROAD, FULHAM, LONDON SW6
OPP PUTNEY BRIDGE TUBE
Tel: 01-731 5993
01-736 4771

10 BADDOW ROAD, CHELMSFORD, ESSEX
Tel: 0245-352490

104-106 ELM GROVE, SOUTHSEA, PORTSMOUTH, HANTS.
Tel: 0705-820595

85 ST MARY'S STREET, SOUTHAMPTON, HANTS.
Tel: 0703-26798

NEW STORE!!
173 KENTISH TOWN ROAD, LONDON NW5
NR KENTISH TOWN STATION
Tel: 01-485 1448

INSTANT CREDIT AVAILABLE



YAMAHA CX5 MUSIC COMPUTER

NOW WITH NEW SOFTWARE!! RX EDITOR!!
REAL TIME RECORDER!! DISC DRIVE!!
PRINTER!! PLAY CARD READER!!
AND MUCH MUCH MORE!!

SUPER NEW LOW PRICE!
CX5 MUSIC COMPUTER WITH
YK01 KEYBOARD PLUS 2
PIECES OF SOFTWARE £299!!

SUPER NEW LOW PRICE!!
CX5 MUSIC COMPUTER WITH
YK10 KEYBOARD PLUS 2
PIECES OF SOFTWARE £349!!!!

DISC DRIVE
£399

PRINTER
£269

PLAYCARD
£79

YAMAHA SPECIAL OFFERS

RX11
PCM DRUMS
£599



D1500
MIDI DIG. DELAY
£299



SE200
GUITAR
£115



RX15
PCM DRUMS
£399



R1000
DIGITAL REVERB
£399



SG1300T
GUITAR
£345



KX5
REMOTE KEYBOARD
£199



TX7/QX7
PACKAGE
£999



SG200
GUITAR
£145



PF10
PIANO
£449



SG300
GUITAR
£659



SG1000
GUITAR
£289



NEW

ensoniq MIRAGE

**IN STOCK!! THE SOUND SENSATION OF 85!!
INCREDIBLE FEATURES! SUPER PRICE £1695**

Ensoniq introduce the Mirage the first integral touch sensitive sound sampler at a realistic price! Look at these features:

- ★ Five octave velocity sensitive keyboard
- ★ 8 voice polyphonic
- ★ 16 different samples across the keyboard
- ★ Up to 8 second samples
- ★ 4 user samples split across the keyboard
- ★ On board MIDI sequencer
- ★ On board 3.3" floppy disk drive
- ★ 4 sounds per disk
- ★ MIDI in/out

ENSONIQ MIRAGE



IN STOCK NOW!!!

CASIO

CZ5000 NOW IN STOCK £899

CZ101 AND CZ1000

Casio's world beating CZ1000 now available with full size keys



**CZ101 £345 ★ CZ1000 £495
WITH FREE AS10 KEYBOARD AMP**

SZ1 DIGITAL SEQUENCER

Real or step time
MIDI, RAM cartridge
4 track 1800 notes

£245



DW6000 PROGRAMMABLE DIGITAL WAVEFORM SYNTHESIZER



A digital synthesizer that responds like a musical instrument! Korg's new DW6000 offers advanced digital sound quality with easy to use analog processing and control + MIDI interface. Look at these features! 8 voice 69 memories complete sound generation through harmonics synthesizer encoded in 2x256 ROM chips. 2 oscillators with 8 waveforms each

INCREDIBLE PRICE £699!!

KORG®

DW8000 8-VOICE POLYSYNTH

**64 MEMORY
VELOCITY SENSITIVE
£1199!!**



NEW



£399

KORG POLY 800



**SQD-1 MIDI
RECORDER &
QUICK DISC**

£599!!

NEW

FUTURE MUSIC



NEW

SEQUENTIAL CIRCUITS COMING SOON!

PROPHET 2000 DIGITAL SAMPLING KEYBOARD

£1995!



16 splits - touch sensitive weighted keyboard - formats own disk - 6 second sampling at 21KHz bandwidth - 10 second at 15KHz - MIDI



Introducing TOM. The state-of-the-art digital drum machine

£499!!!

The powerful new MULTITRAK. Fully touch sensitive polysynth, on board powerful sequencer

£695

**INCREDIBLE FUTURE MUSIC
SUMMER SALE PRICE ON
SEQUENTIALS MAX £395!
SIXTRAKS £495!
DRUMTRAKS £595!
LIMITED OFFER!**

SIMMONS

**FANTASTIC NEW PRODUCTS FROM THE WORLDS
LEADERS IN ELECTRONIC PERCUSSION!**

SDS9 COMPLETELY REDESIGNED 5 PIECE KIT WITH MANY NEW FEATURES

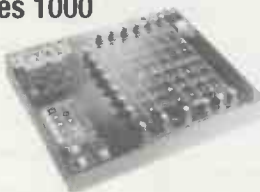
★ Snare drum has two pick-ups gives rim shot on cross stick as well as 3 digital snare sounds
★ MIDI in and out

SDS series 1000

SDS200

SDS400

SDS800



Add a Simmons system to your kit! Now with SDS Series 800 you can add a 4 piece kit at fabulous affordable prices.

SDS64

All new software for programming Simmons from Commodore 64 into trigger inputs terrific graphics.

£59

ALSO IN STOCK

SDS1

Simmons digital drum complete with choice of EPROM £249 Library sounds £24

SDS7

The worlds leading digital drum synth complete with stands with free BD pedal of your choice £1995

**SDS8
BARGAIN!
£549**

SDSEPB

Simmons revolutionary digital sound sampler for SDS1 and SDS7 £390
6 pack EPROM £99
Eraser £39

AKAI

**AKAI'S FANTASTIC RACK SOUND SAMPLER
NOW IN STOCK!**



**NEW SOUND SAMPLE LIBRARY
- IN STOCK!!**

AKAI MG1212

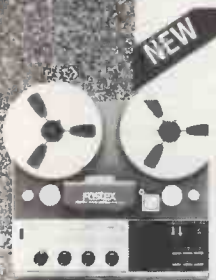
The incredible 12 channel integral reverb on 1/2" cassette tape SMPTE version soon

NEW LOW PRICE



- ★ Up to 8 seconds sample time
- ★ 6 note velocity sensing thru MIDI
- ★ Quick disk storage system
- ★ Pre recorded sound library

JUST IN!! THE FANTASTIC NEW FOSTEX A80 SYSTEM!



NEW
FUTURE MUSIC SCOOP PURCHASE!!
£499!! FOSTEX A2 STEREO MASTER MACHINE LIMITED OFFER



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

Join the personal multitrack revolution with Future Music 16 track package deals!! The worlds most successful 16 track recorder on 1/2" tape. Call for up to date current deals on the Seck package and 8 other B16 mixer packages!!



FOSTEX X15 £279!

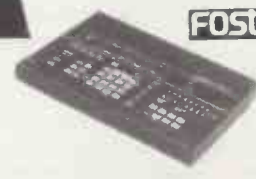
Fostex A80 8 TRACK

- 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 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

4050 AUTOLOCATOR 4030 SYNCHRONISER



4035 SYNC CONTROLLER

For use with A80, A20 and B16 models!!! Incredible features!!!

- ★ Autolocator has digital LED display and is totally programmable (minutes, seconds, bars, notes!!!) Tempo change in realtime
- ★ SMDTE time code ★ MIDI ★ Computer interface synchroniser will lock AVD10 to audio or audio to video! Optional 4035 controller!!! All new and unbeatable value!

202 NEW KINGS ROAD,
 FULHAM, LONDON SW6
 OPP PUTNEY BRIDGE TUBE
 Tel: 01-731 5993
 01-736 4771

10 BADDOW ROAD,
 CHELMSFORD,
 ESSEX
 Tel: 0245-352490

104-106 ELM GROVE,
 SOUTHSEA, PORTSMOUTH,
 HANTS.
 Tel: 0705-820595

85 ST MARY'S STREET,
 SOUTHAMPTON, HANTS.
 Tel: 0703-26798

NEW STORE!!
 173 KENTISH TOWN ROAD,
 LONDON NW5
 NR KENTISH TOWN STATION
 Tel: 01-485 1448

INSTANT CREDIT AVAILABLE

HOME RECORDING & PERSONAL MULTITRACK

★ FOSTEX ★ REVOX ★ AKAI ★ YAMAHA ★ SECK ★ RAM ★ SOUNDTRACS ★ ALLEN & HEATH ★



FUTURE MUSIC SCOOP PURCHASE!!
£499!! FOSTEX A2 STEREO MASTER MACHINE LIMITED OFFER

RECORDERS	AHB CMC 24 £2750.00	QUAD 405 £290.00	NOISE GATES	ROLAND SDE25000 MINI £585.00	YAMAHA C01031 31 band £225.00
FOSTEX MODEL A80 £1574.00	FOSTEX 450 £1999.00	ROLAND SRA1200 £1325.00	ACCESSIT Noise Gate £52.00	YAMAHA D1500 MINI £550.00	BOSS Micro Rack Graphic EQ £115.00
FOSTEX X15 £239.00	BOSS BX600 £325.00	ROLAND SRA2400 £1725.00	DRAWNER Noise Gate £335.00	BOSS CE-300 £275.00	MICROPHONES
FOSTEX 250 £720.00	BOSS BX400 £85.00	ROLAND SRA4800 £1450.00	COMPRESSOR/LIMITERS	BOSS CE-300 CHORUS £230.00	ALLEN TECHNIKA
FOSTEX A8 £1375.00	YAMAHA RM602 £249.00	DIGITAL REVERB	DRAWNER Compressor Limiter £395.00	IBANEZ HD 1000 £325.00	BEYER
FOSTEX B16 £4000.00	SECK 18/8/2 £1493.00	YAMAHA R1000 £475.00	FOSTEX 3070 Comp/WM £249.00	BOSS MICRO RACK DIG DELAY £179.00	AKG
YAMAHA MT44D £399.00	MONITORS	YAMAHA Rev 7 £1199.00	YAMAHA CG2020 £229.00	FOSTEX DUAL 10 band £199.00	ELECTROVOICE
AKAI MG1212 £3399.00	TANNOY Studfords £145.00	YAMAHA Rev 1 £1758.00	ACCESSIT Compressor £52.00	ROLAND SE0331 31 band £345.00	CALL FOR PRICES
REVOX B77 £899.00	TANNOY Oxford £225.00	YAMAHA Rev 10 £1758.00	BOSS Micro Rack £179.00	ROLAND SE0315 2x 15 band £395.00	TAPE SYNC
MIXERS	YAMAHA N10 £199.00	YAMAHA Rev 11 £1375.00	Comp/Lum/Exp/Gate £115.00	YAMAHA O2031 2x 31 band £399.00	ROLAND CH802 Tape Sync £49.00
DYNAMIX 16:8:2 £985.00	YAMAHA S10X £199.00	SPRING REVERB	DIGITAL DELAYS		ROLAND SBX80 Sync box £995.00
RAM RM16 £999.00	YAMAHA S20X £110.00	GI British Spring £229.00	ROLAND SD-1000 £795.00		SYNC 24, MIX, SMPTE
FOSTEX 450 £335.00	POWER AMPS	MOOP Prodigy used £132.00	ROLAND SD-1000 £395.00		
ACES 10:8:2 £399.00	QUAD 303 £179.00	FOSTEX 3180 Stereo £340.00			
AHB 16:8:2 £1595.00		BOSS RM100 £125.00			
		KORG GR7 £299.00			

★ TANNOY ★ JBL ★ QUAD ★ ACCESSIT ★ BOSS ★ ROLAND ★ DRAWNER ★ BEYER ★ AKG ★

FUTURE MUSIC SUPERSALE!! ALL ITEMS EX-DEMO OR S/H!

ELECTRIC GUITARS

Gibson V7 Les Paul d/tux s/h	£450 C
Gibson Flying V s/h	£499 C
Yamaha G-3000 Newell	£395 A
Ibanez Musician (Active)	£399 C
New Square Strats Newell	£215 C
New Squier Vintage Tele Newell	£225 C
Fender Bullies	£149 A
Kramer DM2-2000	£199 C
Ibanez AS-50 s/h	£150 A
Ibanez AR-100 s/h	£199 C
Squier '52 Precision Bass	£185 PS
Kramer Semi-Fretless Bass	£249 C
Aria SB Special II Bass	£245 C
Washburn Force II	£175 C
Washburn Vulture II Bass	£195 C
Fender Schecter Tele s/h	£249 C
Lado Custom Electric s/h	£499 C
Ovation Steel String Acous	£275 C
Yamaha R-340 Acous	£125 C
Fender Malibu Acous	£135 C
Fender Squier '52 Precision Bass	£185 PS
Fender El Rip Acous	£235 CP
Washburn Spirit I E1 Acous	£299 S
Fender Jazz Bass	£295 S
Ibanez 750 Bass	£210 S
Ibanez RB 924 Bass	£249 P
Aria Pro II	£115 PS
Westone TH II	£89.00 S
Westone Session II	£275.00 SC
Hondo Formula II	£108.00 S
Fender USA Strat	£299.00 S
Aria Pro II Zuma	£115.00 S
Profile Strat	£119.00 S
SH Jenson LP Copy	£79.00 S
SH Aria LP Copy	£175.00 S

OUTBOARD EQUIPMENT

Boss DM-300 Chorus/Delay	£155 C
Fostex Digital Delay Ex.Dem	£130 F
Roland RE-201 Space Echo s/h	£195 C
Roland SDE-2000 Digital Delay + Roland XBoard + Sampler	£495 C
Yamaha R-1000 Reverb	£499 A
Casio AS-10 Speakers	£58 F
Ashly Compressor Newell	£345 F
Ashly Noise Gate Newell	£295 F
Washburn Solid Acous	£275 C
Yamaha Montana Acous	£85 C

KEYBOARDS

Rhodes 88 with amp	£999.00 F
Hohner Clavinet	£99.00 C
ARP, OMNI Strings etc	£99.00 C
Korg Micro Preset	£75.00 C
Korg MS10	£125.00 S
Oberheim OBX	£899.00 C
Cumari Piano	£99.00 C
SH101	£175.00 C
Casio 0600	£239.00 F
Yamaha P55	£459.00 S
Poland J50b	£99.00 S
Casio 0600	£239.00 F
Oberheim Xpander	£2999.00 C
Technics Digital Piano	£499.00 P
Wurlitzer Piano	£299.00 P
Hammond Jr + CAB	£799.00 F
Casio MT600	£149.00 F
Casio MT45	£85.00 F
Oscar New	£475.00 S
Roland PR201	£245.00 S
MTR 6-2	£199.00 S
Korg MM-25 Micro Monitor	£75.00 S
Custom Sound Cub reverb 30	£79.00 S
Simmons SDS-5 with soft pads ex demo	£199 USED S
Korg Lamula	£199 USED S
Technics Piano	£399 NEW SP
Technics SR240	£349 USED S
Moog Prodigy	£175 USED S
Casio CT6000	£495 NEW SP
Yamaha PF16	£799 S/SOILED S
Yamaha P555	£450 NEW S
Roland JP6	£125 A
Korg MPK130	£299 NEW S

COMPUTER MUSIC

96C + Opus Drive + EMR Software ex dem	£499 A
Commodore 64 + Disk Drive + Music software	£395 C
Roland MC-4R	£395 A
Yamaha CX-5 (Japanese version)	£299 A
Roland DG DRY-100 Plotter	£199 A

AMPS

Badger Mini-amp	£85 C
Badger Downbeat	£85 C
Badger Keyboard	£85 C
Fender 15" Bass Cab	£149 C
Fender Scackack 30 lead - new	£149 CSP
Fender Bassman Compact - new	£249 S
Fender Sidekick 30 Bass	£125 CS
Fender Sidekick 50 Bass	£149 CSP
Fender Harvard Rev. II - new	£149 CSP
Fender Studio Lead	£225 C
Fender Yale Rev	£275 C
Ohm Tramp Bass	£85 C
Ohm Tramp Lead	£85 C
H-Watt 100w Top sh	£99.00 C
4x12 Cab s/h	£75 C
Laney 100w Slave	£75 C
Marine 120w Combo	£195 C
Custom 1x15 Bass Bins with Electrovoice Spks	£399 C
Ohm SA-125 Slave	£99.00 S
Fender Bassman Compact	£285 C
Session 1x12 Newell	£239 A
Yamaha JX50B bass	£165 NEW S
V Amp 60w bass combo	£99 USED S
WH bass machine 100 amp 4 cab	£225 EX DEM
Roland Spirit 30 bass	£99 EX DEM
Carlsbro Hornet 45 bass	£110 USED S
Carlsbro Procab 1x15 RH	£399 NEW, a pair S
Ohm 1704 PA cabs	£349 S/SOILED S
Carlsbro AD11 echo reverb	£250 NEW S
Wem Songbird 300w PA spkr	£245 NEW S
MTR 6:4 2 mixer	£199 NEW SP
Korg MK25 Monitors	£75 EACH S

ELECTRONIC KITS

Simmons SDS-5 Newell	£750 C
Simmons SDS-8	£545 A
Simmons SDS-6 Sequencer	£399 C
Simmons Dym. Mod.	£104 C
Ultimate K2X NGL	£995 A
Ted Digsound Modules single	£99 A
Ted Digsound Modules dual	£125 A
Simmons SDS-5 + Softpad Newell	£399 S

Checklist

It doesn't seem like six months since we started the musical instrument world's most comprehensive – and most outspoken – buyer's guide to gear. Just to remind you of the formula, we split the hi-tech hardware and software field into three sections, with each section getting an airing once every three months. This month it's the turn of electronic percussion, which means a rundown of all the drum machines and electronic drum systems currently available in the UK, from companies big and small, British and foreign.

We list the typical selling price and basic facilities of each product, and also include some of our own comments (positive, negative and conclusive) if it's passed through the hands of our reviewing team at some stage.

Three months ago, when we listed electronic percussion devices for the first

time, we mentioned in the introduction that the market was the subject of a downward price spiral fiercer than any other in what is a fast-moving market at the best of times. That's still true as summer turns to autumn, as importers and retailers try to rid themselves of surplus outdated stock in order to make room for newer gear. And that isn't in any way a bad thing for the musician, because it means you can find a slightly older, less-fashionable product (a Drumtraks, say, or an original Drumulator) that offers more than a contemporary competitor for rather less money.

It's a tough old world out there, so you might as well grab it by the scruff of the neck and make the most of it. Don't take our prices as gospel, and haggle if you sense the dealer is anxious to make a sale.

Next month, it's back to polysynths, expanders and remote keyboards.

DRUM MACHINE



AHB

Inpulse One – £1095 Eight-voice digital drum machine. Eight pads for live performance, 99 programmable patterns, 15 songs, trigger inputs, individual voice outputs; 16-voice basic sound library includes bass drum, snare, handclaps, timpani, gunshot, conga, claves, hi-hat. **+** Build quality, ease of use, promise of expanding voice library; **-** some sonic disappointments, difficult to get hold of; **-** a fine machine that combines editing facilities with real-time playability, sadly underrated.

ANVIL

Anvil Percussion Synthesiser – £4995 16-channel programmable drum machine with analogue and digital sound sources, built-in sound-sampling, real-time sequencer, MIDI and external trigger connections, disk-drive for storage of samples and sequences. Available January. To be reviewed.

BOHM

Dr Böhm – £669 (kit), £949 (built) 24-voice digital drum machine. 180 pre-programmed patterns, 36 programmable rhythms, 8 separate

outputs; 2 bass drums, 3 snares, 2 rimshot snare rolls, 12 toms, 2 bongos, woodblock, 2 congas, 4 closed hi-hats, 2 open hi-hats, 4 cymbals, 2 tambourines, 2 maracas, claves, cowbell, handclap. **+** Vast range of built-in sounds, kit package gives the soldering-iron crowd a real bargain; **-** bewildering control layout, lack of decent interfacing facilities, ready-built price-tag slightly high; **-** a bit of an oddity these days, but pre-programmed patterns are useful building blocks for inexperienced programmers.

BOSS

Dr Rhythm Graphic DR110 – £125 Six-voice analogue drum machine. Built-in LCD, mono output; bass drum, snare drum, open & closed hi-hat, cymbal, handclap. **+** Superb display makes writing and editing patterns a doddle, unbeatable analogue clap sound; **-** balance control offers only limited adjustment of voice levels; **-** successor to the immortal DR55 and justifiably popular, proves analogue technology still rules the roost at bottom end of electro-drum market.

CLEF

Master Rhythm – £129 13-voice analogue drum machine. 24 programmable patterns, mono output; 2 cymbals, rimshot, brushes, claves, snare, 4 toms, 2 bongos, conga, bass drum. **+** Wide range of voices for the money; **-** doesn't sound as good as DR110, and isn't as easy to use; **-** if the voices are the ones you want, there's simply no alternative.

E-MU SYSTEMS

Drumulator – £985 12-voice digital drum machine. 36 programmable patterns, 8 songs,

cassette storage of programs, sync (24, 48, 96 ppqn); basic sounds include bass drum, snare, clave, cowbell, handclaps, rimshot, open & closed hi-hat, 3 toms, cymbal – alternative sound chips also available. **+** Digital voices still sound good next to Japanese competition, excellent range of additional ROM-based voices; **-** falling behind in both price and composing facilities; **-** low High Street prices make this a decent bet despite its age, though it's now overshadowed by Emulator SP12.

Emulator SP12 – £2999 24-voice (16 preset, 8



user-sampled) digital drum machine. 100 segments chainable into 100 songs (minimum capacity 5000 notes), MIDI (In, Out, Thru) and SMPTE equipped; bass, snare, electronic snare, rimshot, 4 toms, 4 electronic toms, hi-hat, crash & ride cymbals, claps, cowbell. **+** Wonderful digital sound quality thanks to 12-bit resolution, user-sampling equally impressive, easy to use, first US drum machine to offer genuine real-time programming; **-** high demand means limited availability; **-** probably the best drum machine available anywhere, completely without rival (at least for the time being) and easily upgradable through hardware/software updates.

HAMMOND

DPM48 – £499 23-voice (15 programmable) digital drum machine. Seven programmable patterns, MIDI (In, Out, Thru) equipped; 4 toms, 3 bass drums, 3 hi-hats, 3 snares, 3 cymbals, 2 cabasas, clap, 2 agogos, rimshot. **+** Sounds good despite home organ origins, MIDI retrofit makes interfacing facilities complete; **-** lacks the informative display facilities of more recent models; **-** recent £200 price drop makes Hammond's only pro instrument irresistible: if only they'd come up with more...

KORG

DDM110 – £225 Nine-voice digital drum machine. 32 programmable patterns, LED display, real- and step-time programming, programmable trigger out, stereo output, sync (48ppqn); bass drum, snare, rimshot, 2 toms, open & closed hi-hat, cymbal, handclaps. **+** Cheapest digital drum machine on the UK market, links neatly to MIDI (and tape) with optional KMS30 interface; **-** you don't get impeccable sound quality for this money, so some sounds bettered by analogue equivalents; **-** another justifiably popular machine, even with (unavoidable) digital noise problems.

DDM220 – £225 Latin Percussion version of DDM110, spec as above except for voicing; 2 congas, timbale, wood block, cowbell, agogos, cabasa, tambourine. **+** Marvellously realistic approximations of Latin drums that really do sound different; **-** nothing at this price, except non-Roland standard sync; **-** the first drum machine to offer more than the usual rock percussion set-up, and they're not charging the earth for it.

MR16 – £449 19-voice digital drum machine for connection to pre-existing MIDI software, individual and stereo outputs. **+** Voices identical to those of DDM110/220, hence pretty good; **-** some dodgy ergonomics, not cheap when combined with essential SQD1 sequencer; **-** a sound enough idea that now has an excellent sequencer (Korg's own SQD1) to go with it, though there's still no specifically drum software to perform specifically drum tasks.

LINN

LinnDrum – £2650 23-voice digital drum machine. 42 preset and 56 programmable patterns, 49 songs, individual and stereo outputs, cassette storage of programs, alternative sound chips available; 2 bass drums, 3 snares, sidestick, 3 hi-hats, 3 toms, 3 cymbals, 2 cabasas, 2 tambourines, 2 congas, cowbell, handclap. **+** *The original still sounds excellent, open-ended voice structure, healthy service back-up the world over thanks to instrument's popularity;* **-** *now looking very expensive against recent competition;* **-** *like the Rolls-Royce, outclassed and outdated, but a lot of people still ask for it by name...*

Linn 9000 – £4675 18-voice digital drum machine and MIDI sequencer. Individual and stereo outputs, 2 programmable trigger outs, MIDI (In, Out, Thru), tape sync facility, 32-track polyphonic keyboard sequencer, disk and cassette storage of programs; bass drum, snare, hi-hat, 4 toms, 2 congas, 4 cymbals, cowbell, handclaps, cabasa, sidestick, tambourine. **+** *Superlative drum sounds, elegant all-in-one-box design concept;* **-** *horrendous price-tag, lack of step-time input and other crucial recording facilities, no sampling yet;* **-** *without its promised hardware and software updates (step-time input, editing, sampling), an expensive dinosaur.*

MFB

512 – £299 Nine-voice digital drum machine. Eight song, 64 programmable patterns, trigger in, trigger out, individual (DIN) and stereo outputs; bass drum, snare; 3 toms, handclaps, cymbal, open & closed hi-hat. **+** *Wonderful sounds for the money, light and compact;* **-** *terrible ergonomics, thus difficult to use;* **-** *Germany's little digital gem, though made in small quantities so you don't see many about.*

MPC

Music Percussion Computer – £299 Nine-voice analogue/digital hybrid drum machine. 26 programmable bars, 25 programmable sequences, eight pads for live playing, real- and step-time programming, individual and mix outputs, tape sync facility, ZX81 interface; bass drum, snare, open and closed hi-hat, 4 toms, handclap, cymbal. **+** *A marvellous idea (like a cheap Impulse One, though the MPC came first) backed up with some presentable sounds;* **-** *no MIDI, Sinclair software not very friendly;* **-** *a pioneer coming to the end of its useful commercial life, though it's still a worthwhile machine, and new MPC pricing policy makes it something of a bargain.*

MXR

Drum Computer – £995 12-voice digital drum machine. 100 programmable patterns, 100 songs, sync to and from tape, individual and stereo outputs, cassette storage of programs; bass drum, snare, rimshot, 3 toms, bell, open & closed hi-hat, cymbal, claps, block. **+** *Punchy, dynamic sounds, well laid-out controls;* **-** *lacks decent tuning and interfacing facilities;* **-** *another golden oldie (two years!) made cheaper by increased competition.*

OBERHEIM

DX – £1575 18-voice digital drum machine. 100 programmable patterns, 50 songs, LED display, individual, stereo and mono outputs, real- and step-time programming, instrument sync (96ppqn) and sync to and from tape facilities, alternative sound chips available; 3 bass drums, 3 snares, 3 hi-hats, 3 toms, 3 cymbals, 2 shakers, handclap. **+** *Usual Stateside virtues of good sounds and easy chip replacement for voicing variety;* **-** *usual Stateside vice of relatively high cost;* **-** *an underrated machine with price-tag*

that's ensured a low profile in UK, but updated version with MIDI as standard available soon, price TBA.

DX Stretch £TBA Hardware add-on for DX giving additional voices and MIDI facility. *To be reviewed.*

DMX – £2975 20-voice digital drum machine. 200 programmable patterns, 100 songs, real- and step-time programming, individual, stereo and mono outputs, sync (96ppqn) equipped, cassette storage of programs; 3 bass drums, 3 snares, hi-hat, gunshot, 2 toms, noise, conga, timbale, tambourine, rimshot, shaker, handclaps, cowbells, clave, 2 cymbals, punch. **+** *As for DX, plus usefully large range of onboard voices;* **-** *again, mainly the price;* **-** *the original Linn-beater, but like its rival, feeling the pinch from more cost-effective competition.*

ROLAND

TR707 – £525 12-voice digital drum machine. 64 programmable patterns, liquid crystal display, real- and step-time programming, individual and stereo audio outputs, MIDI (In, Out) and Sync 24 equipped, cartridge and cassette storage of programs; 2 bass drums, 2 snares, 3 toms, rimshot, cowbell, handclap, tambourine, open & closed hi-hat, 2 cymbals. **+** *Marvellous sounds, DR110-like display makes programming a piece of cake once you're suitably acclimatised, cartridge storage is great relief after tape, useful set of separate outputs;* **-** *not nearly as well-built as Roland's old TR808 analogue flagship, idiosyncratic programming technique, no individual voice tuning;* **-** *despite its limitations, the best middle-market drum box available – if you like Roland's programming system.*

TR727 – £525 15-voice percussion version of TR707: facilities as above except for voicing. 2 bongos, 3 congas, 2 timbales, 2 agogos, 2 whistles, quijada, cabasa, maracas, star chimes. ▶

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⊕ All the 707's attributes, with an equally marvellous selection of sounds; ⊖ 707 and 727 together cost too much: if only Roland believed in replacement voice chips; ⊕ like a big-budget Korg DDM220 and every bit as useful – if you like Latin sounds.

TR909 – £425 11-voice analogue/digital hybrid drum machine. 96 programmable patterns, real- and step-time programming, LED display, individual and stereo outputs, MIDI (In, Out, Thru) and sync 24 equipped, cartridge and cassette storage of programs; 2 bass drums, 2 snares, 6 toms, rim shot, handclap, open & closed hi-hat, 2 cymbals. ⊕ Mainly-analogue sounds will retain charm so long as TR808 remains in fashion...; ⊖...but sound weak next to Roland's own digital fare; ⊖ outdated machine now out of production, too, but haggle with the dealer and you've got yourself a bargain.

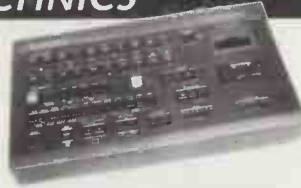
SEQUENTIAL



TOM – £795 Eight-voice digital drum machine. 99 programmable patterns, programmable tuning and volume, reverse play of sounds, real- and step-time programming, MIDI-equipped. ⊕ Basic sounds are pretty good, more sounds available on cartridge, unique sample reversal is a great gimmick; ⊖ lacks separate voice outputs, not as well built as Drumtraks; ⊖ confirmation of Sequential's electro-drum prowess, though lack of individual outputs should ensure continued success of Drumtraks as well.
Drumtraks – £995 13-voice digital drum machine. 99 programmable patterns, LED display, programmable pitch and volume, individual and mono output, MIDI (In, Out), sync (24 or 48 out,

24ppqn in) equipped, cassette storage of programs, alternative sound chips available; bass drum, snare, rimshot, 2 toms, 2 cymbals, open & closed hi-hat, claps, tambourine, cowbell, cabasa. ⊕ Superb sounds, tuning and editing facilities unrivalled at this price, sound chips interchangeable with Linn's; ⊖ not as well laid-out as later TOM, though it's not that tricky to use anyway; ⊖ in terms of programming and tuning flexibility, still very hard to beat.

TECHNICS



DP50 – £595 25-voice (15 programmable) digital drum machine. Stereo outputs, MIDI (In, Out, Thru), 7 programmable patterns, 4 preset patterns per programmable voice; programmable sounds: bass drum, snare, 4 toms, 2 congas, tambourine, handclaps. ⊕ Well built, some excellent (but non-programmable) exotic percussion sounds; ⊖ complicated to use, no proper song storage or output facilities, preset patterns take up vital memory space, programmable sounds lack definition; ⊖ too flawed for professionals to take it seriously – unless they work in a cocktail bar.

YAMAHA

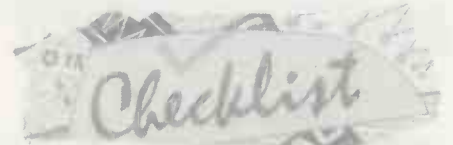
RX21 – £249 Nine-voice version of RX11 and RX15. 56 programmable and 44 preset patterns, real- and step-time programming, built-in LCD, stereo outputs, MIDI (In, Out), cassette storage of programs; bass drum, snare, 3 toms, open & closed hi-hat, crash cymbal, handclaps. ⊕ Same strong sounds as its more expensive RX brethren,

disarmingly cheap; ⊖ same programming difficulties as RX15/11, stereo outputs are restricting, suspect build quality in places; ⊖ excellent value for money if stereo outputs aren't an insurmountable problem – spells big trouble for the rest of the big drum machine guns.

RX15 – £499 15-voice version of RX11; spec as below except: stereo only outputs, cassette only storage; bass drum, 2 snares, rimshot, 3 hi-hats, 3 toms, 2 cymbals, handclaps, cowbell, shaker. ⊕ Fine sounds, good range of editing facilities, informative (if limited) LCD; ⊖ not the easiest machine to use, lacks individual voice tuning; ⊖ Yamaha's first venture into programmable drum machines is a real success, especially in the context of an X-series MIDI system.

RX11 – £799 29-voice digital drum machine. 99 programmable patterns, real- and step-time programming, liquid crystal display, individual and stereo outputs, MIDI (In, Out) and selectable sync outputs, cartridge and cassette storage of programs; 3 bass drums, 8 snares, 2 rimshots, 5 hi-hats, 4 toms, 2 cymbals, 2 handclaps, 2 cowbells, shaker. ⊕ As RX15 only more so, separate outputs make it a studio user's dream; ⊖ more complicated than RX15, hence even trickier to use, range of sounds lacks imagination; ⊖ serious competitor for Roland TR707, once you've overcome its user-unfriendliness.

ELECTRONIC DRUM



CLAVIA

ddrum – £295 Single-pad digital unit using ROM cartridges. Different duration sample

DON'T miss an issue

There's nothing worse than rushing round to your local newsagent, hard-earned £1.20 in hand, only to find that a load of other musicians have beaten you to the store's allocation of E&MMs. You scour the bookshelves for hours, you ask the girl behind the counter if there are any at the back of the shop, you even try the Swedish magazine importer round the corner – all to no avail.

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▷ chips available, battery powered, pitch control, trigger in. **+** Magnificent sound quality thanks to sample recording care on factory's part, vast (and expanding) range of sounds both conventional and unconventional; **-** almost absurdly expensive, digital noise intrudes on some samples, not everybody likes the idea of hitting a small, square pad; **+** the Rolls-Royce of digital drum units and similarly pricey, thus not very widely distributed.



ddrum Rack System – £2023 Five-channel, rack-mounted digital electronic drum kit comprising ddrum electronics and set of Remo heads, expandable to eight channels, individual outputs. *To be reviewed.*

DYNACORD



Percuter – £550 Eight-channel digital electronic drum kit. Interchangeable digital modules, individual and stereo outputs. **Big Brain** – £795 16-channel drum sequencer. 50 programmable songs, 100 user-programmable patterns (50 optional preset or programmable), cassette storage of programs, MIDI (In, Out, Thru), Sync In & Out. **Boomer** – £725 Digital percussion sound-sampler. Trigger in from pad or sequencer, editing facilities. **Digital Hit** – £125 Single-voice digital percussion module. *All Dynacord electronic percussion machines to be reviewed.*

HOHNER

CDX9 – £TBA Eight-voice, seven-pad, digitally-sampled electronic drum kit. 2U rack-mounted voice unit, overall tuning facility, individual and stereo outputs. **CDX11** – £TBA As above, but with five voices and rimshot. **CLX1** – £TBA LFO unit for CLX2. **CLX2** – £TBA Individual drum voice module. Pad/MIDI triggering. **CQX3** – £TBA Real-time drum sequencer. **66**

MIDI (In, Out, Thru), external input from pads. *All Hohner electronic percussion machines to be reviewed.*

KLONE



MultiKlone – £399 Five-channel analogue drum kit. 5 identical sound channels, 5 Trigger Ins, 5 Audio Outs, auto flam facility. **+** Flexible budget electronic drum kit, useful as either an add-on to an acoustic kit or in its own right; **-** only one preset and one user-programmed sound simultaneously available for each channel; **+** remarkably good sounds for very little money, deserves to rule the budget roost for quite a while.

Dual Percussion Synthesiser – £299 Two-channel analogue electronic drum add-on. Basic spec as Kit 2. **+** Again, it looks good and it sounds OK, plenty of scope for 'weird' sound effects in addition to conventional percussion voices; **-** drum sounds lack bottom, feel; **+** useful addition to either a MultiKlone or (better) an acoustic set-up.

MAXIM

Electronic Drum System – £500 Five-channel analogue electronic drum kit. Mix, stereo and individual outputs, one factory preset, two user-programmable presets, one live setting, FX send/return, provision for two extra modules. *To be reviewed.*

MPC



DSM1 – £199 Non-programmable electronic drum module. Sensitivity, decay, pitchbend, pitch, noise and click controls. Can be triggered by MPC Standard or Super Pads. **DSM8** – £199 Auto-tom unit producing tom roll from single pad strike or sequencer trigger, incorporates voicing circuitry and sequencing electronics. **+** Certainly very clever, and pretty cheap for what you get; **-** has to be powered from MPC drum module, built-in tom sounds are hardly revolutionary; **+** decent budget

sequencing machine for the lazy and/or incompetent.

DSM32 – £299 128-memory analogue electronic drum module. Spec as for DSM1 plus modulation control. **+** Excellent analogue sounds, mod control widens sonic vocabulary to include FM-like synth timbres, programmability well worth having; **-** dynamics not programmable, single decay control; **+** a very neat analogue kit, especially when triggered by same company's Super Pads (£299 for five with stands).

Programmer 8 – £199 Eight-channel drum sequencing software for ZX81, Spectrum or Commodore 64 computers. **+** Superb graphics display similar to Roland TR707/Yamaha RX software, hardware can be triggered by just about any electronic percussion device; **-** Sinclair models lack sync facility, have software stored on tape; **+** well-considered package that makes drum programming a cinch and is capable of remembering an entire set's worth of rhythm patterns. All MPC products susceptible to price reductions following company's decision to deal with customers direct on mail order basis.

PEARL

DRX1 – £1020 Five-pad analogue electronic drum kit with eight user-programmable kit sounds. **+** Superb, responsive pads are among best available, unique Overtone control makes Latin Percussion sounds a possibility; **-** basic drum sounds lack character, kit a little pricey, needs overall volume control; **+** more than many, a drummer's electronic kit – or what you'd expect from an acoustic drum manufacturer.

ROLAND



DDR30 – £1950 Digital electronic drum kit. Six-voice rack-mounted sound module, eight memories per voice, 32 kit memories, MIDI In and Out, individual and stereo outputs. *To be reviewed.*

SIMMONS

Clap Trap – £75 Single percussion unit for clap and similar sounds, not in second (digital) generation, internal trigger source, triggers to footswitch/mic/tape.

SDS1 – £250 Single pad digital module/pad. Derives sound from EPROM, battery power, external trigger.

SDS6 – £1435 Eight-channel programmable drum sequencer. Programmable dynamics, 250 patterns per sequence, MIDI-equipped. **+** Marvellous (and much-copied) LED pattern display, new-found MIDI compatibility; **-** a little bit expensive, all things considered; **+** a custom sequencer that makes an awful lot of sense for existing Simmons owners.

SDS7 – £2156 Five-channel analogue/digital hybrid electronic drum kit. Expandable to 12 channels, each channel has individually-controllable analogue, digital and noise sound sources, 100 different 'kit' programs. **+** Unrivalled sonic flexibility thanks to variety of sound sources, handy 'pad' program selector, impeccable pad design; **-** if you can afford it, ▶

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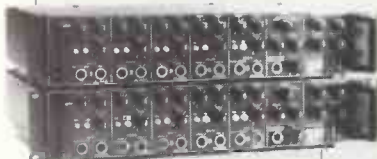
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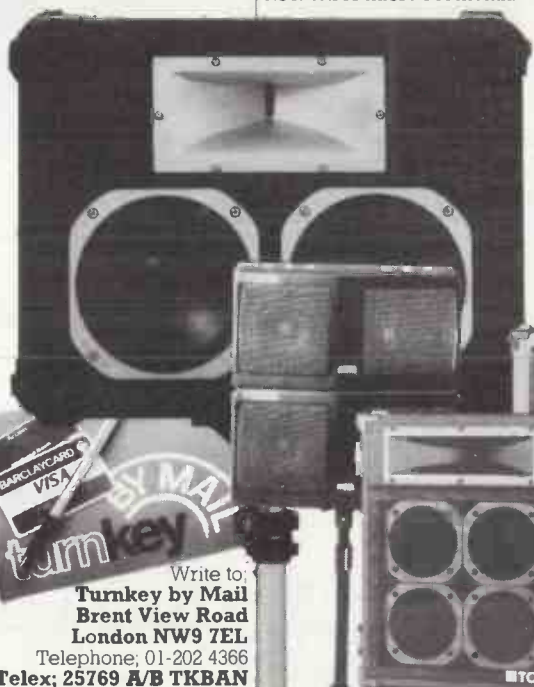
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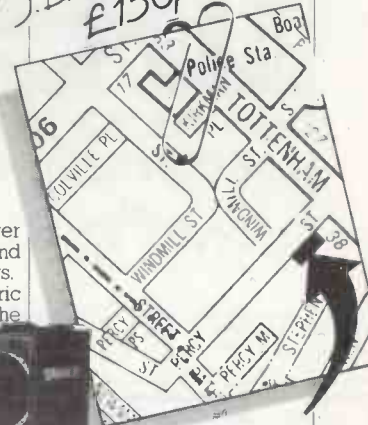
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▷ nothing; ■ rapidly becoming to the electronic drum world what the LinnDrum is to the drum machine market, and deservedly so: MIDI coming soon.

SDS9 – £1199 Five-channel analogue/digital hybrid electronic drum kit. Interchangeable PROM sounds, 20 user-programmable kits, 20 factory-programmed kits, auto-trigger facility, tape storage of sounds, individual outputs, MIDI-equipped. Software-generated bass drum, sampled snare, cross-stick and rimshot, 3 analogue toms. ■ Packed jam full of features, all of them useful, well packaged and above all, extremely good-sounding; ■ not particularly cheap, doesn't make the tea; ■ has just about everything a modern drummer, studio owner, or session programmer could want from an electronic drum kit.

SDS200 – £360 Twin-channel analogue electronic tom synth. Individual, stereo and mix outputs. To be reviewed.

SDS400 – £550 Four-channel analogue electronic tom synth. Individual, stereo and mix outputs, run generator feature. To be reviewed.

SDS800 – £630 Four-channel analogue elec-

tronic drum kit. Bass drum, snare, two tom channels, individual, stereo and mix outputs, built-in run generator. To be reviewed.

SDS EPB – £392 EPROM blower to be triggered by SDS7 and SDS1. Blows 8K and 16K EPROMs from onboard RAM, variable sample speed. ■ Quick, easy way of making your electronic drum kit sound like no-one else's, fits in neatly with Simmons scheme of things; ■ no avoiding the fact that sampling quality could be better; ■ pioneer product that serves its purpose while leaving room for subsequent improvement.

TAMA

Techstar TS500 – £930 Five-pad, six-channel analogue electronic drum kit. One preset and one user-programmable voice per channel, trigger inputs, individual and stereo outputs. ■ Generally good (if derivative) sounds, excellent pads, neat rimshot facility; ■ like so many imitators, it lacks character; ■ serviceable Simmons alternative from the first acoustic company to go hi-tech – with more products on the way in the near future.

Techstar TS600 – £989 Six-channel analogue percussion synth. Four toms, synth and hand-claps, details as TS500.

TED

Digisound – £115 (single-sound), £149 (dual) Sampled-sound percussion machine triggered by built-in switch or external source. Sounds stored on EPROM. ■ High sound quality, ever-growing factory library of EPROM voices, now dynamic as well; ■ a teeny bit expensive, dual bass-and-snare model a bit silly as sounds can't be triggered together; ■ a neat electro-percussion add-on for non-drummers fed up



with their drum-machine sounds.

Digimemory – £TBA Universal EPROM version of Digisound. To be reviewed.

The Winner – £TBA Microprocessor-controlled EPROM blower/programmer, built-in MIDI and serial computer interfacing. To be reviewed.

ULTIMATE PERC

UP5 – £555 Five-pad analogue electronic drum kit. Eight preset kit voicings, individual and stereo outputs. ■ Fine analogue sounds, follows Simmons philosophy of deliberately restricting range of sounds available; ■ nothing, save that it doesn't have Simmons written on it; ■ so long as you don't want access to a wide variety of drum sounds, the best way of getting into electronic drums.

K2 – £745 Analogue electronic drum kit. To be reviewed.

WERSI

CX5 – £TBA Electronic drum system comprising digitally-sampled drum sounds, five triggering pads, drum sequencer with 27 drum sounds, 64 pre-programmed rhythm patterns and one user-programmable song. To be reviewed.



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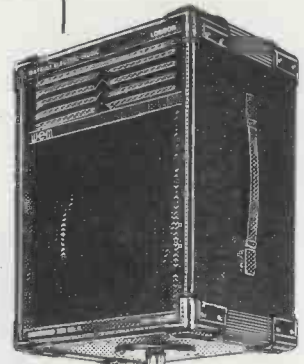
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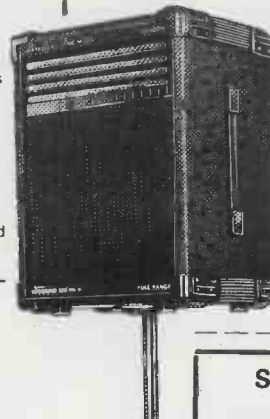
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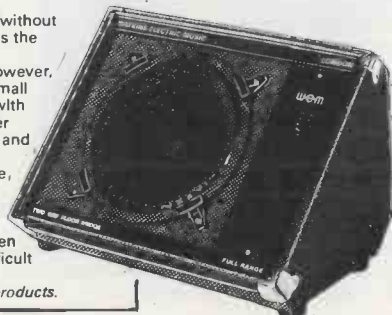
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Despite a sky-high reputation and more media coverage than the rest of Britain's music studios put together, the BBC Radiophonic Workshop is a place few people really know much about. We take a trip to Maida Vale and sort fact from recent fiction.

Words Simon Trask Pictures Matthew Vosburgh

The BBC Radiophonic Workshop has received more than a fair amount of journalistic attention over the years, and much of this has conformed to, and therefore reinforced, popular perceptions of what the Workshop is. It's a typically

British institution – an institution within an institution, if you like. And institutions are generally perceived as static, unchanging – that's why they're institutions. Mention the two words 'Radiophonic Workshop' to anyone over the age of ten, and the chances are they'll respond with a particular set of images: 'Doctor Who' (always 'Doctor Who'), weird spacy sounds, exotic custom-made instruments and ancient synthesisers, and a collection of suitably eccentric composers. On my recent visit to the Workshop I didn't encounter anyone who could be classed as eccentric, and the picture turned out to be rather different from popular preconceptions. And before we go any further, let's get one thing into perspective: 'Doctor Who', which has been described as 'both a milestone and a millstone' for the Workshop, accounts for six projects a year out of 200 that the small group of composers takes on. The Workshop is theoretically on call for any radio or television program the BBC makes – and that includes local radio and the World Service.

It's precisely because the Radiophonic Workshop is the subject of so many preconceptions that I harboured a desire to go there to find out what it was really like. In particular, I wanted to discover how the Workshop was responding to the new music technology. On the tube on the way over, a whole host of questions buzzed through the journalistic head. What equipment were the composers using? How were they using it? What were their views on subjects such as sequencing and sampling? And what did they see as the strengths and weaknesses of particular pieces of equipment? A weighty list, to be sure, but one to which the staff responded with rare enthusiasm and generosity – for which I owe a considerable debt. You can usually tell how well a piece of reporting has gone by the number of sets of batteries the Walkman has got through in the process, and thanks to the openness of the Workshop's composers, I think I can safely go out and buy shares in Duracell now.

History first. Imagine it's the late 1950s. The advent of magnetic tape has furthered the development of *musique concrète* in Paris and purely electronic music in Cologne. Back in London, producers and studio engineers at the BBC are inspired by what they hear of these two techniques, and are ideally positioned to pursue these developments themselves. The new music appeals to 'Auntie' for its potential applications in the developing field of radio drama and comedy, rather than as an art-form.

The setting up in 1958 of an experimental workshop for the production of what came to be termed 'radiophonic' sound and music is the inevitable end result of this, and two of its founding members, Desmond Briscoe and Daphne Oram, are among the early experimenters. The official press release marking the opening of the Radiophonic Workshop draws attention to the dual approaches to be adopted – the manipulation of sound using tape and the generation of sounds by electronic circuits, the latter referring to simple oscillators and white noise generators.

That, roughly, is how the studio complex Bob Moog once described as 'a source of inspiration and experience', came into being.

The Workshop's early work centred around providing imaginative sound effects for 'obscure radio dramas', to quote the Workshop's current longest-serving composer, Dick Mills, and comedy programmes like the infamous 'Goon Show'. The next step was the provision of

E&MM OCTOBER 1985



Elizabeth Parker (in monitor screen) *“We're often restricted by what people think they want... Channel 4 are very adventurous in the stuff they use, but the BBC are terribly frightened of doing anything way out.”*

'mood music' for radio drama – the sort of thing producers could use to reflect the state of mind of characters.

But it wasn't until its members broke into working for television that the Radiophonic Workshop really began to spread its wings. Even then, the first requirements of it were to provide effects for science fiction

programmes like 'Quatermass'. Educational and art programmes followed, then jingles for local radio, then signature tunes and, finally, incidental music for just about any form of TV programme you care to think of.

This variety of application continues today, so the composers who work daily at the Workshop's studios have to stay on



Peter Howell *“We don't make a habit of throwing things out when something new comes along. Only when equipment can no longer be integrated into the studio as we're using it does it start to become redundant.”*

their toes to survive. Their work schedules are heavy, the Workshop's order books full to overflowing. And as the Workshop has become increasingly ambitious in the scope of the work it has tackled, so the 'other-worldly' sound effects for which it's best known have become a relatively small (though still important) part of its work, while major TV series such as 'The Living Planet' and 'The Body in Question' have benefitted greatly from music provided by the unit's composers.

I've mentioned that the Radiophonic Workshop is a typically British institution but what you can't ignore is the enormously high esteem in which its work is held by broadcasters, engineers, musicians and composers all over the world. Many overseas broadcasting organisations regard it as a model to be learned from, and Brian Hodgson and Jonathan Gibbs (Workshop staffers both) gleefully recount the tale of one chief engineer 'from a broadcasting organisation which shall remain nameless' who came to them with plans for a studio along the lines of the Workshop; by the time he left, head hung low, he was prepared to go back to the drawing board and start again from scratch.

The Workshop staff is surprisingly small in number. There are 11 souls in total, six of whom are composers.

Head of the Workshop is Brian Hodgson, who first joined as a composer in 1962, left for five years (1972-1977) to run his own commercial electronic music studio (an experience that proved invaluable), became Workshop Organiser in 1977, and Head (taking over from Desmond Briscoe, who'd held the post since the unit's inception) in 1983. The post of Workshop Organiser (I'll explain the job later) is held by Jonathan Gibbs, who joined in 1981 and started off as a composer before taking up his current post. The Workshop also has its own Engineering department, staffed by long-timers Ray White and Ray Riley. They take on anything from rewiring a studio to servicing the Fairlight, a diversity of tasks which they revel in. That leaves the secretary (she's called Penny) and the composers: Dick Mills, Malcolm Clarke, Roger Limb, Peter Howell and Elizabeth Parker. For those that have been doing their arithmetic while we've been going along, I should say there is one other composer – but thereby hangs a tale which will unfold presently.

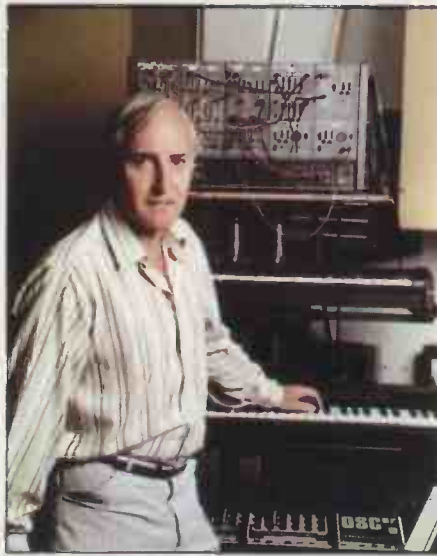
In case you're wondering if the Radiophonic Workshop is some sort of musical TARDIS (sorry, everybody) travelling the airwaves, it does actually have a location: a long, low-lying building which was once a Roller Skating Palace and Club. What was once the skating rink is now a huge studio for the BBC Symphony Orchestra and the Radio Orchestra who, in addition to performing conventional musical tasks, also provide the Workshop with a ready source of 'conventional' musicians and musical instruments as and when required. Running down one side of the building is what's reputed to be the longest corridor in the BBC. It has a hushed calm and an almost reverent atmosphere, and it's here that the Workshop is to be found, with a number of small studios leading off it at either side.

Each composer has their own studio, an arrangement that allows them to work with their own personalised equipment setups, to come and go as they please (each

composer is left to work in the way that best suits them), and gives them that most precious of musical commodities – silence.

But the life of a Workshop composer isn't an easy one. Their work is usually done at the final stage of a production which means there's little leeway – less than that if, as often happens, the production is running well behind schedule in the first place. Hence musical talent is almost taken for granted when it comes to fulfilling the rôle of composer. Or as Jonathan Gibbs put it, 'If you can't write then you don't even bother to look in the front door'. Fair enough. The creativity and ingenuity of the composers is constantly being put to the test; there's no time here to wait around for divine inspiration.

But equally important is sheer stamina. For a Workshop composer it's not so much a matter of working through the night to meet deadlines; you have to be able to work day in, day out for years and years on end. Jonathan Gibbs again: 'What the Workshop needs are people who can be consistently good, and yet not burn out after two years'. All of which makes more



Dick Mills *“With all due respect to the latest equipment, I find it's quicker to do my things the old-fashioned way.”*

remarkable the number of years the composers have been at it: Dick Mills has been at the Workshop for all but the first six months of its lifespan, Malcolm Clarke joined in 1969, Roger Limb in '72, Peter Howell in '74 and Elizabeth Parker in 1978. Which only goes to show that the Workshop is more a way of life than a means of paying the mortgage. Then again, perhaps Workshop composers exist on a different time-scale to most other people. Elizabeth Parker: 'I've only been doing this seven years, which really isn't all that long. And when you consider how far the Workshop has come in that time, there are an awful lot of things for me to find out about, and which I do intend to find out about. At the same time you've got to keep all the work going. And until I get a programme which requires a certain approach, it's hard to do any serious investigation in that direction.' This

combination of a keen sense of discovery and a pragmatic outlook is something all the composers seem to have in common. Personally, I reckon it's a mark of their professionalism.

Logistically, an important element of the Workshop's code of practice has always been that composers have been their own operators; operational techniques have always been regarded as part of the creative process. But what the increasing complexity of new equipment has eventually made necessary is the employment of someone to investigate the equipment marketplace, familiarise the composers with new equipment bought by the Workshop, and trace any hiccups inherent in new instruments and head them off before they become serious problems. This, essentially, is what the Organiser does, so Jonathan Gibbs is a busy man.

Brian Hodgson: 'Because the composers can't afford to spend a month getting to know a new piece of equipment, Jonathan is the one who spends the month. Then he's able to give induction courses for the composers so that they can pick up a machine very fast – they get the information which is relevant to them'.

But what equipment does the Workshop have? What marvels of new technology grace its studios? Well, as the accompanying extract from the Beeb's equipment files shows, there's an interesting mix of the (comparatively) old and the new, which reflects a refreshingly catholic attitude towards equipment that all the composers seem to share. First, the DX7 has proved indispensable: there's one in every studio. Moving further away from what non-BBC-financed musicians can afford, we find the Fairlight 'wanders' from studio to studio, though Peter Howell appears to have made most use of it. The PPG plus Waveterm should theoretically have similar status, but as Elizabeth Parker is very keen on it and nobody else particularly wants to touch it (there've been complaints of operational hassles and reliability problems), she's retained it and built up a large library of sampled and synthesised sounds for it. But the old VCS3 – first used by the Workshop in 1968 – hasn't been forgotten; quite apart from its historical significance, it's still valued for its white noise generator and ring modulation.

Effects include Quantec and Lexicon digital reverbs together with a collection of plate, gold foil and spring reverbs, Roland flangers and phasers, Eventide and MXR harmonisers, DeltaLab delays, Drawmer and Aphex compressor/limiters, and Roland and EMS vocoders. Desks are almost exclusively Soundcraft (there's one Neve 8066) while the preferred multitrack is Studer (a mix of eight- and 16-track). Each studio also has quarter-inch stereo and twin-track machines (Studer and Revox).

Peter Howell: 'We don't actually make a habit of throwing things out when something new comes along. What we're talking about is a gradual accrual of all sorts of different techniques and equipment. Only when something is no longer capable of being integrated into the studio as we're using it does it actually start to become redundant.'

Thus Elizabeth Parker on the Godwin String synth that lurks next to her PPG: 'I don't know how old it is, but it's got its own

sound. It has a sound that no other new synthesiser has got, and if you use it carefully and in moderation at the right points, then it adds something, without a doubt. And I still use it. Even now, with all these sampled string sounds, it has a very individual sound which can be very beautiful.'

And as for elder statesman Dick Mills, he finds himself spending more time manipulating tape loops than standing over MIDI synths. 'With all due respect to the latest equipment, I find that for the sort of work I do it's probably still quicker to do it the old-fashioned way, if you like, with tape manipulation or tape copying – or multitracking, which brings me into the 20th Century.'

'Personally I think that things with keyboards attached to the front lend themselves much more readily to keyboard performers...I'm really looking for a sound-generating synthesiser. I don't mind the keyboard being there, because it's easy to hit keys. But I don't get too brainwashed by the black and white notes; they mean nothing to me when I'm using the keyboard to trigger sounds off.'

'Of all the Workshop's composers, none believes in the ideal of the 'all-singing, all-dancing' box which allows you to sample, synthesise, and make the tea all at the same time. Diversity was the key word back in the 60s, and it remains so today. Thus not even the Fairlight is ever used exclusively for a piece. Peter Howell again: 'I've never done anything that's been entirely on the Fairlight. People always think that the Fairlight's capable of doing lots of things all on its own, but I'm not particularly interested in just one piece of equipment answering all my questions all at once. So I don't restrict myself to one particular thing.'

Still, an upgrade to the new Series III Fairlight will take place as soon as it becomes available, because as Brian Hodgson says, 'the Workshop does feel that it has to keep on that cutting edge of technology.'

And the Workshop's composers have plenty of admiration for the CMI, choosing it in preference to the Synclavier because it allowed greater control over a sound once it had been recorded. As Jonathan Gibbs put it, 'the sample should have an integrity of its own'.

Peter Howell has some 35 disks of Fairlight sounds, 90% of which are his own samples or sounds created within the CMI's synth section. The only problem he has is having to think of a name that will identify a sound without placing any preconceptions on it. But then again, that's a dilemma common to all the Workshop's composers, not to mention just about everybody who's ever been involved in electronic sound creation. He's enthusiastic about the prospect of getting a Series III, too...

'Obviously the long sample time they're proposing will make it a revolutionary instrument. The Fairlight component in the studio will become a studio in itself, which will have very interesting implications as far as tape machines are concerned – especially for us, as we do a lot of work with pieces of music that last no longer than 50 seconds. So you're talking about the possibility of realising an entire signature tune, say, in a digital recording form as a voice, which is very exciting.'

But when Workshop composers want to make use of acoustic sounds, they use actual instruments rather than samples of those instruments, maintaining that the difference is always noticeable, both in terms of the sound and the actual

performance. You get the feeling that the chance to work with outside musicians is another, equally significant, reason, as most of the composers' work is done in splendid isolation, and it must get lonely after a time.

Then again, working on your own is a lot easier now than it was five years ago, let alone back in the 50s when the Workshop took its first, uncertain steps on the road to technological enlightenment. The Fairlight, PPG and Emulator all have onboard



sequencing facilities that can also drive MIDI equipment (the Workshop Fairlight has the MIDI card we looked at in E&MM June '85, though it's been giving problems), but it's the Yamaha QX1 which is attracting the most attention at the moment, mainly because of its inherent flexibility.

Peter Howell: 'I can see this is the sort of thing that could have a radical effect on the way you actually write. But what I'd like to think is that you don't necessarily change what your original intentions are, it's just that you're able to realise them in a way that you can look at them and change them and make decisions about them very much faster than you would otherwise have done.' It's the ability to be able to improvise onto the sequencer, then go back over the improvisation and work on it in very fine detail that particularly attracts Howell to the QX1 – it gives a new sort of freedom he hasn't encountered elsewhere, so it isn't surprising the Beeb has another one on order.

But there are hassles with the big Yamaha, not least of which are its limited information display facilities, which make working on chord editing a problem, and cross-referencing between tracks a real headache. Howell: 'With all pieces of equipment, you've got to get to know their deficiencies as well as their advantages. You've got to know the deficiencies first so that you know it's completely pointless wasting your time going up that avenue.'

F

or TV commissions, the composers work from a video of the programme which has the time-code 'burnt into' it. Increasingly, they're taking advantage of a syncing system that's been developed in-house by Jonathan Gibbs and which, for the moment at least, is intended only for Workshop use. Called Syncwriter, it's an all-purpose time-code system, built around the BBC Micro 'more for convenience than any other reason', as the Syncwriter software effectively rewrites the computer's operating system. A further unit plugs into the computer's 1MHz bus and handles MIDI, SMPTE and click/trigger processing. Non-MIDI clocks can be set to any of the standard clock rates, including the Fairlight's 384ppqn (for MCL and Page R), while four different clock rates can be sent out simultaneously from independent sockets on the rear of the unit. The result is a powerful yet easy-to-use system that the

composers have taken to very quickly. Elizabeth Parker: 'It's absolutely superb. When you're doing tight television picture work, Syncwriter has such a major advantage over working purely with tape that there's just no comparison. And it's much more sophisticated than the previous time-code reader and generator that was devised at the Workshop.'

Not surprisingly, the challenge of working with new music technology is seen by the Workshop's composers as a particularly stimulating aspect of their job. For Peter Howell, it meant he stayed with the Workshop when he might otherwise have looked elsewhere for a means to realise his music, though he remains unconvinced by those who see technology as more than simply a means to an end.

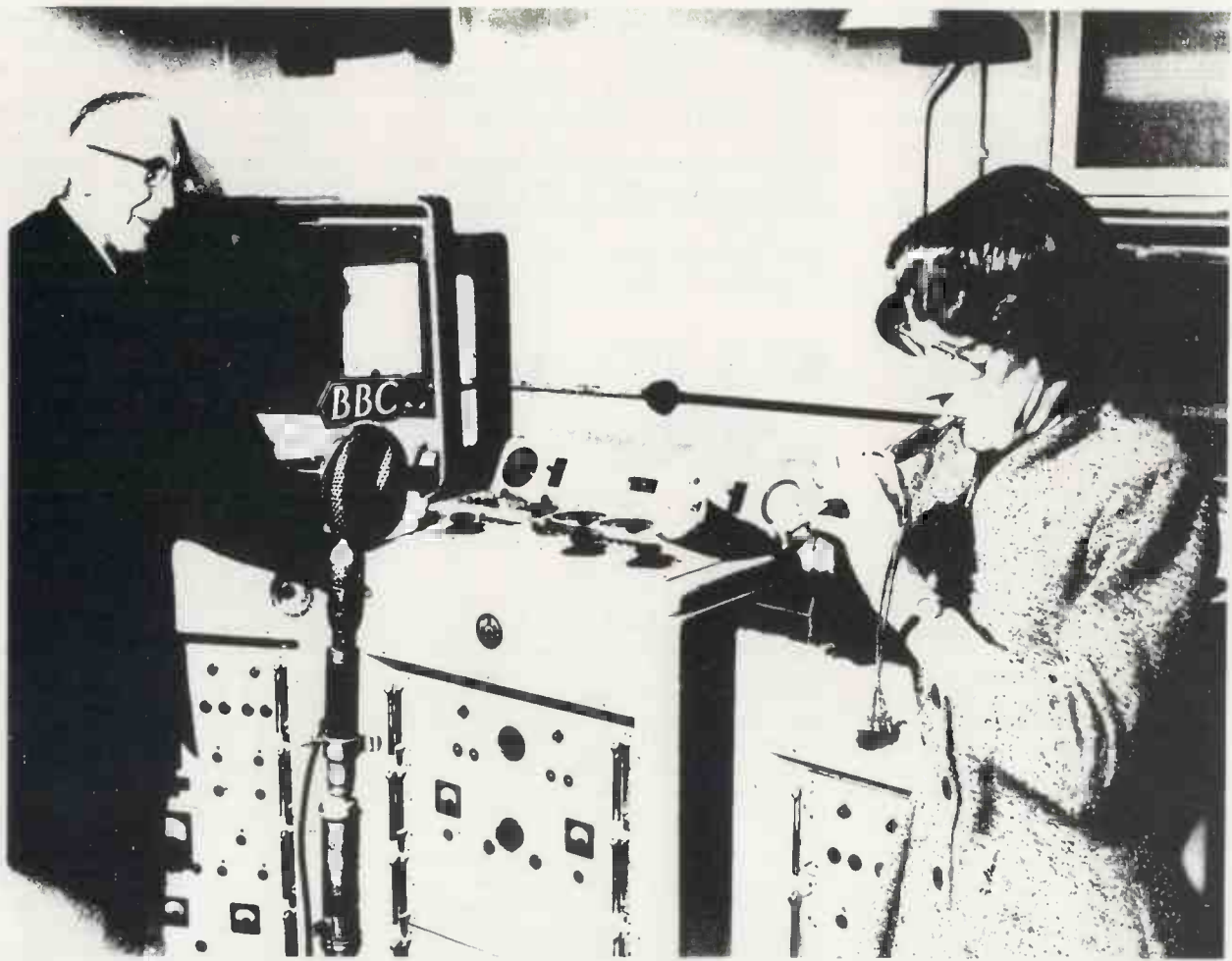
'I like to think that the originality of ideas doesn't rely on the equipment you use. It relies on what you're inspired to do when you see a picture, a graphic sequence, or when you get a particular job to do. And you realise those ideas through as helpful a range of equipment as you can lay your hands on. So I'm obviously interested in the fact that the equipment is developing, and it would be nice to go into each job with a slightly different array of equipment that led you into different areas. But I still think that the original idea is a completely esoteric one – it's not something that's linked to buttons.'

Elizabeth Parker: 'I find all the new technology incredibly stimulating and very very exciting. I don't like to be in a room with equipment that I can't use, so I'm determined to get to grips with whatever I can. I don't like to have a piece of equipment sitting around doing nothing. The potential of all this equipment is fantastic, but then again, I do still work with tape loops sometimes.'

'I think that if you can introduce as many different elements into your work as possible, then you're never going to sound the same as anyone else. There's a danger with all these DX7s around that everyone could sound like DX7s: The more variation you can instil into your work, with whatever means (I use my voice a lot, along with tape loops and the modular System 100M), the better. Really I just use whatever I can. I like any piece of equipment which doesn't say "you've got to do this or else". One strength of Jonathan's Syncwriter system is that it's very open-ended; you can do exactly what you want, and that's why I like it. I like to start from the principle that everything can be used in as many ways as possible. That way, you don't end up going down the same paths again and again, or end up sounding like anyone else.'

Malcolm Clarke adds another perspective. 'What is happening in the technical world is both exciting and frightening, because technology is developing step by step in a scientific way, not in an artistic way. As soon as one problem has been posed in technical terms, it is almost as quickly solved. Technical progress is shooting ahead in a straight line whereas art doesn't work like that; it works in a nebulous, airy-fairy way. As artists, we don't think in straight lines; we think laterally and backwards and forwards – all over the place, in fact. With the pace modern technology is going at, there is a very real danger that we can't feel the framework within which we are working any more, because it is forever moving away from us.'

Perhaps, but whereas the current team's predecessors faced technological dangers alone, there are now a whole host of commercial studios that have equipped themselves to tackle technology head on –



The Way Things Were

Daphne Oram plays a mijwiz while Richard Bird records on a Motosacoche tape machine, one of the BBC's first: it took 15 seconds to get up to speed

▷ and ensure that in the long term, music does benefit. No longer is the BBC Radiophonic Workshop at the very forefront of technological development, no longer is its array of musical equipment unique in the UK. Mind you, things are a lot better now than they were in the 70s, when the technology available to the unit actually fell behind what commercial studios could gain access to, and morale among the resident composers dropped to an all-time low.

Brian Hodgson feels the removal of the element of experimentation – or the decrease in its significance, anyway – is probably a good thing.

'The composers are no longer the experimental wizards. There isn't time for the old-style experimentalism and there isn't time for self-indulgence. When there wasn't the equipment, you had to work that way, but now that the equipment is here, there's no excuse for doing anything the hard way.'

In some ways, the Workshop's detachment from the commercial field has been a blessing. The Beeb's team can safely sit back and wait before making a commitment to, say, digital recording, whereas pressure from clients might force a commercial studio owner to take a decision prematurely.

On the other hand, the Workshop's previous work has brought it such acclaim and exerted such an influence over the field of incidental music, the unit's composers can find themselves working under artistic restraints a commercial setup can avoid.

Elizabeth Parker: 'Unfortunately – and

you have to remember that we are a service department – we're often restricted by what people think they want. We can't just go ahead and do what we want. We're working to a commission, and quite often people, and especially the BBC, are quite conservative in their expectations and their requirements. Channel 4 are really very adventurous in the stuff they use, while the BBC are terribly frightened of doing anything way out. So if you do something that is way out, it's quite possible they may not like it. You have to fulfil the brief. You can steer them halfway towards something but you do have to be careful. There's no point in getting your work constantly turned down because it's too way out – we're not here to do that.

'The sort of modern sound you get on records these days isn't something we're called upon to produce very often – which is why I haven't gone any further than I have in that field, I suppose. The important thing is to be aware of what's going on outside so that you could produce it if you needed to. It's also important that we don't become too inward-looking or incestuous – that would be terribly bad.'

Well, one element that might help to kill any incestuousness before it gets a chance to take hold is the appointment of the mysterious extra composer I mentioned earlier on. Because for the first time in its history, the Radiophonic Workshop has appointed an outsider, one Richard Attree, who begins work in October. The traditional method of recruitment into the Workshop is via 'attachment', a system whereby BBC employees are seconded to

another department, usually for a three-month period. All the current composers apart from Dick Mills came via this method, and were previously studio managers within the BBC. However, Brian Hodgson has decided to break with tradition in recognition of the high quality of potential applicants outside Auntie Beeb, and advertised externally as well as internally for a new composer to help cope with the Workshop's increasing workload.

Luckily, it seems likely the present composers will accept the arrival of an outsider with outstretched arms. Elizabeth Parker again: 'Really the time has come when we should be able to appoint people from outside, and I think it's very healthy. Richard's got his own music which I think is very different to what any of us do here. Plus he's a very keen advocate of the digital approach, which I think will help pull us forward. What you want with anybody new is new ideas and the impetus to push the place forward, or at least to stir it up a bit – and I should imagine Richard will do that, which can only be a good thing.'

'In the end you're still creating music. Providing the music works, the way you get to it is important. If the music doesn't work, the way in which it's achieved is useless – there's no point doing it.'

More from 'The BBC Radiophonic Workshop: The First 25 Years', a wonderfully informative book published by the BBC itself and costing £7.75 from booksellers. There's also a video entitled 'Opus 10259: Five Days at the Radiophonic Workshop', just produced by the Beeb and, with luck, available for hire by the time you read this.

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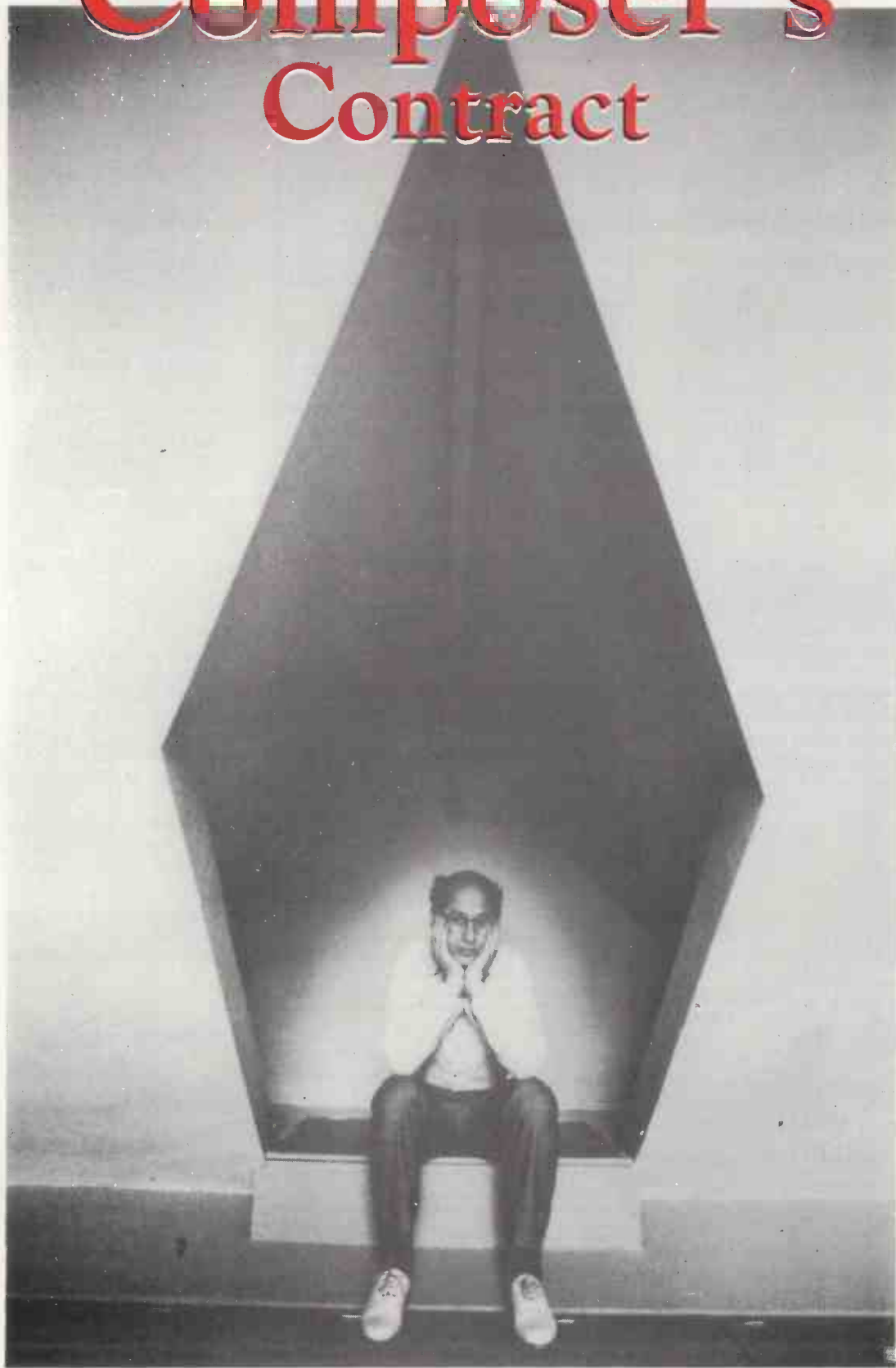
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The Composer's Contract



In a dark corner of EG Records' head offices, avant garde composer Michael Nyman talks sound textures, film music, sampling and creative accountancy.

Words *Dan Goldstein*

Operating a telephone switchboard isn't a very inspiring job at the best of times, but if you happen to be doing it at the offices of a record company in London, the whole thing can get completely out of control. Just ask the girl who answers the phone at EG Records' head office in still-trendy-after-all these-years Kings Road. On a hot, sticky August day that proved only an isolated break in Britain's summer of discontent, she was desperately trying to put the outside world in touch with the people inside the building, while keeping one eye on the journalists and other riff-raff that occasionally wandered into the reception area, and another on a well-thumbed copy of *Middlemarch*.

'...Hello, EG. Can I help you?..I'll just see if he's in. May I ask who's calling? Hang on one moment.' (Click.) 'Hello Bob. Is Jack there? No? I've got a caller for him. Margaret somebody. I didn't catch her second name.' (Click.) 'Hello. Sorry about that. Mr Roberts isn't in his office at the moment. Can you call back later? Thanks, bye.' (Turn of page.) (Click.) 'Hello, EG. Can I help you? Oh hello, how are you? Yes, I'll just see if she's in.' (Click.) 'Hello, Alison. Johnny from Polydor. OK?' (Click.) (Turn of page.) (Click.) 'Hello. Who's that? Ah, well I've got two gentlemen in reception who've come to interview Michael Nyman... What paper did you say you were from...? Electronics & Music Maker. OK, I'll get them to wait a while. Thanks, bye.' (Click.) 'There'll be someone along to help you in a moment, OK?' (Turn of page.)

Five minutes later, Michael Nyman bypasses the network of bureaucracy that's been so carefully constructed to protect him from having to meet journalists and other riff-raff without a proper introduction, strolls idly past the EG reception area, and spots two of the former. He looks just like he does in the photographs: middle-aged, round-faced, and quite unlike any music business figure you'll ever meet. He looks as out of place in a record company office as a bacon sandwich in a kosher butchers - though come to think of it, he'd look perfectly at home working behind the counter of a kosher butchers.

'This is my big interview day', he announces, extending a warm, larger-than-average hand. 'I've just done the *Waltham Forest Gazette*. I do all the big ones.'

Eventually, the network of bureaucracy catches up with us, and we are escorted up a flight of stairs to a dark, quiet room that could be an accountant's office. Its walls look as though they're being held up by vast modern shelf units. The shelves are full of box files with labels on their spines that say things like 'EG Marketing Accounts', 'Brian Eno Studio Accounts', and 'Bryan Ferry Dry Cleaning and Laundry Accounts'.

The network of bureaucracy (whose name turns out to be Alison, and who is - all rather lovely) leaves the room to arrange some chilled orange juice for the travel-weary scribes, the composer sits in a large director's chair on one side of a magnificent oak desk, his interviewers sit facing him, and some back issues of E&MM are put on the desk to distract attention from the editorial Walkman.

'You're the magazine with the cassette on the front, aren't you?' says Nyman, a
E&MM OCTOBER 1985

fortnight before the magazine with the cassette on the front closes its doors. 'Oh, no. You can't be. I've done them already.'

Nyman is visibly tired and at first, finds it a little difficult to concentrate. The chat with the *Waltham Forest Gazette* has worn him out, but it hasn't robbed him of the gift of conversation, and by the time Editor and Music Editor depart EG for Chelsea's boutiques, the interview has filled the bulk of a C90, with the composer doing most of the talking.

Luckily, he doesn't need to give us *The Life and Times of Michael Nyman*, as we've done our homework and know enough not to need too much in the way of autobiography. But it seems worth asking why Nyman opted to leave the competitive world of being a music critic in favour of the even more competitive world of being a composer - something that took place seven or eight years ago now.

'It happened almost overnight', he remembers. 'I was a freelance music critic, working for a number of publications like *The Listener* and *New Statesman* and so forth, and one day it fell to me to write a review of a new record by Gavin Bryars. It was on the Obscure label, which was the label I was on, and I knew Gavin very well, so I didn't really want to say anything very nasty about it. It was all very praiseworthy - everything we did on the label was - but somehow I kept finding things in its structure that I didn't like. I kept finding myself wanting to change things in the music, to take an active part in its composition. So I thought "if I can't be a critic full-time, I might as well give up writing altogether, and do something I can really put my energies into". So I did.'

Simplicity itself, though Nyman remains one of the few men to have proved themselves capable of crossing the border between the critic and the criticised with any credibility. At the time he put together that Bryars appraisal, he'd had one album, *Decay Music*, released by Obscure, the label set up by Brian Eno as a sort of 'alternative' focal point for new British music, financed in part by resources within the EG group. Bryars, Harold Budd, John Cage, Jan Steele, Christopher Hobbs and Eno himself were among the composers whose work found a welcome and appreciative outlet in Obscure, and as Nyman recalls, everyone connected with the label went about their work with a lot of seriousness and not much time for frivolity.

'We were all terribly, terribly serious about what we did. Obscure was set up as a reaction against the commercialism of most of the modern music of the time, and we consciously shyed away from anything that would jeopardise our detached outlook. We wanted to remain separate from the mainstream, and by and large I think we succeeded. We sold a few records, but of course, the economic potential of something like that is never going to be all that great.'

Too true. *Decay Music* was never likely to break into the Top 40, what with one side of it being taken up by a single piece '1-100', that consisted of Nyman recording an identical sequence of 100 piano chords four times, without hearing what he'd already done, and then replaying the four recordings simultaneously. The results are more listenable than the process would suggest, sounding more like a forerunner of Eno's

piano-based ambient work than a Cage-inspired experiment in alternative methods of composition.

Whatever, it was a path Nyman chose not to pursue once he'd decided to compose music on a full-time basis. Instead, he's directed his attentions toward producing what commentators (this one included) have made the mistake of calling 'systems' music, a label that puts Nyman's output in the same file as the work of Americans like Philip Glass and Steve Reich. Nyman is a self-confessed despiser of labelling (who isn't?), but his lack of taste for the 'systems' tag is quite justified. For one thing, the structure of his work owes more to baroque lyricism than arithmetical progression, and for another, he writes better tunes than any of the minimalists from across the pond.

His major claim to fame, or at least, the closest he's come to becoming a household name, was writing the soundtrack to Peter Greenaway's cult film success, *The Draughtsman's Contract*. Nyman had worked with the director before, notably on an obscure three-hour epic called *The Falls*, and to those that knew such earlier excursions, the *Draughtsman's* music represented a tried and tested formula: lots of interweaving melodies played vigorously on a variety of string and wind instruments, with several instruments playing parts in unison to create textures that sounded dynamic and decidedly unacoustic. But the combination of Greenaway's arcane dialogue and lush photography, and Nyman's distinctive staccato melodies (performed by his own dependable acoustic ensemble) produced a sum far greater than its constituent parts. Suddenly, Nyman was in demand from the *Time Out* cognoscenti, and a soundtrack album duly followed. But that was where the problems started...

'These things invariably involve some level of compromise, and there were some things about the way Peter used my music that I didn't like at all. The music was chopped up into little bits, as it so often is, and one of the pieces ended up not being used at all.'

They're all on vinyl...

'Agreed. But I never called that record a soundtrack album as such. The performances are different, the pieces are altered, the recordings are tampered with in various ways. And I think it works in isolation, even though it doesn't have Peter's pictures to go with it.'

Nyman has in fact continued to work with Greenaway on a number of projects, including a suite of pieces for television that forms part of his latest album release, *The Kiss and Other Movements*, and the soundtrack to the director's new feature-length film, *A Zed and Two Noughts*, due for release this autumn.

'It's set in a zoo, so I thought of extending my principle of mixing instruments to the



▷ point of, say, having a baritone sax playing a melody along with a lion, or a rhinoceros. There wasn't the time to do that in the end, so the soundtrack is quite conventionally scored. But I will do something like that at some point – it's a nice idea.'

To begin with, Nyman was intent on recording the new pieces with an entirely new set of musicians in Holland, but the experiment was not a success.

'I realised that I've been spoiled all these years by my Band. They can do anything I demand of them, and they're not afraid to blow harder, or scrape harder, than they've ever done before. The brass players in Rotterdam were remarkable, but the strings were really rather disappointing. What you've got to remember is that a lot of the energy you can put into a performance simply isn't *notatable* on a manuscript. I can only instil it properly if I'm conducting my own band – I know they'll respond. Otherwise, you can end up with a load of musicians who don't want to know, or a conductor who just isn't capable of conveying all that energy. I *have* done things with other musicians where the presence of somebody new has sparked off something really worthwhile – but the Dutch thing wasn't one of them.'

But Nyman doesn't confine himself to conventional orchestration. Like many of his contemporaries, he's found electronic instruments to be of great value, in both composing and performing terms. Live, he's used a Roland Juno 60 to recreate orchestral timbres, while an OSCar deputised for a bass guitar at some of his Band's concerts during 1984.

More adventurously, he's just completed a soundtrack to a nature documentary for BBC Bristol, using nothing but sound samples played on an Emulator.

'The programme is called *The World of Birds*, and the people behind it want a soundtrack composed entirely of bird noises. So they gave me a load of tapes of birdsong and I sampled them into the Emulator – effectively making samples of samples. I approached the writing with a blank piece of manuscript paper, and as I started to compose I realised how odd it all looked: instead of the titles on the staves running 'piano', 'violin', 'viola' and so on, they ran 'robin', 'bullfinch', 'swallow' and so forth. It was very rewarding and really quite fun. I've changed the samples quite a lot, and obviously some of the sounds become unrecognisable if you play them in different ways across the keyboard. I introduced various different elements into the pieces, so you could probably listen to them for some while without realising what was actually making the noise.'

'I find synthesisers and computers very enticing – mainly because they're so convenient. You can insert your floppy disk or whatever, load a tuba sound, and play, say, an eight-note tuba chord for which you'd have to pay about four hundred quid if you wanted it played by eight tuba players.'

'But there is also something rather unsatisfying about the way synthesisers actually sound. I mean, I know there is such a thing as "the DX7 sound", but most of the time, I find myself wanting the presence and the attack of somebody playing an acoustic instrument. It would be nice to have access to synthesiser sounds via some means other

than an electronic keyboard. But somebody in the band played a lyricoon once a little while ago, and the sound it made was *entirely* dependent on the synthesiser it was being used with; it wasn't really adding any character of its own. If you played it with a Korg, it sounded just like a Korg; you might just as well have played the synthesiser on its own.'

'I've always been interested in mixing sounds together to produce new textures. People have listened to something like *Draughtsman's* and asked me "what on *Earth* is that?", and I've said "well, it's this combined with this combined with this", and they're completely dumbfounded by it. I like the idea of having an acoustic instrument playing a melody simultaneously with a synthesiser set up to produce an approximation of that acoustic sound. That's the sort of mixing of sound that interests me.'

'Changing sampled sounds is something I could have immense fun doing. This new Mirage looks interesting.' (Nyman glances down at an advertisement in one of the magazines in front of him.) 'I had a demonstration of a Fairlight not long ago, not because I was seriously in the market for one, but because I was thinking of hiring one for some film work I was doing. This guy went through some of the disks with me and sampled a few sounds, but it seemed to me all you could do to actually *change* a sound was alter its envelope. If something came out that had a whole synthesiser section, something like the old EMS Synthi, that you could stick on the end of an acoustic sound, then that really would be worthwhile.'

Nyman also makes use of contemporary recording technology in his quest for new tone colours and new ways of manipulating acoustic sounds. Here he's been ably assisted by expert knob-twiddler David Cunningham (of Flying Lizards fame), who's helped guide him through the maze of EQ, artificial reverb, delay effects and the rest. And Nyman finds the whole field fascinating, even though such an open-minded approach would win him no friends among the arch-traditionalists of the "serious" music establishment.

'It makes no sense to me, no sense at all, to go into a 24-track studio and just record a performance. People do it all the time, but it strikes me that if you have all that equipment at your disposal, you might as well try to make some use of it. Personally, I love getting behind a mixing desk and mucking about with the sounds these instruments make. I like giving them extreme EQ settings, or putting some of them within different acoustic 'rooms' – I've been using the Quantec Room Simulator a lot. I know I'm tampering with their naturalness, depriving, say, a saxophone of half its timbre by EQing it in an extreme way. But to me it's just another way of getting something new out of instruments that have been around for a long while now, and I always retain some element of their natural attack, because that's very important to me. It's similar in a way to what I do when I'm scoring a piece, mixing sounds together. In some ways, it's really an *extension* of the scoring process, and just as important in its own way.'

'You can't do it live, so I tend to opt for a

very natural sound over the PA (all Nyman's concerts are amplified affairs), and let the scoring and the performances of the Band members do the rest. I like playing live because it's hot and there's an audience, and because people buy you drinks afterwards and tell you how wonderful they thought it was – or whatever!'

'But I love recording, too. There's all that business of accuracy in tuning and timing, which I don't like, but the biggest problem for me is time. Using David Cunningham is like a short cut for me. I know the music and he knows the desk, so I tend to follow his direction to a large extent. If I was left to my own devices I'd probably learn a lot more, but there's never enough time, really. Ideally I'd do a Bryan Ferry and have a quarter of a million to spend, do it over two years, that sort of thing. Actually I don't think I'd ever have to use all that up, but it would be nice to know I could take as long over something as I needed to.'

Would a home studio be a help?

'Oh yes, I think so. I'd love to have a studio at home. Not for recording as such, because that doesn't really interest me at all, but just so that I could experiment, find out a little about how everything worked and how it could all be used. I've got a terrible memory for that sort of thing and I never write anything down, so if I put a saxophone through a certain delay line setting and then through a certain noise gate, I'll just say "that's good". I won't remember the details, so when it comes to doing it again, it's back to square one. And that, again, uses up time.'

Time, or rather the lack of it, seems to be Nyman's biggest problem. As a composer earning his living from the music he writes and performs, he finds there's nothing worse than having to complete a commission by a particular deadline, only to discover that it doesn't get used for another six months.

'I write an awful lot of material, far more than will ever see the light of day, I suspect. Here they're talking about releasing one album of mine every two years, which is nothing, really. Ideally I'd like to do something like a vinyl equivalent of a quarterly newsletter, but the more records you put out, the fewer of each you sell – so here at EG, they have to put all their promotional muscle behind one album every so often.'

'In a sense it doesn't matter because I don't make any money from record sales anyway. Most of what I earn comes in from film and TV work, and I'm quite happy to do that.'

Such is the lot of the modern composer. But whatever Nyman has to do to get his message across, it's better than working behind the counter at a kosher butchers, or worse, operating the switchboard at a record company office. ■



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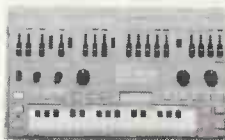
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DELAY TACTICS



Another month, another MIDI-controllable digital delay line for our beleaguered reviewing team to get to grips with. The SDE2500 is Roland's latest. Is it their greatest? *Paul White*

Whatever the Chinese may tell you, 1985 is the year of the MIDI controlled effects unit. Already we've had two wonderful digital reverb systems from Roland and Yamaha (see last month's E&MM for reviews of these), plus Korg's cunning SDD2000 sampling delay, all of which have had MIDI fitted to the back of them in the interests of giving people some means of selecting effects memories remotely from a MIDI musical instrument.

There are to be a lot more of these rackable MIDI wonders before the year is out, too. Take this new offering from Roland. It allows you to create and store up to 64 delay effects, which you can address either by using the panel controls or by implementing MIDI patch change information in the range 0 to 127. As you'd expect, there's a modulation section onboard for the generation of all the standard delay-related effects. And the combination of a 17kHz bandwidth and some rather sophisticated high-resolution converter electronics means the SDE2500 should be capable of satisfying most professional requirements.

Curiously though, the delay time at full bandwidth is a modest 350mS, and increases only to a maximum of 750mS in the 'Time x 2' mode, where the bandwidth is reduced to 8kHz. In real life, however, this restriction on delay time isn't as serious as it might first appear, as most delay effects, including

straight echo, can be set up using delay times of 350mS or less. If you want to be more adventurous than that, look elsewhere.

A glance at the photograph shows all the normal delay line controls located to the left of the 2500's front panel. The first of these is the obligatory and very necessary bypass button which is a nice, big, easy-to-use affair with a neat little status LED located just above it. Again, the input level control works just as you'd expect, and usefully, your endeavours in this department are monitored by a six-section LED meter – so you've no excuse for giving the Roland more than it can handle at its input.

The Modulation controls, Rate and Depth, hold no surprises – the same is true of Feedback and Delay Level, except that these actually exist as separate knobs rather than as increment/decrement buttons or as a single assignable controller. In this age of computer-based hardware, it's refreshing to see that the 2500's designers have gone out of their way to adapt their machine to the user, and not vice versa.

With the exception of the input level pot (which should only need setting up once each session), all the Roland's controls are linked to the programming electronics, so all their settings can be stored and recalled as patch information – the fact that the level of delay relative to the direct signal level can also be stored is particularly welcome.

Bang in the middle of the front panel is a

type of rocker switch labelled 'Memory No', and this does work in an increment/decrement fashion to step through patches or memories. Push down both sides of this button and the rate at which the memories step through increases greatly, the direction of stepping being dependent on which side you press first. This button also doubles as the MIDI Omni Mode on/off switch, by the way.

Further to the right is the display window, which houses five seven-segment numeric LED displays. Under normal circumstances, the first two display the patch number whilst the last three indicate the current delay time in milliseconds. But in true Roland style, the display is dual-function and can also serve to indicate Omni on/off status and MIDI channel number. Two additional LEDs indicate delay on/off status and the LFO modulation rate, the latter by flashing at the oscillator frequency.

The right-hand side of the panel takes the form of a keypad containing nine buttons, and the first of these is another of those ingenious rocker switches, which this time allows the delay time to be altered up and down. The remaining buttons are arranged in two rows, the top row for programming and MIDI functions and the bottom row for modifying effect parameters. The latter comprise Time x 2, Delay Phase, Filter and Hold, and each one has a built-in status LED.

As we've seen, Time x 2 doubles the

maximum delay time to 750mS, while as you might expect, Delay Phase gives you the choice of feeding back signal in normal or inverted phase. This option only has any significant effect at very short delay times, and really comes into its own when you want to change the character of flanged sounds; the difference is clear, as they say.

Filter comes next, and there's more to this than meets the eye. What it gives you is the

Performance *'The 2500's designers have gone out of their way to adapt their machine to the user, and not vice versa.'*

option of having the high-frequency content of any fed back signals progressively reduced. If you set up a straight delay with feedback, bringing the filter into play produces echoes which become softer in tone as they die away. That might not sound too exciting, but some people reckon it to be a useful and realistic replica of the characteristics inherent in tape-loop echo units. And we've all met some musician somewhere who's preferred the sound of tape echoes to any other. And the feature is certainly useful for treating vocals, where it can make repeat echoes less obtrusive, and consequently more natural-sounding, than simple full-bandwidth repeats.

Hold is the familiar feature that allows anything captured in the machine's memory to be looped around constantly, giving an infinite repeat effect. This particular Roland has no triggering facilities, though, so this function is of rather limited use. Actually, I rather expected to find some form of triggered sampling system on a unit of this price and sophistication. I guess Roland's marketing people would say that if you want the degree of programmability the SDE2500 offers, you'll already have a cheaper delay line to take care of such mundane tasks as sampling. Personally, I think they should have stuck a triggering facility on there anyway.

Having got that disappointment out of my system, I crept up behind the SDE2500 to see what else I could or could not find. First there was MIDI, catered for by In and Thru DIN sockets. Then there was a switch for operating level, to match +4dBm or -20dBm systems, and delay only and mixed outputs, the inclusion of which is now more or less common practice.

Having remote jacks for Delay on/off and Hold is also par for the course, but the socket labelled Playmate looked more interesting. Hardly able to contain myself, I connected my footswitch and waited for the scantily-clad bunny girl to appear...alas, Mr Roland is a man of honourable intentions, and the reality is less smutty than my imagination could ever cope with. The Playmate function is really a rather clever timing device that lets you set your delay time via the footswitch; the new delay time is the same as the time that elapses between two consecutive depressions of the pedal. This means you can tap your foot on the pedal in time with your music and automatically set a new delay time that fits the tempo of the piece. Of course, the maximum delay time can't exceed the maximum capability of the unit (750mS), but

this mode of operation should be mighty useful in a live situation, or if you're short of time in a studio and don't want to spend too long twiddling front panel controls.

Two further sockets allow for the connection of footswitches which you can use to increase or decrease the program number if you're not already using MIDI to handle this task. Should you opt for this method, it's probably wise to program your effects in the order you intend to use them in, to avoid any unnecessary complications.

Also in evidence is a CV input jack, but don't get too excited about this. It's designed to let you control pitch modulation using something like an external LFO, rather than as a means for controlling the pitch of a sampled sound from a CV keyboard. Inserting a plug into this socket disconnects the internal modulation oscillator, and shortly after doing this, you realise just how useful this external modulation business can be.

I started this thing off by talking about MIDI, so I might as well give you a few more details about how the new Roland implements the omnipresent digital communications link. The SDE2500 can be set to operate in MIDI Omni mode, or to respond to any discreet MIDI channel in the range 1-16. When one of the 64 memories is allocated to a MIDI program number in the range 0-127, this information is stored as part of what Roland call a number table. Four such

Operation *'You can tap your foot on the pedal in time with the music - and automatically set a new delay time.'*

number tables can be stored and recalled, and when the unit is powered up, the last number table used is the one that comes into operation. This is made possible by the battery backed-up memory system, which is responsible for preserving all other program information when the machine is switched off. The battery is intended to last for at least five years, by which time MIDI will be the subject of retrospective E&MM features and the session keyboard player's equivalent of old wives' tales.

Unlike Mrs White and her ailing Vauxhall Chevette, you shouldn't have any trouble learning to drive your SDE2500 and building up a productive working relationship with it. This is mainly due to the wonderfully clear and comprehensive manual, something that's worth mentioning at a time when many Oriental manuals, even some Roland ones, are less than complete and of little more help than the original Japanese manuscript.

For those not entirely *au fait* with exactly what you need to do to set up different effects, the manual contains a complete section on sample settings, all of which are clearly illustrated with front panel drawings showing appropriate control positions.

As the essential controls are real knobs rather than bits of software activated by pairs of unresponsive buttons, setting up a sound is really very straightforward, especially if you've used any kind of DDL before. What's

more, a simple ritual involving the programming buttons locks your desired sound into the memory location of your choice. Existing memories can be edited but, if you want to have your cake and eat it, you can first copy the patch into a spare memory location and so keep the original intact.

Personally, I've lost count of the number of delay lines I've used in the course of writing a magazine review such as this one, so I know from experience that it's all too easy to get blasé about the sort of effects these things can introduce. But with the possible exception of the Filter parameter, the SDE2500 does nothing really new. What it does instead is to produce all the standard DDL effects to a very high standard, with exceptional clarity and a marked lack of background noise which is an obvious advantage in any studio environment.

With the unit set to Time \times 2, the reduced bandwidth isn't nearly as detrimental to the sound quality as you might imagine, and though there's an obvious difference in high-frequency response, this isn't going to be too serious for most applications.

One thing to bear in mind is that the delayed sound is muted for up to 400mS whenever you change the program or alter the delay time, so don't expect to be able to program a composition that needs one delay effect to switch instantly to another with utter smoothness. To keep matters in perspective, this problem is inherent in the design principles of DDLs, and is in no way confined to the SDE2500.

In the SDE2500, Roland have produced a straightforward, high-quality delay unit equipped for MIDI control. It has no real faults, but it does have a few omissions. There's currently a huge demand for DDLs which also offer a sampling facility that can be controlled from a keyboard, but it's a demand the SDE2500 is going to miss out on. And regardless of whether or not longer delay times are actually necessary, maximum delay time is a strong selling point out there in the marketplace, and for a unit of this price, I'd really like to have seen at least a one-second delay at full bandwidth.

Then again, the SDE2500 is an attractive performer, with exemplary credentials in the areas of noise, distortion and dynamic range.

And you wonder why writers have trouble coming to concrete conclusions about review equipment... ■

DATA FILE

Roland SDE2500 Digital Delay

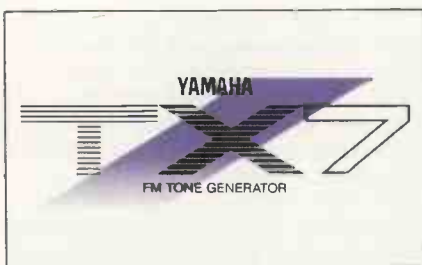
Specification Delay Time 350mS at 17kHz bandwidth; Time \times 2, 750mS at 8kHz bandwidth, 64 programmable memories

Controls Bypass, Input level, Feedback, Delay Out, Modulation Rate & Depth, Memory No, Omni On/Off, MIDI Channel No 1-16, Time \times 2, Delay Phase, Filter, Hold

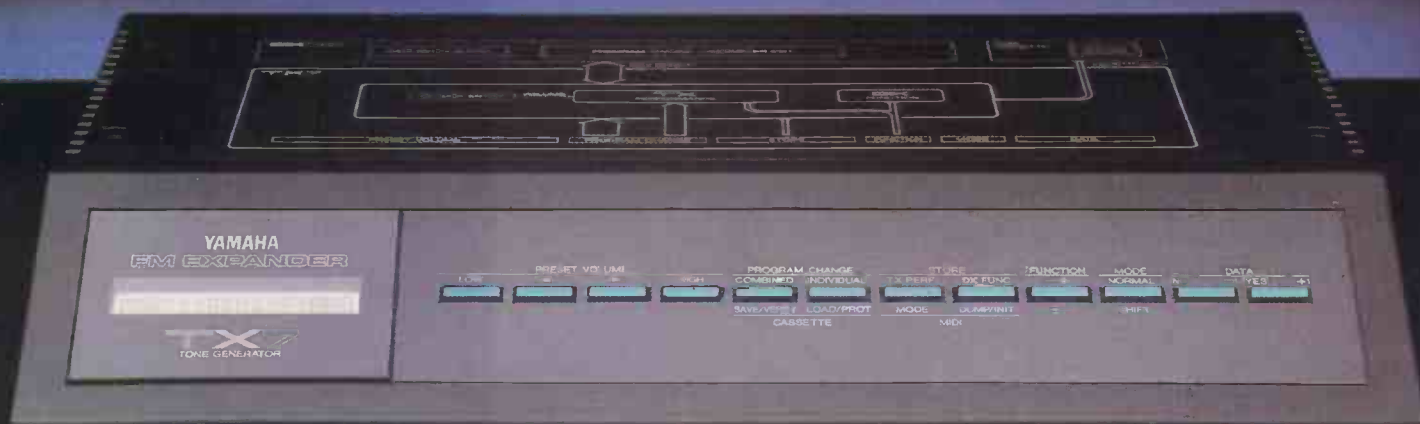
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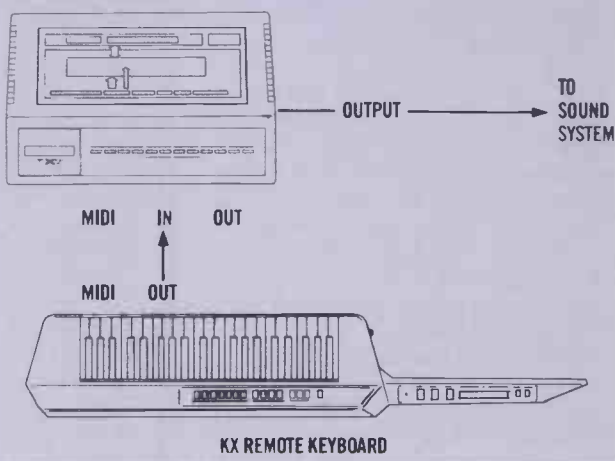
If you are a DX7 owner, the **TX7** should undoubtedly be your next step. For less than half the price of a second DX7 it more than doubles your existing creative potential - in real musical terms. Via MIDI the **TX7** combines with your DX not only to extend its existing facilities but to introduce you to a whole new dimension of FM programming.

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Original sounds are synthesized by breaking them down into their component parts. A note from an acoustic guitar, for instance, consists of various elements - the fundamental frequency, its harmonics, the percussive sound of the nail plucking the string, the string striking off the fingerboard, the damping of the string at the end of the note etc. The combination of DX7 and **TX7** vastly increases the wealth of detail your sounds can capture. This can be described thus.

This is the ideal performance system if you want to use a Yamaha KX1 or KX5 type performance keyboard exclusively. The TX7 provides a top-quality FM tone generator, without the need for another complete keyboard.

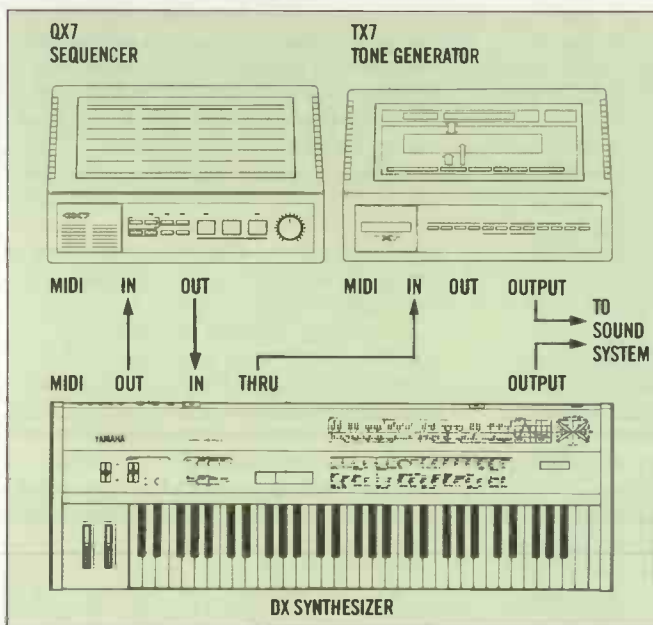
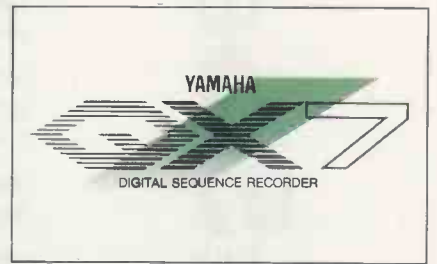
TX7 TONE GENERATOR



Think of each operator as a digit in a six-digit combination lock, then increase the number of digits to 12 to represent the addition of **TX7**. You have not merely doubled the number of combinations but have increased it factorially. Sort of like a DX^{7^2}

The **TX7**, like the DX7, has a 32-voice internal memory filled with an exciting new set of factory voices. It also has a tape storage facility making it possible to create inexpensively a large library of sounds on normal cassette tapes. In addition to storing all the standard voice parameters, you can also store all the performance control settings such as voice attenuation and

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To further aid your performance or recording sessions Yamaha also offer the **QX7**, an inexpensive MIDI sequencer which can be used like a multitrack tape machine to build up synth and drum machine arrangements, line by line. It will faithfully reproduce your performance or allow you remarkably simple step-time programming which will still remember all your dynamics. The **QX7** has a wide range of editing facilities and can even correct your timing for you. It can control as many as 16 different MIDI instruments or can simply be used as a MIDI drum sequencer with full velocity sensitivity.

Without the assistance of such sequencers, many professional musicians would be incapable of producing the polished performances that we all take for granted. In fact you'll be surprised how easy it is to make your tracks sound tight and professional with a little help from the **QX7**.

The **TX7** and **QX7** have both been designed specifically to work as a unique system with the **DX7** although they will also work with any other MIDI instruments. But, then again, there's nothing like the real thing.

note limit (a sophisticated keyboard split).

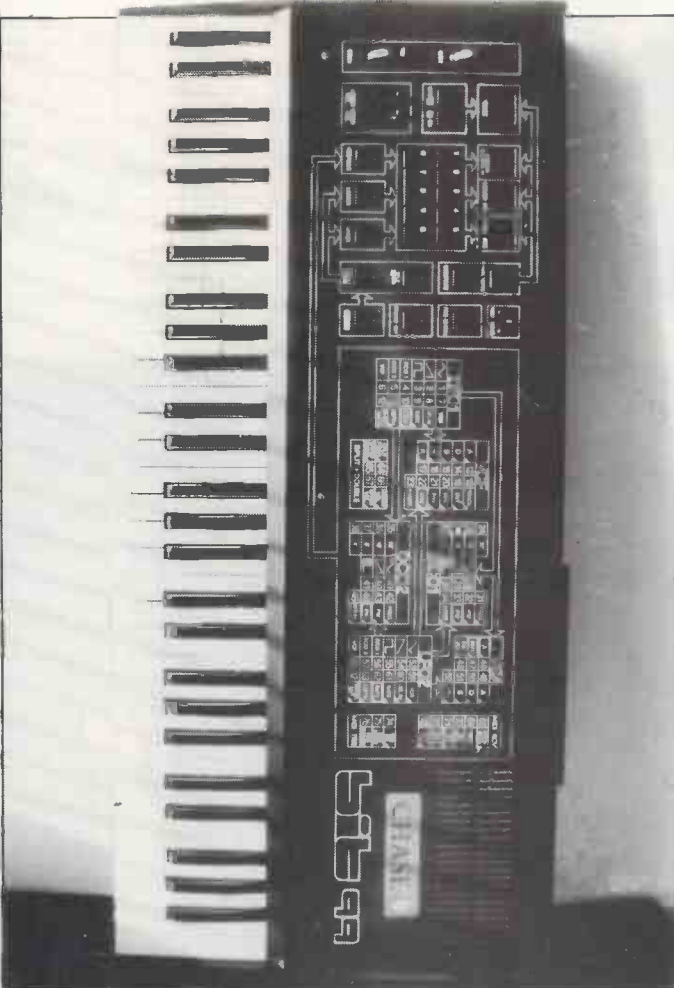
Pitch bend, modulation wheel, after-pressure and breath control parameters can all be stored as an integral part of each preset. On top of this the **TX7** has on-board a second set of 32 memories to allow such performance parameters to be stored with respect to the **DX7**'s presets.

All this means avoiding the horrifying discovery in the middle of a solo that the pitch bend range is not what it should be! It's all there in memory for you. And for total performance control even the volume balance of the **TX7** can be assigned to the data entry slider of your **DX7**.

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ABIT ON THE SIDE



The Bit One analogue polysynth was impressive enough, but now its facilities have been improved, and its price reduced dramatically. *Tim Goodyer*

First there was the Bit One, a fabulous-sounding analogue polysynth designed and made by a revitalised Crumar factory in Italy, and sold in the UK by an equally revitalised Chase music shop chain. Then there was the Bit 01, a 'Bit One in a rack' synth module that did without the dedicated instrument's keyboard but added a number of useful synthetic and MIDI facilities to the original spec.

Bearing that history in mind (it's all taken place in the last year, give or take), the Bit 99 can be viewed as a Bit 01 plus a five-octave C-to-C keyboard, and the performance controls relevant to use of the machine as an instrument in its own right.

Facility-wise, the 99 has two DCOs, a VCF, a VCA, two LFOs, velocity-sensitivity and an extensive implementation of MIDI. In other words, the Bit 99 is the best of the Bit One plus the best of the Bit 01, if you see what I mean.

Relative to what the original synth offered in the way of MIDI options (there weren't many), the 99 gives you a variety of choices regarding transmitting or suppressing pitchbend, modulation, release pedal information and program changes, as well as control over omni/poly modes, transmit and receive channels (1-16) and keyboard modes. These differ from what the expander can do, too, since seeing as it has no keyboard, it doesn't have much use for all those transmission facilities.

Looking briefly at the rear panel, we find separate Upper and Lower Outputs, a Phones socket (which mutes the main

outputs when used), MIDI In, Out and Thru, Release and Program Advance footswitch jacks, Tape In and Out (on quarter-inch jacks) and a tuning pot effective over a total of two whole tones.

The two outputs output the same signal unless you enable the 99's Stereo facility, in which case upper and lower signals appear at the relevant output. Interesting, but a little disorientating, is the way the path of the synth's output alternates from left to right every three notes, if you're in Normal and Stereo modes at the same time.

Parameter control is accomplished in the now more than familiar manner of digital access. Depending on your point of view, you'll see this as either the most ergonomically elegant layout ever seen on a musical instrument, or the death of synthesiser programming as we know (knew?) it. The Bit 99 has incrementation and decrementation switches, and a pair of two-digit displays to show the parameter number under consideration and its current value simultaneously, which is more than you get from some. In fact, these displays are kept company by a further pair marked Upper Program and Lower Program. No prizes for guessing, then, that the Bit 99 works in the same normal, dual and split configurations as both its predecessors. And all these modes of operation are fully programmable, including the split point, which has to be good news for the performance-minded.

There are a total of 99 memory locations in all, which might give us some clue as to why the Bit 99 has the name it has. Of these, numbers 1 to 75 hold conventional patch

information, while 76 to 99 hold split or layered arrangements of these patches. You needn't confine yourself to this internal memory, as a whole synth's worth of voices can be dumped to cassette tape at the flick of a couple of buttons; no such hi-tech luxuries as disk or cartridge storage here, I'm afraid.

The 99 has the same pitch and mod wheels that graced the Bit One, but sadly, these are in the same place they were on the earlier synth, too. Maybe I'm further down the evolutionary ladder than the design team at Crumar, but my fingers run in a vaguely straight line across the end of my hand, something that makes using such controls rather easy when they're placed side by side. Strange, then, that these same wheels are positioned one behind the other on the Bit 99.

Still on the subject of performance, the front panel is also possessed of a small rotary pot designated Keyboard Sensitivity; this allows you to set the sensitivity to suit your own touch and consequent control over oscillator pulse widths, LFO rates, filter envelope and attack and VCA attack and amount. This isn't in itself a programmable function, even though the limits within which it operates are.

One of the Bit 99's most useful features is program chaining. I know it's not unique to this synth, but the ability to string together up to three blocks of 33 programs and be able to step through them can be a real asset, especially during live performance.

Time to actually listen to the synth, I suppose. Again, the similarities to the 99's predecessors are inescapable. The pre-programmed sounds really don't do the instrument full justice, but that's hardly an unusual situation for a modern polysynth, in any price range. String sounds are rich and even richer when layered, percussion is clear and well-defined until you start getting into the realms of attempts at Simmons snares, organs are full and meaty, and there are even a few fashionably nasty piano sounds, too, so no worries there.

Unusually for what is basically an analogue synth, the Bit 99 is also capable of producing very bright, FM-like sounds, and as with everything else the synth can come up with, these can be beefed up nicely using the split/layer facilities.

Usually, 'performance' instruments sacrifice programming versatility in the interests of being easy to play, while those with complex synthetic possibilities are almost impossible to use live. The Bit 99 strikes a neat and very welcome balance between the two – and at its newly-reduced price, it makes some of the competition look very silly. ■

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IN MEMORY OF A FESTIVAL

Over the last two years, UK Electronica established itself as the premier event in Britain's electronic music calendar. But this year's show was lacklustre and poorly attended, and it could turn out to be the last.

Report *Dan Goldstein* Photographs *Tim Goodyer*



When Sheffield University Students' Union withdrew their support from UK Electronica '85, it looked odd—on that the event would have to be shelved. In retrospect, it might have been better if it had been, since a postponement would have spared the organisers, the exhibitors, the punters and the players from having to live through a mundane, uneventful and for the most part unproductive day in rain-soaked South Yorkshire. And it could have cleared the way for a bigger, better event to take place same time next year.

But as it was, local art dealer Chris Cox stepped in to save the occasion, and it went ahead in spite of everything. On the day, ticket sales were so far down on the previous year's, some of the artists performing during the day had to buy their tickets to get into the evening part of the show. Most of the manufacturers' and retailers' stands were empty for most of the time, the bar was quite unbelievably quiet, and on the E&MM stand, we sold an overseas subscription and doubled our takings.

The music was variable, but not varied. If there was a single major factor contributing to this year's poor attendance, it was that the bill simply didn't cater for a wide enough range of musical tastes and styles. OK, so UK Electronica has always put the emphasis on the cosmic, the synthetic, and the Schulzian. But you had to listen hard to find an artist that strayed too far from those guidelines at the '85 event, and given that a total of 10 acts took the stage at either the Students' Union building (day) or the fabulous Octagon Centre (evening), that must count as a major shortfall.

The large-format, refreshingly well-produced programme said Ashok Prema combined 'the erotic melodrama of the Indian film with the synthesizer film'. At Sheffield, his performance was straight mid-period Tangerine Dream with a tabla thrown in now and again for good measure, so what read like a fascinating fusion of

cultures and musics sounded like nothing of the kind.

Mark Jenkins was better, but then we expected that. As a journalist who's worked for just about every musician's magazine going (just think, it was E&MM who gave him his first big break), he has access to more hi-tech equipment than the rest of the daytime performers had put together — and his set made no secret of the fact. Powerful Drumtraks digital percussion, sparkling DX7 synth sounds, majestic Mirage grand piano...you name it, it was at Jenkins' fingertips. The music? Ah well, can't really remember too much about that — but there was a laser flying around the hall (and bouncing off the musician's mirror shades) to make sure the visual senses were occupied even when the aural ones weren't. But as a demonstration of what you can do with the latest gear and an NUJ pass, the set was a winner.

Then there was Wavestar, three middle-aged composers who probably undertook

the most ambitious performing task — using a complete Digisound modular system on stage, marrying it to a load of home-built and heavily-modified gear, playing music of a semi-improvised kind, and all this in what was their first live performance of any description. We were close enough to the stage to hear lines like 'what do I do next?' and 'where does this go?' from the mouths of performers various, but to the rest of the audience, Wavestar's set was crisply constructed and smartly executed. Watch out for them.

In contrast, Land of YRX were heavy going. Like Wavestar, they got more out of some fairly antiquated hardware than many musicians get from state-of-the-art technology, but their music was uninspired to the point of annoyance. Predictable, formulaised monophonic sequences provided the backdrop for the sort of hideous heavy metal guitar soloing you'd expect to find on a *Kerrang!* compilation album, and the audience's reaction was decidedly luke-



Mark Jenkins



Ian Boddy



Steve Jolliffe



Ashra

warm. The band had plenty of enthusiasm (a quality they shared with most of the event's performers), but sadly, it was misdirected.

Mike Brooks, a synth soloist with the misfortune to be based in Luton, succeeded in applying his enthusiasm to a much more inventive end. This time the programme didn't lie: Brooks' music was flowing and simplistic, and a little reminiscent of Schulze at his more inspired. If there's going to be a new generation of synth composers to follow the likes of Boddy, Shreeve and the rest, Mike Brooks should be among them. He knows a good tune when he hears it, arranges his compositions with skill and carries the whole thing off with an idiosyncratic but appealing style.

It was a member of the above-mentioned establishment, Ian Boddy, who headlined the daytime concert, 20 minutes behind schedule and suffering from lack of time to make sure everything was working as it E&MM OCTOBER 1985

should. He needn't have worried. Apart from the odd logistical error – unnoticed by the majority of the audience – Boddy's set went as smoothly as the best of them. In fact, smoothness was probably the performance's key note from start to finish. Everything functioned with scarcely a hiccup, from the running of the tape machine to the multitude of Boddy patch-changes, and the audience loved it. The Editor loved it, too, especially when Boddy and second synth player David Berkley launched into a new piece titled 'The Necromancer': clever rhythm patterns, tasty arpeggios, and some splendid, sudden changes in instrumentation.

The evening bit didn't start too well. A lot of the exhibitors had become disillusioned and gone home early, though the man from Simmons (who'd earlier dropped his demo SDS9 module and wiped all its programs, poor chap) had to stay to collect a loan kit off

headliners Ashra, and provided a bit of light conversational relief in the Octagon Centre's bar.

But long before Ashra took the stage, it was the turn of Steve Jolliffe, ex-Tangerine Dreamer, headliner of 1984's daytime show, and as much the star of this year's event as he was of last year's. His set was more varied, more emotional, less gimmicky and less predictable than anybody else's – not least because in addition to his DX7, he also played brass and woodwind, and even directed north and south at microphone for about 40% of the performance.

There were plenty of the dramatic flute-cum-vocal tricks which characterised his '84 outing, but Jolliffe gave us more songs this time (some of them previously unheard, at least by these ears), and contrasted these with the quieter, instrumental meanderings that have graced his recent vinyl output. By no stretch of the imagination is Jolliffe an accurate singer, but he's a lively and energetic one, and his presentation as a whole had more vitality than most. Like *Oliver Twist*, the audience pleaded for more at the end of an all-too-brief sitting, but things were running *extremely* late by this stage, and we had to remain content with what we'd been given.

Ashra were the headliners, the crowd-pullers that didn't pull a crowd. Their roots lie in early-70s Berlin cult outfit Ash Ra Tempel, founded by Manuel Göttsching and including in one of its earlier incarnations a certain drummer by the name of Schulze. Ashra's current line-up is Göttsching plus Lutz Ulbrich and Harald Grosskopf, and the last time they played on these shores was eight years ago.

They were abysmal. I know it's a matter of taste (Ashra's set was enthusiastically received), but I don't reckon the following formula particularly appealing: tedious, repetitive keyboard sequences played with no dynamism whatsoever; a drummer that took 15 minutes to find out where his snare drum was; and the sort of monotonous, volume-no-object guitar-playing that would make Land of YRX sound like Hendrix.

We went to the bar, but there was no escaping Ashra; you could hear them clearly through a couple of kitchen doors that were open throughout the band's all-too-lengthy set. Meanwhile, ambition had got the better of some of the organisers, and we found ourselves surrounded by talk of a two-day hi-tech extravaganza at Birmingham's National Exhibition Centre, to be headlined by a couple of 'really big names' and to take place sometime next summer. In '86, the trains won't be on strike, it won't be pouring with rain, the event won't take place on a Bank Holiday weekend – and Ashra won't be top of the bill.

But I get the feeling there won't be a UK *Electronica* at all in '86. That would be a shame, because the warmth, the creativity and the friendly atmosphere of the first two *Electronics* was well worth supporting, and there's no denying the enthusiasm of the people involved in getting what will always be an elaborate show on the road. The best we can hope for is that a lesson will have been learned this year, so that something altogether wider-ranging (with correspondingly greater potential in both artistic and financial fields) can be staged in 12 months' time. ■



OUTTAKES

Whether it comes from a multi-national leisure company or someone's back room, it's still modern music. And if it's modern music, it probably isn't reviewed by E&MM's resident team of would-be art critics. *Tim Goodyer & Dan Goldstein*

VINYLTAKES

First off in this month's record reviews is the latest opus from electro pioneers **Tangerine Dream**. It's called *Le Parc* (Jive Electro), and the inspiration behind it appears to be a sort of 'Around the World in 80 Days' journey via some of the globe's most famous parks. The journey isn't a real one, so don't build your hopes up for a live album recorded in venues many and various. First stop is the 'Bois de Boulogne', which gets the album off to a promising start. Most memorable are the track's enviably distinctive sounds, and in this respect at least, the promise is fulfilled. There's a liberal spread of new and inspirational arrangement throughout the album. The best examples of this are percussive, and the best of these is 'Gaudi Park' which is rich in African style drums. Odd, really, when you consider that the area of green space that inspired this particular venture is in Barcelona. At the other extreme is the first side's final track, 'Zen Garden'. Gentle, wistful and emotional, it's the best *Le Parc* has to offer. As for the remainder, the music is disappointingly constructed by comparison, though quite listenable nonetheless. So for the umpteenth time, the Tangs have come up with a collection almost bound to find favour with their established audience. Uncommitted listeners will probably continue to steer clear.



Chris Carter of *Chris & Casey* time, had a solo outing by the name of *Mindblown* (CTI) out this month. It was recorded in 1984 but the final mix wasn't completed until early in '85, hence its delayed appearance. The result? A recording that's heavy on manipulation of voice samples, with the various vocal sounds laid over simple rhythms and synth sequences. In the absence of any melodic themes, it's not possible to know exactly how the has been achieved, but no matter. The music is inventive, resourceful and rewarding, mostly from rather too often into unadorned simplicity. The title track 'Fast Life' and 'Nemesis' deserve a special mention for their engaging rhythms and beguiling structure. More evidence that the quartet of *Throbbing Grouse* isn't just the most prolific. It's the most talented, too.

Went to a press do in Cavendish Square the other day. Quite a good one, actually. Plenty of free wine, good company, free wine, good music and free wine. The cause of this celebration? The Thompson Twins and *Here's to Future Days* (Arista), their latest long-playing creation. The band weren't actually there, you understand, but we heard plenty of the album. About three complete plays, in all. By the time you read this, the tight, well-constructed single 'Don't Mess With Dr Dream' will have worked its way onto the jukeboxes of Britain with the same inevitability as previous Twins singles. Happily, the 45 isn't an isolated gem. The album is a vast improvement on *Into The Gap*, and more reminiscent, in many ways, of the earlier *Quick Step and Side Kick*. Regrettably, the truly dreadful rendition of 'Revolution' has survived the criticism it received after the Live Aid concert, and makes a reappearance in all its flat, clumsy, ill-tuned agony. Also flatly familiar is the earlier single 'Lay Your Hands On Me'. Of far greater note are 'Emperors Clothes' and 'Tokyo'. Lively, energetic and unrestrained without being overstated, they're the best the album has to offer. It's all pretty derivative stuff, make no mistake, but it's expertly crafted pop and boasts the same clarity of sound and precision of arrangement that characterised the Thompsons' previous work. Party music of high calibre.

There's just no escaping *Shriekback* in this month's E&MM. On the cover, in four pages of glorious colour, and now in *VinylTakes* by virtue of having a new single released this week(ish). It's 'Fish Below the Ice' (Arista), taken from the current album release, *Oil and Gold*. One of the album's more uptempo episodes, it manages to eclipse its predecessor, 'Nemesis', which really didn't do the band justice. The track has been remixed from the album version and comes up sounding better for its experience: solid, neatly formed and as upfront as you can get without falling off the edge. In complete contrast, the flip-side plays host to 'Coelocanth', also from the album but a shorter, more atmospheric piece of floating, whispering synths and melancholy shakuhaci (the latter played by Paul Hirsh). The only possible reason I can think of for not buying this record is already owning the album, and that only gets you off with a caution.

← shriekback



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There's unlikely to be a Cavendish Square press do for *This Kills That*, the second album of instrumental electronics from solo artist **Sinister Dexter**. The label in the middle is Sinister's own, but the trouble with operations like this is that, as most of the promotion is also a solo affair, things tend to take a long time to get moving. So it isn't surprising that *This Kills That* has dated badly in the two years since it was conceived and dedicated to tape. Musically it's a cross between the Ultravox of 1982 and early Tangerine Dream, and this is especially true of the sounds. Why there are even some of Billy Currie's over-modulated Odyssey solo noises in there somewhere. It's not old-hat, though. Fairlight and PPG Wave 2.2 systems put in regular appearances, the former being put to good use recreating a plethora of animal sounds in the 17 minutes of 'Heart of Darkness'. This is the album's climax in every way, and succeeds in making a gentle, gradual and tasteful transition from 'natural' acoustic noises to synthetic melody and rhythm. Proves a little subtlety can go a long, long way.

And so to a band who've been together – and had a record deal – for a number of years, now but have only just put the finishing touches to their first LP. The trio in question are **Colourbox**, and their eponymously-titled debut (on 4AD) has been well worth the wait. Musicians Steve and Martyn Young are accompanied by the raunchy, characterful voice of singer Lorita Grahame, and the music she sings over is up-front and varied. There's the reggae of 'Say You' (a cover of the U Roy song of the same name), the modern ballad of 'Arena', and the romantic piano meandering of 'Sleepwalker'. But the co-stars are a truly raucous, up-tempo dance ditty called 'Manic', which fades all too briefly into a stark, full-frontal rendition of 'You Keep Me Hanging On'. Like the rest of the album, it combines clear, expertly crafted synth technology with the raw power of black soul and reggae. Buy it early and get a free album of dub mixes into the bargain.

Also taken from its relevant current album release is 'P:Machinery', the latest 45rpm platter from ZTT's 1985 answer to the Hanseatic League, **Propaganda**. Remixed and extended from the version on the LP, the 12-inch especially has plenty of power, pace and aggression. As you'd expect, there are lots of computerised goings-on in this Steve Lipson production, but a fair bit of acoustic activity to prevent the song degenerating into a mass of sampled gloop. And once again, Claudia Brücken's seductive vocal isn't far short of devastating.

On to a belated 45 cut from **Yello's** recent and excellent Stella album, 'Desire' (WEA). It's not the LP's best by any means, but it's still moving, catchy, and eloquent enough to warrant serious attention. The 12-incher has all the neat touches of studio trickery that made the album such tremendous fun, only more so. All of which makes the Swiss band's continuing failure to attract a popular following all the more upsetting. Like Shriekback, Yello may have to wait till the history books are written before the public at large knows how great a talent they represent.

DEMOTAKES

Our first readers' demo this month is also theirs, if you see what I mean. The 'they' in question is a London two-piece possessed of no collective name, but who are individually Tony and Akke. Seeing as their endeavours have been committed to tape on a modest TEAC A108 and performed with the help of an MC202 Microcomposer and a Boss DR110 drum machine (not the most sophisticated of arrangements, in other words), it's encouraging to hear just how high the recording standard actually is, even if most of the instruments end up on one channel of your stereo while the overdubs appear on the other. And the music? Well, originality is not a strong point here, but the material is thoughtfully written and arranged, and a little creative (read expensive) production would probably work wonders. The tape's big selling point is really Akke's vocal, the sort of charming French affair that can give a song appeal even in the absence of a melody. Shame one track's an instrumental.

Not many musicians get to record the first two songs they write in a 16-track studio, even if it's in Weston-Super-Mare. But that's precisely what Jaded Etiquette have managed to do. Essentially a two-piece, JE admit to eliciting a little help from their friends to augment their own keyboard and bass/vocal skills, and have opted for a well-programmed drum machine in favour of the unreliable, sweaty human alternative. As a first demo it's a promising effort, though there are definite touches of Duran in there from time to time. The strengths lie in an all-round performing tightness, some very tasteful bass work, and the sax on the second (untitled) track; the weaknesses are the song-writing and an insubstantial vocal. With a little stylistic re-think and the addition of a full-time vocalist, Jaded Etiquette could have an eventful future ahead of them. Whether they get as far as wrecking yachts remains to be seen.

This month's Drumatix surfaces in the work of **Josie's Workshop**, and keeps the question-

This month's Drumatix surfaces in the work of **Josie's Workshop**, and keeps the questionable company of a Jen SX1000 monosynth, along with a Juno 106 and a Portastudio looking after the recording side of things. Man in the driving seat is Grant Lyons, assisted in his crimes by guitarist/vocalist Tom Durnford and singer Alice Morley. Between them, they've managed to produce a tape that's singularly doomy – in both musical and lyrical respects. It's a situation antagonised by a leaden, despairing vocal style and some heavy double-tracking. Now, I realise that there are a lot of people out there that quite like this sort of thing. But even in these troubled times, there's only so much room for Echo and the Bunnymen depression. More positively, there are some excellent sounds in amongst the misery. They prove that you really don't need all the latest equipment in order to be creative – though it is nice sometimes.

Finally, someone currently cherishing recent memories of studio activities is Kevin Walsh, who professes to have led a sheltered life up until now. Walsh does his writing with the aid of a Casio 1000P, to receive suitable studio treatment at the appropriate time. Definitely commercial, a touch sentimental, and maybe a little outdated in places, Walsh's songs have decent melodies, and possess the one quality so many of E&MM's readers seem to be capable of producing – thoughtful arrangements. Once again, the weakest link is the vocal, which is simply too thin despite the help of studio effects. But what's been created here are songs, genuine and complete, and bereft of the mish-mash of ideas an excess of high technology so often brings about. Could they be a result of keeping things simple at the writing stage? ■

If you've made a demo tape you're happy with and want a second (completely biased) opinion, send it carefully wrapped – accidents do happen – to DemoTakes at the editorial address. Include a recent photo if you can (shame on this month's participants who didn't), and line-up and equipment details, too.

...And the CX5Ms continue to infiltrate the holy sanctum that is DemoTakes, this time courtesy of **The Davids**. It's in generally good company here, too, with a DX7, a Pro One, a CS30 and a couple of guitars to maintain a healthy balance between schools of instrumentation. The music itself is certainly unusual. The Davids have their roots firmly in the classical arena, and their tracks are an unsettling but curiously successful fusion of modern technology and traditional styles of composition. Some rather Mike Oldfield guitar goes a long way towards completing the picture, while occasional vocal work from Jayne Evans finishes it. It all works, so if you're setting out on an unlikely *mélange* of your own, here's some food for thought.

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CS70M, Vox Custom Bass & Custom 25, Roland CR5000 & CR8000, Elka-Orla X50, Vox AC30, alphaSyntauri Technology DIY Synclock Studio Fostex 250, ElectroVoice Mics

JANUARY

Music *Tangerine Dream* Appraisal Casio 701, Teisco SX400, Aria TS400, MCS Percussion Computer, Passport Soundchaser Technology Flanging, DIY Spectrum Synth Update Pt1, DIY Volume Pedal Studio Beyer Mics

FEBRUARY

Music *Ike Isaacs* Appraisal Korg Trident, Roland TR606, Tokai ST50 and PB80 Technology Polysequencing on ZX81, Yamaha GS1&2 (FM) Explained, Digital Delay Line Pt1, Spectrum Synth Update Pt2 Studio Fostex A8, AKG Mics

MARCH Sold Out

Music *Klaus Schulze, Robert Schröder, Kraftwerk* 'Computer World' Music Appraisal Firstman SQD1, SCI Pro One Technology DIY Digital Delay Line Pt2 Studio Tascam 124AV, DIY Power 200 Speakers

APRIL

Music *Martin Rushent (Human League)* Appraisal Korg MonoPoly, Roland TB303 Technology DIY MF1 Sync Unit Studio Fostex 350, DIY MultiReverb

MAY

Music *Holger Czukay, Depeche Mode* Appraisal Moog Source & Rogue Technology DIY Soft Distortion Pedal Studio DIY Quadramix

JUNE

Music *Jean-Michel Jarre, Classix Nouveaux* Appraisal Emulator, Carlsbro Minifex Technology DIY Panolo, DIY Multisplit



JULY

Music *Ronny with Warren Cann & Hans Zimmer, J-M Jarre* 'Magnetic Fields' music Appraisal Roland Juno 6, Peavey Heritage, Steinberger Bass Technology DIY Universal Trigger Interface

AUGUST

Music *Kitaro, Jon Lord* Appraisal Synergy, Korg Polysix, Shergold Modulator 12-string, Yamaha Pro-FX Technology DIY Guitar Buddy practice amp Studio Tascam 244 Portastudio, DIY 8201 Line Mixer

SEPTEMBER Sold Out

Music *Richard Pinhas* Appraisal Yamaha CS01, Jen SX1000, Casio 1000P, Fender Squier, Carlsbro Stingray, Pearl Effectors Studio DIY Comp-Lim & Twinpak

OCTOBER Sold Out

Music *Kate Bush, Ken Freeman* Appraisal Fender Vintage Series, Rhodes Chroma, Kay Memory Rhythm Technology Performance Controls

NOVEMBER

Music *Patrick Moraz, Bill Nelson* Appraisal Yamaha PC100, Technics SXX250, Casio MT70, Hohner P100, JVC KB500, Gibson Firebird 2, Alligator AT150 Technology DIY Sweep EQ, Robert Moog Studio AHB 1221 Mixer

DECEMBER

Music *Cliff Richard* Appraisal Elka Synthex, Crumar Stratus, Tokai Bases, The Kit Technology DIY Canjak Studio Shure PE Mics

MARCH Sold Out

Music *BBC Radiophonic Workshop* Appraisal Yamaha SK20 Technology Using Microprocessors, Advanced Music Synthesis (VCOs, FM), DIY Spectrum Synth, DIY Hifi Sub-bass Woofer

APRIL

Music *Warren Cann (Ultravox)* Technology Using Micros Pt2, Programming Micros, Advanced Music Synthesis (PWM), DIY Spectrum Synth Pt2, Syntom 1 Studio DIY DI Box

MAY

Music *Tim Souster* Appraisal Apple Music System Technology Using Micros Pt3, DIY Spectrum Synth Pt3 Studio DIY Noise Reduction Unit

JUNE

Music *David Vorhaus* Appraisal Fairlight CMI, Yamaha PS20 Technology Using Micros Pt4 Studio DIY MOSFET Amp

JULY Sold Out

Music *Duncan Mackay* Appraisal PPG Wave 2 Technology Using Micros Pt5

AUGUST

Music *Irmin Schmidt* Appraisal Resynator Synth, Casio VL1 Technology Harmonics, DIY PA Signal Processor Pt1

SEPTEMBER Sold Out

Music *Kraftwerk* Appraisal Linn LM1 Technology Using Micros Pt6, DIY PA Signal Processor Pt2 Studio DIY Noise Gate

OCTOBER

Technology Using Micros Pt7, DIY Harmony Generator, DIY Effects Link FX1 Studio dbx Explained

NOVEMBER

Music *Landscape* Appraisal Casio MT30, Roland GR300 and CPE800 Technology Using Micros Pt8, Speech Synthesis, Phasing, DIY Auto Swell Pedal

DECEMBER Sold Out

Music *Rick Wakeman, Orchestral Manoeuvres in the Dark* Appraisal Yamaha

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JANUARY

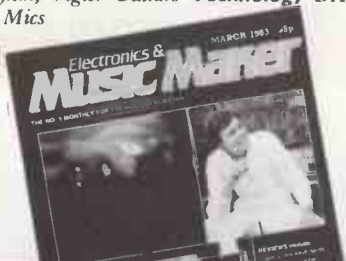
Music Richard Barbieri (Japan) Appraisal Westone Bass, BGW 750C Amp, Korg EPS1, Clef BandBox, Zildjian Cymbals Technology DIY Synblo

FEBRUARY

Music Isao Tomita, Human League Appraisal Synclavier II, MemoryMoog, Novatron, LinnDrum, Simmons SDS6, Klone Kit, Movement Drum Computer 2, Korg KPR77, Powertran Polysynth, Vigier Guitars Technology DIY Synbal, DIY Caltune Studio Pearl Mics

MARCH

Music Klaus Schulze, Michael Karoli, Francis Monkman, Bernard Xoloth, Chris Franke Appraisal RSF Kobil Expander, Korg Poly 61, BGW 7000 Amp, Ibanez Pedals, Tokai Flying V Technology DIY Shaper Studio Aria Mics



APRIL

Music Naked Eyes, Gabor Presser Appraisal Casio 7000, SCI Prophet 600, ChromalApple Interface, Eko Bass pedals, Vox guitars Technology DIY Syntom II

MAY

Music Keith Emerson Appraisal Roland MC202, Carlsbro Cobra 90 Kbd Combo, M&A K1/B Kit Technology Introducing MIDI, DIY MicroMIDI (interface for Spectrum) Studio Fostex X15, Echo Unit Supplement (13 reviews incl Roland SDE2000, Fostex 3050, Korg SDD3000), DIY Active Speaker

JUNE

Music Steve Hillage, Arthur Brown Appraisal Synclavier II, Synton Syrinx, E-mu Drumulator, Vestafire Dual Flanger, Aria AD05 Delay Technology DIY OMDAC Studio Suzuki Mics, Clarion and Cutec four-tracks

JULY

Music Marillion, Hans Zimmer Appraisal Kawai SX210, Aria U60 Deluxe

BBS, Deanvard VA30K Amp, MXR Omni FX Technology Yamaha DX synthesisers, Digital Signal Processing Pt1, DIY Tap Tempo Studio Milab Mics, Trident VFM Mixer

AUGUST

Music Bill Nelson, Hubert Bognermayr, Barclay James Harvest Appraisal Roland JX3P/PG200, OSCar, 360 Systems Digital Kbd, MPC Music Percussion Computer, Yamaha SG200, Fender 100W Stage Lead, Frontline FX Technology Digital Signal Processing Pt2

SEPTEMBER Sold Out

Music Peter Vettese Appraisal Prophet T8, Oberheim DX drums, SCI Pro-FX 500, Rickenbacker 360, 12-string & TR75 GT Combo Technology Music Composition Languages Pt1, Sounding Out the Micro Pt1, DIY Synclap



OCTOBER Sold Out

Music John Miles, Andrew Powell Appraisal Yamaha DX1, OctavePlateau Voyetra 8, SIEL Opera 6, MXR 185 Drum Computer, Ross Pedals, Fender Elite Precision Bass 1, Steinberger six-string Technology Sounding Out the Micro Pt2, Speech Synthesis, Digital Signal Processing Pt3, DIY Mains Distribution Board

NOVEMBER

Music Tony Banks, John Foxx Appraisal Seiko Digital Keyboards, Eko EM10, UC1 Sequencer for SCI Pro One, Doctor Click, Klone Kit 2, Ibanez HD1000, Korg KMX8 Mixer, Ibanez RS315SC Guitar Technology Music Composition Languages Pt2, Software Envelope Generator (ZX Spectrum), MUZIK 81 (ZX81), Digital Signal Processing Pt4

DECEMBER Sold Out

Music Gary Numan, Psychic TV, Philip Glass Appraisal Prophet T8, Yamaha PC1000, Carlsbro AD1 Echo Technology Decillionix DX1 (Apple sound-sampler), DIY Valve Driver

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BeeBMIDI Monitor

Introducing a new software package for our BBC-MIDI interface that intercepts MIDI data from instruments and displays it on-screen. Next month: the program listing and how it works. Jay Chapman

Welcome to yet another BeeBMIDI extravaganza! As usual, the terrific technical pyrotechnics discussed herein can equally well be applied via a different MIDI interface, or even a different micro, given a bit of effort on your part, so all you Spectrum, IBM PC, Macintosh, Amstrad, ZX81, Casio calculator, and abacus owners can refocus and keep reading.

So, what will the amazing MIDI Monitor program do for you once you've worn your highly-sensitive musician's fingers to the bone typing it in? Well, in essence, you're going to be able to create a sort of T-junction in a MIDI cable, and suck a copy of the MIDI bytes flowing through the cable into a buffer area in the BBC Micro's memory. You can analyse the data later at your leisure. In this way, you can record a reasonably large snapshot of some MIDI communication running at up to 3000 bytes per second, and play it back at a speed more conducive to the functionality of your average eyeball-to-brain configuration (ie. at a speed people can actually read).

Why should you wish to do such a strange thing?

First, simply out of interest in the communication and to gain familiarity with MIDI protocol. Obviously, it's going to be a lot easier to write programs to control a synthesiser using MIDI if you understand what the standard's protocol is. But be warned. Experience gained by observing what happens in practice may well cause your original interpretation of MIDI theory to mature somewhat. In fact, it can quite often be the case that the software you develop eventually does exactly what you thought you wanted it to do, but still doesn't work because you've been labouring under a misconception all this time. Amongst other things, you'll see why pitch wheel and aftertouch data are ignored whenever possible in MIDI recording – one pitchbend can result in hundreds of bytes being sent out over MIDI.

Second, to check that the synthesiser, drum machine, sequencer or computer you're working with really is throwing out MIDI codes in the format you are expecting. Is running status being used? Are active sensing bytes interspersed where you didn't expect them? Or is the manual right about which key number corresponds ▶



figure 1

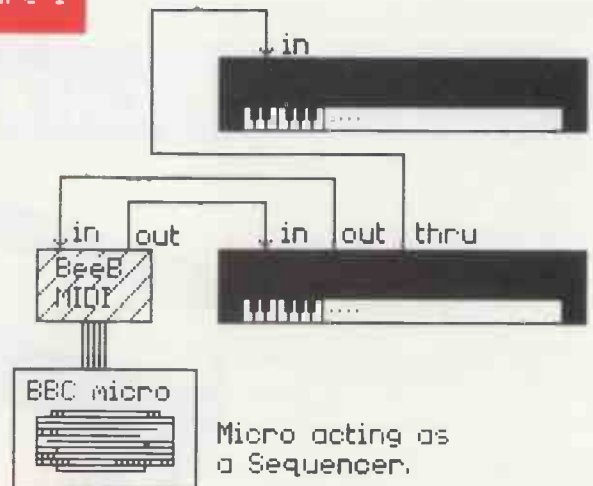
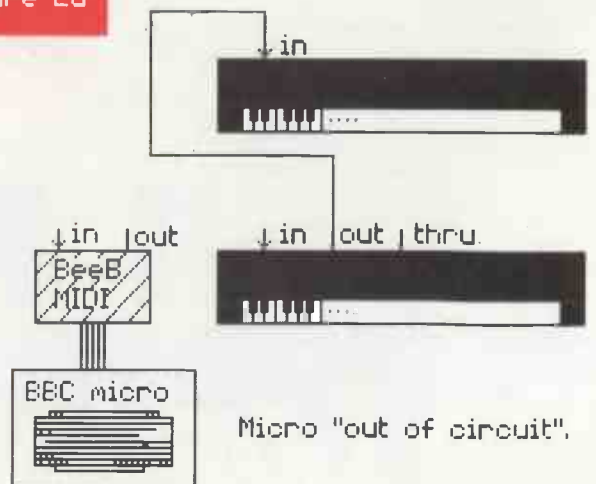


figure 2a



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digi ever hear such a sound?

figure 2b

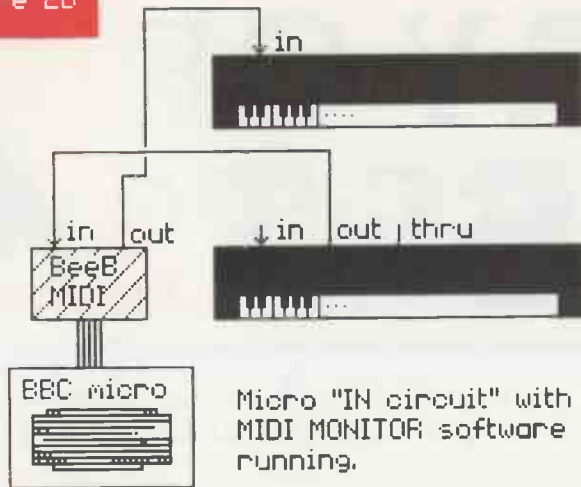
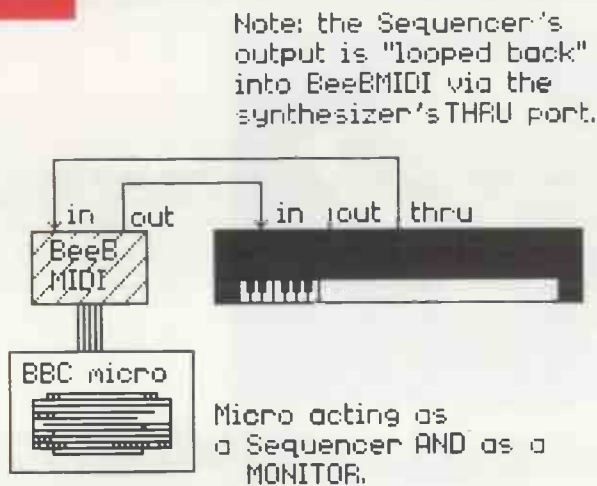


figure 3



▷ to the snare drum on your secondhand Gargantuan MegaBongo drum machine? These are the sort of questions you can expect Monitor to help you answer. And if you haven't managed to obtain a list of the MIDI code sequences particular to your synth, you can push buttons on the synthesiser and get a look-in what gets sent over MIDI each time.

Third, BeeBMIDI Monitor makes pseudo-real-time debugging possible. For example, if you have one synth controlling another via MIDI and notes on the controlled synth keep getting left turned on, you'd be able to insert the Monitor into the connection between the synths and search for evidence of missing or corrupted key-off messages. If a particular sequence is of paramount importance, you could easily modify Monitor to commence data capture only when that sequence has been found, or even to replace one sequence with another, or perform other forms of filtering such as preventing some sequences getting through.

Finally, the recording part of the Monitor software is interrupt-driven, and can therefore be configured as a background task gathering MIDI data sent out from a BBC micro that's also acting as a sequencer at the same time. Useful for debugging your own software as it's developing.

E&MM OCTOBER 1985

Figure 1 shows what is quite possibly the most typical configuration of computer, BeeBMIDI interface and synthesiser(s). In it, the computer might be acting as a sequencer which tells the synthesiser(s) what to play by transmitting suitable MIDI protocol code sequences via the MIDI Out on the BeeBMIDI interface, which the synthesiser receives via its MIDI In port. Further synthesisers could also be controlled by passing the same stream of codes on via the first synth's MIDI Thru port, which simply copies out the data received via MIDI In.

For real-time recording from the first synthesiser, the codes transmitted from its MIDI OUT would be received via the BeeBMIDI's MIDI In port and stored (with timing information) in the computer's memory.

Figures 2a and 2b show how the BeeBMIDI interface would be connected to allow the Monitor software to capture a copy of the MIDI data flowing along a link. Figure 2a shows another typical MIDI arrangement, with one synthesiser controlling another. In this instance, the MIDI Out on the controlling synth is connected directly to the MIDI In on the one being controlled. Thus the BeeBMIDI interface and computer play no part in the communication.

If you wish to monitor the data flow between the synthesisers, all you do is

connect the controlling synth's MIDI Out port to BeeBMIDI's In, and BeeBMIDI's Out to the controlled synthesiser's MIDI In. If that description has left you a little confused, the arrangement is shown graphically in Figure 2b.

As we'll see later, the Monitor software running in the BBC Micro automatically passes any MIDI bytes received via its MIDI In straight over to its MIDI Out before storing a copy of the MIDI byte for its own use. Thus the only effect of 'inserting' BeeBMIDI into the original communication path is to introduce a very short delay. So short, in fact, that in the vast majority of circumstances it'll be of no consequence whatsoever, so the Monitor function is effectively transparent. In other words, it does not affect the communication it's helping you to observe.

Figure 3 shows a configuration that's slightly further out of the ordinary. As experienced programmers, particularly those of real-time systems, will know, it's not always the case that a system performs in the manner you expect it to. When part of a MIDI control software package fails to perform correctly, it can be tempting to pore over the listing to try and find the source of the trouble. Sometimes errors can be spotted fairly quickly, but quite often, evidence of what the system is actually doing – rather than what you think it's doing – can be an invaluable aid to debugging. If you have two computer systems (or the right sort of test gear), it isn't too difficult to arrange for one system to monitor the other. However, most micro-owning musicians have only a single system on which to develop MIDI software, so observing software output can become a little more difficult.

In Figure 3, BeeBMIDI's MIDI Out is connected to the controlled synthesiser's MIDI In in the normal manner. The MIDI control software will presumably write a sequence of bytes to the transmit register of the 6850 ACIA as usual, and with luck, the synth will respond more or less correctly. Provided that the synth is correctly copying everything that arrives at its MIDI In to its MIDI Thru, you can monitor the exact stream of bytes sent by 'looping back' the Thru output to the BeeBMIDI's MIDI In port. Every time a byte arrives back at BeeBMIDI, an interrupt is caused and the interrupt routine (described next month) can save the byte into a 'safe' buffer area.

When the event you're investigating has occurred, you stop your MIDI control software and load in an amended version of the Monitor program. This just displays the contents of the 'safe' buffer, ie. it doesn't record into the buffer itself before displaying, as the version shown in the listing does. But then again, you can't see the listing anyway, can you? Just one more little incentive not to miss out on next month's E&MM, I guess. ■

A GALLERY OF

MISFITS

We conclude our search through the E&MM archives for hi-tech musical instruments which, for one reason or another, never quite lived up to the hype that surrounded their release. *David Ellis*

If there's one thing that keeps keyboard designers to the grindstone, it's obstinacy. All over the world, and throughout the brief history of the synthesiser, people in research and development labs have been working under the assumption that no matter what the rivals do, they'll be able to go one better. One consequence of this has been the resurgence of the 'instrument builder' tradition, rather in the manner of Stradivarius *et al*, but applied to hi-tech keyboards.

But the main thing to remember about the new musical instrument technology is that 'bigger and better' isn't usually what commerce dictates – hence the comparative lack of large, all-singing, all-dancing synths to come out of the major manufacturers, outside the pre-production prototype category. Usually, the maxim of 'more and cheaper' acts as an alternative philosophy, and on the other side of the world, where imitation has always been the sincerest form of flattery, and where wily marketing people have never been slow to latch onto the latest hi-tech goody, it's proved itself a principle well worth sticking to.

And as we discovered when we embarked on our grand tour of hi-tech failures last month, it's the companies who ignore this sound advice and stray furthest from accepted synthetic norms that stand the best chance of catching a crab and going under.

For our first port of call in these troubled waters of the Bermuda triangle wave, where synths are apt to sync without a trace and keys doomed to forever remain quay-less, we find there are those who insist on going through life in a glass-bottomed boat, exposing their more or less modest endowments to all and sundry. A Stateside confection by the name of the Gleeman Pentaphonic Clear was one such self-exposing flasher. Strip away the plexiglass case ('clear enclosure and controls look great and take full advantage of today's spectacular stage lighting effects... the Clear was made to be seen, not just heard'), and you've got a triple-VCO-per-voice, pentaphonic synth with a 600-note polyphonic sequencer, top-notch modulation and filter options, and a definite predilection to wrap itself around the necks of stars with wanton abandon, courtesy of a guitar strap or two. And the thing *did* look good in the pages of the publicity handouts and over the shoulders of nubile female demonstrators. The only



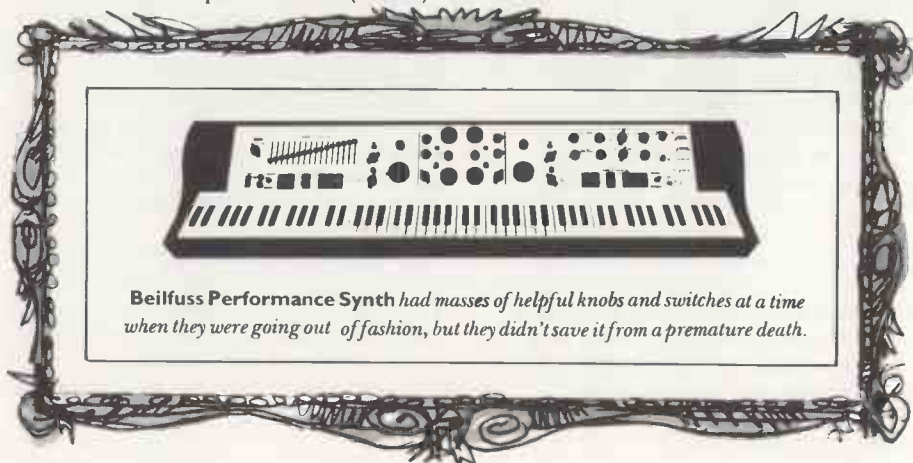
Transparently obvious was the fact that a synth with all its insides visible wasn't going to be a clear winner with many.

problem was that keyboard players didn't seem to like the idea of having their instruments' internal workings bared for all to see. So the Gleeman went back into a more conventional, opaque box, and as far as the UK was concerned, out of sight was out of mind. When was the last time you saw one at the local High Street music store?

The Clear's more refined brethren preferred to keep their insides to themselves, placing emphasis on innovations that were less immediately obvious and, possibly, more musically useful. For instance, the Beilfuss Performance Synthesizer attached great value to its virtuous 'controllability', and not to the 'what-does-the-manual-say-is-the-control-code-so-that-I-can-get-access-to-the-control-I-need?' factor. Well, that's how the manufacturers put it with (almost)

infinite subtlety. They were also at pains to point out that 'the patent-pending multiplex circuitry is a result of ten years of careful development'. What they didn't say was whether that was all their own development work. After all, the Bell Labs time-multiplexing story was pretty much old hat by 1983 (which was when the Beilfuss was first unveiled).

Still, the machine did project a pretty impressive image, what with its eight-octave keyboard and 16 slider 'signal controls'. Definitely not a machine to be trifled with, let alone misused for synthesising acoustic blancmange. Nope, as Beilfuss said, 'the unique Signal Control allows truly creative note synthesis with controllability'. It even had digital filter contours and (wait for it) MIDI.



Beilfuss Performance Synth had masses of helpful knobs and switches at a time when they were going out of fashion, but they didn't save it from a premature death.

Impressive stuff, but like the Gleeman, the Beilfuss never made much of an impact outside its American homeland, and has now all but disappeared.

The further up the price ladder you go, the less compromised people's visions of the future become. Take the Buchla 406 as a prime example. Don Buchla is something of a maverick amongst synthesiser builders because of his insistence on pursuing the split-infinitive directive of 'to boldly go where no man has gone before'. He's the accredited inventor of both the analogue sequencer and (less significantly) the electric 'cello, but he's also produced a series of synths whose striking features include vast numbers of knobs and sliders, unusual (some would say anachronistic) touch-plate keyboards along the lines of the EDP Wasp and Synthi AKS, and above all, a capacity for producing stunningly transparent sounds.

In fact, the Buchla 406 started off in a subtracted frame of mind as the Buchla 400, which had one of those touch-plate jobs as an excuse for a keyboard. Now, building this into a \$9500 system was a bit of a booboo in the early 1980s (especially with the Wasp as part of pop technology's folklore), so the 406 was born instead, with a five-octave, force- and pressure-sensitive keyboard underneath to replace the lopped-off, touch-plate thingy.

Which was a good thing really, because the sound-generating side of the 406 was very interesting, with six high-quality voices offering dynamic waveshaping, complex envelope generation, and sampling options, all courtesy of digital pipelining techniques. Similarly impressive were the Buchla's scoring and sequencing options, which included a real-time score editor (that showed each part in 'linear time' notation) and SMPTE time-code capability. But the last we heard of the 406 was that it was being licensed to organ manufacturers Kimball. To which I



Maverick designer Don Buchla was man behind the Buchla 400 (which had a touch-panel keyboard like the Wasp's) and its successor, the more playable 406. Neither has ever become widely available.

leave you to draw your own conclusions...

Finally, we reach those instruments that have aspired for the very top, but have been left teetering on the precipice. So forget the bank balance and the mortgage: welcome to the closest the synth world has come to the Titanic.

Take the McLeyvier, a real biggie of a hybrid analogue/digital synth, complete with both seven-octave music and QWERTY keyboards all in the one box. Apart from a showing at NAMM (and two subsequent ones at Frankfurt) and a good deal of self-

publicity on the part of American synthesist/spokesperson Laurie Spiegel, nowt more has been heard about this Canadian object of much speculation and hype. It could resurface, but if and when it becomes 'commercially' available, I doubt there'll be many outside government-subsidised institutions who'll be able to give it serious consideration.

Anyway, much speculation was also attached to the KineticSound Prism, a digital synth in the dual-keyboard tradition of the ill-fated Prophet 10 (the poor thing was forever getting itself overheated), but with all



Canadian McLeyvier has been a regular on the music trade show circuit, but despite a load of publicity hype, it's always looked too complex ever to become a commercially viable machine.



KinetiCSound Prism was impressive-looking digital synth years ahead of its time. But sound creation was just too complicated for most musicians to handle, as was the ten-grand asking price...

sorts of quoted goodies, including wave-shaping and FM, stereo or quad outputs, bubble memory for instrument storage, and a dauntingly large number of controls dominated by a keypad stage centre.

The mistake KinetiC made was in believing that musicians would be capable of plotting 256-byte wavetables without seeing them displayed on a VDU. Mind you, with an eight-track, 8000-note sequencer, the Prism deserved a lot more attention than it got, even given its hefty \$10,000 price tag.

And if your greatest desire in life was to get

your digits doing more than just play a keyboard, there was the Synthia from Adaptive Systems, making innovative play with touch-screen control (predating that feature on the Fairlight Series III by a good three years). Trouble was, said screens were jolly expensive back in 1982 – and that



translated into a selling price similar to that of the Prism. More than that, grubby digits mean grubby screens, which, in turn, means a small fortune in Windolene. Personally, I'd prefer to shout at the thing... Ah, but what about the Synthia's *four* performance joysticks, as evidenced by the accompanying photo? Great stuff, undeniably, but it would have helped if Adaptive Systems had supplied a couple of extra hands...

Yet even if the bubble burst for most of the above, things won't stop there. As long as musicians keep on playing keyboards, and as long as manufacturers succeed in finding the necessary R&D capital, new synths will continue to appear in their hordes. But as the Gallery of Misfits has shown, producing a more or less aesthetically pleasing prototype isn't the sole secret of success. You've also got to make sure your invention is makeable, workable, marketable, and above all, playable. Because nice though a lot of the machines we've looked back on have appeared to be, the people behind them have

all neglected to cater for at least one of the above considerations.

So is there a formula for getting to the top? Well, I'd take a page out of someone else's book, and try something along these lines:

1 Make friends with a boffin in a backwater, mid-western US university who's just invented a software algorithm for recreating the sound of megaton nuclear explosions by applying Einstein's unified field theory to the contents of a single wavetable. Get it filed and patented.

2 Persuade the Department of Defence to finance a project to put the above on a single VLSI chip, using the argument that the sound of a megaton nuclear explosion is a more usable deterrent than the real thing. Make sure that regardless of who develops the chip and how they go about doing it, you retain at least partial control over its applications.

3 Armed with the newly-developed chip, take a trip to Japan for a meeting with a motorcycle cum piano manufacturer interested in expanding its hi-tech horizons. Argue that the chip will make their bikes sound as if they're chewing up the road like a bat out of hell. Whilst quaffing fake japa-noise champagne and signing on the dotted line in Super Deluxe Pentel, suggest that the company might as well put the chip in a few keyboards whilst they're about it.

4 Return to the US. Don a pair of ear-protectors whilst American simulated explosions and Japanese motorbikes battle it out. Sit back and wait for royalties from keyboard sales to deaf Americans and Japanese who won't know any better. Sell patent licence to Italian organ manufacturer, and sell chip to Andropov (or Chernenko, or Gorbachev, or whoever it happens to be) and await simulated World War III. Retire to the Bahamas to plan chip design for sonic fall-out shelters...



Four performance joysticks and a host of other synthetic goodies were offered by Adaptive Systems on their Synthia. It too suffered from over-complexity and an excessively weighty price-tag.

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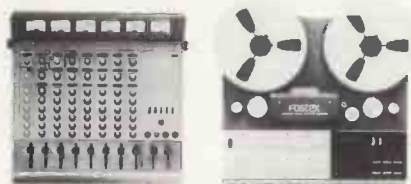
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Keyboards

ARP QUARTET great strings sound, £110 ono. Morley Wah/Volume/Preamp pedal, £45 ono. ☎ 01-281 1918.

BIT ONE excellent condition, with MIDI retrofit, £670. No offers. ☎ (Loughton) 01-508 0196 evenings.

CASIO CT202 49-voice, four-octave keyboard, perfect, £165. Bob ☎ Coventry (0203) 664736.

CASIO CZ101 £275, Korg DDM110 £175, Roland MC202 £90, Frontline Multi-Effect £90, Yamaha MT44D + RM602 Mixer £490. ☎ (0908) 569242.

CASIO MT65 keyboard for sale, auto accompaniment and rhythms, £75. ☎ (061) 434 3484 (sorry no delivery).

CASIO MT400V polyphonic keyboard, stereo chorus, ADSR, detachable speakers, 20 presets, 10 beats, autochord, mint, boxed, manual, £165. Andy ☎ Sheffield (0742) 662089.

CASIO MT400V £150, Roland MC202 MicroComposer £125, both boxed as new with power supply. Pete, Ilford ☎ 01-553 4202.

CASIO MT400V plus Breath

Controller, boxed as new £170. Casio MT46, boxed as new £80, or nearest offers. ☎ (0536) 722906.

ELKA X605 portable organ. Drawbars, strings, brass, piano, pedals, synth rack and swell pedal. £600. ☎ Worthing (0903) 690043.

ETI 4600 SYNTH 40SC with Maplin 5600 keyboard plus filter £350 ono. Mike, St Athan nr Cardiff. ☎ (0446) 751150

FENDER RHODES STAGE 73 Mark I, tuned, excellent, £260. Korg WT12 fully chromatic tuner, as new £70. ☎ (0684) 310213.

HAMMOND A100 classic tone wheel organ, full drawbars, Lesley sockets, excellent condition. ☎ Faversham (0795) 532662.

JEN SX2000 to swap for Boss DS1 or DS2 or DR110 or JHS Rock Box. James ☎ (0480) 62060.

KORG EX800 MIDI expander, pristine, with two cassettes of new sounds. £295 or swap for Casio CZ101. Mark ☎ (0327) 61128.

KORG MONO POLY four-note analogue polysynth, good condition, £280. ☎ (0454) 260223.

KORG MONO POLY excel-

lent condition, still boxed, manuals included. Superb sound £295. Kay Strat as new £55. ☎ Wolverhampton (0902) 738426.

KORG POLYSIX synthesiser in good condition, has arpeggiator, chorus/phase/ensemble effects. Bargain £385 ovno. Roy ☎ 01-882 0517.

KORG POLYSIX Excellent condition, £435 ono. Also Casio 201, 29 presets, £70. Mike ☎ 01-348 0544.

KORG POLY 61 £300. KPR77, £90. 150W PA mixer amp and separate bass bins, £200. ☎ Woking (04862) 69469 after 6pm.

OSCAR programmable MIDI duo synth, brand new, unwanted gift, £450 ono. Bartlett, Bishopstoke ☎ (0703) 614961.

POLYMOOG SYNTH velocity sensitive, weighted six-octave keyboard. Beautiful sound. £300. Chris ☎ (0438) 721909.

POLYMOOG SYNTH £900; Roland Juno 6, £380. Both excellent condition, home use only. Colin ☎ (0527) 22276 evenings.

ROLAND JP6 with hard case, £900 ono, Carlsbro Cobra 90 keyboard combo, £200 ono. Richard ☎ 01-671 8790.

ROLAND JUNO 6 £310. Korg DDM110 drum machine, £155.

Casio 1000P complete with manual, £150. Andy ☎ Catterham (0883) 48150.

ROLAND JUNO 6 absolutely immaculate, never gigged, £350 ono. ☎ (06053) 2548.

ROLAND JX3P + PG200 and TR707 drum synth. 4/8 months old, as new, boxed. £925 ono. ☎ Dorking (0306) 885968 evenings/weekends.

ROLAND JX8P as new, 3 months old, main dealer supplied and guaranteed, home use only, £890. ☎ Tunbridge Wells (0892) 46986.

ROLAND RS09 polysynth, organ/strings, chorus, mixer. Mint. £200 ono or swap TR808. Jon ☎ 01-734 4257/8 daytime, 01-603 4907 evenings.

ROLAND SH09 Monophonic synth, immaculate condition, home use only, ideal for new synthesist, £120. Chris ☎ 01-481 9917 daytime, (0908) 604082 evenings.

ROLAND SH101 with mains adaptor and Boss DR110 Graphic drum machine, mint condition and boxed, £300. Paul ☎ Dean (0594) 43319.

ROLAND SH101 still under guarantee, also PSU, £150. East Grinstead (0342) 313475, Horley

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ROLAND SH101 with handgrip and adapter, good condition, £170. Will swap for Moog Rogue Source, Korg Mono/Poly. ☎ Nottm (0602) 395426.

SCI PRO ONE £160. Roland MC202, £130. Korg KPR77 drum machine £130. All good condition.

Chris ☎ Leeds (0532) 826965.

SEQUENTIAL SIXTRAK £425, MAX £325, Casio CZ101 £275, Roland SH09 £100. All immaculate, boxed, home use only. ☎ (0787) 475008 evenings.

SIEL MONO SYNTH vgc, quick sale £95 ono. Barry ☎ 01-590 6284 before 9pm.

SOLINA STRING ENSEMBLE still the best, absolute bargain £190, or p/ex for Pro One, TR808 or consider anything. ☎ 01-949 6331 anytime.

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TRANSCENDENT 2000 £100, Crumar Composer £350, Transcendent Polysynth £290, Hohner Pianet/Clavinet £300. All in excellent condition. ☎ (05642) 3527 after 6pm.

YAMAHA CS15 monosynth, 2xVCOs, 2xVCFs, 2xVCA, 2xEG. Powerful lead sound, must sell, £189 ono. ☎ (0970) 84411.

YAMAHA CS15 monosynth, vgc, giveaway at £150. Nigel E&MM OCTOBER 1985

☎ (0533) 835455 after 6pm. **YAMAHA CS70M** £600. Yamaha CS60, £350. Paul Todd ☎ (0723) 370540/2.

YAMAHA DX9 £575 ono including case, sustain pedal, breath controller, manuals, etc, vgc, home use only. ☎ 01-853 4675 anytime.

YAMAHA MK100 personal, programmable keyboard, almost new, £200. Casio MT65, with case, £70. Andrew ☎ Hemel Hempstead (0442) 212300.

YAMAHA PS20 Portable keyboard, immaculate condition £220 ovno. Doncaster ☎ (0302) 61672 after 6pm.

YAMAHA PS55 keyboard plus adaptor, stand, volume pedal. One-year old, vgc, £529 new, sell £380. ☎ IOW (0983) 882043.

Drums

BOSS DRI10 drum machine. Six sounds, preset and programmable patterns, vgc, £85 ono. Pete, 16 Cranmore Road, Solihull, West Midlands, B90 4PT.

BOSS DRI10 graphic rhythm, mint condition, £75. ☎ 01-994 9415.

BOSS DR55 drum machine £35, DM2 Delay £45, BF2 Flanger £50. All mint and boxed. ☎ 01-882 7283.

CLEF MASTER RHYTHM £40. ☎ Lancaster (0524) 733103.

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ROLAND TR808 £220, MC202 £110, Roland TR909 £275, Bassline £90, Equalizer £20, Distortion/Phaser £10, Flanger (mains) £25. ☎ (06284) 74752.

SCI DRUMTRAKS excellent sounds (also accepts Linn chips), £590 or swap Roland JX3P/PG200 (vgc). Possible London delivery. ☎ (0424) 218711.

SIMMONS SDS5 drums for sale. Hardly used. £850. Excellent

condition, flightcase. ☎ Deeside (0244) 810478.

SIMMONS SDS8 programmable/preset, £550 (including new bass drum pedal). Roland CR8000, professionally modified to trigger above, £225. ☎ Romford (0708) 44404.

Sequencers

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ROLAND CSQ600 sequencer, ARP Axse monosynth, Crumer DP50 piano. £400 the lot, or sell separately. Derek ☎ Luton (0582) 599947 evenings.

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GREENGATE DS3B computer sampling keyboard, updated software, Applewriter, 80-column ext, twin drives + extras, £1400. ☎ 01-609 4156.

YAMAHA CX5M Keyboard composer, voice cartridges, £450. Will swap for Casio CZ1000 or offers? Yatin ☎ (0203) 22740.

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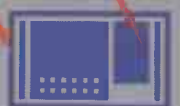
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