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Virtuoso*

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K111
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*C-Lab
Explorer 32
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editorial

A & R T I S T R Y

SPARE A THOUGHT for the A&R man. He's much maligned within musicians' circles, often held responsible for the state of the pop charts and the failure of bands to get the recognition and support they deserve. Basically he gets (and usually deserves) a bloody hard time. Then again he's just a man with an office and an expense account, and a very difficult job to do.

For anyone not properly in the picture, A&R – Artists and Repertoire – is the title given to the department of a record company that scouts around for new talent. This involves listening to vast numbers of demo tapes, attending gigs almost every night of the week and spending hours in wine bars with rival record companies' A&R men keeping up to date with the latest gossip. A&R men rarely make decisions on their own, instead they hold weekly meetings at which any promising acts are discussed, tapes listened to and joint decisions procrastinated over. But just what is the A&R man faced with? How does he hope to "spot" talent?

Although very few acts are signed on the strength of a demo tape alone, this is still the main avenue of approach to a record company. Result: a regular delivery of demos that builds day by day into an untidy pile of tapes (to paraphrase a old rockers' music magazine). Assuming we're lucky enough to get a little "airtime" on the A&R office stereo, what is our discerning scout going to hear? Ten or more years ago he'd have been listening to four or five people in a local four- or eight-track studio doing their best to stop the snares on an old Premier snare drum resonating with the bass guitar, and make a Hohner Pianet T sound like a Fender Rhodes. Today he's likely to hear a couple of people in a bedroom full of electronic gadgetry trying to tidy up a sample of James Brown's snare and get the right gated reverb on the vocal. More than anything else, the technological revolution has brought standards of production to amateur musicians that were only previously available in professional studios with racks of

expensive outboard gear. To our A&R man, the differences between a "professional" band and a bunch of young hopefuls eager to break into music have been drastically reduced. No longer can he rely on the sounds of a properly recorded drum kit and "real" instruments to help him tell the difference between serious musos and school kids. All he's got left is the music.

Equally, the demos of yesterday contained songs free from any decent level of production. There was no studio trickery to distract the A&R man's ear from the main issue – the ability of the musicians to write songs and play them. In contrast, almost anyone today can put together music that sounds – on the surface – as if it's come out of Sarm West. It doesn't need a tune, or even an inventive rhythm, if the reverbs are right.

It's all technology's fault. Where optimistic drummers spent hours in semi-pro studios trying to sound like Bill Bruford or Carl Palmer, drum machines have stepped in with pre-produced drum sounds that would make a '70s engineer cry. Samples and smart new methods of synthesis have made highly-polished sounds the rule rather than the exception. And breathtaking reverb effects have become freely available courtesy of digital electronics. Another reason for the resurgence of analogue technology in an almost perfect digital world?

Back to the A&R office. Robbed of some of the tricks that have stood him in good stead for years, just what is the late-'80s A&R man to do? And how do you play the demo production game? The first conclusion to draw is that you can't go backwards: It's no good submitting a demo containing great music but no production because it'll go straight into the bin. The moral of the story is that any production values should be incorporated into your music. The A&R man needs to hear "production" – give it to him. But give it to him in moderation where it counts. That way you'll not only be using technology to enhance your music, you'll make it stand apart from the demos drowned in reverb. And you'll prove you can handle the gear as well as the music. ■ Tj

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A black and white photograph of a musician playing a saxophone. The musician's hands are visible on the keys of the saxophone. In the foreground, the keyboard of a Rhodes piano is visible, with the brand name 'Rhodes' printed on the top edge. The background is dark, and a large, bright, circular light source is visible in the upper left corner, creating a strong highlight on the saxophone and the piano keyboard.

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Kawai K1: the sequel - Kawai have added onboard effects and a new sound library to their popular K1 synth to produce the K1 II. Ian Waugh likes what he hears.

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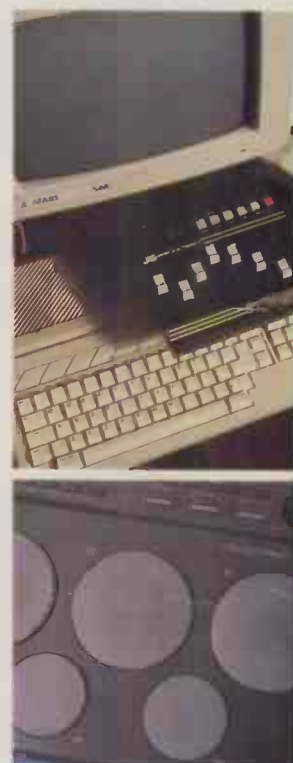
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Still suffering from a dearth of software, the powerful Acorn Archimedes computer has yet to gain acceptance in music circles – will this sequencer help it on its way? Ian Waugh checks it out.

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Five years ago The Blue Nile released an LP that has had the music biz desperate for more. Nigel Lord waxes lyrical over emotional songs and ill-defined technology.

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Someone whose career in music began before the invention of the tape recorder will have witnessed a revolution in music technology. Peter Ridsdale shares the experiences of a man who has spent a lifetime composing for pictures.

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Tired of digital parameter access synth editing, unimpressed by software editors? Vic Lennard looks at a system that allows you to use real sliders to edit your synths.

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What happens after MIDI? The question has often been asked but never answered. Scott "Compatibility" Wilkinson looks into a system that incorporates MIDI and a whole lot more.

synths. Simon Trask evaluates iPD synthesis in this age of digital development and analogue reincarnation.

PANDORA D110 EDITOR

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Ideally every synth and sampler editor would allow you to edit sounds while your sequencer is running. One that does is this desk accessory for the Atari ST. Vic Lennard opens the box.

LES ADAMS

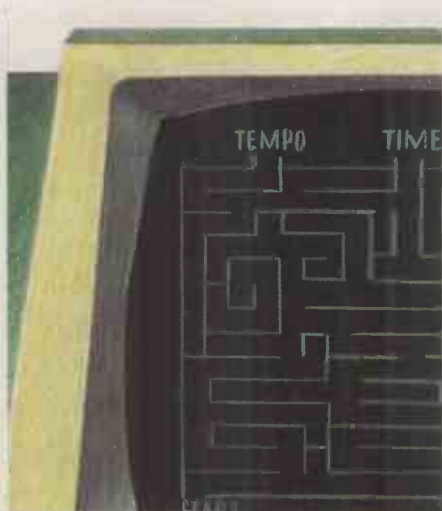
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From his remixes of dance music through his record releases with LA Mix, Les Adams has specialised in making a lot out of a little equipment. His latest project is a solo LP, as Simon Trask finds out.

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Music Technology's regular round-up of record releases and readers' own recordings – this month Sueno Latino and an album of World



MAY THE FORCE BE WITH YOU

You may have noticed in last month's Newsdesk that electro sampler doctors The Irresistible Force will be making a guest appearance for Music Technology at the Scottish Music Fair (to be held at the Scottish Exhibition Centre on the weekend of 30th September/1st October).

The Scottish Music Fair appearance is forming part of the Force's Floppy Disco mini-tour, which will also take in The Warehouse, Leeds on Thursday, September 28th; The Sub Club, Glasgow, on Friday September 29th; Fury Murray's, Glasgow, on the evening of September 30th; Choice, Glasgow, on the evening of Sunday October 1st; and finally Club Havana, Middlesbrough, on Monday

October 2nd.

The Irresistible Force are Morris Gould and Des de Moor, who began collaborating in June '87. Their first full-scale remix together was 'Perfect Skin', which appeared on the B-side of Lloyd Cole's 'My Bag' single. The Force have released two 12" singles in their own right, 'I Want To' in '88, and 'Freestyle' in '89. They are regular live performers, and in February of this year drew attentive audiences for their mini-tour of the Netherlands.

On the cards for the near future are a third Irresistible Force single, debut album and further remixes. Try and catch them at the Scottish Music Fair or at one of the gigs on the mini-tour. Now you can see it can be done. **Dp**

GROOVIN' MOVIN'



Busy electronics bods Groove Electronics have moved house, from Unit 30 of Barnack Industrial Centre, to the larger premises of unit 22. This means that anyone who wants to pop in and see the Groove range can now do so.

The latest addition to the Groove range is the Stinger - appropriately named, as it consists of two EDP Wasps, with a comprehensive MIDI interface, in a 4U-high rackmount box.

MIDI-wise, the new Stinger delivers independent MIDI channel assignment to each Wasp, and response to pitchbend. Velocity, aftertouch

and Mod wheel info is also assignable to the Wasp's filter, either singularly or in combination, allowing greater control from a modern MIDI keyboard.

The complete Stinger unit costs £390. However, if you have a Wasp or Wasps already, then a £50 discount is available on each Wasp presented to Groove against the unit cost.

More info from Groove Electronics, at Unit 22, Barnack Industrial Centre, Kingway Trading Estate, Wilton, Wiltshire SP2 0AW. Tel: (0722) 743712. **Dp**

IT'S THE BIZ

The Westcliff and Bexley Heath branches of Monkey Biz Music are hosting Atari-Steinberg demo evenings on 23rd and 24th October respectively. Top European computer music experts will be present, showing the very latest in Steinberg music software, including Cubase, Avalon, Pro24, Master-score, and Steinberg's range of editor/librarians. Entrance is free, special

discounts will be offered on the nights in question, and there will also be a free prize draw for a copy of Twelve.

More information from Monkey Biz at 278 Broadway, Bexley Heath, Kent DA6 8BE, tel: 01-304 5331/2; or at 351 London Road, Westcliff-on-Sea SS0 7HT, tel: (0702) 332743. **Dp**

AN INFANT PRODIGY

New from The Digital Muse, distributors of Virtuoso (see review elsewhere in this issue) is the introduction of Prodigy, a new 32-track MIDI sequencing package for the Atari ST. Prodigy has been developed directly from Virtuoso and has been designed to a high specification at a budget price of £129.95.

Features offered include 32 tracks, 120ppqn resolution, 1/10bpm tempo resolution, on-line help feature, real-time MIDI volume and pan control, independent track looping, positive or negative digital delay on each track, multitasking (load and save whilst playing sequence), eight preset "feels", drum-machine style loop recording and song arrange page. Welcome news to entry-level users will be the

fact that Prodigy can be upgraded; the full cost of Prodigy is refundable against an upgrade to Virtuoso, and all Prodigy music files can be loaded into Virtuoso.

The Digital Muse will be at this year's PCW Show at Earl's Court, demonstrating new products including a SMPTE add-on device, which, apart from being able to read and generate all SMPTE formats, will also incorporate an audio trigger input, enabling synchronisation to any suitable audio input (eg, clicking fingers, a click track or a kick drum). Provisional price is £199.

More info on any of the above from The Digital Muse Limited, 44 Gloucester Avenue, London NW1 8JD. Tel: 01-586 3445. **Dp**

THE RHYTHM METHOD

You must have been reading MT's ongoing series on rhythm programming, and no doubt eagerly punching in the useful and illuminating examples. If so (and if not, why not?) you might be interested in yet another new Gateway course - this time on Rhythm Programming.

The course is first in a new generation of courses serving the growing need for training in basic and advanced music skills, and it

will be taught by leading percussionist and drummer Nardo Bailey. It's intended for anyone becoming involved in computers, sequencers or drum machines, and will look not only at Western rhythms, but also at World Music rhythms.

Get in touch with Gateway at Kingston Hill Centre, The Music Department, Kingston Polytechnic, Kingston, Surrey KT2 7LB. Tel: 01-549 0014. **Dp**

SWEET INSPIRATION

You may have heard of Hugh Symons Distribution in the context of microcomputer distribution (the company was behind the successful introduction of the Atari 1040 packaged with free Steinberg Twelve software); now you may well be about to hear of them in the context of hi-tech gear. A new Music Division of Hugh Symons has been formed, dedicated to the distribution, research and development of electronically-based audio equipment.

To this end, Hugh Symons have installed a 24-track studio where



new equipment and prototypes are fully explored for refinement prior to release. Such articles include the Armadillo 16-bit stereo sampler, Pandora's !Inspiration (for the Acorn Archimedes), and removable SCSI hard disks.

Following on from the Atari/Twelve package, Hugh Symons have now introduced an alternative package, 1040 with dedicated drum programming software Middrummer, which is expected to be very popular.

Watch this space for further news. **Dp**

OOPS

Well, we wouldn't be human if we didn't drop the occasional brick. You might have noticed at the end of our review of the Musicsoft Syncman synchroniser that we neglected to give the customary details of distribution.

You can, in fact obtain further information about Syncman from distributors Radius Marketing Limited, at PO Box 3, Basingstoke RG24 9QA. Tel: (0256) 477222.

Apologies to all concerned for the omission. **Dp**

SON OF OOPS

We'd also like to correct a couple of small factual errors made in our review of the MusiCal educational program, in the September issue.

It was stated in the review that the program was a Steinberg product. This is not the case. MusiCal is an Evenlode Educational program, and as such is only available to educational users, such as school music departments and teachers. Please note that the same condition applies to Steinberg's Pro24e, the educational version of Pro24, so unless you're one of Kenneth Bakers casualties you're going to have to pay the full whack!

Our apologies to Evenlode Soundworks for the misunderstanding. **Dp**

FUZZY ONES MOVE HOUSE

The Casio Pro Tech Users Club, formerly the FZ1 Club, has changed addresses. The new address to send your correspondence to is 150B Victoria Road, London N22 4XQ. As a result, there may be a slight delay in replying to mail recently sent to the old Muswell Hill Broadway address.

The club has now improved its newsletters by spending money on new software and separating and tidying up the library lists. However, these are now updated free only to members who use the service. The club has also made contact with Casio in the US and will be making available their shareware library to members when it arrives in Britain.

A new service which might

interest live users of the FZ1/10M/20M is the conversion of sounds to a lower bandwidth to save on sample memory (converting 36kHz samples to 9kHz can free 75% of the memory, although loop points will not be preserved in the process); the charge is £1 per second of sample time. Also new is the extension of support to the Casio CZ range - Atari owners can exchange sounds on disk. Unfortunately, there is no support for cartridge at the moment, as there are too many formats to deal with.

The club is still distributing the Steinberg FZ1/10M/20M editor (running in monochrome on a 1040 or larger), and anyone who buys

this before 31st September will have their membership fee refunded. The editor costs £150 and a demo disk is available to members and non-members for £3, including postage.

Owners of Casio Pro Tech instruments who would like to access the User's Club libraries without joining the club can now do so as non-participating members, for a registration fee of £5 per library list group per year. Non-participating members do not receive the newsletter and do not have access to the helpline.

More info from Mark Tinley at The Casio Pro Tech User's Club, 150B Victoria Road, London N22 4XQ. **Dp**

VOYETRA VERSION THREE

IBM enthusiasts will be interested to hear that Version 3 of the respected PC sequencer program Sequencer Plus is now available. New features of Version 3 include the incorporation of the universal librarian program Patchmaster into SP MkII and MkIII. This enables patch files from nearly 100 different instruments from over 20 manufacturers to be stored on PC disk. Patches can be auditioned, named, grouped and downloaded while still within Sequencer Plus.

A comprehensive MIDI data analyser is added to Mk III, allowing error checking of the MIDI data stream. In addition, MIDI data strings may be defined and transmitted from the PC keyboard for directly controlling MIDI devices.

On top of this, mouse support is added for all levels of SP, MIDI file format is supported, the SMPTE calculator already in MkIII has been added to MkII, and VGA graphics is now supported, so that many more tracks can be viewed at

any one time.

Sequencer Plus costs £349 for MkIII, £228 for MkII and £97 for MkI. The Voyetra Musicpak starter system is also available for £199.95, and includes SP MkI V3.0, V4001 PC MIDI interface, a sign-up fee waiver to the Music Network (the European bulletin board for computer music users), and an upgrade path to SP MkII and III.

More info from Computer Music Systems, 5-7 Buck Street, London NW1 8NJ. Tel: 01-482 5224. **Dp**

communiqué

post production

After reading J Chandler's letter (Communique, July '89) for the third time, I felt that if a Philistine like that should be allowed to thrust his or her opinion on the world, I should have my say as well.

To start with, not all the music press are as prejudiced against Stock, Aitken & Waterman as our friend J Chandler is. If he was to pull his head out of the sand, find a music shop and get hold of a copy of a recent Roland Newslink, he would find an interview with Ian Curnow – programmer for Stock, Aitken & Waterman – and discover that he is a better musician than J

If you ask me, people like J Chandler from Cambridge are simply jealous of SAW's success. If they don't like it, why don't they switch off their radios – the only people they will hurt are themselves.

**Alistair West (aged 16)
Dundee**

There's no reason you shouldn't have your say too, Alistair, but I'll save JC a stamp and point out to you that you'll also find an interview with Ian Curnow in MT (October '88), conducted by our own David Bradwell – and an interesting and informative piece it is too. And if you want to go straight to the horses mouth, you'll

Donovan and Kylie Minogue making a fortune out of the British pop charts, has it? Are you sure you still want to defend the Stock, Aitken & Waterman world domination plan? Tg

age of consent

Last October Cindy Taylor wrote to MT attacking the artistic merit of sampling. I quote "you wouldn't expect to get away with it in the literary world... so why do so many people think it's OK to do it in a musical context?". You would if your name happened to be TS Eliot, James Joyce or any other modernist

in pop music is that there's lots of MONEY to be made.

If I sample a SAW record, my house single is probably in competition with that record for chart success – and dosh. If I slip a piece of Wagner's *Ring Cycle* in the same record I'm not really competing with a production at The Royal Opera House and no-one gets uptight.

Sampling really is the ethic and aesthetic of the age. Anyone who has studied modern engineering will tell you that modularisation is the new buzzword. You don't expect Ensoniq, Yamaha or Kawai to design from the basic transistor up. They're rather more likely to buy in semiconductors, commission third-party software and generally build on the strengths of the past. Why should music have pretensions to behave differently?

**O/S2
Croydon**

Sample SAW and you'll get your butt sued off. And you missed Mozart and Salieri... Tg

record sales

Just a note to say "thanks"...

For many years now I've read the record reviews that appear in the music press – usually with interest, but never with any real intent to act upon them. Then, for some reason, I was impelled by Simon Trask's review of Ray Lema's *Nangadeef* (July '89) to buy the LP in question. And it was a revelation.

Let me point out that this really isn't the sort of album I'd normally have been likely to buy. My days of impulsive record purchases seem to have died out (probably due to shortage of cash – thanks, Mrs T) and without the interest roused by Simon's review I'd have missed out. From now on I shall be reading MT's record reviews with renewed enthusiasm.

**David York
Bristol**



Filthy, Rich and Laughing?

Chandler is ever likely to be, as are all the musicians involved in SAW productions.

As for the amount of airtime that SAW get, this is due to record sales. When you think that SAW chalked up a huge 10% of the total record sales last year, is it any wonder that so much time is given over to their records? I will agree that some of SAW's material is not of Beethoven's standard, but next time you hear a SAW record, listen to the production of it. Could you do any better?

find an interview with the triumvirate themselves in the June '87 issue of MT (conducted by my own good self).

I'd also go as far as to say that Ian Curnow is an above average musician, and your criticism of JC's likely playing standard probably applies to a good number of us. But when did that stop anyone having anything musically interesting to say or having a successful single? Musical inadequacy certainly hasn't prevented Sonia, The Reynolds Girls, Hazel Dean, Sinitta, Jason

writer quoting from Shakespeare, Homer, Indian legends and popular street songs. And music? What about Charles Ives mixing hymns with marches or Berio putting an entire movement from a Mahler symphony under one of his own?

If anything, most of the ideas of the sampling revolution have been around in more serious music and art for the last hundred or so years, when they were set in motion by the invention of the camera and early sound recording technology. The only reason the conflict is so fierce

NEW ARRIVALS

XRI, XR400, RHODES MK60 P. REES M-CV CONVERTOR
RHODES MK80, ATARI MEGA ST, ALESIS HR16B,
ALESIS 1622 MIXER, FOSTEX R8

VFX

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WHERE THE
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KAWAI K1 II

I'LL COME CLEAN – I really like Kawai's K1. It offers (to generalise) the sort of breathy sounds popularised by Roland's D synths and Korg's M1 but at more of a pocket-money price. There had to be a follow-up.

Rather than expand sideways into a variety of synths and expanders (as Roland did with their D range) and rather than pursue the professional wallet with super synths (as Korg have done), Kawai decided simply to add a couple of new features to a good synth. The curious need read no further – the K1 II is a K1 with added digital effects plus a separate drum section. Apart from the front panel which now sports a "K1 II" logo, the layout and operation of the two synths are identical.

K1 aficionados may be surprised when they first switch on, as the K1 II factory presets are new. I'd be hard pressed to say they're better – the K1 did an excellent job as ambassador of VM (Variable Memory) – but the hallmarks remain. There's a DIY Enya patch in IA-2 called, naturally enough, 'E.N.YA' – pizzicato with added percussive attack. Multi sound IB-1, 'Exotica', has voices scooping upward to an "ah" in the lower keyboard with a bottle/pan flute in the upper. And I must confess to being quietly impressed by 'Pianomulti' (IB-5).

But to the new bits.

There are eight reverb and eight delay effects. The reverbs are Hall, Plate, Loft (my loft doesn't sound like this) and Room plus some with early reflection and one with pre-delay. The time of delays varies from a slapback 40ms to 500ms. One even has random delay.

There's only one effect parameter – depth (basically effect level) – but each effect can have its own depth setting.

The 16 effects, however, are global to all the sounds, so you can't have different degrees of the same reverb with different sounds. But as the effects are there basically to enhance the sounds, I reckon this is perfectly acceptable.

The quality is clear and the net result is sufficient to add life to any sound, although it may be argued that VM sounds are less in need than those produced by other forms of digital synthesis.

The new drum section is completely independent of the Single and Multi patches. It can be played from the synth's keyboard when in Drum mode and it can be allocated its own MIDI channel – it defaults to ten like Roland's drum sections.

There are 32 drums, mostly standard kit sounds with a Conga, Bongo, Agogo, Castanet, Shaker and a couple of Jazz Brushes. The sounds are quite distinctive (idiosyncratic?) with Normal, Room and Electric Bass Drums; Normal, Power and Electric Toms; and Normal, Tight, Gated Reverb and Electric Snares.

Each drum can be assigned a different MIDI note number but

only between notes C1 and C3. That's 25 notes between 32 drums, an odd limitation, as it means you can't actually hear all 32 drums without re-allocating some. Also, the drum number is shown during allocation rather than the name – a might light of friendly.

Each drum can be tuned over approximately a two-octave range and you can allocate two or more of the same sounds to different keys – tune your own – but the 25-key limitation restricts the usefulness of this feature. OK, you may only want half a dozen sounds on any one rhythm track but it would be nice to be able to play all the available sounds without re-allocation while making your selection. But only 32 sounds? It's almost as if the K1 is determined *not* to compete with Roland's D series on the same level (these have 63 drums).

Globally, you can adjust the volume of the drum section relative to the patches while Velo Depth determines what effect key velocity has on volume and the sustain time. With a negative setting, volume *decreases* with velocity. Finally, the output of each drum can be sent to the left, right or both audio outputs.

There are sounds tagged 'Old Rhythm Box' which are definitely excellent imitations. Quite who would want to use them I'm not sure. One of the Jazz Brushes is heavily into white noise and I particularly missed a quijada (I love westerns) and a timbale (I'd settle for just one).

That said – and remember that the above are my own opinions – the selection is suitable for a wide variety of musical styles with the accent on modern. A quick latin demo I threw together sounded excellent.

The sounds of the K1 and K1 II are totally compatible. If you save Mk II sounds to RAM disk the drum and effects settings are saved too (and ignored, of course by the K1).

A rack-mount version of the K1 II (£TBA) is due early next year. It will have no built-in effects but four individual audio outs instead, which will arguably be more useful to users of rack-mount gear who, so the theory goes, are already likely to have outboard units.

The K1 II doesn't claim to be a new synth and it is being sold alongside the K1, which still has a RRP of £595. In a way it's a shame Kawai didn't take this opportunity to lower the price of the original K1 (it's almost 18 months old) and bring in the K1 II at the old price – although the K1 remains good value for money.

The K1 II simply gives you more choice. If you don't need onboard FX or drum sounds, the K1 is still an excellent choice. If you do, you know where to look without breaking the bank. ■

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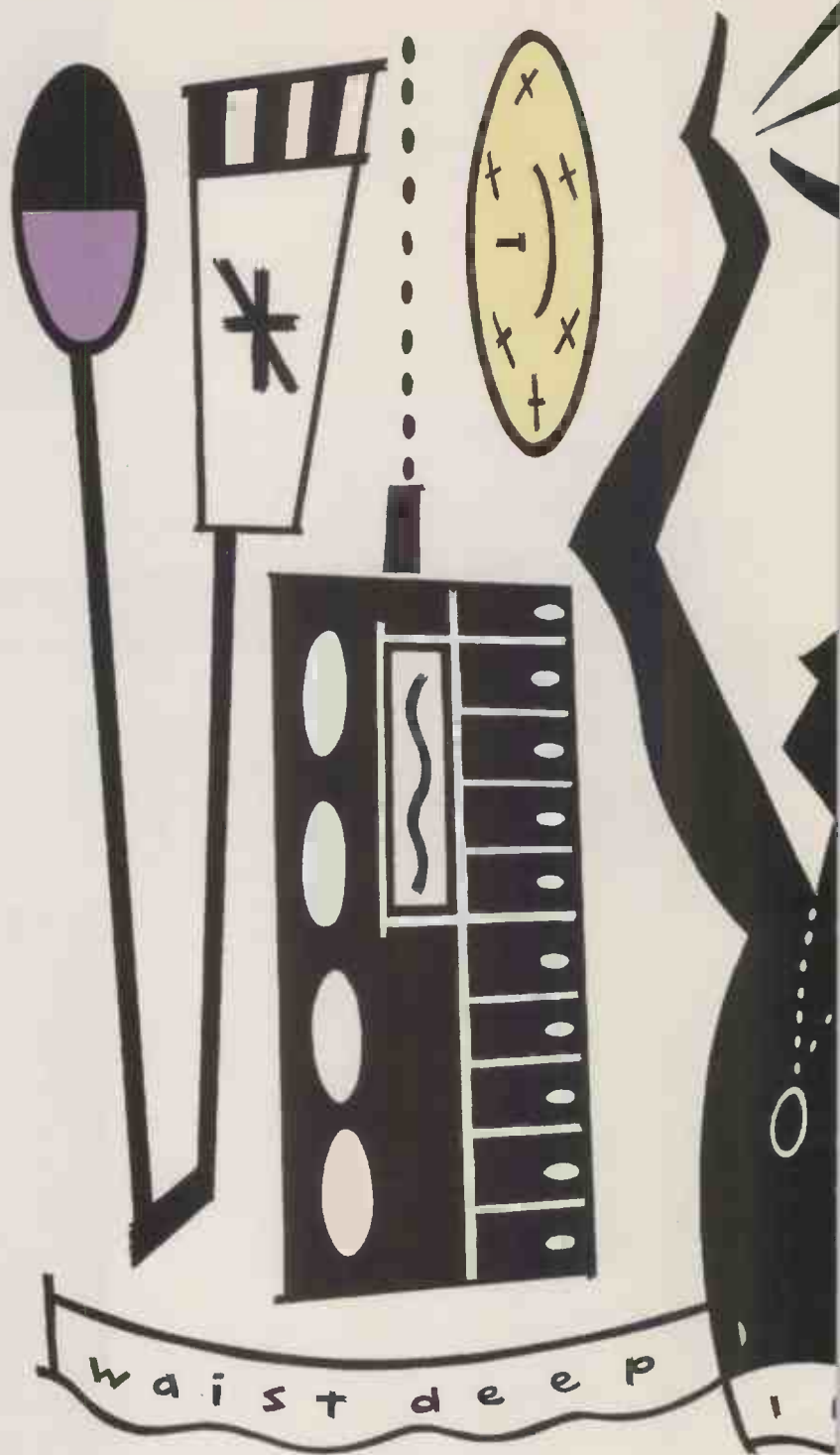
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ON THE

BEAT TAKES THE BASIC PATTERNS EXPLORED EARLIER IN THE SERIES, AND INVESTIGATES WHAT A LITTLE EMBELLISHMENT CAN BRING TO THEM.

**PART THREE OF ON THE
BEAT TAKES THE BASIC
PATTERNS EXPLORED
EARLIER IN THE SERIES,
AND INVESTIGATES WHAT A
LITTLE EMBELLISHMENT
CAN BRING TO THEM.**

Text by Nigel Lord.



BEFORE BEGINNING THIS month, I'd like to clear up a few problems arising out of the first two articles in this series concerning tempo. It seems a number of readers have been a little confused by the absence of any tempo indicators for the patterns I've included up to now, and have written in for guidelines as to the speed at which they should run. The simple answer, of course, is to decide for yourself. Obviously certain rhythms need to be played at quite precise speeds (and where this occurs I shall endeavour to include the necessary information), but otherwise, all I can say is put your finger on the tempo button and take it off when it feels right.

Really, the whole purpose of this series is to act as a spur to your own creativity. The patterns are provided as examples of certain techniques which hopefully can be applied to your own rhythms. Of course, I'm well aware that some readers will simply copy them verbatim and leave it at that, but this is hardly the wisest way to go about improving your programming skills. If certain information isn't included with a pattern, take that as a starting point for your own experimentation. 'Nuff said?

Right, this month (and next) we're going to be looking at ways of embellishing basic patterns. Generally speaking, the overriding pulse of a rhythm is determined

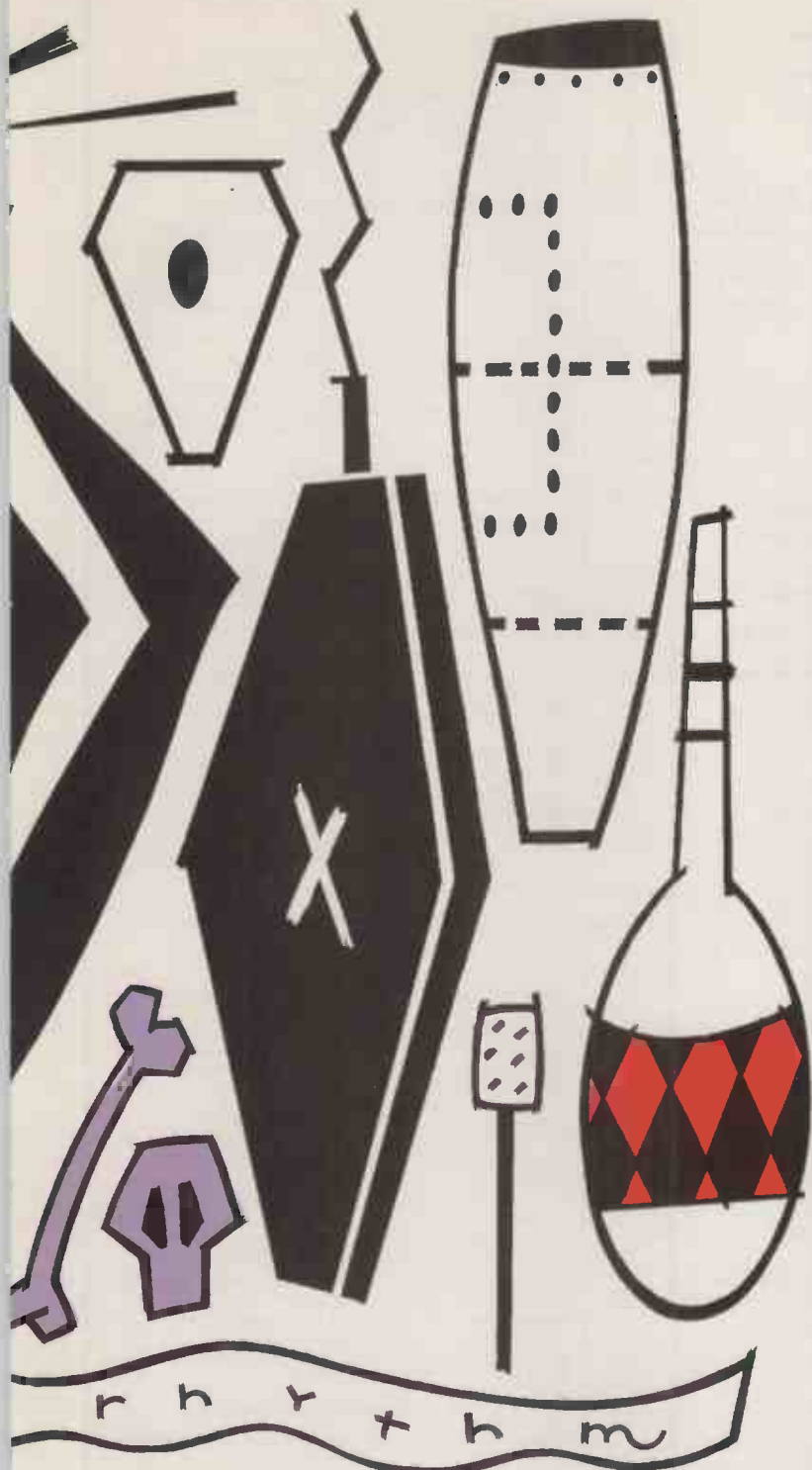


ILLUSTRATION: CLIVE GOODYER

by the position and frequency of the snare drum (or whatever instrument is being used in its place). This means that, within a given pattern, provided we leave the snare line more or less intact, we are free to modify and add to the other instruments (often to the point where the pattern is completely transformed) without upsetting the basic rhythmic structure too greatly.

It's feel we are referring to here, and just as last month the hi-hat was used to inject a little spice into what would otherwise have been quite routine rhythm patterns, there are a number of really quite simple techniques we can apply to the other instruments which take us further down

the road toward rhythmic inventiveness.

Starting with another of those patterns which have become the life blood of the "can't be bothered" school of programming, pattern 1 uses the standard bass/snare/hi-hat combination to produce a versatile, but ultimately rather cliched rhythm that you will no doubt be familiar with...

- Give the pattern a rather more interesting bass drum part, a syncopated hi-hat line and a handful of tom-tom beats and we have something a little more stimulating - see pattern 2.

The use of accents is critical in this arrangement, particularly on the hi-hat. The bass drum accents are there to

distinguish between normal notes and grace notes. Really it should be written with the grace notes de-accented or lowered in level relative to the normal beats, but the grid system doesn't lend itself to this kind of notation. The reason they appear as grace notes is to do with the way a drummer would play the figure. In order to bring the pedal back fast enough to play the following beat, these notes have to be played very quickly with a consequent loss in volume. This isn't intended to suggest that we necessarily try to make drum machines sound like real drummers, it merely sounds better if we do it this way. Try it and see.

Pattern 3 uses the same rhythm as a base, and provides an interesting variation on Pattern 2. Here, besides rearranging the bass drum line slightly, we've introduced a regular open hi-hat part to give the pattern a pleasantly insistent feel. The tom toms, as in the previous example, are not used in the conventional (and somewhat hackneyed) way to roll or fill-in between various rhythmic figures. Rather, they are simply there to accent and provide a little interest at the end of the bar. The crash cymbal at the beginning is entirely optional, but if it is used, be sure to keep the level well down. (If this appears to betray a natural prejudice against crash cymbals, I won't attempt to deny it.)

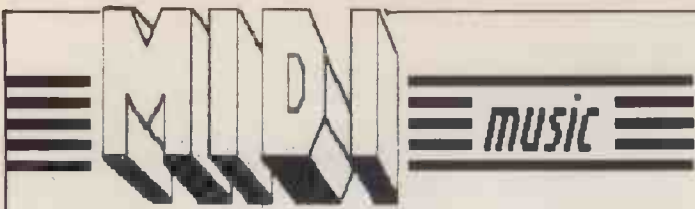
Incidentally, it would also be worthwhile chaining patterns 2 and 3 together - and even interspersing pattern 1 between them. Experiment!

Pattern 4 is a slightly modified version of the original rhythm we used as the basis for the last two patterns, and from it we can develop a really driving groove with a slightly latin feel to it.

In pattern 5, again, accents are crucial, especially on the closed hi-hat "lead-ins" to the open hi-hat beats. The rather cryptically named Percussion line can be used with most percussive sounds - instruments like shakers, wood blocks and sidestick being particularly effective.

Finally this month we come to pattern 6, a rhythm which again uses pattern 4 as its base, but in doubling its length has allowed us to slip in a couple of neat hi-hat beats which give it a nice edge. The Percussion part may again be given to a shaker or sidestick, and there is considerable space to add various other percussive voices should you wish.

Speaking of doing-it-yourself, or not, as the case may be, suggested tempi are 90 to 125bpm for patterns 1-5 and around 140 to 180bpm for Pattern 6. Which, if my memory serves me correctly, is where I came in...



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EXPLORER 32

If you've spent any time using Roland's now extensive range of LA synths, you'll have found them subtly different as well as laborious to operate. Explorer 32 sets out to solve all your LA problems.

Review by
Ian Waugh.

C-LAB'S EXPLORER 32 (review v2.00) is a Sound Manager and Editor for Roland's LA synthesisers. It has recently been updated to support the following synths: MT32, MT100, E10, E20, D5, D10, D20, D110, D50 and D550. I'd call that pretty comprehensive.

If you've struggled to understand the meaning of and difference between LA terms such as Tone, Timbre, Partial and Patch, don't worry – you're not alone. Even Roland don't appear to know what their right hand's doing all the time as different LA synths use different terms to describe the same thing – and vice versa. Confused? You will be. The Explorer manual, however, helpfully lists the differences and similarities.

PARTIAL ADJUSTMENT

AS THE MOST complex voice arrangement is used by the D5/10/20/110 range, Explorer uses their terms. So that other LA synth owners aren't completely in the dark, could MT32/100/E10/20 owners mentally note that a Tone is equivalent to one of their Timbres and a Timbre is equivalent to one of their Patches? D50/550 owners will know a Tone better as a Patch, a Part as a (current) Patch and they'll be pleased to note that their very own Tone has no equivalent in other models and hence

is not used by Explorer. Still with me? Good.

But just as a rose is a rose by whatever the architecture of the synths is sufficiently similar to allow Explorer to handle them all from the one program. Assuming that we all know what we're talking about (I'll take two out of three), let's see what Explorer has to offer.

First of all, it will now run on a colour monitor, which will be good news for many ST owners. It will also work with 512K (a single-sided disk is available on request) although in this case the Tone Editor cannot be accessed.

A certain amount of file renaming may be necessary before you get started, so be sure to read the manual and the eight-page read-me file on

disk. The disk is copy-protected and the manual suggests you make a backup copy by normal means (using the Master disk to boot the program) but you can't. Still, you can copy the files you need to alter.

SUM OF THE PARTS

AFTER PLUGGING IN and booting up, you'll realise that Explorer's library is organised differently to those in other editors – the sounds are arranged in a chain. This can be as long as you like, memory permitting (around 1130 sounds on a 1040), enabling you to store and manipulate many banks (Tones?) at once.

The library is listed in two columns on the right of the screen. A smaller window centre left, the Parts window, but called the Tone Temp Area, shows the Tones making up a Part. The contents of the centre of the screen varies according to the current mode. In Tone Mode it shows the synth's 64 internal sounds. In Timbre Mode (not applicable to the D50/550) it shows the Timbres (in two sets of 64) which will normally be accessed by program change instructions.

In Patch Mode (not MT32/100/E10/20/D50/550) the Parts window just shows the current Part, while the central window shows the Patches in two sets of 64 (if you have a D10/20).

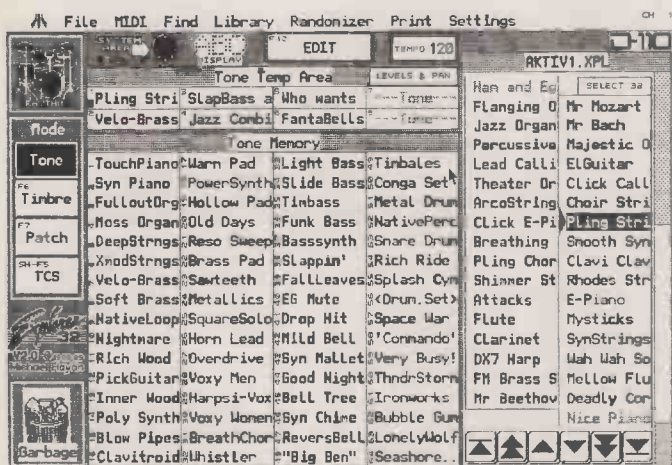
There's no doubt that sorting out which name/parameter does what and to which synth will stimulate your grey matter, but once you've got it sussed copying, inserting and moving sounds between the windows is a doddle. You simply click and drag and you can define blocks of sounds for bulk movement.

With Autoplay in operation, a short tune will play when you select a new sound. This is programmable and savable and compatible with Creator/Notator files. You can also play the ST's keyboard.

FOUND OUT

A NEAT FEATURE is the Find facility which will find similar or exact occurrences of a sound's name. For example, "gitar" will not only find names which include 'Guitar' but also 'Sitar' and 'Digital'. Another option will find Same Structures, Same Partial Mutes and Same Structs/Mutes while yet another routine will find sounds with similar parameter values.

There's one more Find feature and that's TCS – Tonal Characteristic Search – which reports various tonal characteristics of selected sounds. These can include the Partials, filter, envelope, reverb and



Main Screen

chorus settings. You can select a range of characteristics and the program will show which sounds contain the ones selected, *only* the ones selected, or none of those selected.

The program can sort the Library names alphabetically and it can report sounds with similar characteristics and those with identical names and prompt for deletion. A sort by tonal characteristics would be useful, but then perhaps I'm being greedy.

SAVING GRACES

YOU CAN SAVE a complete Library or just a range of selected sounds. Libraries can be merged. You can also save complete setups (which includes all Tone, Timbre, Part and Rhythm data) which can be loaded into Creator or Notator as a track. As you can place a track wherever you like, this allows you to change voice, reverb settings and so on at any position within a piece of music. MT32 owners will probably benefit from this the most as the MT32 has no internal RAM for voice storage but D10/20/110 users could find it useful, too.

A separate program on the disk called LA-LOAD will transmit complete setups to up to 16 LA synths. You can copy this to your sequencer's boot disk and run it from an Auto folder so the setups are sent automatically upon booting. It can also be configured as a desk accessory. Handy.

AUTO CONVERTIBLE

PERHAPS AT THIS stage you're wondering how Explorer handles sounds for the different types of synth. Well, sound data is stored in the format for the synth from which it originated, but – and it's a big but – Explorer's Device Converter can convert it to any of the other synths' formats, although it can't, obviously, compensate one hundred percent for internal differences.

The conversion process is automatic. The current synth can be changed from the Settings menu and when it is, the internal data is changed, too – totally painless.

This is one of Explorer's best features, allowing any LA synth owner to access the wide range of D50 sounds, for example, and I'm sure it will be welcomed by everyone with more than one type of LA synth.

TONAL ATONEMENT

LIKE THE LIBRARY, Explorer's Tone Editor is rather different to what you might expect, too.

One of the advantages of computer-based graphic editing is the ability to show lots of parameters on screen at once and to display envelopes in graph form. But graphic displays take up VDU space and it's very difficult to squeeze everything onto one screen.

Explorer's approach is to use a window larger than the VDU which scrolls as you move the mouse through it. It's reminiscent of horizontal scrolling arcade games but it works fine. Neat. You simply

slide along the screen to the parameters you want to edit.

The Edit screen can flip between eight Tones although as you move from screen to screen the program takes a few seconds to "generate" each new one. This is apparently necessary because of memory limitations although generation still occurs on a 1040. However, if you work with just one Tone, once generated, you can flip from the Edit screen to the main screen instantly. A Blitter chip will speed up screen scrolling and drawing.

Editing uses faders, sliders, steppers and graphic displays. Just about every parameter can be adjusted with the mouse (although Explorer has keyboard equivalents for just about everything, too). Nodes on the envelope graphs can be grabbed and dragged, waveforms and samples can be stepped through and values can be adjusted by clicking on and moving sliders.

Faders can be adjusted Relative to the position of the mouse (the value doesn't change until you move the mouse) or Absolutely, that is values move immediately to the mouse position. Link Mode allows you to edit the Partials collectively, again using Relative, Absolute and Proportional adjustments.

There are comprehensive copy facilities – most are simply click-and-drag – and should you get into an indeterminate mess Undo will undo the last change or else take you back to the original Tone settings. This can be used as a Compare function although it involves more screen generation.

There are, of course, several randomise functions without which no voice editor is complete. Randomisation can be limited to a given percentage or it can be a blend of parameters which lie between neighbouring parts.

EDITORS AND MANUAL

THE FIVE EDITORS are basically one-window affairs and allow quick editing of their parameters.

The Rhythm Editor lets you set up sounds, volumes, pan settings and output assignments for the synths' internal rhythm section. The System Area Editor controls Partial Reserve, MIDI channel allocation, output level and reverb settings. The Timbre Editor lets you assign those little things which make a Tone what it is such as key shift, fine tune, pitchbend range, Partial assignment and so on.

MT32 owners don't have to worry about Patches, but for those of you who do the Patch Editor is the place to be. The structure of a D110 Patch is quite different to that of a D10/20 Patch (which, in turn, is similar to a D50 Patch) and different Editor windows are used for each.

Finally, the Level and Pan (or Panorama to give it its full title) Editor lets you quickly assign volumes and pan settings to the Parts (assuming your synth has Parts). ▶

“You can load setups into Creator or Notator as a track – allowing you to change voice and reverb settings within a piece of music.”

► The manual is written in a fairly straightforward, if rather matter-of-fact way, but it plies you with instructions for all the synth types together. The program has separate screens for each synth, why not have separate chapters in the manual? It would be much less confusing. Some sort of tutorial would be helpful, too. It has an informative contents page but am I alone in wanting an index?

Other program functions include the ability to print out the Library (got plenty of paper?), the Rhythm Setup and Selected Tones, Timbres and Patches. The Library listing is particularly useful and includes the Partial types, Structures and the synth the sound came from.

Due to the vagaries of some LA synths, certain models may not work as you would like. Explorer takes into account the slight differences in the mid-1988 D10s and D20s but it is less helpful regarding some other problems. For example, although it says some D110s won't transmit SysEx if the Control Channel is set to "off", it also says software versions older than v1.06 can be to blame. Well the D110 I used (software version v1.07) wouldn't divulge its Tone info (but it sent levels and pan settings and so on) to Explorer, but it works fine with Dr.T's D110 Editor. Hmmm.

how does it perform?

Well, I like the way the Library handles a whole lot of sounds. Coupled with easy copying and editing facilities it makes multitimbral setups a breeze to construct, and you can probably access all your sounds in a single library – or maybe two. Absolutely marvellous.

The Device Converter is a whizz – an essential requisite for anyone with more than one kind of LA synth and very handy, too, just in case you pick up some sounds not directly compatible with your instrument.

Even if you're not interested in programming your own sounds, Explorer is worth looking at for these facilities alone. If you are a programmer then I think you'll like the edit screens, too.

However, at times, it is Explorer's very versatility and near-simultaneous coverage of all those different types of LA synth which can cause some head-scratching. Having said that, I reckon it's better to be able to edit all the synths from one program than to have to resort to several programs in order to get the job done.

Patience with the manual and the program will reap its own reward. ■

VERDICT

ASSUMING EXPLORER WILL work with the software version of your equipment (and it's wise to check),

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AT THE WATER'S EDGE



Five years ago, The Blue Nile released an album that was to be regarded as a classic fusion of sound and song – five years later they've done it again... Interview by Nigel Lord.

FINDING WORDS TO REFLECT THE emotions evoked by a piece of music is never easy, and heaven knows, music which has been a part of your life for the last five years is responsible for more than its fair share of emotions. So how do I go about describing the music of The Blue Nile to those unfamiliar with the name? The simple answer is I can't. Its understated grandeur, and indeed, the wholly unspectacular approach of the three people responsible for it have a strangely humbling effect on, I suspect, all those who stumbled across their first album back in 1984.

There was no precedent for *A Walk Across The Rooftops*. After a promising, but unsuccessful first single, Paul Buchanon, Robert Bell and Paul Moore, went into Castlesound Studios in Edinburgh to demo an album which they'd been working on during the previous year. Whilst there, Linn, the company famous for their high-quality record decks, happened across one of their tapes,

and immediately offered to sign the band to the specialist record label they had established.

Realising that the company's decidedly low-key approach would allow them to work and develop at their own pace, the band signed to the label and spent the next five months at Castlesound recording their debut album. Six months later it was released, along with a single, 'Tinseltown In The Rain', and within a few weeks had stirred the hearts of all who heard it. And then? Well, despite constant talk of a follow-up, nothing transpired. Two years after, I stopped watching the music press for news. Two years after that, I concluded the band had gone their separate ways.

A year later, I'm sat listening to their quite stunning second album, *Hats*, and I have an invitation from the awfully nice people in the Virgin press office to go and interview the band in their native city of Glasgow. There just might be a supreme being, after all.



Leafing through a clutch of past interviews with The Blue Nile, the difficulty of the task ahead soon becomes clear. Everything you'd want to say about them, has been said – most of it five years ago. And we're not just talking critical acclaim here. Where genuine emotions are involved, even hardened critics are wont to wax lyrical about a piece of music – and here there were seven, all exquisitely crafted by a band with no particular axe to grind and no wish to elicit a response from the world other than through their music. Not only that, but statements weren't being made about getting back to pop fundamentals or thrusting forward with the instruments and attitudes of a new age. Just three men doing their best to produce songs reflective of their lives, using the fairly limited resources at their disposal.

But nothing could halt the adjectives of the critics... evocative, haunting, wistful, melancholy, plaintive, impressively fragile, harmonically gorgeous – and every word of it true. For this is the power of the song. Melody and conviction achieving that which style and the beat never will. It is perhaps time we re-learned this simple truth.

The Blue Nile have probably always known it. Their problem lies in making sense of the industry of which the release of two long playing records has made them a part. They tread very warily. Talking to the three of them in a hotel bar, I sensed a re-awakening of some half-forgotten sense of just what

happens to you when you produce music that people want to listen to. The sudden focusing of the media attention, the hype, the elation, the frustration, the interviews...

Making up for the fact that answers don't trip as easily from the tongue on the first or second interview as they do on the 21st or 22nd, speaking to a band in advance of the rest of the media has the advantage that questions sound fresh. So how about the one that will surely find them groaning in despair in a couple of months time. Like, what on earth happened to the last five years?

"That's the time that's gone by since the release of the last album", Bell explains, "but the studio time can be condensed into a much shorter period. Really, there's been a number of reasons why we couldn't record over the last five years. The first year we had to attend to the group's affairs in order to protect the music, and the second year we weren't able to use the studio at all. And we have been working on other things like a soundtrack for the BBC and *Halfway to Paradise* on Channel 4".

Even so, five years? How does a band take the sort of critical acclaim meted out to *A Walk Across The Rooftops* and then resist the pressure to produce more of the same? Vocalist Buchanon: "We just wanted to make another good record, but circumstances went against that. It wasn't easy, not putting one out – you're left living with a vacuum. But we didn't want to make another record just for the sake of it."

Was there not perhaps an element of 'how the hell do we follow that' involved? Bell: "In retrospect, yes, especially when people say nice things about the first record. But all you want to do is good work. You can't put out work that you don't believe in."

Nevertheless, there must be a danger of the five year hiatus being interpreted wrongly. "I am slightly concerned that it will be misconstrued, yes", agrees Buchanon, "but really, it didn't happen like that. We didn't spend any longer writing and recording this album than we did the last. It's just that this time people were aware of us."

I'm almost convinced. Five years can slip by very quickly. And sadly, the wait hasn't exactly been eased by the kind of music which has dominated the intervening period. In fact, in the present musical climate, The Blue Nile seem poised to offer the world that which it has been waiting for: a rediscovery of the *song*, the wresting back of melody from beneath the all-consuming *beat*.

Moore: "I can't tell you how relieved I am to hear you say that! I've been sat here listening to us painfully trying to explain the time away, flicking through the Tuesdays and Wednesdays and thinking, why didn't we, why couldn't we... and then you say something like that and... Well, it's what I've been waiting to hear. I just hope there are other people that will feel the same."

HAVING SPENT THE LAST MONTH listening almost exclusively to the new album, I really don't believe there can be any doubt. ►

“As far as equipment’s concerned, there’s a great enjoyment to be had in working with what’s available to you at the time; it obliges you to investigate the possibilities.”

► Certainly, as far as Virgin Records are concerned, stones are unlikely to be left unturned in their efforts to bring TBN to widest possible audience. So are the band aware of some huge machine being wound up ready to roll?

Buchanon: “I think there are a lot of good people in the record company who want to be involved with something they feel is based on integrity and good intention. I’m sure that prevails to a large extent.”

I’m sure it does. And it isn’t difficult to be drawn in by the band’s honesty and self-effacement. Rather like fans of some Hollywood legend each believing themselves to be the most devoted, the music of The Blue Nile elicits a very personal response from its listeners which has each convinced they alone can truly empathise with it. It is an intensely romantic music. . .

“That’s another reason why it took as long as it did – the climate you find yourself living in sometimes just isn’t conducive to writing about true love – rather than it just being a rhyme. I think we were holding out until we heard music back on our tapes which we recognised as being genuine in that way.”

The emotion of which we speak stems in no small part from Buchanon’s extraordinarily poignant voice, which if anything, is given a more demanding role on this current album than it was on the last. Having said that, this slight shift in emphasis has perhaps been at the expense of the rhythmic inventiveness which characterised the first album.

Bell: “I take your point, but I don’t think you can cover all bases at once. To have the kind of emotion that we’ve tried to get onto this record involves an element of stillness which means rejecting most rhythms out of hand.”

Buchanon takes up the theme: “Once you’ve crossed a bridge I don’t think there’s any point trying to cross it again. We didn’t set out to make the definitive Blue Nile record; we just made a Blue Nile record. It’s very romantic music but it’s a different kind of romance than the last record. It’s slightly less austere than some of those songs, and that’s something we wanted to achieve”.

What of the problem of objectivity? Surely in any creative process which involves sustained periods of concentration and thought about what it is you’re trying to achieve, the first thing to go out of the window is objectivity.

Buchanon again: “We try not to lie to ourselves. A lot of times we record a song and listen to it a couple of days later and if we don’t feel moved or touched by it we won’t use it. But you can’t cue ready for the best distillation to come along, you can only wait for the right things to happen and then just accept them and try not to be defensive about them. In many ways this is a less defensive record – it’s like, here we are with all our vulnerabilities.

“Writing is a pretty democratic process for us, I don’t think we’re ever really at variance. Our imaginations seem to respond to the same stimulus – by which token, we also tend to make the same mistakes. We reject an awful lot of songs, too; we’d try songs which were just alright, and then maybe seven or eight months later, something would come

along which was a simpler distillation, and we’d realise we’d been writing towards that for some time. But we’d have perhaps written half a dozen songs which didn’t quite articulate the feeling.”

AT THE TIME OF THE LAST ALBUM, THE band seemed to have adopted a “whatever comes to hand” approach to the instruments with which they plied their trade. Beyond Buchanon’s position as vocalist, it was hard to even identify the instruments through which each of them defined their role as a musician. Was this still the case?

“I think so, yes”, Moore explains, “but in terms of equipment we’ve probably got less now than we had before. We seem to have quite an emotional relationship with our instruments.”

“Apart from the guitar which Paul plays, we tend to swap round with everything”, offers Bell. “If you don’t have the rule book, there’s no need to obey the rules.”

We seem to live in an age where the equipment a band uses (or doesn’t) often becomes part of some political statement they’re trying to make. What are Blue Nile’s politics?

“We haven’t decided. We’re the don’t knows”, replies Moore with a wry smile. OK, let’s try it another way: is there any instrument you wouldn’t be seen dead playing?

A moment’s pause. “The flute.” (general murmurs of agreement from the three of them). “Yeah definitely, flutes are out.” “And I’ve got a personal vendetta against the harmonica”, adds Bell. “That’s entirely his prejudice!”, interrupts Buchanon, “I like the harmonica”.

Er. . . I’m not entirely sure this is the sort of stuff readers of *Music Technology* are going to want to hear about. Could you perhaps be a little more specific about the instruments you play?

Moore: “A couple of guitars, bass, a couple of keyboards, some real strings. . .”

You don’t happen to know which keyboards by any chance?

“Er, just Roland and Casios. . . Roland and Casios.”

Any particular Roland or Casio?

“There’s a Jupiter 8. . .” Great. Anything else? “Obviously we use samples. . .” Ah, what sort of samples? “Everything and anything really.” Natural sounds? “Yeah, sometimes.” Alright, alright. . .

Clearly, equipment maintains its rightful status as a means to an end rather than an end in itself. But in this day and age no-one can totally divorce themselves from the technical aspects of modern musical instruments.

“I get to read all the manuals”, muses Moore with touch of irony. “But I *am* interested in the gear. It’s one of those things I’ve learned instinctively – along with how to keep it out of the way of the music.” “It’s subservient”, interrupts Buchanon. “Paul’s very gifted at developing sounds, but he does it as a sort of a cross between an artist and a scientist. It seems to me he has a great empathy for the emotional value of sound, and because of his background in ►

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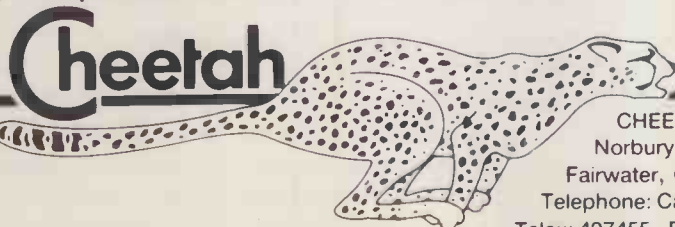
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"All I know about music is that sometimes if I've got a record on, it will make me feel like laughing - or crying. And that's as much as I need to know."

► electronics he's able to develop that.

"But as far as equipment's concerned, I think there's a great enjoyment to be had in working with what's available to you at the time; it obliges you to investigate the possibilities. For instance, if you have the volume almost off on an instrument it'll produce a different kind of sound where you can maybe hear the sound of the keys being hit. For me, it's very often the last-minute tweak of the knob that nudges it from being a promising sound to being a thrilling one."

Bell: "I think it's a mistake to have all your bases covered... it's a bit like having all your pencils sharpened before sitting down trying to write."

But this is all very much the preserve of the band which has control over its output. The Blue Nile, for the most part, seem to have been able to maintain their independence without the usual pressures being applied externally, but this isn't always the case.

Buchanon: "I think that's partly because it's an industry and it's difficult for people to evolve musically in any sense of isolation. These days there's a great self-awareness about the whole notion of record contracts and so forth. In retrospect, I think we were very lucky to be able to work privately for quite a while before we made the first record - its only now we've experienced how difficult it can be to be your own man."

Difficult or not, The Blue Nile guard their independence jealously. But whilst it is easy to identify this with the attitude of many provincial bands, no-one here is making statements by their continued residence in Glasgow. It's simply not an issue. Having said that, living in a city clearly makes its contribution to their music. Is this urban feel something they're aware of?

Buchanon: "I think it affects some of our sensibilities - like our visual points of reference. We perhaps tend to see cityscapes as being the signs of human presence. But it's also to do with the level of emotion people express here in Glasgow: it's a very emotional city".

"I don't think living here defines the music", Moore continues, "but living here and being brought up here does go through you. The last thing we'd want to do, though, is lift it out as a sort of musical reference. You wouldn't corrupt your imagination by just dragging something in like that. It might be common practice, but to me it seems preposterous."

How about influence from other forms of music?

Buchanon: "I think we distinguish between music we enjoy and admire, but which we have no wish to replicate. Certainly, making *Hats* we discovered that it's what you do simply and naturally that's the best."

"Next time, maybe we'll have the courage to do what we feel first rather than to go through the machinations of trying to assemble a record to meet a deadline. We tried that, and we just couldn't bring ourselves to live with it, so we kept on going until we returned to some sort basic impulses and instincts. And having lived through it I think I would now respect that way in the first instance. I cannot imagine myself now sitting down and trying to write a song."

TALKING TO THESE THREE MEN YOU soon get the impression that they really don't see themselves as fitting within the pop music industry. As Buchanon says "I don't think we take ourselves that seriously. It would seem hilarious to me to find myself in any of those guises; we've all lived too long on this side of the fence. We want to stand up and be counted, but when you keep selling yourself on the basis of being six feet two and really suave, it automatically excludes a lot of people who aren't six feet two and really suave. Anything which is exploitative of people ultimately deprives them of something."

The problem is, in an industry where every image has been tried and exploited to some extent, even the image of the reluctant hero has become a little tarnished. And whilst there can be no doubt that The Blue Nile regard themselves as neither reluctant nor heroes, there is a danger that their genuine attempt to make sense of the business that surrounds them will ultimately be misinterpreted as yet another pop ploy.

Bell: "It's an interest point. But it's surely a mark of what's wrong with the industry that there is always an element of doubt surrounding something that might be genuine."

"It terrifies me", continues Buchanon, "because I am always afraid that someone is going to tap me on the shoulder and say, 'You're a hypocrite'. We're engaged for vast amounts of our time in scanning ourselves, making sure that we're not tricking ourselves or coming on like philosophers. All I know about music is that sometimes if I've got a record on, it will make me feel like laughing - or crying. And that's as much as I need to know."

"But I am frightened that through cynicism someone will misinterpret us. We've tried to stay out of the way as personalities and as musicians in order not to obstruct the emotional content of the songs. Earlier, it might have seemed we were being evasive about the equipment we use, but really, we don't want people to listen to the record and be thinking, 'that sounds like such and such an instrument'. Our labour is to try and evoke an altogether different kind of response."

Were this 1969, The Blue Nile would be walking a fine line. In 1989 they're on a tightrope. But as they themselves point out, it's all too easy to be jaded, too easy to let cynicism get the upper hand. Their greatest strength is each other, and the respect they share can only sustain them through the inevitable madness of the months ahead.

"We've made a lot of mistakes but I think we honestly try to do something that we see as better than we are. We've always believed that by exercising their own choice people can maintain music as a form of expression rather than as a means of large companies producing something. The one remaining hope is that no-one can make you like something. They can make you buy it, but they can't make you like it." ■

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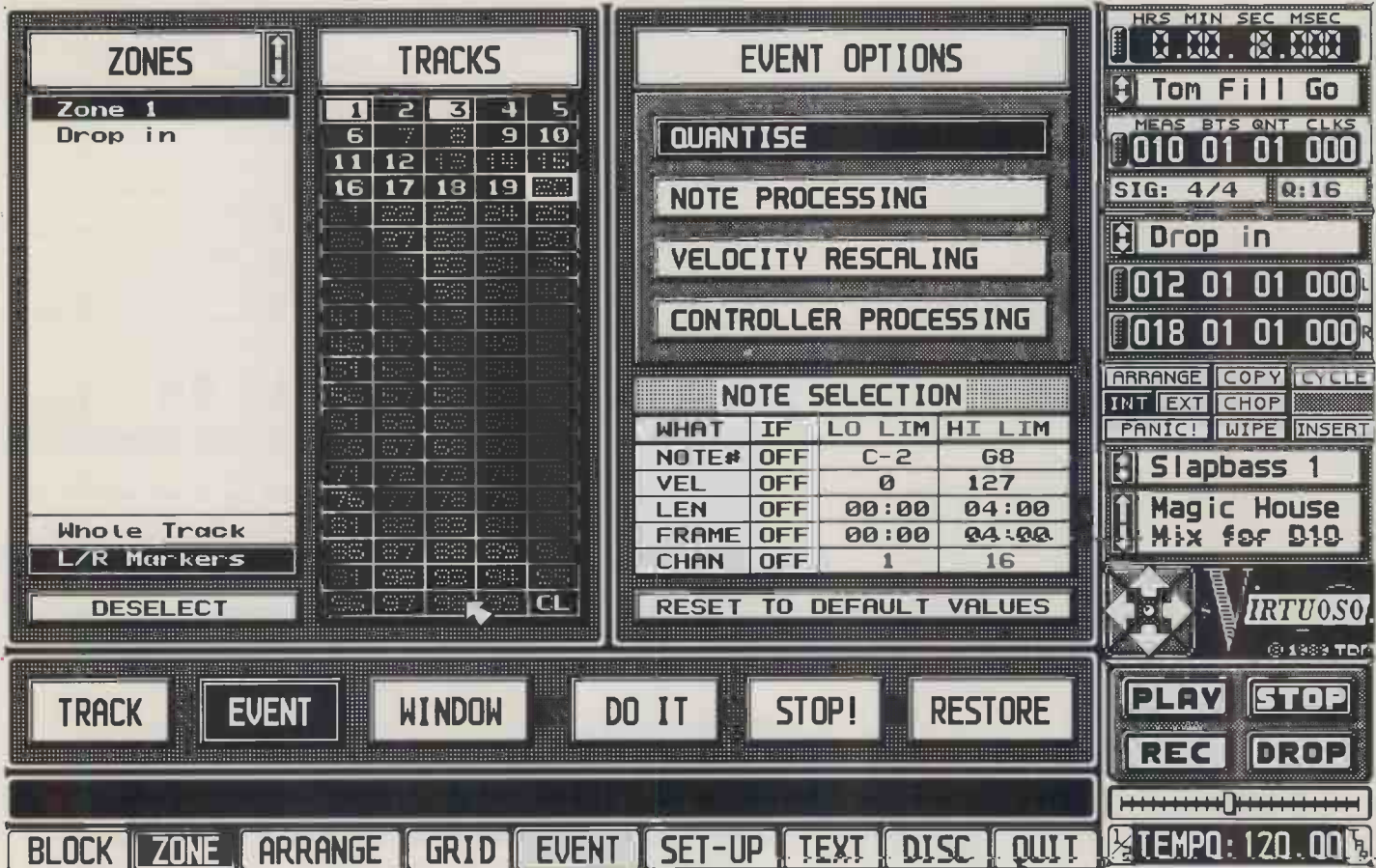
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VIRTUOSO



Who needs another software sequencer? Well, what if it multitasks, has a fast music-orientated operating system and a higher resolution than anything else on the market? Review by Nigel Lord.

"GOOD SHOW?" "YEAH, great... tremendous response." Like the platitudes expressed at most industry gatherings, the standard exchange of pleasantries on music fair trade days may be regarded as socially useful (one might even say, necessary), but ultimately of little value in estimating the level of interest surrounding a particular new product. The fact is, the music business as a whole is grossly over-subscribed; and just as a large percentage of new bands entering the arena can be expected to fall by the wayside, so too will many new companies producing the equipment on which they depend.

Nowhere is this excess capacity more apparent than in the sequencing software market - particularly that written for the Atari. There are currently some 30 different packages for the ST, all of varying degrees of sophistication (and price), but all providing a broadly similar means of recording and editing MIDI data. Clearly, for a new company to get a foothold in this market, new standards have to be set in terms of performance or price (or both) - and to achieve this, some pretty innovative design work would seem to be essential.

Not having had the pleasure (?) of attending this year's BMF, I'm not sure just what sort of response was elicited by Virtuoso - a new MIDI sequencing package from London-based company, The Digital Muse - but having recently been seduced by the elegant sophistication of Steinberg's Cubase package, I'd have to admit to a certain raising of standards in my expectations of new software designs.

So what does Virtuoso offer? We'll let the software writers have the first word...

"Virtuoso has been designed and programmed by working musicians who are also computer programmers. While using Atari music software we were frustrated by the poor software specification: while the number of features offered by the leading packages was impressive, we were constantly being told by engineers, producers and musicians that the quality of these programs was not professional enough to be used alongside their other studio equipment. For this reason many of them were still using hardware sequencers, despite their being slower and less flexible in use... We were able to provide a resolution of 480 clocks-per-quarter-note,

which is much higher than any existing package."

Quite. But a resolution of 192 clocks-per-quarter-note is eight times as high as the MIDI clock rate, and a higher resolution wouldn't make much sense in applications like this since MIDI doesn't handle parallel data. So who's zoomin' who? Well, if it were single events we were dealing with, having so high a timing resolution would make sense, but given the amount of data a sequencer usually has to send (in relation to MIDI clock rate), a certain amount of byte queuing at the MIDI port is inevitable. So any benefits of this kind of resolution would be hard to detect in practice. Not only that, but the response time of individual MIDI instruments would also need to be taken into consideration at these speeds, and most would be incapable of doing Virtuoso justice.

Whatever the facts of the matter, it's perhaps curious that it should be the resolution of the program which TDM decided to first draw our attention to, since the program's other claim to fame is its extensive multitasking facilities made possible by the adoption of a new operating system (replacing the GEM-based routines of most sequencing packages). And though Cubase is capable of some pretty extensive multitasking, having been released at just about the same time, Virtuoso can, by rights, lay equal claim to introducing this particular innovation in the world of ST software.

This means that functions such as page changing and disk access may be carried out without interrupting playback and that you can move between tasks virtually instantaneously.

The ST's familiar GEM-based graphics have been discarded in favour of something TDM consider more appropriate to a music-based software system. It has to be said that the overall effect of this is most attractive, and certainly gives Virtuoso the appearance of a program worth getting to know.

THE LAYOUT

COMMON TO ALL pages within Virtuoso is the Main Panel, and here may be found all the transport controls, tempo and timing displays, position markers, name boxes, various function switches and the scroll icons. Being consistent throughout the program, it lends a degree of continuity to the proceedings, as well as packing a huge amount of information into a few square inches of screen space. Not only that, but it's perfectly legible too, and despite any initial fears I may have had, quite easily accessed by mouse.

Individual sections of music recorded on Virtuoso are known as blocks, and data relating to these is displayed within the Block Page, which is automatically selected after the program has loaded. A total of 99 tracks is available for recording, and together with a series of playback parameter options, these are listed in one of six sub-pages which may be accessed from the main Block Page – using either the mouse or the F1 to F6 keys.

Not all 99 tracks can be displayed simultaneously, but Virtuoso does manage to squeeze a respectable

25 into the Track List at any one time – scrolling being carried out on the right-hand side of the Main Panel. Tracks may be moved around within the list or copied using the left and right mouse buttons and dragged in the (now) standard way. Besides the name and number of each Track, the current on or off status is also displayed, and so too is the note-on velocity via a graphic meter bridge spanning the 25 visible tracks.

Playback parameters which may be controlled from here include real-time quantisation, MIDI program change number, MIDI volume and pan position, transpose, velocity processing and MIDI filtering. Additionally, a local loop may be defined (within a cycle set up in the Main Panel, if required), and a shadow facility allows you to process the data of one track with the parameters of another. Creative use of MIDI delays may be explored using the DDL Coarse and Fine parameters, whilst the Time Offset allows you to compensate for the unintentional delays often encountered when using several MIDI devices or introduce deliberate offsets into a Block.

Various other functions populate the Block Page, among them the well-conceived cycle recording modes which work in conjunction with the left and right zone markers included in the Main Panel. Of the three, Layer Cycle is perhaps the most conventional: it works (like most sequencers or drum machines) by adding recorded data to the Track on each pass, allowing you to assemble a composite whole. Auto+Cycle, on the other hand, records data from each pass onto successive blank Tracks (providing these have been "created" in advance). Thus (to quote the manual), "you can start with drums and a bass line, add some chords, play a lead line and build up a whole arrangement without once stopping the music or losing a beat".

Somewhat similar to Auto+Cycle, Multi-take Cycle provides you with a convenient means (for example) of recording several versions of a piece of music onto successive blank Tracks in order to choose the one you like best. This is possible because in this mode the playback of previous tracks is muted during recording of the current one. Not only that, but Virtuoso actually numbers each take for you to make subsequent identification that much easier.

ON THE GRID

LIKE MANY OF the more up-market sequencing packages released over the last couple of years, Virtuoso comes equipped with some pretty extensive facilities for the manipulation of individual notes. The most useful of these, from a musical point of view, at least, are contained within the Grid page, where you will find a graphic representation of a ten-octave keyboard and a display of white bars scrolling vertically in real time across a grid. A highly useful, if ▶

"With the refined graphics of Virtuoso to give it a new lease of life, the Grid Page is certainly the best implementation of the system I've ever seen."

►

“The Feel Table can be used to establish a ‘map’ for quantising other zones – the feel of a drum track may be imprinted over a bass part, for example.”

not entirely unique system, its chief attraction lies in its ability to display data in a very musical way, whilst remaining easy to understand by those unfamiliar with the complexities of standard notation.

With the refined graphics of Virtuoso to give it a new lease of life, this is certainly the best implementation of the system I've ever seen. Unlike some sequencers, it functions in true real-time and has the advantage of small black and white dots which appear on the relevant notes of the keyboard to make it that bit easier to follow. I particularly welcome the facility for shifting the keyboard down the grid so that the bars flow across it and remain visible after they have played. This comes in handy during editing when comparing the notes about to be played with those which already have been.

Selecting the Grid Page reveals a full complement of editing facilities, with note position, pitch, length and velocity all easily adjusted. Clicking the left-hand mouse button over the desired note immediately relays its vital statistics to the Note Info box at the bottom left of the screen, and editing is simply a matter of clicking left and right mouse buttons to increment/decrement the value in the appropriate field within the box. Alternatively, certain editing functions like length, position and pitch may be carried out on the grid itself – the latter being monitored audibly as the note moves up or down the scale.

Notes may be deleted altogether and added via MIDI or in association with the step-time entry

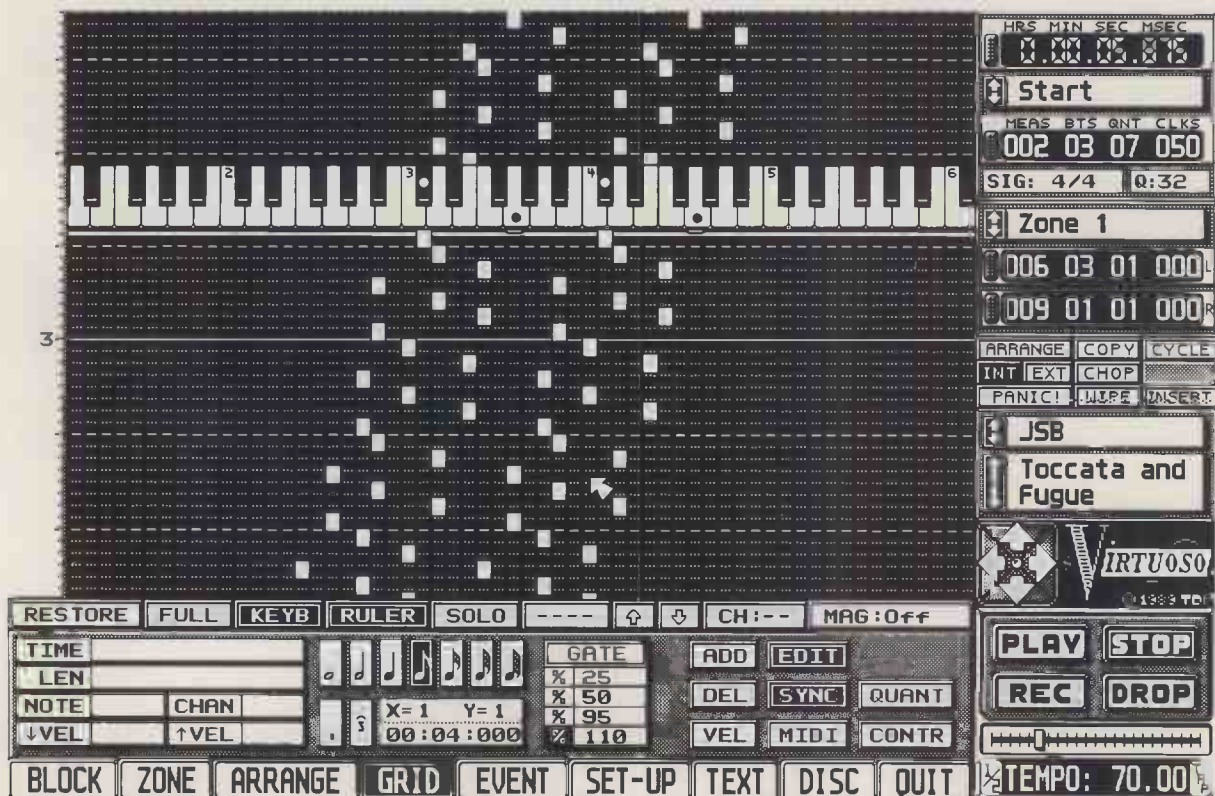
system using the icons in the Note Length box at the bottom of the display. To the right of this is the Gate Select box where it's possible to determine the length of notes as they appear on the grid during step-time entry. Though only four percentage values are shown, these can be adjusted using the left and right mouse buttons to cover a range of 0-200%.

There are various functions for improving the legibility of the grid display, among them the Channel Filter, which removes all parts from the screen except those of the selected MIDI channel. It's like a visual solo button really, but the data on the other channels is not muted, it's only removed from the display. Full muting of tracks is possible using a conventional Solo function, however, and this works independently of the Track status set in the Block Page.

To increase the size of the grid, the keyboard may be removed altogether, as may the ruler down the left-hand side of the screen. There is a vertical zoom function with levels of x2, x4 and Max (producing a display corresponding to Virtuoso's full resolution), but this facility is not available during playback. Finally, the Full switch toggles between a ten- and five-octave grid display – the default being five octaves.

CLOSE TO THE EDIT

NOTE EDITING ON Virtuoso may also be carried out in the Event List, which, like the Grid Page, is selected from the main menu. Here events are listed in text form in four columns – Event Time, Event Type, MIDI Channel and Data – with a black line and reversed text highlighting the event currently being played/edited. Though the sheer quantity of



SCROLLING GRID DISPLAY

information in serial form looks a little daunting at first, the Event List does in fact provide a very straightforward method of editing.

Beneath the main display is a sub-menu listing seven options (in addition to the Edit on/off selector) used in the processing of note information. Of these, Delete, Quantise and Restore are self-explanatory, whilst Chord is used to group together notes with the same start time to make it easier to distinguish chords. Selecting Default opens a small dialogue box in which you can set the default values for notes, MIDI controllers and Mode messages when these are input in step time. And finally, the Hex/Dec buttons are used to determine whether certain parts of the data in the list are displayed in Hex or Decimal format.

Inputting data is done in association with the Event Filter list at the bottom of the page. Clicking the right-hand mouse button over an event type enters it in the display at a point corresponding to the current position marker (in the Main Panel). Thus, note on, note off, pitchbend and mod wheel events may all be input directly onto the screen – their initial values being determined by the selected default settings. So why is it called the Event Filter List? Well, clicking the left-hand mouse button over the relevant event type effectively removes it from the display, leaving only the desired information in the list.

When editing data, it's frequently necessary to be able to restrict its application to notes or events which occur within certain sections of the music, or which can be identified as having particular characteristics. The Zone Page was included for just this purpose. There are two main processing options – Track and Event – and these are selected from a sub-menu immediately below the main display. The Track options include Wipe Inside, which clears data from selected zones, and Wipe Outside which clears data from all unselected zones. Remove not only clears data from selected zones, it also removes the zone itself and moves the other zones along to take up the space.

Merge is used to mix data from zones on selected Tracks to a single Track, whereas Overwrite transfers the data from a selected zone on one Track to a corresponding zone on another Track. Copy/Append is another transfer mode; this time, selected zones from one Track are copied to a destination Track in order to lose any unselected zones in between. The same operation may be performed using Move/Append, but the source Track is deleted during the process. Finally, after completing any zoning operations, Clean Up may be called on to remove any overlapping notes or unmatched note-off messages.

Selecting the Event button from the Zone sub-menu replaces the list of Track/Zone options with a list of Event options. This is divided roughly in half: the top half for the four main processes available – Quantise, Note Processing, Velocity Rescaling and Controller Processing – the bottom half for the Note Selection box used to specify which events are to be included in the processing. Here, criteria such as Note Number, Velocity and Length and so on, may be used to determine the extent of the processing – leaving

these parameters at their default settings automatically includes all events.

Selection of any of the four processing options is carried out using the left-hand mouse button – clicking the right-hand button automatically opens a window for that option in which its parameters may be defined. Quantise calls up the main Quantise window (though the quantisation chosen only applies to the events within the selected zones). Note Processing offers such functions as transposition, deletion, replacement and randomisation of notes, velocity, length and start times and so on, and there are also facilities for addition, subtraction, multiplication and division of certain values. So, for example, all note lengths in a selected zone might be increased by a fixed value, or multiplied by a predetermined factor.

The third Event processing option, Velocity Rescaling, also has its own window and here it is possible to edit MIDI Note-on velocities in order to control dynamics within selected zones. The process is very straightforward and programming crescendos or diminuendos, for example, is simply a matter of inserting a start and an end velocity. A further option allows you to choose a linear or an exponential curve for the programmed increase/decrease. Selecting Invert effectively reverses the dynamics of the notes within a selected zone (so that loud notes become quiet and vice versa), and compression and expansion are also possible, though only in fixed 2:1 or 1:2 ratios.

Completing the four, the Controller Processing option and its associated window provides us with facilities for deleting MIDI Controller data from a zone, or for thinning it out (to prevent large amounts of data clogging the Atari's MIDI buffer or eating up memory), or for remapping it for use with another controller. All the standard MIDI Controllers are catered for – including the more esoteric ones like Balance, Pan and Expression – and there are three undefined spaces in the list in anticipation of any future developments.

QUANTAL QUESTIONS

I'VE MADE REFERENCE to the Quantise window on several occasions, but what facilities are actually available? With the Editing pages out of the way, it seems like a good time to take a look. In the way of most good software sequencers these days, quantisation on Virtuoso goes well beyond the purely corrective purpose it was originally designed for.

Of the four principal quantise modes available, Snap is used to move whole notes to the nearest quantise position, whereas Start moves the beginning of a note to the quantise position, leaving the rest of the note as it was originally played. Deflam is a utility quantise function used for the deletion of any double notes which may have occurred, whilst Humanise actually introduces an element of random shift into the music after it has been quantised in the normal way.

Two further modes, Chord and Feel, though not actually quantise functions in themselves, are used

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to determine the way in which quantise is applied using the other four options. Thus, Chord (as its name suggests), detects the start and finish points of notes intended to be played as chords and aligns them accordingly. Feel, on the other hand, is used to "colour" the quantisation according to parameters loaded into the Feel Table occupying the right-hand side of the Quantise window. Setting up the Feel

Table involves entering an offset value alongside the absolute quantise intervals in the left-hand column, and setting the length of the table according to the number of entries made. It's rather a complex process, but if my somewhat limited experiments are anything to go by, the results can be quite impressive.

Used in conjunction with Feel Capture, the Feel Table can be automatically filled and set to the required length by data from a selected zone in order to establish a "map" for quantising other zones. Thus, the feel of a drum track may be imprinted over a bass part, for example. Feel Analyse takes this one step further by averaging out the data from a complete track and loading the resulting parameters into the Feel Table for use with other tracks.

THE ARRANGEMENT

MANIPULATION OF DATA to the extent it is possible on Virtuoso would only make sense if the facilities for arranging a piece of music were equally comprehensive. And I'm happy to say this is the case. The key to the Arrange Page lies in understanding the system of Streams into which Blocks are placed. There are eight Streams for each arrangement and these are selected individually (or collectively) by the buttons above the main display. All the recorded Blocks are listed in the Library column over on the right of the page, and from here they may be selected and placed in the Block Name column to their left. Placing a Block in this way automatically loads its Start and End positions into the relevant columns in the display and also gives it a number to identify the Stream in which it belongs.

Any Block may be placed in any Stream as part of an Arrangement - selecting All displays every Stream with Blocks currently loaded. Placing a Block between two others is carried out by simply dragging and releasing it at that position on screen; overlapping Blocks, however, have to be placed in different Streams. Both Blocks and Streams may be deleted/cleared in the Arrange Page, and so too can the Arrangement itself by dragging the All button to the Main Panel and releasing.

In addition to listing Blocks within an Arrangement, the display is also used to detail Tempo Events (providing the Tempo Map button is selected). There

are two types of Tempo Event, absolute and relative. Absolute events, as their name suggests, carry with them an exact tempo, whereas Relative events reflect a change in tempo from a previous level. Using both types allows you to maintain the relationship between the tempi of various sections of an Arrangement whilst raising or lowering the overall tempo of the music.

"Recording Tempo Events into the Tempo Map is carried out by playing an Arrangement and simply adjusting the tempo slider on the Main Panel as required."

Recording Tempo Events into the Tempo Map is carried out by playing an Arrangement and simply adjusting the tempo slider on the Main Panel as required. Alternatively, an individual Tempo Event may be inserted at a given position in the Arrangement, by setting the tempo slider and clicking with the left mouse button for an absolute value, or the right-hand button for a relative one.

Before saving any Arrangement, you have to give it a title, and a box at the top of the page is included for just this purpose. For those who also like to see their names up in lights (or pixels), this can be entered too, and interestingly, once saved to disk, it cannot be altered by anyone

trying to load the song into their own program. Any potential plagiarist will at least have the trouble of copying it track by track if the name of the rightful composer isn't to stare him in the face for all eternity.

FURTHER FACILITIES

ON THE SUBJECT of entering text on screen, Virtuoso comes replete with a full Text Editing page where information pertaining to a particular Block may be entered and stored with it on disk. Selecting the Txt button from the sub-menu puts the whole Atari keyboard at your disposal, and like many tasks on Virtuoso, entry of text can take place while the music is playing. So if the lyrics for a song suddenly occur to you whilst listening to your latest magnum opus, you needn't spend the next ten minutes desperately trying to find a pen and paper.

So extensive are the disk saving and loading facilities on Virtuoso, that a separate page has been devoted to them. And again, being multitasked it's worth remembering that disk operations may be carried out without interrupting the music - so there's no reason not to save as often as possible. Saving and loading of individual Tracks, Blocks, Arrangements, Set-Ups and MIDI files is possible - these being selected from the File Format menu to the right of the display. Because Virtuoso runs under its own operating system, files can be given names consisting of 24 characters as opposed to the eight of GEM-based programs, so it is possible to be far more descriptive when naming each item.

One rather useful feature is the facility for creating

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► Folders into which related items may be stored. So, even if you're the type that doesn't spend time thinking of imaginative titles for individual parts of a song, the problem of having to sort through a dozen "Verse One"s and umpteen "Chorus"es should be a thing of the past.

I must confess, I didn't get the opportunity to try loading MIDI files from other sequencers during my time with the program. However, the manual insists that Virtuoso supports the MIDI standard so there should be no problems.

Finally, we come to the Set-Up page where we're confronted with a series of options for customising the MIDI operation of the sequencer to suit individual systems. Facilities for assigning output channels and MIDI controllers are extensive, to say the least, and so are the MIDI Filter options which allow up to six filters to be assigned to each track. And it's all well laid out and quite logical too, which certainly makes a change: messing around with MIDI parameters is a potential source of confusion for many people. Too many software writers seem to assume everyone is as familiar with the intricacies of MIDI data as they are.

In the Preferences menu there are options to enable/disable MIDI Thru, together with a loop filter which can break the MIDI Thru link on any selected channel. Assigning the loop filter to the receive channel of the synth prevents doubled notes occurring, yet allows other equipment to make use of the Atari's MIDI thru in the normal way.

The Count In preferences are also controlled from this menu, and besides being able to determine the

number of bars required, it's possible to choose between a conventional count-in or the First Event facility, where recording starts after receiving an event trigger via MIDI. An internal tick (through the Atari monitor) or MIDI note number can be specified for the metronome, and it is also possible to set up separate sounds for the down beat and the other beats - the Tick and the Tock (!) as they are known on Virtuoso.

Before concluding, I must mention Virtuoso's comprehensive Help facilities which may be accessed at any time by pressing the Atari's Help key and selecting the required page from the menu. And it's worth pointing out the extensive use made of the Atari's keyboard to duplicate mouse functions throughout the program. Though a dedicated mouser myself, I know some people prefer using the keyboard wherever possible, and if this is the case, Virtuoso should suit you down to the ground.

VERDICT

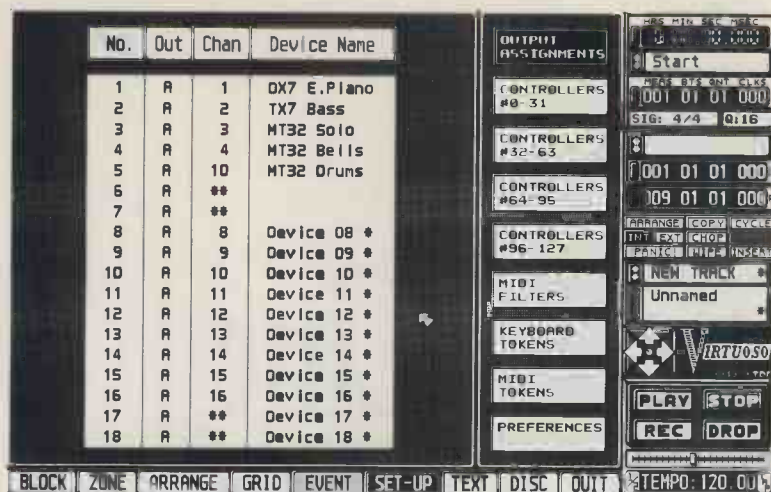
BUT ENOUGH OF what's on offer; what does it all add up to? Well, I have to say that in nearly five years reviewing equipment, Virtuoso has provided me with the most difficult summing-up task I have yet encountered. The problem stems from the rather crowded market place I spoke of earlier. With established sequencer packages surrounding it on all sides, it's too easy to look around and list the features Virtuoso doesn't have... but reviewing another new software package in a couple of months or so, I'll probably find myself using Virtuoso as an

EVENT TIME	EVENT TYPE	CH	DATA
002:01:01:000	Note on	1	G4 100 Len 00:01:022
	Note on	1	G3 100 Len 00:01:028
002:01:02:020	Note on	1	A#4 100 Len 00:01:022
	Note on	1	A#3 100 Len 00:01:028
002:01:03:040	Note on	1	E4 100 Len 00:01:022
	Note on	1	E3 100 Len 00:01:028
002:01:05:000	Note on	1	G4 100 Len 00:01:022
	Note on	1	G3 100 Len 00:01:028
002:01:06:020	Note on	1	A#4 100 Len 00:01:022
	Note on	1	A#3 100 Len 00:01:028
002:01:07:040	Note on	1	E4 100 Len 00:01:022
	Note on	1	E3 100 Len 00:01:028
002:02:01:000	Note on	1	F4 100 Len 00:01:022
	Note on	1	F3 100 Len 00:01:028
002:02:02:020	Note on	1	A4 100 Len 00:01:022
	Note on	1	A3 100 Len 00:01:028
002:02:03:040	Note on	1	D4 100 Len 00:01:022
	Note on	1	D3 100 Len 00:01:028
002:02:05:000	Note on	1	F4 100 Len 00:01:022
	Note on	1	F3 100 Len 00:01:028

EDIT	ADD	DELETE	CHORD	QUANTISE	RESTORE	HEX	DEC
NOTE ON	PITCH BEND	CHAN AT	PROGRAM CH	MODE	PSEUDO	CUE	
NOTE OFF	MOD WHEEL	POLY AT	CONTROLLER	SYSTEM	EXCLUSIVE	ZONE	
BLOCK	ZONE	ARRANGE	GRID	EVENT	SET-UP	TEXT	DISC
						QUIT	

HRS	MIN	SEC	MSEC
0	00	04	000
Start			
MEAS	BTS	ONT	CLKS
002	01	06	020
SIG: 4/4		Q:32	
Zone 1			
006	03	01	000
009	01	01	000
ARRANGE	COPY	CYCLE	
INT	EXT	CHOP	
PANIC!	WIPE	INSERT	
JSB			
Tocatta and Fugue			
VIRTUOSO			
© 1988 TDP			
PLAY	STOP		
REC	DROP		
TEMPO: 70.00			

EVENT EDITOR



SETUP PAGE

example of certain features *that* doesn't have.

Clearly, every piece of equipment has its plus and minus points. There are, however, certain omissions on Virtuoso which are particularly difficult to understand. For example, the absence of a drum edit or score edit page on a sequencer of this complexity is rather hard to justify. Putting together rhythm tracks using the Grid page or the Event list leaves a lot to be desired. Writing patterns is essentially a step-time operation for many musicians and leaving you to visualise rhythms as notes on a piano keyboard or as lines in a data list, isn't what I'd have expected from a company who make great play of the fact that they themselves are musicians.

Score editing, though perhaps not quite so important an omission in view of the excellent Grid edit system, nevertheless has its devotees who will be disappointed by its exclusion. And as a tool in commercial studios where scoring parts for session players is often called for, its absence could well tip the balance in favour of rival packages.

The human sync facility now finding its way into a number of software sequencers would also have given Virtuoso a badly-needed edge on some of its competitors, as would a more imaginative use of MIDI delay sound processing. The manual too, though lucid and very well written, would have benefited enormously from the inclusion of an index. I would have thought the attention given to this subject in MT and other magazines over the years would have given manufacturers the message about the indispensability of a comprehensive indexing facility for this sort of equipment – perhaps not.

I must also say that the emphasis TDM give to the question of timing resolution seems somewhat exaggerated. Having been using software sequencers for the past two or three years now, I can't honestly say clock resolution has given me any timing problems whatsoever. Make no mistake, I wholeheartedly welcome TDM's efforts to raise the

MUSIC TECHNOLOGY OCTOBER 1989

standard of accuracy in MIDI software, but I can't honestly subscribe to their belief in this being "the main area for concern".

What do we have? Omissions, missed opportunities and contradictions – clearly I'm not very impressed with Virtuoso... Well er, yes, as a matter of fact I am. I think it's excellent. Despite the criticisms I've made, this is a superbly designed sequencer with enormous appeal. Apart from anything else, it's so accessible. Someone has obviously decided it was time to make the tedious aspects of MIDI sequencing rather more edifying – and Virtuoso goes a long way to accomplishing just that.

A joy to use – its multitasking facilities reduce the amount of time you have to spend thinking about the sequencer, and therefore give you more time to think

"It's worth remembering that disk operations may be carried out without interrupting the music – so there's no reason not to save as often as possible."

about the music you are writing on it. Visually, the redesigned graphics count for a lot, and apart from any practical considerations, help to give the program an element of individualism which definitely makes it stand out from the crowd. As with all software-based sequencers, there's the opportunity to add new facilities in future updates, and TDM have a lot up their sleeves for the months to come. Even in the course of this review, updates came thick and fast, ironing out bugs and adding new features continually.

I cannot say that Virtuoso is presently as comprehensive a system as Cubase, but there's that £200 price difference to take into consideration, however, if TDM's intention was to adopt a new approach to sequencer design, Virtuoso has to be considered a success and certainly worthy of your attention. It's the kind of program that makes MIDI sequencing less of a science and more of an art. ■

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The Jungle Line



In recent months the regular MT competition spot has seen such goodies as sequencing and music composition software, MIDI keyboard controllers and places on education courses up for grabs – and very popular they appear to have been too. But it's been a while since we gave away anything that actually makes a noise in its own right and would be an asset to any setup regardless of cost and complexity. In short we reckon it's time to give away a synthesiser.

What should it be? It must be useful in the present musical climate – how about something analogue that will be as useful whether you're composing another tribute to Tangerine Dream, a Pet Shop chart topper or the next acid house anthem. It must make the most of current hi-tech systems – a multitimbral expander, say, so that it'll give you different voices to play different synth lines. And it must have a classy sound – like an expander that uses the same chips that were at the heart of the classic Prophet 5 polysynth. Sounds like a tall order, but Cheetah's MS6 synth module (reviewed in MT, November '88) fits the bill perfectly. Will the nice Cheetah people let us have one to give away? It seems they couldn't be happier.

We've done our bit, the rest is up to you. Answer the questions below and you could be dropping in on the MT offices to meet the staff (there's always a catch when you're getting something for nothing) and collect a shiny new MS6. So without further ado...

1. Which company made the Prophet 5?
 - A. Sequential
 - B. Sentient Circuits
 - C. Sequential Circuits

2. How many voices does the MS6 have at its disposal?
 - A. 4
 - B. 6
 - C. 8

3. What sort of animal was Tarzan's "Cheetah" in the '60s TV series?
 - A. A cheetah
 - B. A chimpanzee
 - C. A woman

Answers on a postcard only, please, to arrive at the editorial address no later than second post on Monday, November 6th. Entries should be sent to "The Jungle Line", Music Technology, Alexander House, Forehill, Ely, Cambs CB7 4AF, and should give your address and a daytime phone number on which we can contact you.

Please note that multiple entries will be discounted from the competition and made available to dubious religious organisations in the habit of sending out chain letters.

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Roland's new baby has arrived and guess what we've called it. That's right Roland. To avoid confusion please call it the Mighty Meaty Multi-timbral Machine.

KAWAI K1/K11

'Well I know we've had a few minutes ago. It's down a 98% discount. Prime minister. We've got a library of reviews.

YAMAHA D50

Who'd have ever thought a timbral midi synth would be that party in Stockwell.

YAMAHA V50

Yamaha's first true workstation wanted all in one superb Machine, Multi timbral, Digital. If you thought eternal happiness would change your mind. Probably.

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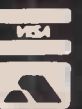
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Using MIDI Controllers

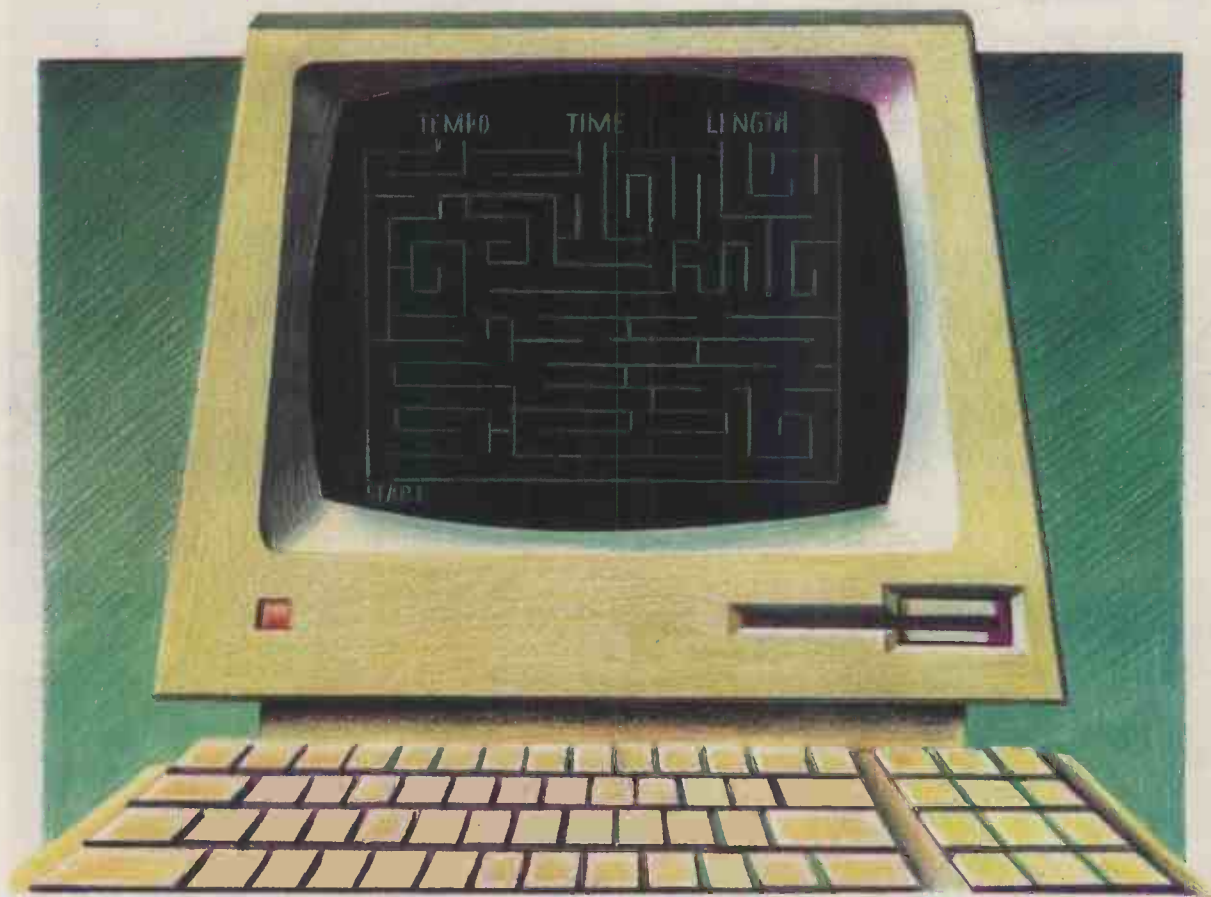


ILLUSTRATION: TOBY GOODYER

ONE ASPECT OF THE MIDI SPEC THAT'S OFTEN OVERLOOKED IS THAT OF MIDI CONTROLLERS - AMONGST THEIR MANY APPLICATIONS ARE MIDI-CONTROLLED SIGNAL PROCESSING AND MIXING. TEXT BY VIC LENNARD.

IN NORMAL USE, three types of information can be sent from the MIDI Out port of a keyboard. The first of these is note data. Every time a key is pressed, a Note On is sent which incorporates the note number, MIDI channel and velocity or loudness. When that note is released, a Note Off is generated, which generally holds the same information as its Note On counterpart but with the velocity set to zero. The second type of information is System Exclusive, which is the method

by which the sound parameters are sent. It's called Exclusive because each manufacturer and model has a unique code so that data intended for one device doesn't end up affecting another.

The third sort of information is loosely called MIDI controller information. Each time you step on a sustain pedal or move the modulation wheel, data is being sent out to control the particular function on the MIDI device which is on the receiving end. Theoretically, there should be 128 different controllers,

numbered from 0 to 127, but some of these are used for other purposes, while others have no particular standard function assigned to them as yet.

CONTROLLER TYPES

CONSIDER WHAT HAPPENS when you switch on a light. The light is either on or off depending on the position of the switch. But what happens if the light is controlled by a dimmer instead? When rotated fully anti-clockwise, there is no

light and this could be said to take a value of zero. Rotate slowly in a clockwise direction and the light intensity slowly increases until the point where the light bulb is fully on. In MIDI controller terms, "off" is represented by a value of 0, "fully on" is represented by a value of 127 and anything in between will take a value proportional to the position on a linear scale.

MIDI controllers can also be divided into two similar categories. The first of these is switches - Sustain pedal (controller No. 64), Portamento on/off (No. 65), Soft pedal (No. 67) and Tremolo/Chorus/ Phaser depth (Nos. 92/93/95 respectively). All of these are usually operated by a switch mechanism of some kind, be it a foot pedal or a toggle on a keyboard.

The second category is continuous controllers - Modulation (No. 1), Breath (No. 2), Portamento time (No. 5), Volume (No. 7), Balance (No. 8) and Pan (No. 10) each of which are normally slider operated.

All MIDI controllers are termed "continuous controllers" but for the sake of clarity we'll split them into the above categories.

TRANSMISSION

IN TERMS OF hexadecimal bytes with decimal equivalents in brackets, all controller data takes the following format:

Bn NN XX

where B is the status byte for controllers, n is the MIDI channel 0-F (1 to 16), NN is the controller number and XX is the value that the controller is to be given. For instance: B4 07 7F would operate on MIDI channel 5, Controller number 7 (MIDI Volume) would be set to 7F (127) which is the highest possible value and would have the same effect as having the volume slider on a keyboard set to maximum.

Now, bearing in mind that all controllers send out information that has a value of between 0 and 127, what happens when you press a switch like the Sustain pedal? Well, the original MIDI spec stated that value 0 would be taken to be off and 127 to be on, with all others being ignored. But some manufacturers decided to work in keeping with the method used for Note On/Off where a velocity of 0 signifies a Note Off and any other is a Note on. Consequently they used 0 as off and any other value as one, which while differing from the actual spec, caused no problems as the two methods don't

clash with each other.

However, there is a new definition. Any value between 0 and 63 is to be taken as off and between 64 and 127 is on. This is an extension of the original spec but in direct conflict with the non-standard method. A value of 24 would be off in the old and new MIDI specs but on with the non-standard.

Who uses this proprietary method? Nobody appears to know, as the necessary information isn't shown in the MIDI Implementation charts or tables. As this is only a problem with earlier devices it probably won't affect you, but it is worth mentioning, as odd happenings which cannot be solved by any other reasoning may be down to this.

RESOLUTION

WE SAID CONTROLLERS may take any value between 0 and 127, but this isn't entirely true. Each controller has an extra controller number associated with it. For instance, MIDI Volume is controller No. 7 and also No. 39 and if the two of these are used in conjunction, there is a choice of 16,384 possible values instead of 128. In the cases of Volume, Pan and so on, the difference between a sliding scale having 128 or 16,384 values is audibly indistinguishable, and so only the main controller is used.

However, the same cannot be said of pitchbend and aftertouch, which require the extra sensitivity that 16,384 values can give. Consequently they are not part of the normal controller set but have unique commands.

Pitchbend takes the following format:

En LL HH

where E is the status byte for pitchbend and LL/HH are the Low and High values of the data. For example: E1 00 40 means pitchbend on MIDI channel 2 with a value of 4000 Hex. This equates to 8192 in decimal and is taken to be the central position (as negative values are awkward to encode). The low value is called the Least Significant Byte (LSB) while the high value is the Most Significant Byte (MSB).

Aftertouch exists in two forms; Polyphonic (status byte A) and Channel (status byte D). The difference is that any key pressure for the latter will be taken as affecting all notes playing on that MIDI channel, while the former will treat each note individually, so generating far more data. The values take the same format as pitchbend.

In each of these cases it may be felt

that 16,384 discrete values is a little excessive, in which case they will be scaled down by specifying how many different values actually exist. This is written in the Implementation chart as a number of bits - for example, Yamaha's KX88 Master Keyboard has 7-bit resolution, which means that there are 128 different values possible within the range 0-16,384. While it is possible that these may be in equal steps (16,384/128 = 128) it is more likely that there will be an internal table to dictate the "feel" of the wheel.

SETTING UP

SO FAR WE'VE seen that a keyboard has the ability to transmit data in terms of numbers, which have to be interpreted by the receiving device. For example, push the pitchbend wheel to maximum - how many semitones is that equivalent to? This depends on how the receiving device is set up. The Control Edit page on a Roland D50 allows you to set a value 0-12 for the number of semitone steps at maximum wheel movement. It also allows pitchbend to be instigated via aftertouch by the setting of a similar value.

Similar aspects exist for most of the MIDI controllers. Akai's S900 sampler has a page within Edit Program for setting the maximum LFO (low frequency oscillator) depth obtainable via the modulation wheel with a scale 0-99. Set this to 50 and a full modulation wheel movement will only have the S900's LFO working at half its maximum depth.

An instrument's audio output level is derived from three sources: the rotary or slider volume control on the front panel adjusts the loudness available from the internal pre-amp; the MIDI output volume sets the maximum level which can be obtained when controller No. 7 is set to full; and the actual value of this controller dictates the level that the synth sees. Needless to say, this can be a source of confusion and can lead to unnecessarily noisy audio sources and signal distortion.

"MIDI EFFECTS UNITS NOW ALLOW THEIR PARAMETERS TO BE MIDI-ADDRESSABLE - REVERB TIME, DECAY AND SO ON CAN BE SET IN REAL TIME USING A MIDI CONTROLLER."

> I N C O N T R O L

WITH THE EXCEPTION of setting up sound modules to react correctly to controller data in a live situation, most uses of controller data are in the recording of MIDI via a sequencer.

Most sequencers allow you to filter out data that you don't want. (There's little point recording data which isn't going to be used by any connected modules and the memory taken up can be considerable). Playing and releasing a single note will use up 6 bytes (three each for the Note On and Off) while applying a little channel pressure accidentally could easily eat up 30 bytes of memory, a situation which would be multiplied manifold if your master keyboard transmits polyphonic aftertouch.

One of the benefits of using a sequencer, is that controller data can be

entered retrospectively. Take the situation where brass chords need to be swelled in. Play the notes first and then move to a separate sequencer track, set the same MIDI channel as for the notes and use the keyboard volume slider to produce the swell. Got it wrong first time? Do it again and again until the required result is achieved, then merge the tracks together. Cheating? Of course, but few people ever get medals for honesty in the music game.

One problem that can arise is when a keyboard being used as a master keyboard has a volume control but only generates data for internal use and doesn't transmit it. This is particularly likely to be true of older synths. But using our "MIDI overdub" approach, we can use

a different keyboard, set to the same MIDI channel to add the required MIDI controller information.

There's one very common mistake made with MIDI controllers. Let's say that you have used a volume slider, originally at maximum, to fade out a particular instrument in the middle of a song. At the end of the fade, the final

MIDI volume memorised by the MIDI device on that MIDI channel will be zero and will continue to be so until it is changed. This means that if this instrument is used further on in the song, it will not be heard unless the MIDI volume is set higher than zero. The situation is worse if the sequencer is stopped halfway through a fade and restarted from another point. Volume control data is the most common culprit, but modulation and pitchbend can also cause highly anti-social sounds.

There is a new MIDI command, called Reset All Controllers, which will reset all switches to off and MIDI volume to maximum but only exists in MIDI devices manufactured after its creation.

H A R D W A R E

MIDI EFFECTS UNITS are now appearing which allow their parameters to be MIDI-addressable, Digitech's DSP128 and the Alesis Quadraverb being two examples. Reverb time, decay, diffusion, mix and so on can all be set in real time using a MIDI controller – although it is advisable not to have the machine processing data at that moment as an audible glitch may occur. A good example of this would be if you wanted to give the reverb on the snare drum a pre-delay for two beats in a song. This could be achieved in non-MIDI terms by having a digital delay set up, but bypassed, and opening the audio input from the mixing desk at the correct point. But this utilises two effects units and is tricky to set up.

Alternatively we could use one of the two methods mentioned above: at the appropriate time, address the reverb pre-delay, open it out to maximum and then close it again after two beats – recording the data on a sequencer to make it available on mixdown. If the length of pre-delay offered by the unit is insufficient, we could set up a configuration with delay before the reverb and address the delay time instead. Set it to the figure required and operate it via a MIDI switch controller so that the setting is practically instantaneous. Again record the data on a sequencer and move it slightly if a glitch is heard as the reverb from the previous snare decays.

The advantage this has over simply patch changing to a different program is the time taken for the hardware to react – which is guaranteed to cause glitches.

Comparisons between the two main master keyboards of yesteryear, the Roland MKB1000 and Yamaha's KX88 shows just how advanced the latter was for its time. The KX88 featured sliders and switches which can be set to a

variety of MIDI controllers and various pedals and foot switches. Eika's MK88 followed on in this tradition and more recently, Akai's MX76 and Roland's new A50 and A80.

Other new devices include Anatek's Pocket Pedal (reviewed MT, August '89) which allows you to incorporate an extra pedal and switch into your system, and JL Cooper's FaderMaster which gives you eight sliders, each of which can be set to control a MIDI controller.

A P P L I C A T I O N S

AS A FINAL point, much of what has been mentioned here is already fully implemented on Atari ST sequencers.

C-Lab's Creator has a Real-time MIDI Generator (RMG) with 16 faders that can be used to send out fader movements for any controller on any MIDI channel, and also has the ability to memorise 16 different layouts and recall any of them instantly. True Volume checks back to the last place in a song where controller No. 7 was changed, and ensures that this value is used if a song is started from somewhere other than the beginning, and Transform allows you to convert any controller into another, so for instance, a pitchbend wheel may be used to control aftertouch.

Hybrid Arts' MIDIttrack series allows you to draw controller curves with the mouse, either freehand or by using dot-to-dot lines. This is far easier than using a hardware slider and gives useful dynamic control.

Intelligent Music's Real Time has a similar feature, although it only uses freehand drawing. It also has the advantage of allowing you to hear the results as you are drawing the controller curves.

Iconix (now defunct but still available) also has the facility to draw controller values but in a rather slow and laborious manner.

Finally, Steinberg's Cubase can also draw controller curves within its editing windows, as well as having a "MIDI processor" for controlling MIDI echo, velocity and pitch. Logical Edit (like Pro24) can change data from one sort into another, again compensating for the lack of certain facilities on a keyboard. (For more detailed information see review MT, August and September '89 issues.)

Whatever type of sequencer you use, experiment with the MIDI controllers available in your system. Situations which would be impossible to achieve without considerable expertise are quite often within reach with a little help from the right MIDI controller. ■

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PAD5 HANDYPAD

Roland have been slow to bring out a budget version of their highly successful Octapad. Now they've been spurred into action by Yamaha's under-a-ton DD5 Digital Drums. Review by Simon Trask.

WHEN ROLAND INTRODUCED the Pad8 Octapad MIDI Percussion Controller back in 1986 they literally hit upon a winning formula. The Octapad seized upon the separation of controller and sound source encouraged by MIDI, to occupy a middle ground between the electronic drumkit and the drum machine. In doing so it appealed both to those musicians who wouldn't dream of sitting behind a drumkit but who had, nonetheless, discovered the delights of programming rhythms on a drum machine, and to electronic and acoustic drummers who wanted an easy means of incorporating electronic sounds from any MIDI drum machine, synth or sampler into their percussive arsenal.

Last year's Pad80 Octapad updated the concept with more programmable memories and features, but made no move in the direction of affordability. Bearing in mind that hitting things can be fun, it's not surprising that both Casio and Yamaha have included pads on some of their cheap 'n' cheerful home keyboards, but it is Yamaha's DD5 digital drum unit (reviewed MT, July '89) which has taken the Octapad concept into truly budget territory with its £99.99 price tag. Although the DD5 has onboard sounds and preset rhythms, qualifying it as a preset drum machine, its four drumpads and MIDI Out socket (but no MIDI In) have qualified it as the poor man's Octapad.

PAD TO MIDI

ROLAND'S NEW PAD5 Handypad represents the company's response to the DD5. Compared to Yamaha's unit it retains preset rhythm patterns, forgoes onboard sounds, adds a fifth pad, doesn't come with a pair of drumsticks and costs around half as much again. It's a battery-powered unit (6xAA-type) measuring a compact 13" (W) x 9" (D) x 2" (H) and weighing just over 3lbs, making it eminently portable. An Auto Power Off feature shuts off the power if the unit is left untouched for more than ten minutes, so forgetfulness won't lead to tears.

The Pad5's arrangement of three large and two small velocity-sensitive pads (measuring just over 3" and 2" in diameter respectively) is a very natural and comfortable one in practice. The rubber pads themselves are firm enough to take any bashing they might receive - if anything they're too firm, with none of the bounciness you'd expect from an acoustic drum head, or for that matter from the Octapad II's pads.

A small rotary control on the Pad5 allows you to adjust pad sensitivity on a sliding scale from stick to hand playing, with the latter allowing you to play the pads conga-fashion quite comfortably. However, while stick sensitivity provides a good dynamic range from the pads, the hand sensitivity setting has a more limited range not at all comparable to that of an acoustic drum.

The Pad5's MIDI Out socket is recessed into the unit's rear panel, and you can clip the MIDI cable into either or both of two fasteners located on each side of the socket for extra security. Roland take their insistence on making MIDI channel ten The Rhythm Channel (begun with the MT32) to its logical conclusion by allowing the Pad5 to transmit *only* on channel ten. You'll need to bear this in mind if your slaved MIDI instruments power up on channel one. However, if you're routing the Pad5 via a sequencer then rechanneling its MIDI data should be as easy as altering the record track's channel assignment.

PLAYALONGAPRESET

THE PAD5 HAS 14 preset rhythm types stored permanently in onboard ROM: 8 Beat 1, 8 Beat 2, 16 Beat 1, 16 Beat 2, Rock 'n' Roll, Slow Rock, Funk, Rap, Shuffle, Swing, Bossa Nova, Samba, Cha Cha and Waltz. Each type has original, variation, intro and fill-in patterns which are selectable from front-panel buttons. The fill-in patterns are one bar long, as are the intro patterns (with the exception of Cha Cha and Waltz), while the original and variation patterns are each two bars long.

Pattern play is controlled from a dedicated Start/Stop button, while tempo can be adjusted between 40 and 240bpm by means of a dedicated tempo knob. However, it appears that the Pad5 doesn't transmit Start/Stop commands and MIDI clocks via MIDI - presumably to avoid starting a drum machine when you only want to play its sounds. This doesn't mean you can't sync a sequencer or a drum machine to it, though.

Five Pad Cancel buttons allow you to drop parts in and out of the preset rhythms in real time, the idea being that you can play the relevant pads along with the rest of the rhythm. You can adjust the volume of the Preset Rhythms in relation to the pads by holding down a Rhythm Select button and turning the Sensitivity knob.

Remember that, unlike the DD5, the Pad5's preset rhythms have to be played on an external instrument via MIDI in order to sound. This means that they're played via MIDI notes, with each sound having its

own note value. Ah, but how do Roland know what notes to use? Simple. They refer to the factory assignment of drum sounds to notes which they've standardised across a number of their instruments. This means that if you own a Roland R8, R5 or TR626 drum machine, U110, D110 or MT32 synth module, E20, D20 or D10 synthesiser or RA50 Real-Time Arranger you can plug it into the Pad5 and, providing you haven't changed the factory assignments, play the Handypad's preset rhythms without any further adjustments. It follows from this that drumkit assignments on other instruments will require a spot of editing before you can get down with the Samba and the Rock 'n' Roll.

A PAD OF YOUR OWN

BUT WHAT IF you're quite happy to avoid the Pad5's preset rhythms altogether? Well, you're still governed by the MIDI note assignments of the preset rhythms, as these determine what notes are assigned to the five pads. There are five sets of preset pad assignments across the 14 rhythm types, though in practice only two which are completely different.

You can program one set of five pad/note assignments yourself, but this isn't stored through power-down, so each time you switch on the Pad5 you have to re-program it. Clearly Roland decided against including battery-backed RAM in their pricing calculations. The otherwise welcome Auto Power Off facility doesn't make life any easier, because whenever you leave the Pad5 untouched for more than ten minutes you lose your pad assignments. No

tea break till you've finished recording those rhythm parts.

To select the user memory you just press the Pad Assign button. You can then play the pads using whatever notes have been assigned, playing along with the preset rhythms if you wish (the pad assignments won't affect the notes of the rhythms). The user memory defaults to a factory-defined combination of notes each time you power up the Pad5. To enter Pad Assign mode you hold down the Pad Assign button and hit any one of the pads. From now until you press the Pad Assign button again you can assign a note to each pad in one of two ways. Successively hitting a pad causes the Pad5 to cycle through the MIDI note range 25-94 one note at a time, starting from the previously-specified note value. You just keep hitting the pad till you find the note you want (alternatively, pressing the Cancel button decrements through the note range). A more direct way can be to press one of the Rhythm Select buttons anything up to five times (for instance, Rhythm Select button three allows you to select one of MIDI notes 35-39). A chart is included in the manual to help you locate the MIDI note number you want. With practice you could probably set up your pad assignments fairly quickly using this method, but not in the time it would take to recall an existing memory. Such are the sacrifices which have to be made in the name of affordability, it seems.

However, if your sequencer can remap incoming notes in real time, and allow you to readily switch between a number of (re)maps (as does C-Lab's ►



PHOTOGRAPHY: JAMES CUMPSTY

“The Pad5 is aimed primarily at the amateur musician but could also find a niche for itself among more serious musicians.”

► Creator/Notator, for instance), you can overcome the Pad5's programming limitations by transferring the onus of programmability to the sequencer. This approach not only allows you to trigger different sounds on a drum machine but to play different pitches on a synth or sampler.

Owners of Akai's XE8 drum expander or Alesis' HR16 or HR16B drum machines can let their instruments take the programming strain, as they're able to define multiple MIDI receive "drumkits" which can then be selected via MIDI patch changes. By pre-defining patch changes in a sequencer you can change drumkits at the relevant moments, thus changing the sounds which you're playing from the Pad5's pads. You can also get around the possible limitation of the Pad5's single MIDI transmit channel if your sequencer can separate incoming notes by note-range-onto different MIDI channels (like Creator/Notator's "ghost" tracks, for example).

VERDICT

THE PAD5 IS one of those crossover items which is aimed primarily at the amateur musician (hence the preset rhythms and the emphasis on straightforward no-frills operation), but could also find a niche for itself among more serious musicians who nonetheless can't justify forking out for an Octapad. What's the difference between the two types of musician? Well, if you're in the latter category you'll probably wish that Roland had replaced the ROM memory used for the preset rhythms with battery-

backed RAM memory for storing multiple sets of pad/note assignments.

Patently the Pad5 isn't suited to live performance work, though perhaps if you're performing a solo cabaret gig using any of the Roland instruments mentioned earlier you might find its preset rhythms useful. However, I can see it being an asset in the home studio, especially where its lack of programmability can be made up for by sequencer facilities as suggested earlier. Of course, many musicians are used to playing their rhythm parts from a keyboard or from drum machine pads, or even entering them directly into a sequencer. Certainly, judged purely in terms of the number of sounds you have simultaneous access to, a keyboard wins out easily (you don't have to bother about programmable pad assignments, either). If you're recording a succession of rhythm parts in an overdub loop then a keyboard may be the best choice. But if you want to add the greater spontaneity of an extended percussion workout over a repeating pattern, then the quite different physical interface offered by a set of pads strikes me as being entirely more appropriate, not to mention more fun. Yamaha's DD5 offers no particular advantages of programmability over the Pad5, and if you can afford the extra money then you might find the latter's extra pad, and the greater ruggedness of its pads, make it a better bet. ■

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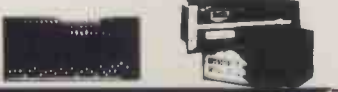
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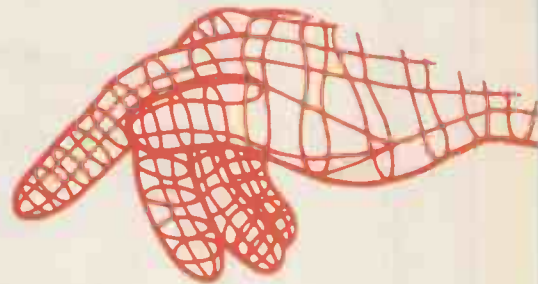
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LA GEAR

Les Adams is already well known as a DJ and remixer. Now his home-recorded debut album should bring him into the limelight as an artist. Interview by Simon Trask.

IT HAS BECOME COMMONPLACE TO SAY THAT TECHNOLOGY has narrowed the gap between professional and home studios. But for proof you need look no further than the debut album from DJ, remixer, engineer, producer and recording artist Les Adams of LA Mix. *On The Side* has been recorded and mixed entirely at Adams' house deep in the wilds of Newport Pagnell, where he has built a 16-track studio into an upstairs room measuring less than ten feet by ten feet. Carpeted walls and triple-glazed windows have been put in place to pacify the neighbours, and some heavy-duty air-conditioning has been installed to pacify the studio's previously over-heated users. Meanwhile, dominating the tiny landing is a stand containing two Technics SL1200 MKII decks, a GLI 1010 Audio Processor and a GLI 3990 Preamp/Mixer, the setup which Adams uses to put together Capital Radio's New Years' Eve mixes, which some of you Londoners may be familiar with. This can be wheeled into the studio whenever needed.

On The Side will surprise more than a few people with its musical depth, variety of musical styles and, above all, its classy production work. While the recent hip house single 'Get Loose', the second single 'Check This Out' and an '89 version of the first single '(Don't Stop) Jammin' form what is perhaps the more expected element of the album, the remainder of the tracks show that Adams is able to work in a variety of musical styles without descending into pastiche. There's the garage soul of 'You Are The One' featuring Audrey Francois on vocals, the lilting jazzy instrumental 'Breathe Deep', the beautiful soul ballad 'Don't Turn Away' which gives long-time session vocalist Chyna (probably best known for her infamous wail on SAW's 'Roadblock') the chance to shine on lead vocals, the 10 City-ish 'Love Together' (the new single) with Kevin Henry on vocals, the Alyson Williams-ish swingbeat soul of 'Just Waiting' with Juliet Roberts on vocals, and a surprisingly effective rap ballad version of the 1979 Lowrell classic 'Mellow Mellow (Right On)', which introduces 19-year-old male rapper Sweet Pea to the world. Backing vocals are supplied by Juliet Roberts and another experienced British soul singer, David Grant.

As well as showcasing a healthy number of old and new British soul vocalists, the album is distinguished by some tasteful sax, flute and piano solos by Mike Stevens, intelligent use of synthetic and sampled sounds, thoughtful and well-balanced arrangements, an impressively clean overall sound and pleasingly uncluttered mixes.

AS WE SIT IN ADAMS' STUDIO, HE IS quick to scotch any preconceptions people might have that the album is all his own work. LA Mix is very much a three-way effort between himself and his partners Emma Freilich (with whom he shares his life as well as his ►

PHOTOGRAPHY: ADAM JONES





"In a big studio you think that whatever you put onto tape is going to sound good because the equipment's great - here I'm working in limited conditions and I'm careful."

► recording studio) and Mike Stevens. Each of them brings something distinctive to the group, and it's this very diversity which is their strong point.

"I don't play any keyboards", Adams admits, "but I'm there engineering the sessions and I'll put forward ideas of what I want people to play. Mike, on the other hand, is a brilliant multi-instrumentalist. He'll sit there and play a guitar part, then a sax solo, then some keyboards, and then a flute solo. All the live instrumental parts on the album, including the solos, are played by him. Sometimes he gets a bit overenthusiastic with his playing, and we have to hold him back. With dance music you've got to keep it kind of simple, because when people are out for a night at a club they want to hear something that's exciting and hooky; they're not going to sit there marvelling at how clever the solo is.

"Emma is very good at coming up with hooky riffs. Once Mike's done all the pads and the solos we'll sit back and think 'what this needs is some little hooks', so Emma sits down at the keyboard and comes up with them. Also, of the three of us Emma is probably the strongest songwriter. But in practice we swap roles all the time. For instance, I normally do the mixes, but then Emma mixed 'Breathe Deep' on her own."

The studio is based around a Fostex E16 tape machine and a Studiomaster Series 5 16:4:2 desk which has two extra modules to take it up to 24 inputs, with a Seck 12:2 desk functioning as an effects submixer.

Adams can't speak highly enough of the Series 5: "It's had a very hard two years but it's been 100% reliable. The only thing that's ever crackled has been the monitor pot, and one squirt of switch cleaner cured that. Also it's the smallest 24-channel mixing desk with the kind of facilities it has; anything bigger and I'd have to move house!"

Adams is planning to add mix automation courtesy of two Studiomaster IMP1 16-channel MIDI muting units which plug across the desks insert points. The muting works on MIDI note ons and note offs, and so can be run from Adams' Pro24. Adams is enthusiastic about the prospect.

"The good thing about using note ons and offs is that you can quantise them and shift them around in the sequencer; the possibilities seem quite endless."

The Seck mixer, however, comes in for some harsh criticism for its crackling faders, and is only tolerated because Adams doesn't need to adjust the effect levels in real-time.

Monitoring is taken care of by Yamaha NS10Ms and JBL Centuries running off a Rotel RB850 50-watts-per-channel domestic hi-fi amplifier. For synth sounds Adams uses a Roland D50, Yamaha DX100, Roland Juno 106, Yamaha TX802, Yamaha TX81Z and Oberheim Matrix 1000, while the drums department is taken care of by a combination of Roland TR909, Roland TR626, Alesis HR16 and samples on an Akai S900. The S900 is shortly to be augmented by an S1000 complete with time-stretching software; Adams expects

to use the S1000 for more sampled drum sounds and for spinning in vocals.

Rather than work one drum machine to death, Adams tends to pick and choose sounds from the different machines with great attention to how they sit in a mix. His library of sampled drum sounds includes some R8 sounds, but he intends to buy an R8 too, and is also on the lookout for a TR808. And while the 909 isn't used all that heavily on the album, it does see regular use in Adams' remix work. Roland drum machines win the day once again.

Effects processing is provided by two Lexicon LXPs, an AMS RMX16, Ibanez SDR1000+, Yamaha SPX90, Korg SDD100 delay and two Boss DE200 sampling delays. This array of hi-tech gear is sequenced from Pro24 running on a 1040ST, synced to tape via a Yamaha MSS1 SMPTE/MIDI synchroniser, with everything routed through the Studiomaster and Seck desks via patchbays.

"With everything I do, Pro24 is running live in the mix, and that's usually with about eight to ten sequencer tracks. Some have composite parts on them, firing one sound but different parts in the tune. Then there are sequencer tracks such as keyboard parts which I put to tape and mute afterwards on the sequencer, so altogether I probably use around 15-20 sequencer tracks. I never record drum parts to tape, though; they're run off the sequencer during recording and mixdown."

A Sony DTC 1000ES DAT machine fitted with an HHB 44.1kHz record mod is used for mastering, though if he needs to do some tape edits first, Adams records onto a Revox PR99 via a DBX150 noise reduction unit (about which he can't speak highly enough) before going to the Sony. For cutting he uses Tape One studios just off Tottenham Court Road, who take a DAT tape recorded at 44.1 and bounce it digitally to a Sony 1830 for the actual production master tape. It seems that DAT is not only a perfectly acceptable mastering medium nowadays, it's almost become the norm for professional work.

Adams explains that this impressive array of gear has been built up bit by bit over the past few years.

"It was always a case of 'I could do with another reverb; yeah, I can afford one', then a couple of months later I would have done a couple of remixes and I'd be able to buy another noise gate. Now the studio's really at the stage where we don't need to expand it much more, which is a good thing because we'd need a bigger room. If we went 24-track it would be purely for compatibility reasons, so we could send a two-inch master across to America to have some vocals added, for instance. But the album really demonstrates what we can do in here."

And indeed it does. So how exactly did he go about achieving the album's impressively clean production?

"I take great pride when I'm recording onto the E16 that everything is as clean and as quiet as it can be, because I know that when I'm playing the tape back the Studiomaster isn't as quiet as an SSL. I just make sure that at every stage of the recording process I'm using the mixer and the tape machine at their best working conditions.

"There's a lot of space in the tracks on our album, and it's virtually noise-free. I'm quite proud of that, because we've done it on equipment which you would not expect ►

It's a pity that more retailers don't copy our ideas (instead of just our ads), free courses with packages, faulty goods replaced and money refunded are all part of a service to which customers are entitled. It is a shame that more retailers do not realise this.

By the way, have you noticed how some shops are incapable of giving you a price on the telephone? (Frustrating, huh?) Next time a shop respond with "How much have you been quoted already?" say "Why - are you too thick to think of a price yourself?" They'll soon learn!

NEW STOCK

Whilst we do not pretend to carry EVERY item from EVERY manufacturer, (as some shops seem to - ever tried putting it to the test?), all new equipment is tested in our of our three working studios, and if we like it, our buying power can usually ensure that we have it in stock at all times (even when your local dealer might have run dry!). In addition, if we recommend an item, we will REFUND YOUR MONEY if you do not agree with us.

In fact we are the largest pro audio dealers in Britain for Alesis, Korg, Drawmer, Casio, Fostex, Seck, Yamaha, TOA, Tascam, Studiomastrer, Allen & Heath and a good many more! (Last year we sold nearly 600 new 8 & 16 track packages and around 200 s/h machines!) It's always worth ringing us for a quote on new equipment and if you're still unconvinced, ask yourself why we became the biggest in such a short time (or better still ask the rest!)

If you are bewildered by the vast amount of multitrack recording products currently on offer, Thatched Cottage fax packs should make the job of choosing the right equipment that much easier. There are 5 in the series; P.A. - Portastudios - 8 Track - Financial advice and MIDI. To obtain any of our fax packs just phone or write.

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When it comes to new equipment you may have noticed that we don't say 'phone for the best deal, POA, or "lowest price guarantee"' (Hal Ha! if the prices are so great why don't they just print them and amaze us all). Our bulk buying policy can usually guarantee that a telephone call to us will not be wasted and in any case we can throw in those "hidden" extras - cables with multitracks, patchbays with desks. (By the way, next time a dealer "guarantees" the lowest price and then can't deliver, try reporting them to the local Office of Fair Trading - it will teach them not to waste your time!)

To be honest though, if you spend all afternoon on the telephone the chances are you might find someone somewhere who will undercut us by a pound or two. The difference at THATCHED COTTAGE is if your E16 breaks down on a Sunday morning or your Drum Machine blows up on a Bank Holiday Monday you CAN ring us, we'll be here and we WILL do something about it - 365 days a year. Have you ever needed help and advice outside shop hours? if you are serious about your music you will know that it is quality of service that makes the difference and at THATCHED COTTAGE it's only a phone call away!

ALLEN & HEATH SABER 16 & 24 TRACK CONSOLES

Last year A&H launched a revolutionary new professional mixing console - the SABER offering the quality of a Sound-craft and the durability of a TAC, it has comprehensive MIDI facilities and many features as standard offered only as options by other manufacturers, full fader automation and 24 track version now available.

Demand has been so great every month we sell the entire UK production run in advance! If you're considering spending around £5,000 on a high quality multi-track console then you owe it to yourself to check out what has become the largest selling console of its kind in Britain. Give us a call and we will send full details and arrange a demonstration.

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In response to popular demand we now run a one week recording course, designed specifically for those of you who feel they can make a go of running a professional 8, 16 or 24 Track Studio. The emphasis will be largely on the practical side and topics covered are finance, premises, running a recording session and hints and tips on every aspect of recording. Class sizes are limited to eight at a time and guest speakers will cover relevant areas. The price is just £200 for the week, including accommodation. Interested? Telephone or write and we'll tell you more. We also run "arranging courses", useful for samplers, call for details.

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There's no point in prattling on about it - a full 8 track system for under £1000 is an amazing breakthrough in budget recording - just send for full details! And to make it really easy, our credit card will give you instant credit of up to £1000 - just call in and take away a system... The phonedlines are open!!!

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Result! Yet another customer who KNOWS they can rely on Thatched Cottage, and a secondhand list full of the latest gear, factory repaired, in mint condition with a full guarantee. Simple? We didn't become the biggest without being the best!

By the way, when it comes to s/h gear we care what we part-exchange. We only accept equipment which is in first class condition after all, when you buy from us it's our guarantee you are relying on!

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Akai S950	£999
Tascam ATR 601 1/2 2 track (inc. trolley)	£2999
Akai X7000 Sampler inc. library	£499
Tascam OX40 noise reduction (2 available)	£199
Yamaha WX7 wind controller	£199
Fostex EB large reel 8 track	£1499
Kawai K3 rack synth expander	£199
Casio FZ10M rack sampler (new)	£699
Casio OA1 OAT mastering	£499
Fostex E16/model 80 remote control	£39
Bel BDE 2400 ES - 99 window, totally editable, 26 sec super sample, RRP £3000	£699
Acas high spec 24 track machine + 32 channel mixer	£5999
Tascam MX80 8 channel mic/line amp	£199
Yamaha MT100 4 track	£199
Sony PCM501 digital mastering + C9 Video	£399
Cuteq 2X10 band EQ	£75
Toa MRBA (routing box for 8 track)	£149
Yamaha V50	£750
Korg MR	£875
Fostex 4030 synchroniser	£999
Fostex 4035 controller (for above)	£375
Sony F1 digital mastering	£399
Fostex E16 (secondhand with new heads/full guarantee)	£2750
Apple Computer plus Greengate sampling software	£299
Steinberg Pro 24 (new)	£199
Steinberg Masterscore (new)	£150
Steinberg DMP7 software (runs up to 4 units)	£99
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Fostex E22 (1/2" centre timecode) Demo	£1999
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We have a certain number of ex-demo Fostex E16s available all in mint condition with boxes - Give us a call (All prices exclude VAT)

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THATCHED COTTAGE SERVICE

At our fully equipped in-house service centre we can service all types of equipment (esp. 8-16 tracks) Every reputable audio dealer should have one on site (don't let anyone tell you any different). Believe it or not, some retailers actually sell complex electronic equipment from their front room or garage (nothing wrong with that of course - we all had to start somewhere - when you are successful though, you outgrow it pretty quickly!) It does though tend to suggest a lack of back up facilities. So if your multitrack needs a service or the heads looking at give us a call before its too late.

For those of you who are seriously considering starting a commercial studio we've come up with three packages, each containing everything you will need for your first paying session, from the Multi-track Machine right through to DI Boxes and Cables. The price of the 8 Track System is £4,300 + VAT, the 16 Track is £7,800 + VAT and the 24 Track is £15,750 + VAT. At Thatched Cottage we proved it could be done, and we have helped many new studios to open and start making money - our experience could help you. Give me a ring and have a chat - what have you got to lose? Plus: FREE Thatched Cottage Recording School Course to package buyers!

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In our efforts to make life easier for our customers we have launched our own credit card! Like Access and Barclaycard, our Privileged Charge Card allows instant credit up to £1000 and some VERY special discounts, including an introductory discount of 2 1/2% against ANY price we quote. (Even second hand gear)

For larger purchases we have arranged a unique loan/lease scheme for amounts up to £25,000

Full details of all our new financial services (including equipment insurance) are contained in our new Financial Fax Packs - Give us a call.

NEW PRODUCTS

Casio DA2 - brand new updated DAT. Still only £649 + VAT inc. free rack kit + RSD Profile 16:8:16 plus MIDI muting, Tascam 1" 24 Track - revolutionary at just over £7000 + VAT + Digidesign sound tools hard disk recording - call for demonstration • Korg M3 their brilliant new expander • Yamaha FX500 • Tascam 644 and 688 Portastudios •

Thatched Cottage Audio

Telephone (0223) 207979 Fax (0223) 207952



Thatched Cottage Audio, North Road, Wendy, Near Royston, Herts.

"I try to use bass sounds that aren't demanding on amplifiers - I want to make sure that the average domestic hi-fi power amp is going to reproduce what I record."

► to be noise-free. I've heard stuff that other people have done on EL16s using mixers similar to this, and there's been noise all over the place. How do these people get such bad results? They just don't take any care, they don't take any pride in what they do."

In fact, far from wanting to work in a 48-track or even a 24-track professional studio, Adams sees definite virtues in the comparative limitations of his home setup.

"When you're working in a big studio with all that expensive equipment, you almost think that whatever you put onto tape is going to sound good because the equipment's great. Whereas here I'm working in limited conditions and I'm careful. For instance, when I choose a bass drum I choose what I think is the right one, and I also choose my keyboard sounds carefully. When I record onto the multitrack I make absolutely sure that if the source is not quiet then I gate it. If I'm recording a bass part to tape then I'll make sure that all the channels on the desk that I'm not using are muted, and the sequencer is only playing the bassline, so there's no chance of any spill on the multitrack.

"I always try to get a sound which sounds flat when I record it, because I'm aware that if I'm going to add any EQ in the studio that it introduces noise, and I hate noise. If you've got to EQ a sound to get it right then it's the wrong sound in the first place. I usually use EQ when I'm setting up the mix; if, for instance, a keyboard part isn't cutting through quite as it should then I'll use a bit of whatever frequency it needs to bring it forward in the mix."

Of course, to know what needs to be done in the mix you need monitors that you can trust. The JBL Centuries are the studio's workhorse monitors. Adams has used them for 14 years, valuing them for the detail of their reproduction.

"They've got a very clinical sound", he explains. "They only reproduce bass when there's bass there. Nobody could say they have a flat response, but they're very tight, very punchy, which makes them great for dance music. The monitoring in this studio doesn't have to be as flat as monitoring in a commercial studio, because it's only used by me and the immediate team, and we know these speakers. If the studio was for hire to other producers then I'd have to get different monitors, because I don't think another producer could walk in here and happily work with the Centuries if he didn't already know them."

The NS10s, on the other hand, are an industry standard. However, Adams cautions against using only NS10s in a studio.

"They're very misleading at the bass end. You can't hear depth on them at all. There's no reason why you should be able to, because they're a small speaker. But when people I know with home studios who've only got NS10s come here and I put their stuff on the JBLs, suddenly all this bass appears and they realise they've got to get some other speakers as well."

Despite having plenty of experience of club sound systems through his years spent DJ'ing, Adams still had to learn the hard way what not to do when producing a dance record for the clubs.

"I always used to go for deep, thundering bass sounds, which sound colossal in the studio or on a really good sound system like Paradise Garage in New York. But in your average Mecca-type club, or any club which has a Bose sound system, the speakers just can't handle the energy of a deep bass sound when they're already being pushed to their limits, as they invariably are. Bose have this stronghold throughout the UK, but although their speakers are great for mid-range and top, when it comes to bottom end, forget it.

"Nowadays I use warm, rounded bass sounds, with not as much bottom end on them as you might think. And I use a good, tight, kicking bass drum, like the 909 bass drum, which thumps. Bose speakers, or any speakers running at high level, will handle a 909 bass drum. I try to use bass sounds that aren't demanding on amplifiers. I want to make sure that the average domestic power amp is going to reproduce what I record, which is why I use the Rotel. Also, if this amplifier cracks up on something I'm mixing then I know the average club system will crack up too, because it's gonna be driven a lot harder than this thing is."

NOW 33 YEARS OLD, ADAMS RECALLS that his DJ'ing tendencies manifested themselves at an early age.

"I've been collecting records since the age of three or four. At primary school I used to put out the record player for morning assembly; it was my job to put the records on. I also used to listen to the pirates, Radio Caroline and Radio London; I can remember crying uncontrollably when Radio London went off the air. In fact, I always fancied myself as a radio DJ. When I was a kid we built this little studio which was basically a mic and two old auto-change decks wired through a switcher to an old Ferguson tape recorder. We used to have speakers wired up all around the house; I hate to think what the load was on the poor old valve amp!

"My first serious studio was when I was about 18. I had an Allen & Heath mini-mixer and a couple of Pioneer belt-drive decks with Shure cartridges. It was still very much for radio. I used to record my own radio shows on cassettes and send them to my girlfriend in the West Country."

Well, it beats love letters, I suppose. But alongside his radio ambitions Adams had always been interested in the technical side of how a record was made, and even a couple of years before leaving school his ambition had been to work in a recording studio. However, it wasn't to be. Leaving school at the age of 15 with no qualifications, he soon discovered that even recording studios wanted people with 'O' and 'A' levels. Deciding to opt for what he felt was the next best thing, he went to work in a hi-fi shop in Tooting called REW. In the event he ended up working for REW for 11 years, rising to become manager of the professional audio division at a branch in Charing Cross Road. It was here that he began to familiarise himself with mixing desks and multitrack tape machines.

But he had also been running a mobile disco with his brother since the age of 16, and had developed a love of dance music. Eventually he left REW to work as a professional DJ, because "for me the love of music was more important than the technology behind it". It's a ►

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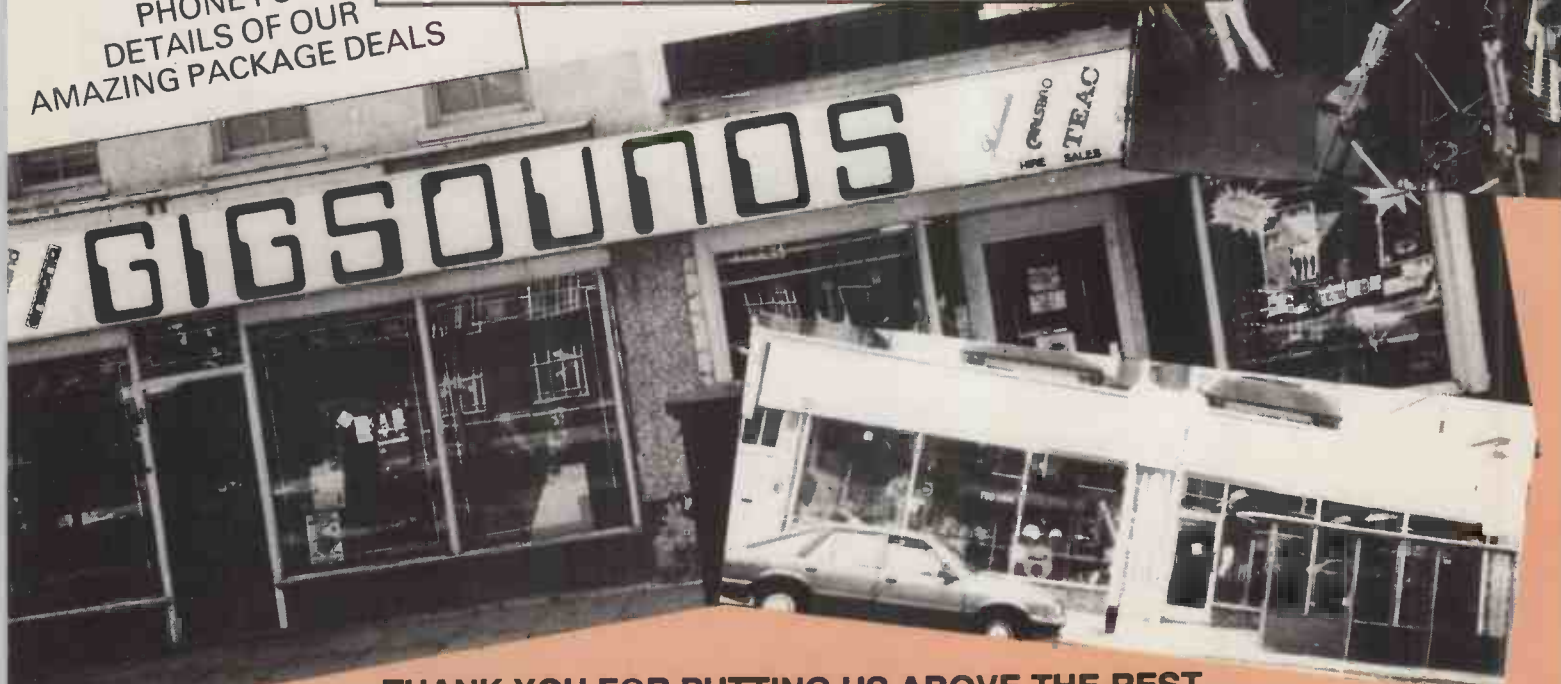
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"In other fields of music it can be important that brass sounds real - with dance music it's not so important to get everything sounding real as it is to get everything sounding powerful."

► philosophy which he still holds today.

He spent the next couple of years working as a DJ, then one fateful evening as he was driving back from a gig he tuned into Radio Caroline and a show called Disco Mix Express which consisted of running mixes of records. The DJ, Tony Prince, asked for people to send in their own tapes of mixes; Adams duly obliged with three mixes, and two days later received a phone call from an excited Prince. Not only

did he have all three mixes played on air, but he found himself in at the ground level of Prince's fledgling Disco Mix Club, providing taped mixes for the Club in the early '80s.

As DMC began to grow, so did Adams' mixing and tape-editing skills, and he became well known for putting together megamixes ("compilation" mixes of an artist's greatest hits). But it was when he graduated to multitrack remixes that he really began to learn the ins and outs of a professional recording studio. The turning point for him came when he teamed up in '86 with Pascal Gabriel, who was working as a freelance recording engineer at Hollywood Studios in East London at the time.

"Pascal was learning from me the construction ideas behind making dance records, because he'd never really worked on dance product before", Adams recalls. "In return he was showing me how to use all the technology of the studio. We worked well as a team."

Adams' first big break as a solo artist came with the single '(Don't Stop) Jamming', which he refers to modestly as "an experiment in the studio which someone happened to like and put out". The record reached No. 47 in the charts in October '87, but it was the follow-up single, 'Check This Out', which really made his name, climbing to the number six spot in May '88.

Back in those heady days when the idea of DJs making records was still a novelty, the DIY ethic was rekindled by tales of chart-topping dance records being recorded on a shoestring budget. By the time Adams came to record his first single, he had assembled a relatively modest eight-track home studio based around a Fostex A80 tape machine and the Studiomaster Series 5 desk when it was still 16-channel. A Yamaha QX5 handled the sequencing, while the sounds were provided by the DX100 and S900, and a solitary SPX90 handled the effects.

ALTHOUGH ANALOGUE SYNTHS HAVE BEEN undergoing something of a renaissance recently, thanks to dance music, the even balance of analogue and digital synths in the Adams studio reflects a general working philosophy.

"I don't really have a leaning towards FM or analogue sounds. I have leanings towards certain sounds for certain applications", Adams explains. "To be honest, I actually know very little about the internal workings of synthesisers, and I don't care if it's FM or if it's

analogue or whatever. I judge things purely by what my ears tell me. You can get too involved in the technical side of things. At the end of it all we're trying to make exciting dance records, and we just use the sounds which we feel allow us to do that.

"I can say that I like to use 'Arco Strings' on the D50 for my string sounds. For bass sounds I like to use the Oberheim Matrix 1000 or the Roland Juno 106, which of course are both analogue, but I also use 'Solid Bass' on the DX100. The bass sounds on the D50 are a joke, though."

It seems that the D50 is about to be ditched in favour of an M1 or M1R for the sounds, and possibly a DX7 II for the feel of its keyboard. One instrument which isn't about to go is the S900, which Adams characterises as the workhorse of the studio. In particular it's used for sampling drum sounds off CDs, an activity which Adams feels is quite legitimate because many of the sounds he samples have come from drum machines in the first place and therefore aren't copyrighted.

Sampled rhythm loops crop up much less frequently in LA Mix's music, though 'Get Loose' has a loop of Atmosfear's 'Dancing In Outer Space', which was cleared by the record company, and 'Love Together' has a short percussion loop which hasn't been cleared and therefore remains anonymous!

"We used our own percussion on top of it", Adams adds. "Sometimes we'll start with a loop, add our own percussion and then take out the loop because the track sounds better that way."

The S900 is also the source of a sampled Kawai grand piano which is used for all the piano parts on the album because "it's a great house piano sound."

Instrumental authenticity isn't something that's high on Adams' list of priorities: "In other fields of music it can be very important that brass sounds like real brass, and if it doesn't then you get a real brass section in. But with dance music it's not so important to get everything sounding real as it is to get everything sounding powerful. For instance, to get the brass sound on 'Mellow Mellow' I used 'Hard Brass' on the DX100, another sound from the D50, yet another sound from a TX802 and one from a TX81Z, and then there was a low tone from the Juno 106 which gave a bit of body in the background."

Call it the democratisation of technology, call it the relentless drive of market forces. But when Adams left school in the early '70s, lack of exam qualifications, coupled with the closed nature of the recording industry prevented him from realising his ambition to work in a recording studio, and he had little choice but to pursue a different career path. Such are the forces which shape lives.

Less than 20 years on, today's youngsters (yes, you out there) can take matters into their own hands in a way which wasn't open to Adams, and Adams himself is able to record in his own home using an array of technology which makes the professional recording studio of yesteryear look primitive - not to mention with a skill which makes exam qualifications redundant. *On The Side* not only illustrates how the production quality gap between home and professional studios has closed, it marks Adams' step from DJ and remixer to fully-fledged artist. ■

Books

Our book department is getting ridiculous! We are now carrying over a 1000 titles ranging from recording to song titles. Some will give you an insight into the way contracts are laid out. Considering the speed at which record companies come and go nowadays, these types of books can prove invaluable. For instance, if you have in your contract a liquidation clause, then your record company or production house goes bust, you can claim back all your masters and rights to your material. Ring for a list!!!

Teach-in Books Top Ten

1. **THROUGH THE JINGLE JUNGLE.** Explains the ins and outs of the music to film business. Avoid the crocodiles for £16.95.
2. **STUDIO RECORDING FOR MUSICIANS.** How to set up your studio professionally for £10.95.
3. **HOME RECORDINGS FOR MUSICIANS.** From 4 track to 16 track. The book with a Sting on its front! £12.95.
4. **MUSIC IN ADVERTISING.** Writing for the advertising business. Turn your creative ideas into money for only £7.50.
5. **HOW TO MAKE AND SELL YOUR OWN RECORD.** Instant entrepreneurship for only £10.95.
6. **MAKE MONEY FROM HOME RECORDING.** Loads of ideas! £7.95 only!
7. **THE BEATLES RECORDING SESSIONS.** Complete data on their recordings at ABBEY ROAD, "a mine of information" £12.95. Don't forget!! "Sergeant Pepper's LHC" was done on four-track!
8. **MIDI FOR MUSICIANS.** Probably the clearest book guiding you thru the midi minefield. £9.95.
9. **HOME RECORDING** by Bursch/Voggenreiter - Another popular new title with accompanying example record. £9.95.
10. **The MIDI HOME STUDIO** Everything but the kitchen sink! £9.95.

STOP PRESS: Just in - Songwriter and musicians guide to **MAKING GREAT DEMOS.**

New Products

DBX who made a name for themselves with their noise reduction units, also have a few other goodies to their credit. The DBX SRN1 Stereo noise filter is as far as we are concerned one of the very best units around for removing high frequency hiss from your tapes or samplers. It retails at £299.00.

The DBX BOOM BOX has been used in the dance clubs for some years now. Recently some of the hot dance producers and engineers are waking up to the fact that this stereo unit will give a bass end on your mix that has to be heard to be believed! @ £299.00. When you compress your mix at the cut or in the studio you can sometimes lose some of the Oomphs. THE DBX 1BX will restore the dynamics with its transient enhancement circuitry. The width control will give you a broader and greatly enhanced stereo image £159.00.

STUDIOMASTER march ever onwards into the world of MIDI! They've come up with an amazing little unit: The MA36. This tiny little box will give you just about every bit of information that you could require to keep your MIDI system running smoothly £50.00

Mics for 4 Tracks

When we were trying out microphones to go with our 4 tracks we found that it really is a case of "tmyp-tbyg" (the more you pay the better you get). It seemed pointless putting a good recorder with a crappy mic. Somebody may have a really nice voice, but will lose heart if after spending the equivalent of their monthly wage packet, they end up sounding like the bloke from directory enquiries. However there are some makes around that are a good compromise: The Audio Technica Pro 22 has a dual impedance switch for maximum matching to our 4 track and a good top end response. It even comes complete with a lead (no hidden extras!) and sells for around £35.

The PZM (Pressure Zone Microphone) is also worth checking out. We can show you how to modify this mic to increase its response and output. Fostex have been making good mikes for some years now, and are definitely worth a listen.

TIP: One trick that can be used to get a better sound is to record using two mikes at once. A dynamic fairly close to the mouth to give a full bodied sound with plenty of bass and a condenser just behind it to give you all the top end frequencies. I have used this technique a lot and have found that it gives a good result.

Mics for 8 Track

Our number one mike for recording is still the AKG 535EB. It is a high output condenser type, equally at home on stage or studio, requires phantom powering and sells for around £200.00. Beyer, Sennheiser, Shure, Electrovoice are other makes which we carry. We also carry a very comprehensive range of top quality mikes.

Mics for 16/24 Track

If you can afford it, then one or two top of the range microphones for your studio are invaluable assets. The first thing the source material whether vocals, guitars, drums or any acoustic instrument sees is that mike.

QED Poor Mike = poor sound... GREAT MIKE = GREAT SOUND!!!! Microphones like the Neumann 89 or AKG 414 or Beyer 740 are also good investments and will hold their price over a long period. Old Neumanns that were £200.00 in the 50's are now fetching over £1,000.00. So if you are looking for a future classic give us a call. We carry all the right names, and are geared up to give great demos!!

4 Track Recording

4 Track Recording is about to make a giant leap into the future with TASCAM'S new 644 MIDISTUDIO. It offers dual speed, sixteen inputs, two auxiliary send and four auxiliary returns, a sophisticated monitoring system, built in MTS30 (Midi to Tape synchroniser), real-time Mute automation. MIDIIZER compatible can be locked to an SMPTE master. The recommended retail is £999.00

Yamaha's MT-3X is selling well. Users like the nice clean sound that this machine is capable of giving.

The FOSTEX X-26 is still proving to be the number one 4 track under £300.00. Incredibly easy to use with plenty of top and sparkle.

8 Track Recording

TASCAM have a new 8 track the 688 MIDISTUDIO. Speed runs at 9.5CM/S. 20 inputs, two

auxiliary sends, and four auxiliary returns. A new type of screen display (shows how you have set up the routing and muting). Separate meter panel. Three band equaliser with sweep mid frequency on each main mix channel. Input overload on main inputs. Four assignable effects returns. Independent 8x2 cue monitor section. Eight tape and eight group outputs. Recommended retail is £1,999.99.

Also from TASCAM is the new TSR8, eight tracks on 1/2 inch runs at 15 IPS, built in DBX can be synched to video (via a synchroniser). If you are thinking of trading in your TASCAM 38 then ring for your special price.

FOSTEX have relaunched the E8 at the new price of £2,499.00. A heavy duty 8 track designed to last.

The new FOSTEX R8 is going strong and is being sold in a package with either the Seck 12/8/2, 18/8/2 or any of the STUDIOMASTER range - ring for details.

16/24 Track Recording

TASCAM'S new MSR24 brings a whole new meaning to the term low cost recording 24 tracks for under £8,500.00. It offers 2 speeds 7.5/15 IPS, DBX on all channels and many other features.

DEFINITELY ONE TO WATCH!!! Ideal package with the new Soundcraft 6000 mixer or Studiomaster Series 2. Fostex's E16 is still going strong. We are doing a special price on two with a Fostex 4030 synchroniser which gives you the option of either running a 30 track system or locking to a video player for music for film. Ring for details.

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Don't forget we love second-hand goodies!!! From your old Revox A77 to a 24 track Studer, if you can get it in the shop then we will do a deal. Either part exchange, sale or return (we sell it for you) or a straight cash purchase.

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- 1 x As new Tascam 38 One careful owner (Hi Brian!).....£1150.00
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MUSIC-X



KEY MAPPING

Much hyped in America, dazzling at this year's British Music Fair, Music-X is finally available in the UK. What's in store for Amiga users? Review by Ian Waugh.

MMUSIC-X HAS BEEN advertised and hyped in America for around two years. It's been reviewed – read "previewed" – in several UK magazines but full production versions only became available in time for launching at this year's BMF.

Music-X (review version v1.0) was created by David Joiner who the manual describes as a modern renaissance-man type of guy. Painter, composer, award-winning costume maker (does that mean he makes all his own dresses?) and programmer. He is quoted as saying, "The only mind-altering substance I use is breakfast".

Other than giving you an insight into the developer's sense of humour (which is not, thankfully, laboured on every page), the manual is ring-bound, well-written, well-illustrated, 480 pages long and over 3lbs in weight.

Apart from muscles like Popeye, what do you need to use Music-X? Answer: an Amiga – 512K will do – and a monitor. If you want to use MIDI you'll also need a MIDI interface. Budget models are available for about £30 and Microillusions are developing their own – called MIDI-X – with two switchable inputs and

six outputs. Also, to avoid tears you really need two disk drives – as every Amiga owner knows.

The Music-X package contains three disks – Program, Examples and Utility – and the mammoth manual. The disks aren't protected – 11/10 for this Microillusions – and the manual gives explicit instructions for making copies – along with a request not to make copies for friends. Listen up, y'all!

Music-X screens are called Pages. There are four main Pages which are entered from the Mode menu and at least four ancillary Pages. Music-X is of open-ended design and can support third-party software Modules (more about Modules as we progress). You may have more Pages if you load extra Modules.

As the usefulness of a sequencer largely depends upon its sequencing abilities, we'll start by looking at...

SEQUENCER PAGE

BEFORE YOU BEGIN you need to understand the relationship between a Track and a Sequence. Music-X is a pattern-based sequencer. It calls its patterns Sequences and it can store 250 of them which are shown in a sequence list in the bottom half of the

screen.

Playback is achieved by assigning a Sequence to one of 20 Tracks (so a maximum of 20 Sequences can play at any time). This is a fairly automatic process, however, and not one to worry about at first. If a Sequence is enabled it will be allocated a Track during playback automatically and will appear in the track list in the top right of the screen. The Sequences which play and the order in which they play are determined by the sequence list.

Advanced use enables you to solo and mute Tracks (as opposed to Sequences) so it is important to note the difference.

A Sequence can be from one to 4096 bars in length. A Song can be constructed from individual Sequences chained together or it can be recorded in a linear fashion from beginning to end across several Sequences.

Operation is based on good old tape transport controls. As well as the usual Play, Record, Stop, Fast Forward and Rewind buttons, there are four Cue buttons to take you to any location in the song and a Begin and an End button to take you directly to those points.

A Counter ticks away in Bar, Beat and Clock increments and the program has an internal resolution of 192ppqn (pulses per quarter note). Underneath the Counter, a Clock shows elapsed time which is particularly useful for timing pieces.

Recording in the Sequencer Page takes place in real time. When you click on Record you're offered a host of options. These include recording in Absolute Time (the recording is linked to hours, minutes and seconds rather than the Clock Counter); recording with Punch In including Mute Target Sequence; Punch Overlay (add new data to original data); recording with a Loop and Mixing Down. You can also set a limit on the number of bars you are going to record.

After recording a sequence it must be Stored into the sequence list. For each Sequence the list tells you the amount of memory used, the number of bars it contains, which MIDI channels have been used, which Music-X events (coming up) it contains, the time format, the name (up to 27 characters - yippee), the output assignment (MIDI or the Amiga's internal sounds) and the offset (used to mute a Sequence or delay its entry by a number of bars).

Editing from this Page consists of Copying, Merging and Extracting sequences. A minor niggle here: after performing, say, a copy operation, you're sent back to the Sequencer Page. If you want to do several copies you have to reselect the function. An append operation would have been useful here, too, although this is available from within the editors.

Extract will selectively remove channel events (any event recorded on a specific channel), System Exclusive events and Music-X events. There's also an option to start the counter from 0 instead of 1. Handy.

If you start Play from the middle of a sequence the program auto-locates by playing from the beginning so that program changes, pitchbend data and so on at the play point are all correct.

Pressing Escape sends an All Notes Off message.

Holding Shift and pressing Escape sends All Notes Off on all 16 channels.

The Channelizer in the Options menu lets you redirect the output of the MIDI channels, for example, to send data recorded on channel one out on channel ten. This only operates on playback - works on the fly, too - so your original data is always safe.

Individual Sequences can be saved and loaded as well as a complete Performance. A Performance is the term given to a snapshot of the status of all the various Music-X Pages. It allows you to save patch settings along with the music.

EVENTS

AS WELL AS MIDI events such as Notes and Program Changes, you can also insert Music-X events (sometimes referred to as pseudo events in other programs). These include instructions to mute and solo a Sequence and Track, play a Sequence, set repeats, change Keymap (coming up), change tempo and time signature.

These events give you extra control over the music. Tempos, for example, are not global so you can make different Sequences play at different tempos - great for the serialists. You can create some pretty complex "nested" sequences, too. For example, you could use one Sequence as a master to control sub-Sequences and patterns. Some examples of this technique are included on the Examples disk.

SYNCING

MUSIC-X IS REplete with sync options. For the Master Clock you can select Internal, MIDI clock, Video clock, MIDI Time Code, or SMPTE. A Time Code Offset allows you to start Music-X's clock at any point during the reference Time Code; for example, to start recording music some way into the film.

Response to MIDI Start and Stop messages can be set to Transmit, Receive or Ignore. Song Position is supported along with a Song Position Delay option which should assist some of the older drum machines to "catch up" with the signal.

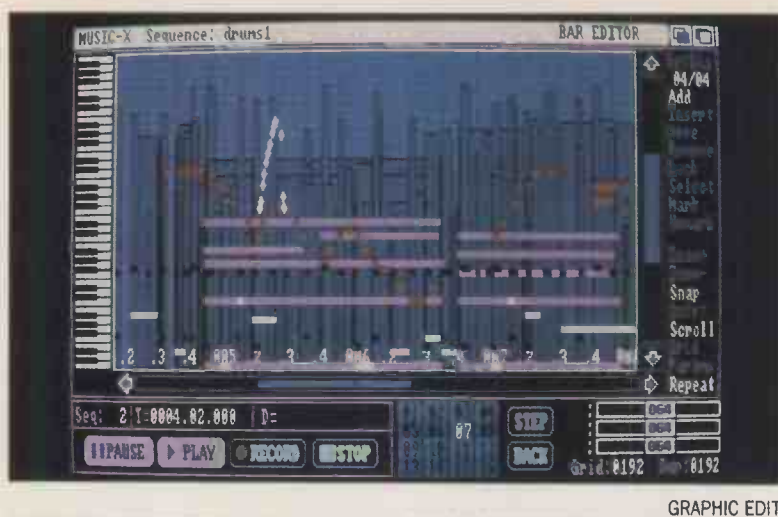
Let's look at the editing Pages.

BAR EDITOR

"BAR" IN THIS context does not refer to a musical measure but to the way notes are displayed on the screen - as bars. It's a variation of the grid editor popular in many other sequencers but this one is very colourful and in 2D. Data on different MIDI channels is shown in different colours - take a look at a 16-channel Sequence if you're feeling particularly psychedelic.

Note durations are shown as horizontal lines and velocities are shown as vertical lines. The Display menu lets you select the events to be shown on screen - notes, attack or release velocity, aftertouch, program changes and so on. This is useful, if not essential, to prevent the display becoming terribly cluttered. Zoom helps you home in on an area for detailed editing. ▶

"The Bar Editor is a colourful 2D variation of the grid editor popular in many other sequencers."



“You can set up your own default Performance parameters which will be loaded automatically on booting.”

► Block edits consists of Copy, Cut and Paste operations. Virtually any type of event can be inserted, moved and deleted, including Music-X events.

The Modules menu here gives access to three Modules supplied with the program – Quantise, Scale Velocity and Scale Aftertouch.

There are lots of Quantise options – start only, duration only, start plus duration and start with same duration. You can set maximum and minimum thresholds (if it's close enough, leave it alone) and Effect Percent (for “partial” quantisation).

Scale Velocity lets you program crescendos and diminuendos or set an overall volume level. This operates in percentages – 0-300% – and allows you to introduce a random factor for that human touch. I reckon it would make more sense to use the MIDI velocity range 0-127. I mean, why stop at 300%, why not go up to 1000%, and how do you increase a velocity with an *actual* level of 126 by 300%? Aftertouch works in a similar fashion.

When you play the current Sequence a Time Line moves across the screen to show the current event. If scrolling is on, when it reaches the end of the display the screen is redrawn rather than scrolled. The constant updating means it's difficult to see exactly what events are playing – as well as being tiring on the eyes – although it does enable you to stop the sequence at a problem point. A proper scrolling display would be useful.

STEP-TIME RECORDING

STEP-TIME RECORDING IS performed from within the Bar Editor. It basically involves holding down the keys, clicking on Step to advance the clock then releasing the keys. The clock advances according to the resolution which you specify in the Grid (although this isn't reflected in the Bar Editor display).

Auto-Step Record advances the clock automatically when you release a key. If your keyboard is a distance away from the mouse you can make certain keys trigger the Step function using the Keymap option (coming up, hang on in there) – neat.

It's a reasonable method of step-time input and better than some, but I still find it easier to work with a list of individual note durations. Music notation

would be better still, although I realise this is a personal preference.

EVENT EDITOR

MANY OF THE Event Editor's controls are similar to those in the Bar Editor but here the events are displayed in a list. Being numeric, this is not quite as friendly as the Bar Editor but it does enable pin-point precision.

Notes carry a key number (MIDI note number) plus the note name and velocity value. The display can also show their duration rather than Off Time which I find generally preferable.

You can edit the list from the computer keyboard but most events can also be edited with the mouse (using on-screen sliders) and notes can be changed by playing your master keyboard.

You can easily flip from one editor to the other and between the two you should be able to edit just about anything without too much trouble.

FILTERS

THE FILTERS PAGE is used to process incoming MIDI messages and it has five basic functions. It can remove and thin out events and change their MIDI channel, it can route the music to MIDI output or the internal voices and it can transform note messages into other types of event (via the Keymap Editor).

It handles six basic event types: note, channel aftertouch, polyphonic aftertouch, program change, control change and pitch bend. Note, program and control change events can be enabled or disabled, the others can be “thinned out” using a percentage slider.

Perhaps the only thing you could wish for here would be the ability to select Controllers individually rather than *en bloc*.

There are 16 filters, one for each MIDI channel although you'd probably only require more than one if you were recording several parts on several different channels at the same time.

KEYMAP EDITOR

THE KEYMAP EDITOR is accessible from the Filters Page and is loaded as another Module. It enables the notes you play on your keyboard to trigger a variety of functions. You can create up to four Keymaps.

Mapping options include playing a note (not necessarily the pitch of the key you press), a sequence, making a control or program change, muting and soloing a track, changing tempo, activating a Music-X command and changing Keymap.

Once you start exploring Keymaps you begin to realise just how complex and convoluted are the effects they can produce. You can split a non-splittable keyboard and by assigning different sequences to different keys you can create one-note chords or riffs. You can also transpose the whole keyboard or a part of it.

Keymap files on the Example disk include Overlap to make two sections of the keyboard play the same range, and Backwards which turns the keyboard upside down (really throws you). ►

stage boxes
test tapes
rack frames
leads
splice tape
acoustic treatment
aerosols
cables
cassettes
chinagraphs
compressors
de-essers
de-magnetisers
D.I. boxes
digital delays
empty spools
gaffer tape

KLOTZ
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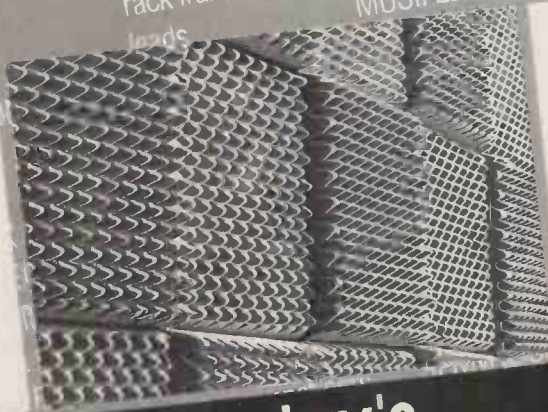
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empty spools
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goosenecks
headphones
microphones
speakers
mixers
noise gates
parametric eq
patch leads
patch panels
stage boxes
test tapes
rack frames

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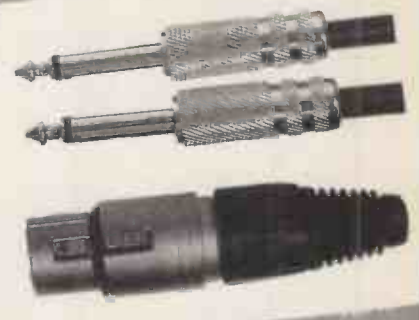
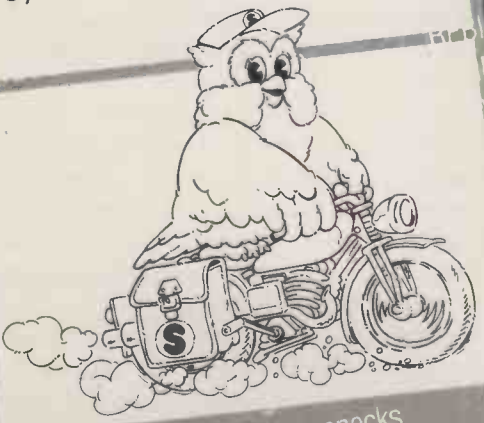
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"If you're an Amiga owner looking for sequencing software, Music-X really is a program you cannot afford to ignore."

► AMIGA SAMPLES

YOU CAN LOAD up to 16 samples in IFF and SONIX formats (and save them out again in IFF format), each assigned to a MIDI channel. You can alter envelopes by clicking and dragging on an envelope graph and you can add segments to the envelopes to increase their complexity.

The Amiga's audio filter can be switched on and off (although the Amiga 1000's filter is not software-controllable) to improve the quality of the output.

LIBRARIES & FILES

THE LIBRARIAN PAGE can hold up to ten library files, each containing up to 16 sets of data which will usually be voice patches.

In order to recognise data from different instruments, a protocol or special set of instructions (system exclusive messages and so on) is required for each synth. Protocols are supplied for a variety of Yamaha, Roland, Oberheim and Casio equipment and there are Generic protocols, too.

If you can get to grips with SysEx you can create your own protocols. A section of the manual explains how to do this although it's not, I'd suggest, for anyone with high blood pressure (a comment on the intricacies of SysEx rather than a reflection on the program).

Some Patch Editors are also supplied to enable you to edit the voices. Patches without dedicated editors use a Generic Editor which contains rather a lot of numbers – in hex, too. Editor Modules for the Korg M1 and Roland D110 should be available by the time you read this. These and other editors under development are expected to retail at £10.

Library files can be saved and loaded along with Performances so you can store the sounds required for a Song with the Song itself.

Each page allows you to save the data relevant to its particular function except for the Sequencer Page which, as previously mentioned, also allows you to save the subfiles produced by the other pages.

You can set up your own default Performance parameters, which will be loaded automatically on booting.

There are programs on the Utilities disk to convert between Music-X and MIDI file formats. Music-X has its own format, a version of the Amiga's IFF called MSCX, which is still evolving, although upward compatibility is assured.

MANUAL

ANY MANUAL CONTAINING 480 pages deserves a solid mention. The manual is arranged to make reference easy, with footnotes to direct you to related sections, an excellent contents page and thumb index (markings at the edge of the page), a glossary and a comprehensive index. It is also full of Notes (the textual kind) which are used to impart information which is particularly interesting or relevant to the section.

A Quick Tour chapter subtitled A look at the Editors (at the editor's what, I wonder) rushes you through the Music-X Pages. If you've just bought your Amiga, a Tutorial Chapter gives a brief overview of menus, screens, sliders and buttons. There's a complete chapter on the File Requester, a few pages on MIDI and an explanation of how to set up a Metronome Track. This may seem trite to old hands but it will allow first-timers to get stuck in fairly quickly.

There's also a chapter for Advanced Users which contains lots of hints and tips. These include using MIDI delay and doubling, fade-ins, constructing songs in linear and segmented fashion, relay chaining (using Sequences to trigger other Sequences), installing Modules and host of other topics.

VERDICT

THERE REALLY ISN'T space to even *list* all Music-X's facilities here. But it's impossible to use the program without becoming aware of its power and versatility.

Gripes are minor and possibly of a subjective nature. Personal wishes include better step-time input, although if you're a real-time kind of guy or gal I don't think you'll have any quibbles in this area. As the design is modular there is always the hope of a step-time input Module, and I await with bated breath the arrival of scorewriting facilities which should be here by Christmas for around £50.

If you want to be picky you may also yearn for pre-quantisation although I've never gone a bundle on this myself.

It's easy to see why the previews raved over Music-X. It has a mountain of features and yet you can still plug in and go on first acquaintance, albeit at a relatively low level. But you will have to read the manual thoroughly to discover all Music-X's secrets. This bears repeating because Music-X is one sequencer you won't be able to fly by the seat of your pants and that, perhaps, is the greatest criticism you can lay at its door.

But the bottom line is this: I haven't seen a software sequencer with such a range and number of features and certainly not at this price. It's a goody.

Before you rush out and buy a copy – Microillusions have appointed SDL as Music-X's official UK distributor, which rather upset Gem and HB Marketing who, it would appear, had prior agreements with the company and so decided to import versions from the US. The UK version sports a silver "Official UK Version" sticker and Microillusions have said it will not be carrying through the warranty agreement on the imports. The moral of the story would appear to be to buy British.

If you're an Amiga owner looking for a sequencer, Music-X is program you can't afford to ignore. You may even like to ask yourself the question, "Can I afford *not* to buy it?" ■

Price £228.85 inc VAT

More from SDL Music Division, Unit 10, Ruxley Corner Industrial Estate, Sidcup-By-Pass, Sidcup, Kent, DA14 5SS. Tel: 01-300 3399.

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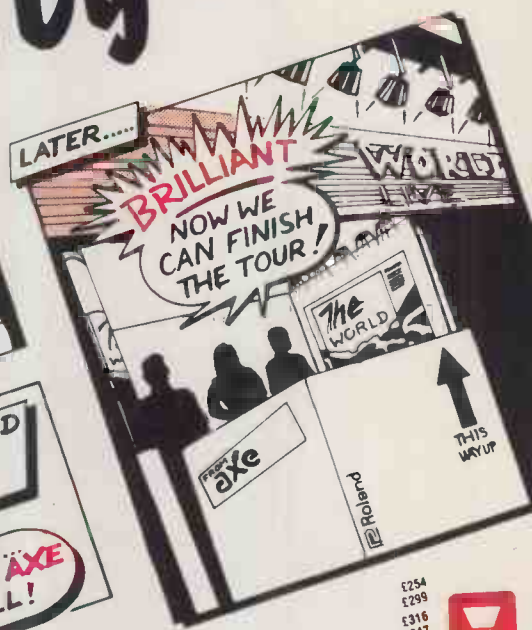
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- Ibanez RG550 Desert Yellow £599
- Ibanez RG540 Radius (Joe Satriani) £729
- Ibanez RG540 Saber £729
- Charvel FC375 Fusion Custom C/A Red £1999
- Charvel 750 Professional Trans Amber £299
- Charvel 650 Professional White £249
- Charvel 475 Classic C/A Red £419
- Charvel Model 6

Charvel 375 Classic Desert Crackle

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- Warwick Streamer Stage 2
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- Marshall 9060 300W Stereo Power Amp
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MEDIA LINK



Illustration Andrew Kingham

MEDIALINK COULD DO FOR MIDI, SMPTE, VIDEO, AND AUDIO SYSTEMS WHAT MIDI DID FOR MUSICAL INSTRUMENTS. HERE'S A PEEK AT WHAT MAY WELL BE THE FUTURE OF MEDIA SYSTEM INTEGRATION. TEXT BY SCOTT WILKINSON.

WHEN YOU STOP and think about it, the very existence of MIDI is astonishing. With unprecedented co-operation between competing synth manufacturers, MIDI equipment can be connected and used together – at last. Although the first use of MIDI was merely playing one synthesiser from another keyboard, creative minds everywhere soon expanded its application and large, integrated music systems began to appear.

As musicians were incorporating MIDI into their activities, other media systems were also being developed. The world of film and video had been using SMPTE for synchronising dialogue and sound effects to picture for some time. Digital audio was born with the promise of superior fidelity,

productive, actually ends up inhibiting their creativity. It's hard to be spontaneous when you have to look for the cause of a stuck note or the reason why a synth isn't responding. Of course, this isn't true of all musicians. But for others, technology throws cold water on the creative spark.

Enter MediaLink. Like MIDI, MediaLink defines hardware and software protocols that third party manufacturers can implement in their equipment. While MIDI was developed specifically for electronic musical instruments, MediaLink is designed to carry simultaneous signals from any digital media system, including MIDI, digital audio, and SMPTE with equal ease.

MediaLink is the brainchild of two Americans, Mark Lacas and David Warman. Both are avid musicians who have been working in the computer

microscopic editing and no generational loss. However, although these systems have been integrated to a certain degree (particularly SMPTE and MIDI), they have remained essentially separate entities with little that they can actually say to each other.

All these developments have one thing in common: they all require a relatively high degree of technical sophistication of their users. This requirement leads many musicians into a quandary. They find that complex technology, which was developed to help them be more

network and data communications industries for the last ten years. MediaLink was inspired by a desire to simplify their life in the MIDI studio.

Lacas explains: "We were having trouble making an album over the last couple of years because of all the technology getting in the way. The technology was necessary because of the complexity of the musical arrangements, but was too distracting to deal with when I was in creative mode."

Lacas and Warman formed their own company, Lone Wolf Inc, in order to develop an entirely integrated, transparent system with which musicians, film-makers and other media artists can concentrate on their craft without worrying about the supporting technology. While this is a worthy goal sought by many in the past, it has rarely if ever been fully achieved.

THE VISION

THE DEVELOPMENT OF MediaLink is driven by a simple vision ("One button, one cable"). Of course, the simpler the vision, the more complex the underlying processes that support it. MediaLink is no exception. Even so, Lacas guarantees that "the end user will be entirely shielded from everything that we do."

Of course, no technology yet developed can read minds. So part of the Lone Wolf philosophy became "Everything that can be configured, must be – no more than once." Lacas continues this train of thought, "Rembrandt didn't mind painting a picture once, but he'd never go back and do it again. In fact, electronics have allowed us to approach music more like an artist approaches a canvas. We can go back and paint over sections that we don't like. But we want to do the whole thing only once. Then we want to capture the essence of what it took to get there, all the aspects involved in making it what it is. To get there a second time should involve pushing one button at most."

Lacas and Warman have spent a lot of time considering the way in which musicians and other artists operate. One conclusion that they have come to is that creative people tend to prefer names over numbers. So songs, equipment configurations, and individual devices will be addressable by user-defined names in Lone Wolf MediaLink devices. As an
MUSIC TECHNOLOGY OCTOBER 1989

alternative, they can also be numbered by the user and addressed in that way if so desired.

THE AWARENESS

FOR LONE WOLF, the goal is to run a single cable that will connect all parts of a system. All of the information handled by the system will be directed along this cable in any direction (this is called bidirectionality because a signal can flow in either one of two directions within a single cable). A MediaLink compatible device will require only a single connector and cable to tap into the network – no MediaLink In and Out. Lone Wolf devices will include two functionally identical connectors to facilitate buss and ring topologies, but it won't matter which one you use.

For a device to be "MediaLink aware" it must contain a piece of software code called an agent. The agent stores a

most complicated MIDI system become available and can be recorded into a sequencer or printed out to provide a hard copy record of a session. For the artist, pushing a single button will configure the whole system, including patches, signal routings, sequence selection, and every other aspect of the project at hand.

LAN BASICS

TO UNDERSTAND THE potential of MediaLink, it helps to know a little bit about computer networks. But don't worry, this is not as formidable as it may sound. You may even have heard the term "LAN" bandied about. LAN stands for Local Area Network, the most common means of connecting several personal computers together into a larger system. This allows users to share information and resources.

One of the most basic aspects of any LAN is its physical configuration (how the individual members of the network are

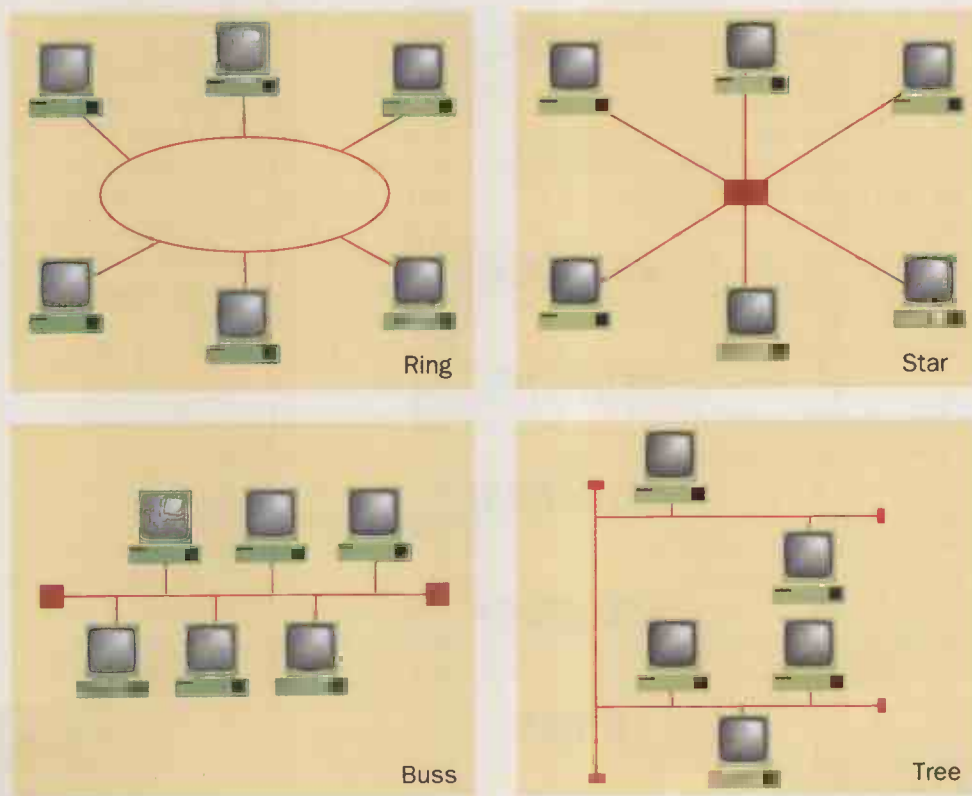


Figure 1. The four basic network topologies: ring, star, buss, and tree.

template of configurable data for a device – how many voices are available, their MIDI channel and patch assignments, how to set all user-definable parameters, and any other data that a developer wants to include. When connected to a MediaLink network, the agent makes this information available to any device on the network that requests it. With the touch of a single button, the complete settings (not just the patch data) for every device in even the

physically connected). This is called the "topology" of the network. There are four basic configurations: ring, star, buss and tree (see Figure 1 for a diagram of each type of topology).

In a ring topology, the members are connected to a closed loop of cable. A star network consists of a central hub (usually a governing computer) to which all the other members are attached. In a buss topology, each member taps into a cable ▶

► that doesn't close on itself as a ring does. A tree network is an expanded version of the buss topology in which several buss networks are connected to a central "trunk" (called the backbone in LAN terminology), forming the "branches" of the tree. This topology is used in large buildings in which the backbone of the computer network runs up and down between floors with connected branches on each floor.

Another important aspect of LANs is their protocol. This is the way in which the network manages the flow of information from the "talkers" (members that send information into the network) to the "listeners" (members that receive information from the network). Again, there are four basic types of protocol: simplex, token, polling and CSMA (Carrier Sense Multiple Access). These protocols are often likened to human conversations.

As the name implies, a simplex system is the simplest protocol. (As you'll see, MIDI is an example of a simplex system.) Information flows in only one direction along a given cable and there is generally only one talker at a time. This is somewhat like a dictator who talks while his subjects listen without the ability to respond. In the token protocol, a specific message (called the token) is passed from one member of the network to the next, typically in a ring topology. If a member has the token, it is allowed to talk, sending information into the network. When it's finished talking, it passes the token to the next member. If that member has something to say, it takes the token, says its piece, and passes the token on.

The CSMA protocol is like using a party line or having an undirected conversation within a small group. When you hear a gap in the conversation, you can jump in and talk. If two people jump in at the same time, whoever's idea is more important will probably be more persistent. That's how CSMA works. Each member of the network senses when another member is talking and jumps in if they have something to say when there is a lull in network activity. The AppleTalk protocol built into the Macintosh is an example of this scheme.

A polling protocol is generally implemented in a star network. In this protocol, a central computer directs the "conversation" on the network, telling the members when they can talk. If the central computer goes down, the network grinds to a halt. This system works like a large meeting directed by a chairman.

"PUSHING

A SINGLE

BUTTON

WILL

CONFIGURE

THE WHOLE

SYSTEM :

PATCHES,

SIGNAL

ROUTINGS,

SEQUENCE

SELECTION,

AND EVERY

OTHER

ASPECT OF

THE

PROJECT

AT HAND."

THE MIDI LAN

IF YOU HAVE two MIDI devices connected together, you have established a simplex LAN. MIDI systems use the simplex protocol in which information flows along a given cable in only one direction. This is why a separate cable is required for MIDI In and Out. There is generally one talker (typically the mother keyboard or sequencer) and several listeners. You can manually specify which component is the talker by switching cables or changing the connections in a MIDI patchbay. Of course, a MIDI merger allows more than one device to talk at the same time, but this is quite limited, typically allowing no more than two instruments to talk simultaneously. Daisy-chaining MIDI devices together with their Thru ports forms a buss topology. Using a MIDI patchbay or Thru box forms a star topology.

Even with its inherent benefits, the MIDI LAN has become the subject of some controversy in the world of music. As MIDI systems grew larger and more complicated, many people began to complain about the speed of MIDI, delayed signals and the limitations of 16 channels. In addition, MIDI began to be used in applications never envisaged by its designers. It's currently being pushed to the limit, even though there's plenty of room in the MIDI spec for expansion and definition of new messages.

It must be said that many of these complaints are unwarranted. For example, MIDI rarely causes perceptible delays. Delays are usually a result of the time it takes for an instrument's microprocessor to deal with incoming MIDI data.

As with all systems, there's a limit to the amount of information that MIDI can handle. At a data transmission rate (or bandwidth) of 31,250 bits per second, no more than about 500 Note On/Off events per second can be sent down a MIDI cable. However, the practical note limit is much smaller than this, due to the presence of other performance data such as pitchbend or aftertouch. This can lead to delays in massive synthesiser orchestrations with many notes and other continuous controllers, particularly when multitimbral sound modules are used.

In the beginning, 16 MIDI channels seemed plenty, but MIDI systems grew to be quite large and the capabilities of instruments improved. These days, just two multitimbral synths can use up all 16 channels. This limitation can be overcome by using several independent MIDI systems being controlled by a computer

with multiple MIDI Ins and Outs. A MIDI interface with four sets of MIDI ports can control a system of up to 64 separate channels. But this doesn't provide a true 64-channel system; it's four 16-channel systems tied to a common computer in a sort of star/tree topology. MIDI does what it's supposed to do and is likely to be in use for a long time to come. However, in order for MIDI to expand far beyond its current boundaries and interface seamlessly with other media systems, a protocol like MediaLink is necessary.

MEDIALINK LAN

IT WAS OUT of frustration and the limitations of MIDI systems that MediaLink was born. Its purpose is not to replace MIDI, SMPTE or any other media system. Rather, it was conceived to connect these systems together and provide a level of integration and transparency that has up until now been unavailable.

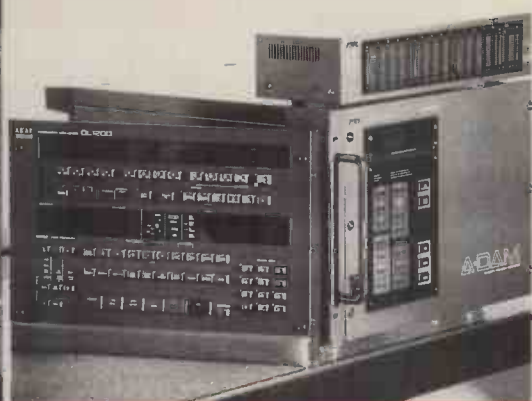
One of the hallmarks of MediaLink is its flexibility. It can be run on a ring, star, buss or tree topology. It uses a hybrid protocol that combines the best aspects of token, polling and CSMA. While virtually all other networks use copper wires in their cables, MediaLink uses fibre optics. Aside from allowing a much higher bandwidth than copper wire, fibre optic cable has the advantage of being impervious to stray electromagnetic fields and other noise. The cost of this cabling has started to drop dramatically as well.

The MediaLink bandwidth can vary from 1 Megabit per second (Mb/s) to 100 Mb/s. Even at its lowest bandwidth, MediaLink can accommodate 30 times the amount of data that MIDI can (with its bandwidth of 0.03125 Mb/s). At its highest bandwidth, this factor jumps to 3000 times the amount of information that MIDI can handle. The bandwidth also depends on the devices in the system. No device yet devised can run at 100 Mb/s. However, MediaLink is capable of running at this bandwidth in order to accommodate such devices as they become available in the future.

The MediaLink specification defines over 65,000 "groups" that are analogous to MIDI channels, although each one can carry a fully loaded MIDI data stream on all 16 channels simultaneously. Each group can include any number of devices and media systems that will respond to messages intended for that group. In addition, each group can include any number of talkers, unlike MIDI. Of these ►

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► groups, half are user-definable. The other half are manufacturer-specific and addressed with a manufacturer ID number.

MediaLink messages are called "datagrams." These are packets of information much like MIDI messages. In fact, MIDIgrams are a specific example of MediaLink datagrams. These messages can include any valid MIDI message. Other datagrams include

**"OTHER THAN COMPLETELY
CONFIGURING A SYSTEM, THE
MOST OBVIOUS APPLICATION OF
THE MIDITAP IS THE EXPANSION
OF MIDI SYSTEMS INTO MUCH
LARGER ENTITIES."**

SMPTEgrams, videograms, audiograms, and so on.

Enough about MediaLink itself, what about its applications? As mentioned in the introduction of this article, one of the primary applications of MediaLink is the integration of various media systems. For example, a MIDI system, video system, digital audio system, and lighting system could be connected together and send each of their respective types of data along a single cable. In live performance, this would mean a single cable running from the stage to the mix island, from which the sound, visuals and lights are all controlled in an integrated fashion. In a professional studio environment, a single cable could connect the control room with systems located throughout an entire complex. Any device in the facility, regardless of which system it's physically connected to, can be accessed from any other system in the studio. Instant reconfiguration is possible without moving or repatching a thing. With network management software already under development for Macintosh and PC compatible computers, the possibilities seem virtually endless.

THE MIDITAP

THE FIRST DEVICE to embody these concepts is the MIDITap from, strangely

enough, Lone Wolf. This unit, which can run at bandwidths up to 2Mb/s, forms the interface between a MIDI system and MediaLink. With it, you can connect several separate MIDI systems and integrate them into one large but entirely manageable system.

The MIDITap includes four MIDI Ins, four MIDI Outs, an RS422/232 serial port for connection to a computer, and two MediaLink fibre optic connectors. Each MIDI port includes its own MediaLink agent which can be programmed with configuration data for any MIDI instrument. Imagine a new market for "plug-in software modules" preset with configuration data that can be downloaded to an agent, providing MediaLink compatibility for existing synths, which, of course, are non-MediaLink aware devices.

The MIDI ports are entirely independent and can be mapped in any way you wish, including full merging capabilities on all four inputs. They can also filter MIDI data in any way and send various MIDI messages in response to an incoming message. For example, if you select a program change on your master keyboard, the MIDITap can configure itself and any other device in the system in response to the program change. The serial port can be used to control the MIDITap with a computer or can be connected directly to a modem for communication with a remote system without using a computer at all.

The front panel of the MIDITap illustrates the user interface that will be common to all Lone Wolf devices. There are four buttons labelled Exit, Edit, Enter, and Command, a two-line LCD, and a parameter knob. The buttons provide access to any function in a series of menus. At the topmost level, the parameter knob scrolls through the menu choices. Pressing Enter takes you down into the selected menu. Whenever you reach a parameter that you wish to edit, press Edit and use the parameter knob to change the value. This knob is velocity sensitive, so that the faster you turn it, the faster the value changes. After changing a parameter, pressing Enter registers the new value, while pressing Exit deletes the changed value. The Command button brings up context-sensitive commands at any menu level. The use of these buttons will be optional if you're using a computer to control the box.

The LCD serves several functions. It displays the parameters and their values

as well as the names of the devices and configurations that you have defined. It can also indicate the level of MediaLink activity on the network and in the box itself with bar graph meters.

One of the best aspects of this device is the fact that you can control any MIDITap from any other in the system. The front panel is actually independent of the box to which it is attached. You can dial up the name of any device in the system on the front panel with the parameter knob, press Enter, and be in full control of that device. In addition, there's provision for future hardware modules to be added to MIDITap.

Apart from completely configuring a system with the touch of one button, the most evident application of the MIDITap is the expansion of MIDI systems into much larger entities. With full group and channel mapping, any MIDI message on any channel in any MediaLink group can be converted into any other message and sent to any other channel(s) in any other group(s). This eliminates the limitations of 16 channels and parallel MIDI systems. Merging and stacking are rendered almost trivial. To merge, simply send data to the same group. To stack sounds, configure a port on the MIDITap to listen to the same group. Each MIDI port is fully independent and communicates with the other ports internally via the MediaLink protocol. Another interesting possibility is system reconfiguration. If you have created a piece of music in one MediaLink-equipped studio, you could take a disk with your musical data and system configuration to another MediaLink-equipped studio. The computer would then modify your configuration to match the new studio or modify the studio's configuration to match your music.

THE FUTURE

LONE WOLF'S PLANNED developments include taps into other media systems such as SMPTEtaps, Videotaps, Audiotaps, and even SCSI taps. With them, media systems will be integrated and controllable like never before. The Lone Wolf vision could well represent a bold step towards a future in which technology won't inhibit musicians and other media artists, but instead help them achieve their aims. ■

More Information from: Lone Wolf, Inc, 1505 Aviation Blvd, Redondo Beach, CA 90278, USA. Tel: (213) 379-2036.

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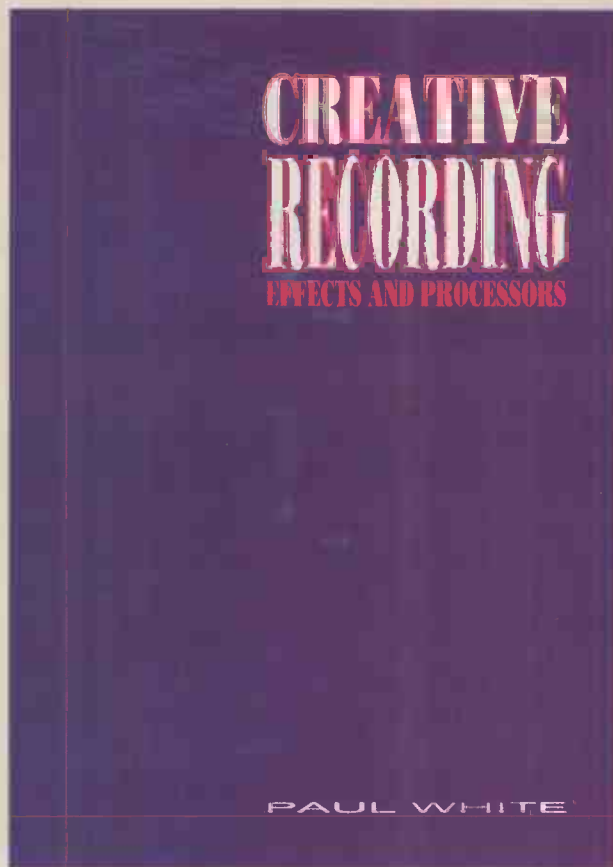
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VZ8M

As technology becomes more "digital" and music moves "back into analogue" a curious middle ground opens up between them – a middle ground occupied by Casio's VZ8M synth module. Review by Simon Trask.

AT ONE TIME Casio were known only for their watches, calculators and cheap 'n' cheerful home keyboards. Then in 1985, when Yamaha were already trailblazing the digital path with FM synthesis, the company took their first step into the world of "serious" hi-tech instruments with their CZ range of digital synths. The CZs became popular by providing a cheaper and more user-friendly variation on FM synthesis, using a custom form of digital synthesis known as Phase Distortion.

In the ensuing years, Yamaha have made FM more sophisticated, yet easier to use, and have provided FM instruments to suit every bank balance. And now that every synth manufacturer has gone digital, Roland, Korg, Kawai and Ensoniq have chosen to follow a different path from that trodden by Yamaha and Casio, each instead opting for their own method of combining sampled and synthesised sounds. What's more, the increasing power and decreasing cost of digital technology has allowed manufacturers to combine synthesiser, sequencer, drum machine and effects processor in one keyboard instrument, and the workstation concept has taken hold.

So, several years on from the CZs, where do Casio fit into this brave new world? Well, last year they introduced the VZ1 synth (reviewed MT, September '88) and 3U-high, 19" companion VZ10M rack-mount. These use iPD – interactive Phase Distortion – a more sophisticated version of their original digital synthesis system which, in conceptual terms, could loosely be considered as a user-configurable version of Yamaha's FM synthesis. Now the VZ8M is the latest and cheapest variation on the VZ theme, a 1U-high 19" expander which adds auto-panning but halves the VZ1/VZ10M's polyphony to eight voices and, due to its reduced dimensions, forgoes the generous displays of its companions in favour of a 2x16-character backlit LCD window.

Like the other VZs, the 8M has none of the above-mentioned trappings introduced by other manufacturers. And just as Yamaha have stuck with FM, so Casio's iPD synthesis steers resolutely clear of the currently-popular combination of sampled and synthesised sounds. Yet while Yamaha may have flogged FM synthesis for all it's worth over the past few years, they've at least seen fit to keep the "packaging" up-to-date – witness the user-friendly YS100 and YS200 synths, and the recent V50 FM workstation complete with onboard sequencing, drumkit section and effects processing.

Compared to other budget expanders such as Kawai's K1R and K1M or Roland's MT32 and D110, the VZ8M seems almost traditionally conceived (that's traditional as in early digital rather than

analogue). But does that make it an unattractive proposition by today's standards?

STRUCTURES & MODES

CASIO'S iPD SYNTHESIS is based around the concept of eight sound Modules, each consisting of a DCO and a DCA, which can be configured in a number of ways. Instead of drawing on a variety of sampled and synthesised sounds, each Module's DCO can be assigned one of eight possible waveforms: a sine wave, five sawtooth waves and two noise sources.

Modules are paired into Lines (1+2, 3+4, 5+6, 7+8), and there are three possible ways in which each pair of Modules can be combined: Mix, Ring Modulation or Phase. In addition you can specify External Phase on/off for each of Lines 3/4, 5/6 and 7/8, with the second Module in each Line being modulated by the preceding Line.

Those of you familiar with Yamaha's FM synthesis will recognise certain parallels here: the Modules can be thought of as operators which become carriers or modulators depending on the Mix, Phase and External Phase settings assigned to them. What this means is that, instead of selecting a predefined algorithm (to use Yamaha's terminology once again), you define your own algorithm, or configuration of Modules. Pressing the Module On/off button in Edit mode calls up a display of the current configuration in the LCD; you can also turn individual Modules on or off in this display by pressing the Program Number keys 1-8. As with FM, Casio's iPD synthesis doesn't have filtering in the traditional sense, but when you specify a Phase relationship for a Line, the first module is effectively modulating the timbre of the second, with its DCA shape controlling the timbre envelope.

By selecting Phase and External Phase for all Lines you can modulate the eighth Module with Modules 1-7. Or, at the other extreme, with all Modules set to Mix and no External Phase you can have eight waveforms per sound; while this means the basic waveforms are unchanged, you can detune waveforms against one another and apply a variety of other operations which can be used to change the waveforms even though you can't modulate them. You can define a large number of different configurations within these extremes, theoretically allowing a healthy variety of sounds. And in case you hadn't already realised, each of the VZ8M's eight voices can play a complete eight-Module sound, though reducing the number of active Modules *doesn't* increase the polyphony.

The sound that you create using the eight Modules is known as a Normal patch. As well as the



PHOTOGRAPHY: JAMES CUMPSTY

"The VZ8M's
eight voices can

configuration of Modules, there are a number of other parameters which are programmable per patch. You can define a pitch envelope of up to eight stages which is common to all eight Modules, and specify envelope depth, a six-step keyboard follow envelope, and velocity control of pitch. A vibrato function acts as an LFO on the DCO, with a choice of triangle, saw up, saw down or square waves, and settings for depth, rate, delay and multi-trigger on/off. Usefully, the pitch of all eight Modules can be adjusted +/- two octaves in octave steps from one parameter.

A similar set of parameters can be defined for the DCA, only in this case for each Module individually (except for tremolo, which affects all eight Modules alike). You can also define for the eight Modules globally whether or not each of aftertouch, MIDI footpedal (controller number four), MIDI mod wheel

and a further definable MIDI controller (in the range 12-31) will affect such features as vibrato depth and rate, pitch, amplitude envelope bias and tremolo depth and rate, and whether MIDI controller 64 will function as sustain, sostenuto or be disabled altogether. Meanwhile, the 8M's velocity responsiveness can be adjusted by selecting any one of eight velocity curves, including a reversed curve and "velocity off" curve.

Panning across the 8M's stereo outputs can be fixed (+/-15), controlled via the various dynamic MIDI control options mentioned above, or auto-panned according to user-definable rate and depth settings (this latter option is a new feature).

In addition to Normal mode, the VZ8M also has Combination and Multi modes. These allow you to combine up to eight Normal patches in a variety of

play a complete
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“Casio’s implementation of MIDI overflow mode allows you to link up to eight VZ8Ms for 64-note polyphony – though I’m not sure who’d want to do that.”

► ways. In Combination mode you can choose one of nine split/layer keyboard configurations, while Multi mode allows you to set up a multitimbral MIDI configuration for sequencer or guitar performance.

The Combination mode’s nine key-assign configurations are as follows: 1+2, 3+4, 1+2+3+4, 1/3, 1/3+4, 1+2/3, 1+2/3+4, 1/2 / 3/4 and 12345678, where “+” is a layer and “/” is a split. If you’re using the R/Mix line out then all patches will be sent from that out, but if you’re using the stereo pair then the configurations are “split down the middle”.

In split textures you can define the split points yourself, while for layers you can create velocity splits and positional crossfades between the relevant Normal patches. Additionally you can set the volume level of each patch, and individually delay the onset of each patch in a layer of up to four patches (useful for creating echo effects on an instrument which has no onboard audio effects processing).

Multi mode on the 8M allows you to select a Normal patch, MIDI channel, volume level and polyphony for each of eight Areas. As the expander can’t dynamically allocate its eight voices across the Modules, you have to allocate a fixed polyphony to each of the Modules you want to use; therefore if you wanted to use all eight Modules, each Module would be limited to one voice. Admittedly this isn’t a problem if you’re using the 8M as an expander for a MIDI guitar, but for keyboard and sequencer applications it’s a bit of a pain; I thought we’d finally got beyond such limitations, as most manufacturers nowadays provide dynamic allocation of voices.

Normal patches can be stored to their own memories, but you can also store them into onboard Operation memories along with Combination and Multi settings – the idea being that you can easily switch between different types of “texture” if they’re all stored in one memory type. In fact, Combination and Multi settings have to be stored into the Operation memories.

The VZ8M has 128 preset Normal patches and 128 preset Operation memories, with a further 128 of each accessible from a ROM card which plugs into the slot on the expander’s front panel. For your own programming purposes Casio have provided 64 Normal and 64 Operation memories onboard the 8M, with a further 64 of each accessible off RAM card.

The 8M’s internal memory can also be transferred via MIDI SysEx, either sectionally or as a full memory dump (which takes a lengthy 25 seconds). Incidentally, Casio’s implementation of MIDI overflow mode allows you to link up to eight VZ8Ms for 64-note polyphony, though I’m not sure who’d want to do that.

Finally, bearing in mind that Casio also produce MIDI guitars and MIDI wind controllers, it’s not surprising that they’ve included special Guitar and Wind performance modes along with the standard keyboard performance. In the case of Wind mode, for instance, the 8M’s aftertouch sensitivity is automatically adjusted to suit the output of, presumably, Casio’s digital horns.

SOUNDS

THE CRUNCH COMES with how the 8M actually sounds. Well, overall I’d say clean, thin, bright, metallic, sparkling, crystalline, hard-edged... very

“digital”, with all the implications that that word had in the early days of digital synths, when FM and PD synthesis were synonymous with the digital sound. The 8M is also capable of producing some nicely rounded, warm-edged sounds which nonetheless have a sharp, clean quality, such as some of the bass, vibes and string-pad sounds. The preset sounds include typically digital bright, tinkly electric pianos, clangorous bells, gamelan-type clangorous percussion, “icy” atmospheric sounds, clean and polite (as opposed to grungy) electric organs, metallic tuned percussion, some cutting but not exactly fat lead sounds, a mixture of hard percussive and hollow metallic bass sounds... You get the general idea, no doubt.

The VZ doesn’t have the sort of all-round competence that we’re coming to expect from today’s sample-based synths, and on the whole it’s not the instrument to go for if you want imitative sounds or expansive pad-type accompaniments, but it does have a particular quality of sound which can be exploited very effectively in the right context (for instance, it can be quite techno-sounding in a Derrick May style). And whereas the trend in synths is towards a sample/synth hybrid which provides an ever-greater number of source sounds that are complete in themselves, the VZ’s uninspiring source material and flexible programming possibilities make it more of a programmer’s instrument.

VERDICT

A FEW YEARS back, the VZ8M would probably have been lauded for the new quality of digital clarity and brightness it brought to synthesis, and programmers would have worked hard to wring all manner of imitative sounds from it, with varying degrees of success. But by today’s standards it sounds, well, dated (early digital period, circa 1985).

Given the much greater sonic competence of today’s generation of digital synths, I don’t think I’d choose the 8M as a first expander, but perhaps as a second (or even a third) which could selectively add the particular kind of digital bite and metallic edge that it’s well suited to delivering. And I wouldn’t rely too much on the existing sounds but delve into the programming to shape sounds more precisely to my own requirements.

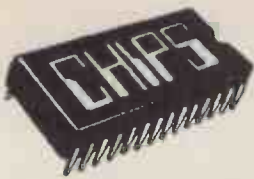
At a time when the trend is towards increased polyphony, I’m not sure that opting for reduced polyphony on the VZ8M was a wise move on Casio’s part, especially with the fixed polyphony of the Areas in Multi mode. However, as I mentioned earlier, these factors shouldn’t really trouble MIDI guitarists or MIDI wind players. For keyboard performance and sequencing purposes, I would be inclined to go for the 16-voice VZ10M, which after all only costs £100 more than the 8M.

The synth world has developed rapidly over the past couple of years, and I can’t help feeling that Casio have got somewhat left behind in the rush. But we’ve long since learned that old synths never die, they just bide their time till they sound fresh again, so no doubt the VZ range will find its own niche.

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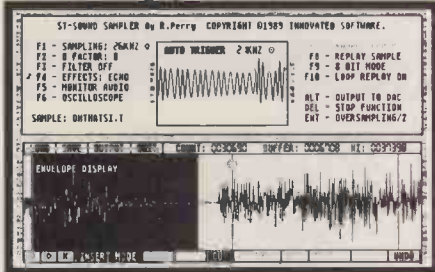


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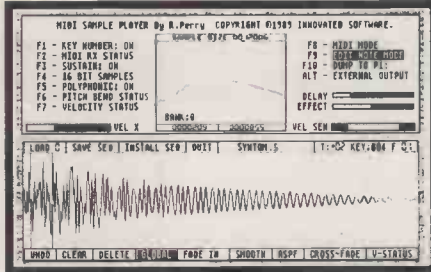


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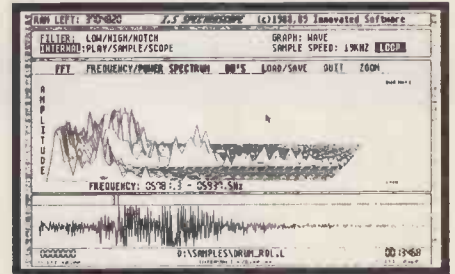


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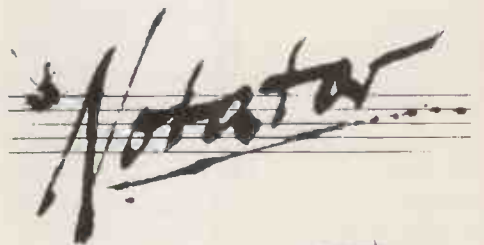
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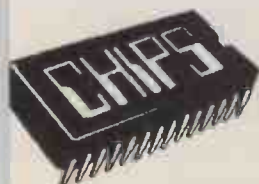
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Various Artists

Fuse – World Dance

Music

Nation Records

UKLP

East meets West. The concept has been an attractive one to Western musicians ever since Debussy popped along to the 1889 Universal Exhibition in Paris and encountered Javanese gamelan music for the first time. History doesn't record whether the encounter went any further, but it's unlikely that Debussy got down and jammed with the musicians after hours. Today, of course, he might book them into one of Paris's chic 48-track recording studios, call in a kora player, a funk bassist and a scratch DJ and record a "world music" album. Or maybe not.

But what exactly is this label "world music"? On one hand it's an infuriatingly catch-all phrase used to refer to just about any music which doesn't emanate from Europe or America (as if Europe and America weren't part of the world, too). On the other hand it refers to music which seeks to cross boundaries and integrate aspects of different musical cultures into a new kind of music.

As its name implies, *Fuse – World Dance Music* attempts a fusion of musical styles. The sleeve notes explain that "the talents that are highlighted reveal a kaleidoscope of cultural backgrounds and influences. Indian rhythms fuse with percussion, Latin American strings, Japanese horns and tin whistles... The lasting impression is of diverse musical styles and rhythms dynamically married in a huge cultural melting pot". Ah – I knew the melting pot would come into it somewhere.

The eight tracks on the album are divided between three producers: David Harrow, Harri Kakoulli and Talvin Singh, working variously at Invaders, The Beat Factory and Triple X studios. Not exactly household names, but then it seems that Nation Records' intention

was to use relatively unknown artists.

Many of the tracks aim to create a fusion of Western dance rhythms with the rhythms and melodies of Indian folk music (as opposed to the meditational ragas which so attracted Western pop and rock musicians in the '60s), though the uplifting Latin/flamenco feel of Local!'s 'Encantador' (featuring Belgian singer/songwriter Natasha Atlas over a backing of flamenco guitar and Latin keyboards and percussion) throws in something different. David Harrow's two tracks 'Yassassin (Wild Assassin Mix)' and 'Radio Morocco (Club Mix)', described as "an exotic fusion of dub Islamic and European dance music", crack along at a sharp pace but rely too much on a gimmicky "orientalism" rather than a deeper understanding of the music.

Mahatma T's 'Shanti' combines the haunting vocals of Bombay playback actor Shubir Kumar with the more exuberant soul vocalising of Jon S over a frenetic percussion track and acid-style bassline, while Paradise's 'Teus Quay Ana' combines tortured spiritual vocals (apparently "original chain-gang vocals") with an upbeat soca-ish backing underpinned by tablas and interspersed with some shakuhachi playing to create a curiously unsettling feel.

My favourite track is Sapna's 'Ah Kudia', a lurching funky track which combines a continuous triplet beat played on the Dhol drum (an instrument associated with Punjabi weddings, apparently) with a slowed-down James Brown beat which is selectively spun into the track rather than looped continuously, along with a fretless bass line very reminiscent of Mick Karn, a 'Can You Feel It' sample (which sounds quite fresh in this context), and traditional Indian vocals.

Fuse is a diverse album which demonstrates a wealth of invention and, on the whole, a convincing integration of Western and Indian melody and rhythm. Strong vocals and a well-integrated combination of authentic live instrumentation (such as the South Indian Mr'dhangam and Ghatam drums) with the modern technology of drum machines and synths, make for a diverse palette of sounds and a happy mix of live and sequenced playing.

If you have a taste for the offbeat, this album is worth tracking down. **St**

Sueno Latino

Sueno Latino

BCM Records 12"

Italy might not seem the most obvious location for house music to thrive in, but it's worth remembering that Euro disco was one of the formative influences on Chicago house music in the mid 1980s. With the current UK chart success of Black Box's 'Ride On Time' and Starlight's 'Numero Uno', the invasion of Italian house music seems to be well under way. If these records haven't exactly set you alight with enthusiasm, don't give up hope yet: labels can be misleading. For instance, if I were to tell you that Sueno Latino is an Italian house record then you might decide to avoid it like the plague. But then you'd be missing out on what is a superbly hypnotic, rhythmically intricate instrumental dance track which walks all over every other Italian house record I've heard. It even looks set to follow the above records into the lofty heights of chart fame, as it's currently gaining the all-important exposure on Radio 1.

Starting out with the sounds of warbling birds and a "babbling brook", a Latin percussion backing fades in, overlaid with a compulsive guitar-ish chordal rhythm (alternating Dm7-Gm7, if you want to know), building the tension until the four-on-the-floor bass drum comes in, later followed by a rumbling bassline, while some piano chords and a repeating rapid synth arpeggio cut in and out of the mix at well-timed intervals and a female voice moans sensuously over the top of it all. Sueno Latino is one of those tracks which picks you up and doesn't let you go for all of its 10 minutes and 35 seconds. Fascinating and absorbing, it no doubt sounds brilliant in a club but also works very effectively at more restrained volume levels. Flip over to the B-side and you'll find a more "abstract" mix from Cutmaster G, the Italian entrant in this year's DMC World Mixing Finals, and some seriously sensuous a cappella Italian female vocals from Carolina Damas. Well worth the cash. **St**

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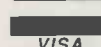
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ABC music

When you get up in the morning (maybe) and the first thing on the agenda is to wade through a pile of readers' demos, the one thing you're hoping for is a gentle start to the working day. But when you review tapes under a pen name like Skum and most of the demo-making readership of a mag like Music Tech are just aching for an excuse to hate you, you know you're in for a really shitty day. You could say it's predictable. So why shouldn't the first demo of the session open with a 20-minute opus inspired by the science of unpredictability – chaos – called 'The Butterfly Effect'? Obviously, no reason whatsoever... **Richard Knight and the Strange Attractors** (an intellectual gag there, I believe) are behind this test of my Sensitive Dependence on Initial Conditions (touché, Richard?), and I don't think he intends his work to be taken lightly. Behind 'The Butterfly Effect' and 'Persistence of Melody' ("a song about Dali from my new opera") are a Korg M1 Workstation, Roland's S330 sampler, a Mac SE and an ongoing Ph.D in composition under the eminent Simon Emmerson. Richard quotes his influences as Steve Reich, Philip Glass and Louis Andriessen, and I wouldn't argue except, perhaps, to add Andrew Poppy to the list on the strength of 'Persistence of Melody'.



Richard Knight

On the surface, 20 minutes of continually-evolving music isn't a bad medium through which to try to represent chaos. The piece is built around a repeating military snare pattern – a representation of the predictable side of chaos? Around this, sampled voices and synthesised flute and brass lines unfold with just too much predictability for my liking – and the context of the piece. The overall effect is far too sombre for me, and I can't help but feel an opportunity for some adventurous chance composition techniques has been missed here. But it's only fair to add that the composition is worthy of a serious student of the art: 'The

Butterfly Effect' delicately balances repetition and development, and there are strands of an elegant melody that I'd have really enjoyed in a slightly different setting. I'd also be prepared to bet that the mathematics of the piece match the recursive forms that so fascinated Mandelbrot.

By way of complete contrast we come to a Manchester three-piece, **Incapable Hands**. Dave Thompson, Steve Incapable and Nigel Blinston's three tracks resemble the "traditional" pop demo more closely by far – indistinct (Vestafire MR10), rattly (Roland TR505), piercing (Yamaha DX100) and painfully out of tune (Dave). Vocals aside (best way I'm afraid, lads) the music is at times reminiscent of Ultravox, Yazoo and the Stranglers with pleasingly disparate elements thrown in. The result is quite endearingly individual but probably totally unsaleable.

The strongest track is 'The Mating Season' which is built on a synth riff that owes to the Stones' 'Satisfaction' and adds layers of noise and musical mayhem quite in keeping with the spirit of its inspiration. Typically, it's last on the tape – you're never going to get this one heard if the A&R man decides to record Whitney Houston over it after listening to 20 seconds of 'Walk Away'...

Talk That Trash, aka Joe Odukoya, has called his seven-track cassette *Watching Other People Dance* and I like him already. "Please bear in mind that the Talk That Trash project is just a hobby..." he offers in his defence. And so it is that the songs ("I use the term loosely") here are unpolished and in, some cases, I'd say unfinished. But there's a talent at work here.

Uninhibited by the prospect of a disparaging A&R man, indifferent audiences and scornful studio engineers, Joe has obviously shut himself in a bedroom (with a guitar, Yamaha DX100, Casio MT30 and VLT1, and Roland SH101, TB303, and TR707) and invited his imagination to come out and play. There's nothing revolutionary to be found, but all the songs are short, interestingly arranged and, well, enjoyable tunes.

I don't really know what advice is appropriate

here. You could try to make a promising thing better by going into a recording studio or inviting other musicians to become involved and run the risk of ruining it, or you can carry on assured of complete musical obscurity but secure in the knowledge that you've got a hobby that you're actually some good at – unlike most peoples' attempts at golf, photography, painting...

Just for a moment then I thought I'd found a promising house act in **White Dance Limited**. 'Don't Touch Me' opens with a powerful bass drum-led percussion pattern that could have been the basis for a good dance groove. But that was before the clumsy guitar, recorded-in-the-bog vocal and gratuitous string and brass lines appeared.

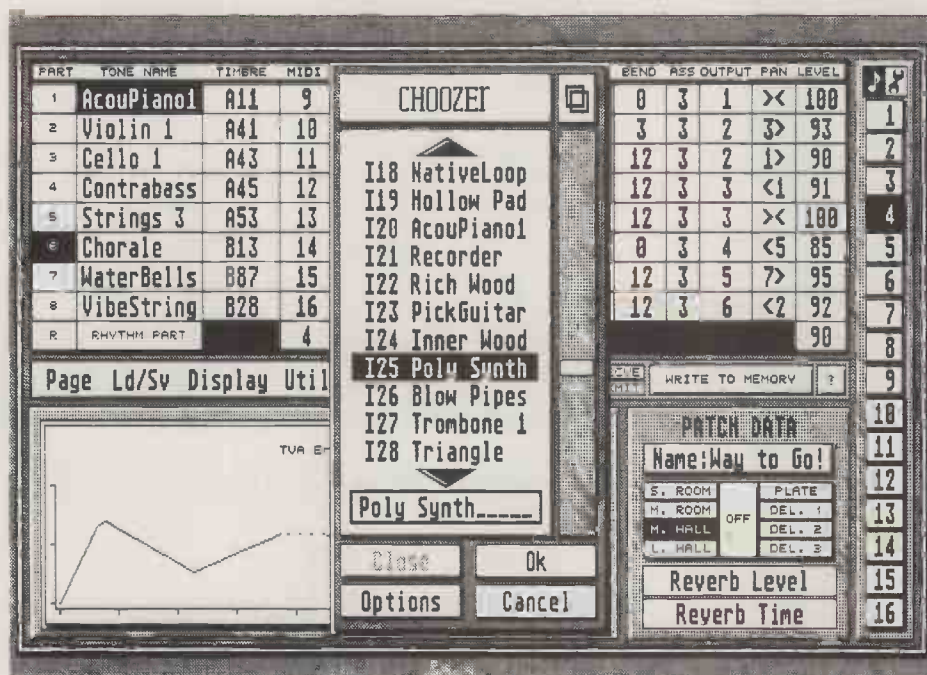
It could be modesty, it could be laziness, but my money would go on lack of conviction that prevented Tommy from Sussex (as we'll have to call him) providing any details about his inspiration, intentions, equipment or even his surname with the four tracks here. Instead we're treated to the following definition: White – clean innocent, pure; Dance – movement progression; Limited – defined enterprise. Pretentious, *mo?*

In fact, the opening bars of 'Don't Touch Me' could be those of 'Mess' or 'Couldn't Even Tell' because they all suffer from the same problem. But there's hope – just a little. The root of the problem seems to be that Tommy doesn't know when to stop. He comes up with a neat idea and wrecks it – like the The The-like chord work in 'Couldn't Even Tell' that gets drowned in out-of-tune guitar.

Like the music, the playing, production, arrangement and choice of sounds here are incredibly patchy. It's hard to credit the same mind with the rhythm tracks and much of the chordal and melodic work. One is concise and powerful, the other an unsettling indication of what might have been made of the song. All is not lost, though – just in a pretty poor state of repair – I'd recommend a partner (musical, not sexual) who could help retain an overview of the proceedings or even contribute a few ideas along the way. Alternatively, I suppose I could always sample and loop the first two bars of one of the songs and use them myself. Most unethical, I'm sure... **Skum**

POWERTOOLS

D110 EDITOR



Ideal in principle, inconvenient in practice, what a visual synth editor really needs is to be available for use while your sequencer's running. Review by Vic Lennard.

VISUAL EDITING SOFTWARE – a phenomenon brought about by synths that offer you so little control from their front panels that they're effectively impossible to program. An indictment on the state of synth design if ever I heard one.

In principle, visual editors make a lot of sense. In practice, they only seem to get used in "editing sessions" because nobody really wants to exit from their sequencing software, boot up the editor in question, make a few arbitrary changes to a patch and then re-boot the sequencer to see if the altered sound suits the song any better than the old one.

One of the main attractions of the PowerTools range of editors is the fact that they can co-exist in memory

with other software, and can be accessed from another program as a desktop accessory. Editors for the Korg M1 and Yamaha DX series have already been released, and now Pandora have turned their hand to Roland's D110 – an instrument that could have been designed with a visual editor in mind.

LOADING UP

THE PACKAGE CONSISTS of a copy-protected disk and a rather nifty Filofax-style manual. Load-up is quite a complex procedure as all of the default files have to be transferred from disk. Checks are made for any connected D110's and RAM disks already present in memory and the entire procedure takes a little under two minutes. One thing I noticed was that the disk drive continued to spin after the program had been loaded, which could cause damage to the master disk when removing it.

A look in the Atari's desk menu shows the "D110 Accessory" to be resident; your sequencer can now be loaded. I loaded C-Lab's Creator and received an "Out of Memory" message for my trouble...

It turns out that this editor differs from Pandora's MUSIC TECHNOLOGY OCTOBER 1989

others in that all of the files are disk files. The problem is that the D110 Accessory loads up with a RAM disk and rapid re-draw turbo graphics installed which leaves insufficient memory for the sequencer. The RAM disk had to be removed – more about this later.

IN GENERAL

THERE ARE TWO methods to get to the editor; the Desk menu or via the hot-keys – press Alternate and Control together (not Alternate and Shift as the manual states) and *voilà*. The display is relatively uncluttered due to the existence of “magic” windows whose titles change to show the value of the parameter when the cursor points at them. In fact, the layout is the best that I’ve seen on any editor. Other boxes wink at you to inform you that they are command boxes, whose selection can be changed, or toggle switches.

There are five different pages of edits, namely Patch, Tone 1, Tone 2, Rhythm and Bank, and the first four pages exhibit certain common traits as they are each made up from five windows. To the right-hand side of the screen is a vertical bar which shows the MIDI channel for each Part, and can be toggled to show the unit number of the D110 being currently edited. Roland allow you to give each module a different unit number (usually starting from 17), so that multiple D110s can be individually edited. In the centre of the screen is a horizontal menu bar which includes master tune, MIDI receive/transmit indicators and the “write to memory” switch, while the lower right-hand corner shows either Patch name and reverb details in Patch or Rhythm mode, or common Part information in either of the Tone edit modes.

On the lower left-hand side is the interactive graphic display with a small black box which will follow your cursor movements along the curve. A click with the mouse instantly pulls the graph towards the cross-hair cursor, which then changes to a pointing finger. Very quick and easy to use. Time variant amplifier (TVA), time variant filter (TVF) and pitch envelope curves can be selected for each Partial, and the curves for all Partials in use in a particular Tone can be overlaid on top of each other. Finally, there is the main edit window above the menu bar.

MENU SELECTIONS

INSTEAD OF THE Atari menu at the top of the screen, this has its own menu bar with four headings:

Page: This allows you to move around the various edit pages by either selecting the option or pressing the relevant Atari key. In fact, all menu selections can be made by the latter method.

Load/Save: Individual Parts, Tones, Patches, effects and Rhythm Parts can be either saved to disk or transmitted to the D110. The choice of keeping to individual files is a good one, as the alternative would be to work with bulk dumps which can already be done from within the D110 itself.

Display: Selects the graphic display from amongst
MUSIC TECHNOLOGY OCTOBER 1989

the various options.

Utility: Turbo graphics can be turned off, freeing about 67kBytes of memory, but then the screens take longer to redraw. Audition mode plays a note each time any edits are made so that you can hear exactly what is happening, but if a sequencer is playing the D110 while you’re editing it, you’d want to hear the notes being played by the sequencer and not the editor, and so this can be turned off. Handshaking mode is used to check data for accuracy when transmitting and so that data can also be sent from the D110 to the editor, but this requires the use of two MIDI leads which may not be practical and so one-way transmission can be selected.

Configure: The current drive for edits (A, B or RAM disk) can be selected and options for backing up the RAM disk to floppy and getting the latest data from the D110 if in handshake mode are also on offer.

DISK DATA FILES

AS PREVIOUSLY MENTIONED, the data is in the form of disk files, so let’s look at the implications of this. On loading up, a RAM disk is created, which is a portion of memory treated as a disk drive. All necessary files are copied to this so that edits to the banks and patches can be achieved with the same speed as would occur if the data were actually in normal memory. This RAM disk takes up about 160kBytes of memory and with another 70kBytes being used by the turbo graphics, a 1040 ST is left with insufficient memory space to run any of the major sequencers. The Configure options allow you to remove the RAM disk and run all necessary files straight from a disk in the disk drive, although this has the disadvantage of slowing down the procedure dramatically. It should have been possible to bin the turbo graphics and reclaim the memory space for the sequencer, but when I tried to do this, the extra memory didn’t join up with the existing free memory. Add to this the fact that the RAM disk was present on load-up but the Remove icon didn’t light up and removal was impossible. The programmers are presently correcting this situation.

So, at least you have a choice – run the editor via the disk drive and put up with the slower approach, or use a RAM disk without the turbo graphics and get fewer notes into your sequencer. You could always buy a two- or four-Meg Atari but that’s a different ball game...

USING THE EDITOR

CHANGING PARAMETERS IS extremely easy. Clicking with the mouse will increment or decrement numerical values, while clicking on parameters with selectable options will bring up the Choozer which lists all available choices for the particular parameter for which it has been called. A click on a Tone presents you with 255 possibilities made up from the preset, user and Rhythm Tones, the relevant list for Timbres has the 128 options currently in memory, while changing a PCM waveform for a Partial lists the 256 available waveforms. Clicking on the required selection ►

“None of the sequencers I used crashed while running with the Pandora D110 editor – in fact, this article was written on a word processor co-existent with it.”

► automatically sends the command to the D110.

For those of you unfamiliar with the internal workings of a D110, a Timbre stores a Tone number along with various parameters for performance. This is because MIDI program changes can only handle up to 128 different selections, and as there are practically double that number of Tones in the D110, an alternative method of labelling had to be found, hence the use of Timbres. Pandora did not want to get involved with the complexities of Timbres and so this editor cannot assign Tones to Timbres, although the procedure on the D110 is a simple one and the data can then be transferred into the Atari. A shame in one respect, but it does make the editor easier to use, which is an important consideration.

IN USE

RUNNING THIS EDITOR with a sequencer which can edit in real time opens up a new area of creativity. Record note information so that the D110 is playing, start the sequencer in record mode and use the hot keys to drop the editor onto the screen. Any edits that you now make are recorded onto the sequencer as SysEx data, and your edits will be recreated on playback. I tried this with C-Lab's Creator and found that it worked a treat. Little things like altering the TVF resonance or changing the level and depth of the reverb (which would be impossible from the front panel of the D110) can be achieved with ease. An editor like this goes some way to bringing back the halcyon days of analogue synths.

There are other features such as using the Undo key on the Atari to remove the last edit, and a Tone Grabber facility which ensures that should you attempt to save a Patch to memory with user Tones, these are transported as well.

One complaint I have is with the manual. Less of the perfect English and more of the "do this to get this result" approach would make it far more useful.

VERDICT

THE EDITOR APPEARED to behave itself admirably with various sequencers, although I had to run the data files from the disk drive due to the problems outlined. Hopefully the memory fragmentation and disk drive spinning problems will be sorted out before you read this.

As for reliability, none of the sequencers crashed or behaved awkwardly in the time that I spent working with them. In fact, this article was written on a word processor co-existent with the D110 accessory - now isn't that proof enough...

Perhaps the PowerTools editor is not as comprehensive as some of the others I've seen, but the real-time editing aspect is worth the lack of certain features. Check it out with your sequencer; I think you'll be impressed. ■

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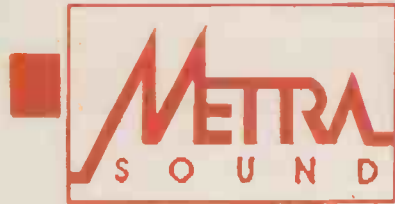
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The Old School

Ed Williams began his career in music before the invention of the tape recorder, in his time he's seen tremendous advances in technology – and he's not tired of it yet. Interview by Peter Ridsdale.

ED WILLIAMS IS PERHAPS BEST KNOWN outside the professional world of TV and films as the man who wrote the music for David Attenborough's *Life On Earth* series (the epic 13-part nature documentary). This was just one episode, however, in a career that began before the second world war. Williams is completely self-educated, musically speaking, and is at home with orchestral and electronic modes of expression. He has scored the music for two Oscar-winning films, amongst many others (*Wild Wings* and *Dylan Thomas*) and has contributed to a host of TV features including *The Nature of Australia*, *Earth and Korea – The Forgotten War*.

While his career began before the invention of the tape-recorder, Williams has kept abreast of technological developments as they've occurred and has retained an idiosyncratic approach to technology. There's a feeling, when talking to him, that he is never led by technology as so many people seem to be, but rather that the uses of any particular technology are carefully assessed to see where they fit into Williams' scheme of things. Perhaps the most striking example of this is the lack of emphasis

on the keyboard as the principal means of control in Williams' studio.

Emerging from his first experiences with "classic" electronic techniques and a belief that the limited manipulation of plastic keys is not the most expressive way of making music, one of the manifestations of Williams' thinking in this area has been the development of the Soundbeam – the movement-to-MIDI converter that is now being marketed by British company EMS. It's also manifested in Williams' use of electronic transformations of acoustic instruments, both in the studio and live performance.

Let's begin with Williams' background as a film music composer:

"My working life to date, and there's going to be a good deal more of it, has seen amazing change. My first job was as an assistant to a man who directed music for films – a man called Muir Mathieson. The first music session that I went to in any sort of official capacity was at Denham Studios in 1941 for a film called *The 49th Parallel* made by Powell and Pressburger with music by Vaughn Williams – a session with the London Symphony Orchestra and Vaughn Williams himself. Muir had persuaded Vaughn Williams to come out of retirement to write the music for this film – it stunned me because Vaughn Williams was my hero and he was actually there. The reason I mention this is because at that session, and subsequently for some considerable time, the recording engineer's job was to listen to the music in the studio and then go into his little box and make sure that the recording machines recorded a faithful picture of what he'd heard. Of course the thing has totally changed even from a recording point of view. No recording engineer today goes and listens to what people are playing – he makes the sound himself – he mikes up the drums in such a way as to produce the sound he likes. The composer writes for loudspeakers, and regards the engineer as a co-operating partner in the business of producing music for loudspeakers."

Recordings at this time were made directly onto the soundtrack of 35mm film, using either variable area or variable density light image. The BBC had the rather dangerous Marconi steel wire recorder, but tape recorders didn't become widely available until the early '50s. Magnetic tape opened up a whole new realm of electronic possibilities which composers of Williams' generation were not slow to pick up on – but Williams, with characteristic modesty, disclaims pioneer status.

"At about the time that I was an assistant to Muir Matheson – '48, when I was 27 – other people had gone entirely into electronics and were working away at electronics in a way that I certainly wasn't – the Darmstadt people for instance. The French school of musique concrète were using real live sounds to make music – concrete blocks dropping on the floor, railway trains, et cetera. Those two schools, the French and the German, and to a certain extent the Italian school, were working away with very limited technical means. There were wire recorders by then but still no tape recorders.

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"The English person who did most in electronics was a composer called Tristram Cary. He had had a musical education before the war as a cellist and composer, and a training in signals and wireless during it. After the war he started making a whole lot of electronic devices at his own studio in Norfolk. He actually got employed in films quite a lot making music of that kind – I think I'm right in saying that he had to do a famous noise for *The Man in the White Suit*, an Ealing comedy. Anyhow, the point is that Tristram developed various means of making music electronically – he knew enough to be able to construct oscillators and to use wire machines – in fact he told me once that he first of all started making loops on gramophone disc cutters."

Had he by any chance perfected the glitch-free loop for the record player?

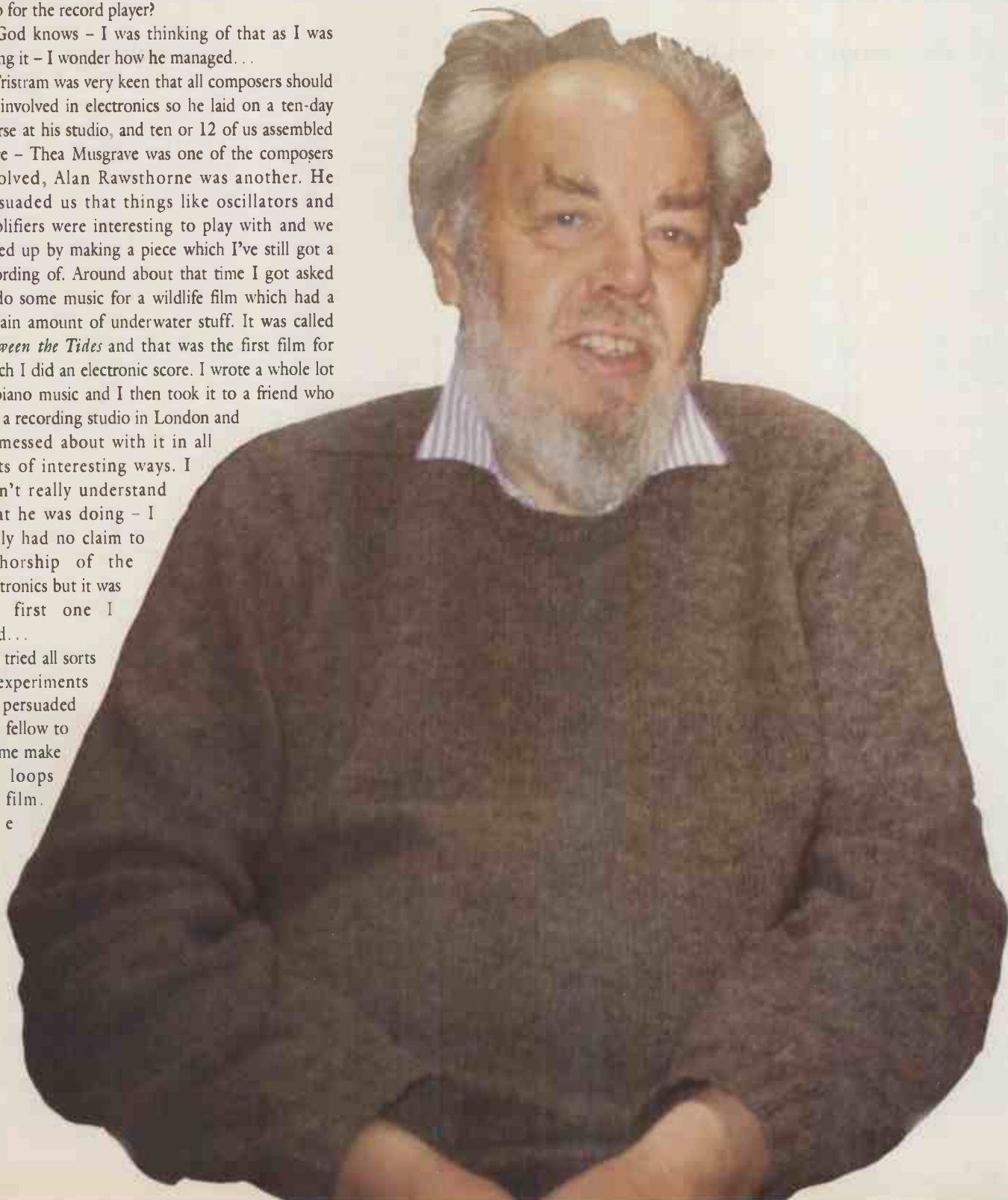
"God knows – I was thinking of that as I was saying it – I wonder how he managed. . . ."

"Tristram was very keen that all composers should get involved in electronics so he laid on a ten-day course at his studio, and ten or 12 of us assembled there – Thea Musgrave was one of the composers involved, Alan Rawsthorne was another. He persuaded us that things like oscillators and amplifiers were interesting to play with and we ended up by making a piece which I've still got a recording of. Around about that time I got asked to do some music for a wildlife film which had a certain amount of underwater stuff. It was called *Between the Tides* and that was the first film for which I did an electronic score. I wrote a whole lot of piano music and I then took it to a friend who had a recording studio in London and he messed about with it in all sorts of interesting ways. I didn't really understand what he was doing – I really had no claim to authorship of the electronics but it was the first one I tried. . . ."

"I tried all sorts of experiments – I persuaded one fellow to let me make big loops on film. The

theory was that I would write a piece for trumpet which was a four-part canon that would also fit with itself in augmentation – that's to say twice the length of notes and also in diminution – half the length of notes – so that out of one trumpet player we would get 12 loops. We played them round and round and then on the mixer we got what we wanted for the film. I remember people passing these 30- or 40-foot loops out of the projectionist's window into the yard and back again."

"IN THE 60'S MOOG INVENTED VOLTAGE control. Within a year of that, Peter Zinoviev and the firm EMS produced a voltage-controlled synthesiser called the VCS3. That came about because Zinoviev was at that time a composer who ►



“Today composers write for loudspeakers, and regard engineers as co-operating partners in the business of producing music for loudspeakers.”

►used computers to make decisions about composition. He wanted a machine which would realise in terms of sound the compositions that he produced, so he got Tristram Cary in to specify the various gadgets that he would need. Miniaturisation made it possible to specify oscillators and filters which were really tiny in comparison to the early Moog. Two years after the Moog that was the size and cost of a house, EMS in London were able to produce the VCS3 at about the cost of a Mini car. EMS went on from there, but at that point or shortly after I acquired my first VCS3 – I think they’re marvellous machines and I still use mine every working day. So, I got one of those and I started seriously using it – I didn’t have a keyboard at first. Around about then, along came a job – a documentary film about the

geological history of the North American continent and there was a lot of fossil stuff and underwater stuff and I used my VCS3 for the first time for that but... But, I really felt that the sounds of oscillators by themselves were very inexpressive. So I started using my VCS3 to mess about with conventional instrumental sounds.”

Williams also began to get heavily into tape feedback. About this time a young art student called Brian Eno began to experiment with mascara and Revoxes. In California a cocktail bar pianist called Terry Riley started giving all-night concerts with two of these legendary tape recorders, and a certain Robert Fripp was calling the twin Revox system “Frippertronics”.

The origins of these techniques however, as with so many others, go back to earlier days.

“I remember a friend – an engineer at Beaconsfield in the days when that was a recording studio for a firm called Anvil – having something go wrong and getting tape feedback. This was the first time I heard it, and it sounded absolutely riveting, so I got him to do it again for me and I’ve been using it ever since – using two tape machines and putting it through the VCS3 and so on. I’ve abandoned that in the last two years; we now have digital delay lines which do exactly the same thing with a great deal less loss of quality. The interesting thing is that the loss of quality very often becomes something worth having for its own sake. With digital delays you don’t get any deterioration at all – you have to put up with hearing it very clearly.”

Whilst Williams acknowledges that the painstaking efforts of early electronic music composers produced an “aura” that is all too often missing, when you can achieve at the press of a button what would have previously taken weeks, he also welcomes the technical advances.

“I’m a very lazy person indeed. The thought of getting stuck into some of these heavy procedures where if I put that thing next to that and then grind down a few bits here, then get another bit made

here and so on, next Thursday we might hear something – I can’t manage with that, I want to dabble my toes in it and feel it as it goes along. I’m continually trying to set it up so that I can throw spanners into the works but control it at the same time.”

FOR MANY OF US THE DIGITAL revolution happened when we acquired our first digital keyboard, but this was not the case with Williams. There *are* keyboards at his studio, but as often as not they’re likely to be used as a row of switches rather than as a musical instrument.

“I’ve never been a keyboard player”, he explains. “I can doodle but I’m pretty incompetent. As far as I’m concerned, the digital revolution has happened to me in the last two years and it hit me with a bang – I acquired a sampler, joined the Composer’s Desktop Project and bought an Atari. I understand how those things work and I’m very much interested in them.”

For those of you who haven’t come across the Composer’s Desktop Project before, it’s a group of composers and computer buffs who are working in the field of non-commercial music, trying to make the high-power software programmes developed at places like IRCAM and MIT available to Atari users.

“There’s a great feeling of comradeship and mutual help in the CDP. There is criticism by some members that there is an enormous amount of software in the commercial field which competes with what they do and which they haven’t taken much notice of, but it’s actually run by a lot of selfless people simply slogging away and not composing themselves as a result – they’re trying to get it off the ground so that it is truly mutual and co-operative.

“A great many people in the CDP are interested in making sounds up from scratch using computers and digital means and making very beautiful sounds too. But it’s a very deliberate form of music making – you have to write down a lot of figures, type out a whole lot of things and wait for six weeks and then perhaps you’ll get something out of it. I can’t work like that, or at least I don’t want to work like that. What I’m after is getting samples which I can use in compositions, and then messing about with them in digital form, or mixing them with others or making them amenable to performance with a keyboard.”

According to Williams, the CDP are having great success abroad and are “very cheerful” about their decision to stick with the Atari in the face of possible incursions into the musical arena by IBM PCs.

“There is enormous investment in the Atari and I think that in the same way as the Acorn BBC got itself well stuck into all sorts of schools – there are still thousands of them about and there’s still a tremendous amount of software for them – I guess that the wide investment by musicians in the Atari means that, if it ceases to be the flavour of the month and people go off in the direction of the IBMs, the Atari user will not be left behind.” ►

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"I remember a friend having something go wrong and getting tape feedback - I got him to do it again and I've been using it ever since."

► And the next step forward?

"Another of those changes that's just about to happen to me is the change from analogue tape machines to digital. I'm going to get an RDATE machine now, because it's a noiseless means of reproducing sound. Also, the CDP proposes that one of the pieces of equipment you need is a Sony PCM, whose job it is to be an analogue-to-digital converter so that you can then store your results on a cheap Betamax video tape machine. You can manipulate and mess about with the stuff on hard disk and then when you've finished with your composition you record it onto video tape. RDATE has come to prominence since that system was decided on, and they're now adapting it so that it will take an RDATE machine instead of a PCM."

Williams has been keen over the years to achieve "studio" transformations of acoustic playing in live contexts. To this end, he's done a number of workshops and performances with other musicians and artists. He is currently planning an ambitious multi-media dance and music performance with Brian Johnson, a video artist who is similarly interested in visual transformations. The keyword here is "interactive" as the plan is to have several Soundbeams activated by dancers so that they partly control the music they're dancing to. Williams and Robin Wood of EMS were the moving spirits behind the Soundbeam device, which was finally designed by Richard Monkhouse. It is a kind of Theremin for the '80s and uses an ultrasonic echo-

sounder to detect the presence and range of any object in the path of the beam. It's MIDI equipped so that any synthesiser, sampler or sequencer can be controlled by it. By simply moving about in the beam it's possible to trigger preset or user-defined scales, patch changes, samples or whatever takes your fancy. It has also won the 1989 award from the Institute of Social Inventions, as the device has opened up a new world of music making for the disabled. With a range of 0.3-6 metres the Soundbeam can be set up so that even the most limited movement can make dramatic aural changes. For more about this interesting box of tricks watch this space.

Meanwhile back at the interview, Williams concludes by applying his long-range perspective to the essential benefits of electronics.

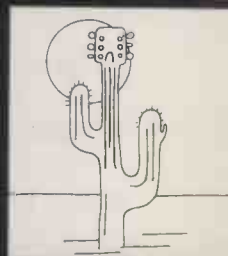
"One of the main things that electronics has given us is the ability to achieve complexities without putting orchestral players through it - some of the complexities which players are asked to deal with seem so boring. I'm not sure if the composer has the right to ask such miseries of orchestras. Electronics give us the opportunity of giving players interesting and rewarding things to do without having to avoid complexities - electronics can be used to make transformations into the complexities that composers want to hear."

Perhaps it's not so strange that such a positive view of the future should come from someone with such an insight into the past. ■

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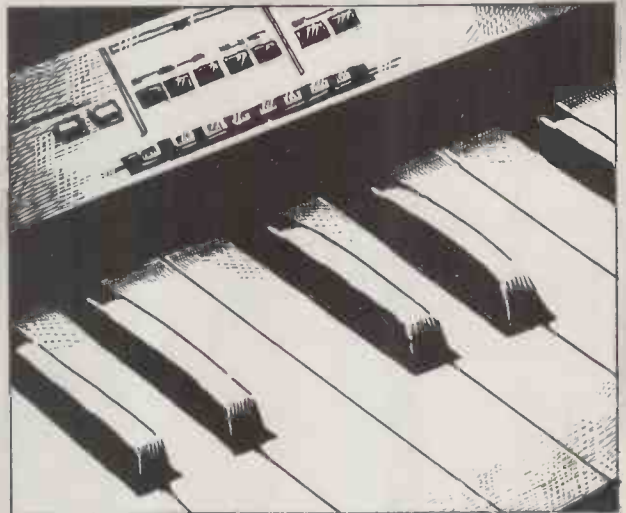
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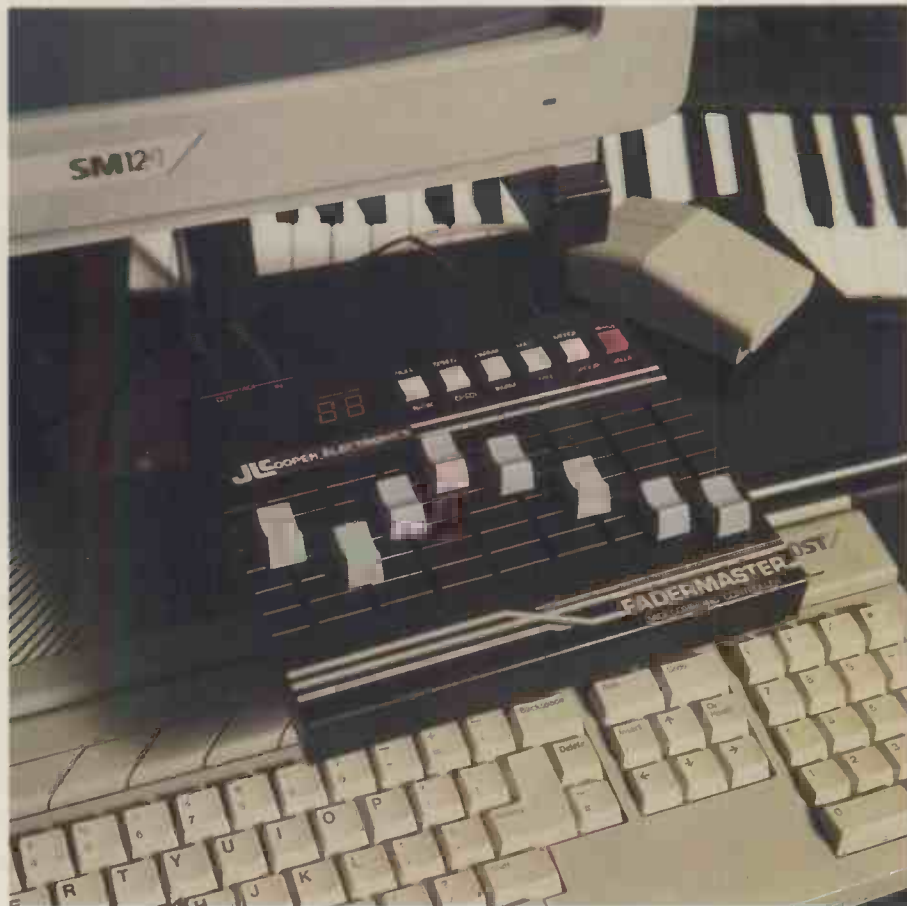
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FADERMASTER



PHOTOGRAPHY: JAMES CUMPSTY

In these days of unfriendly synth panels and software editors, there has been an increasing need for a hardware unit that could be adapted for use in a variety of situations.

Review by Vic Lennard.

THE CRITICISM HAS been made in many reviews of visual synth editors that what modern-day synthesisers lack is buttons, sliders and knobs for individual functions. This has made computer editors almost a necessity for most users, and while they're fine for creating and heavily editing sounds, they're certainly less than satisfactory if all that a sound needs is a slight "tweak". Add to this the total lack of programming from the front panel of some synths (Yamaha TX7, Roland MT32, Oberheim Matrix 1000 and so on) and the problem is considerably compounded.

Of late, certain sequencers have started to include screen sliders to permit the changing of various parameters in real time while the sequencer records such changes. These too all suffer a common problem – only one parameter at a time can be changed due to their being mouse-driven.

Someone had to come out with an undedicated bank of hardware sliders – rather like those found on the JL Cooper FaderMaster.

FaderMaster looks just like a small lighting mixer, being a black box with eight faders. A two-digit display and six function buttons complete the top of the unit

while the rear simply has MIDI In, Out and a socket for the external power supply.

Moving a slider sends out MIDI bytes pertaining to a particular parameter, for instance, MIDI controllers for volume, modulation and so on. Parameter type, MIDI channel and various other aspects of transmission can be altered to suit the situation in which FaderMaster is being used.

BASIC FUNCTIONS

THE EASIEST way to take a guided tour of FaderMaster is to use it, so let's say that one of the sliders is to send out MIDI volume on MIDI channel five.

FaderMaster can send out note on/off, program changes, channel aftertouch, pitchbend and continuous controller information. MIDI volume is a member of the last category and this can be selected by pressing the "Parm" button and holding it down while moving the chosen slider through the various two-letter keys for the above categories – No, PG, AF, Pb and Co. Wherever you stop is what you select, as the unit has an internal battery which saves any changes once power is turned off.

Any continuous controller data consists of the controller number and the value of the parameter involved. MIDI volume is controller No. 7 and Parm# selects this by the same method as above. The MIDI channel is also needed otherwise all devices could be affected. This can be set by using the Chan button and again moving the slider until number five is selected.

Now any movement of this slider will send out MIDI volume control data on MIDI channel five. Let's take this example a couple of steps further. Many MIDI devices show little response to volume values of less than 30 or so while others can exhibit distortion if the highest possible value of 127 is sent. FaderMaster can have minimum and maximum limits set so that the entire travel of the slider can still be used. This increases the sensitivity, and setting up these limits uses the Min and Max buttons in exactly the same way as those seen previously.

BANKS

ONE THING THAT wasn't mentioned in the last section is the number of presets. Each set of eight faders constitutes a Bank and there are 30 of these, pre-programmed with data varying from basic MIDI volume and pan on each of the 16 possible MIDI channels, to more specialised uses, such as three banks of edits, each for the E-mu Proteus and Ensoniq VFX, along with banks for other established machines including the Korg M1, Roland D50 and Yamaha DX/TX series.

Then there are nine User Banks, where you can tailor the data sent out by the fader precisely to your own

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criteria. Finally there is one SysEx Bank. Bearing in mind that most of the presets transmit system exclusive, this bank is invaluable for conversation with new synths or those not part of the preset package. More about this later.

Unfortunately, there is no facility to copy from one bank to another – one area in which FaderMaster falls down. This means that banks have to be set up from scratch and, worse still, the SysEx bank can only be programmed via an extra piece of software (for Atari ST or Apple Mac) so precluding this bank's use for those without a computer.

ADVANCED FEATURES

FOLLOWING ON FROM the previous example, it is quite possible for a situation to arise where the volume of more than one device is to be controlled at the same time, for instance in a fade. This would require the setting up of the sliders for each MIDI channel and very steady hands or a long pencil to achieve an even fade. The grouping facility on FaderMaster gets around this problem. Any fader may be placed in a group and put under the control of another fader. Pressing the Group button and moving a slider shows the number of the fader which will control the currently mobile slider. So you can assign all eight faders to the movement of just one, with the value of all faders being in sync but still keeping their individual MIDI values.

As it is the position of the slider which commands the value sent out, the scanning rate of the slider's position is important. If it is too slow, then any subtle movement may be missed while too fast a rate will result in too much MIDI data being generated, which could lead to timing glitches when used with a sequencer – especially if system exclusive is involved. The Speed function allows you to set a value between 1 and 16 subject to the formula;

$$\text{Scanning rate per second} = 100/v,$$

where v is the number selected.

So "1" gives a scan rate of 100 times per second while "16" gives 6.25 times per second. Allowing for the fact that MIDI is serial (sends data one byte at a time), the lowest scan rate for any particular situation should be set so that the amount of MIDI information generated is as low as possible (although this cannot be changed on the presets).

Probably the most important function is that of merging incoming data with that being generated by the faders. There are three different modes for this, selectable by the Group button. The first of these is "unconditionally on" and would be used to merge all incoming data with that for the faders. An example for this would be where the master keyboard has no MIDI volume slider and volume changes are required. If data has already been recorded and you then decide that it needs to be replaced, the "unconditionally off" mode would be used. If the incoming data is of the same type as that

assigned to the fader, then it is ignored and so may be replaced. However, the situation may arise where only a small portion of the volume data is to be replaced and a facility like punching in and out is needed. This is the "conditional" mode where information is passed through until the fader is moved, at which point it is replaced by the fader values. To make this method easier, there is also a Null feature which shows what the numerical difference is between the current fader position and the data coming in. While the Null button is being pressed, no data is actually transmitted.

What this last facility allows you to do is to check the incoming values and to prepare the position of the slider for when the data is to be replaced. A useful feature, this. The only problem is that it can be used for note on/off data or controllers but not with aftertouch, program change or pitchbend, each of which can cause more than their fair share of headaches and whose replacement can often be awkward.

There is little doubt that the blame for the mechanistic feel of much of today's music has been laid fairly and squarely at the feet of the drum machine, whether it be a hardware drum box or the grid on a computer. Even using "humanise" functions on a sequencer doesn't seem to resolve the situation. With FaderMaster, a note and MIDI channel can be assigned to each slider and the position of the slider delays that note by up to 15 milliseconds. So if the sequencer is playing a drum module and you want to give the choruses more urgency, assign the key note for the snare drum to one of the sliders and

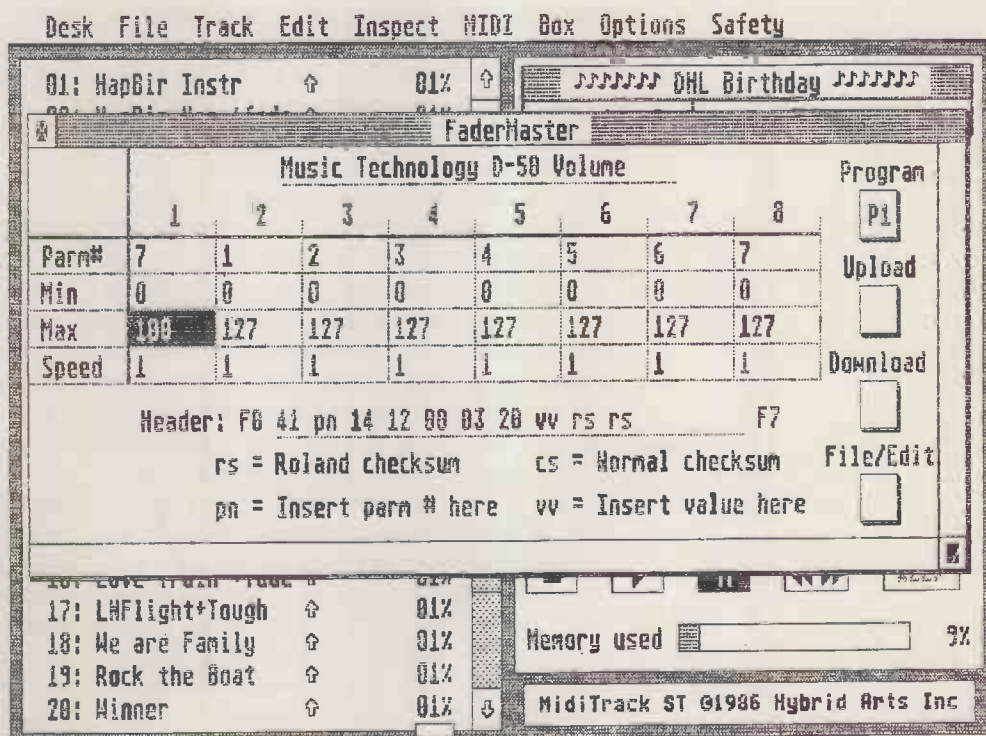


Figure 1: D50 Editing

advance it against the hi-hat. The effect will be of "pushing" the music, and the amount is completely in your hands – literally.

Alternatively, slider eight can be used to delay MIDI clocks, so allowing you to loosen up the timing of all instruments on a drum machine simultaneously. In ►

► fact, it would be possible to record an FSK tape sync code through FaderMaster and to put subtle tempo changes into a piece of music by moving the faders as the code is going down. The result would be a looser format but with all synchronised instruments following the timing.

IN USE

I'VE HAD FADERMASTER on test for a couple of months now and during the course of this, one particular song required most of the instruments to change volume each time the chorus came along.

Usually I'd have experimented with the volume for each MIDI device and then written it into the sequencer, but FaderMaster made the job that bit easier. Once the relevant faders had been placed into the correct positions, hitting the Min, Group and Value buttons sends out a "snapshot" of the entire bank, which was then recorded. Using this and the other facilities got me out of the ludicrous situation of always relying on numerical values when my ears were what should have been important. If it sounds right, go for it.

Another common problem is one of fading up one function while fading another down. This happens with the volumes of two samples in

particular. If the maximum and minimum values are set the wrong way round on FaderMaster the fader works in reverse so that grouping together two faders, one of which has been set in reverse, results in a volume crossfade effect.

As a long-time user of an Oberheim Matrix 1000, it has always been an annoyance to me that no real-time editing can be performed on it – in fact, very little editing at all can. Little things like setting a high resonance value and sweeping the VCF cutoff frequency to create a growling synth effect are impossible. However, FaderMaster changes all this, by having both of these edits assigned to faders in the Matrix 6/1000 bank. As previously mentioned, the speed of the scanning rate cannot be altered and is fixed at the maximum of 100 times per second. In the context of the song I was working on, this involved over 2000 bytes of SysEx data being handled by the sequencer and transmitted (along with note information) during the course of an eight-bar section which included 16th hi-hats and quite dense chords. All I can say is that if there were any timing glitches, I didn't hear them and neither did the guys for whom the track was intended.

Another point worth mentioning is that many of the current trend of effects units are using MIDI controllers to change parameter values such as reverb depth, pre-delay time and so on, like Yamaha's new FX500 and Alesis' Quadraverb. Others, like ART's Multiverb, have to be programmed using SysEx – indeed, the nominal SysEx bank has been set up for this unit – but I spent a lot of time controlling the Quadraverb using FaderMaster. Over 20 of the

parameters can be altered in real time by assigning them to MIDI controllers, pitchbend, aftertouch, note number or note velocity. The system worked like a dream, although there were certain times when I wished that FaderMaster had footpedal extension sockets so that my feet could control a couple of the sliders.

OPTIONAL SOFTWARE

WHILE FADERMASTER'S NINE user banks can be edited, the SysEx bank cannot. Add to this the fact that visually editing anything is bound to be easier than doing it "conceptually" and the additional software has instant appeal.

Extremely simple to use, it can exist as a desktop accessory to most programs on the Atari ST (I couldn't try the Apple Mac version). This means that it can be used with your sequencer without having to reboot. Single banks can be downloaded to or uploaded from FaderMaster and can also be saved to disk as single programs or as all ten editable banks in one file.

The SysEx bank, labelled P1, is rather more interesting, as it shows the intelligent nature of FaderMaster. The series of bytes in the example (see Figure 1) will edit the actual volume of a Roland D50 (you can see the value in the D50 window changing as the slider is moved). Let's have a closer look; the first five bytes are the header for the Roland D50 and "pn" is a fixed number for a particular slider, and is being used here for the MIDI channel, 7 corresponding to MIDI channel 8. The address for Overall Volume is 00 03 20, and "vv" is the value of the slider which has been set to go between 0 and 100. "rs rs" is for the checksum which FaderMaster will calculate for each slider position. All of this data has been found from the SysEx booklet with the synth itself.

VERDICT

ONE OF THE marvels of FaderMaster is being able to actively "draw" your own controller curves, especially for volume. I stress curves because volume should not be linear and most computer sequencers offering a draw-your-own facility make it very difficult if not impossible to do this. For the volume faders alone, this is a good device.

When you then start to delve into the possibilities of humanising drum machines, altering the parameters in effects units, crossfading samples and other ideas which grow as you use FaderMaster, it begins to look like a unit which is invaluable. Yes, I've had a few gripes, especially regarding the necessity of the optional software for editing the SysEx bank, but quite honestly, I cannot think of a way that this would be possible otherwise. It just limits the available functions for someone with a small hardware sequencer.

I don't often buy the unit I get to review, but there is absolutely no way that FaderMaster is leaving my studio. If you want real-time control over your MIDI devices, get one of these units. ■

Price £299 including VAT.

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“Grouping together two of FaderMaster’s faders, one of which has been set to operate in reverse, results in a volume crossfade effect.”

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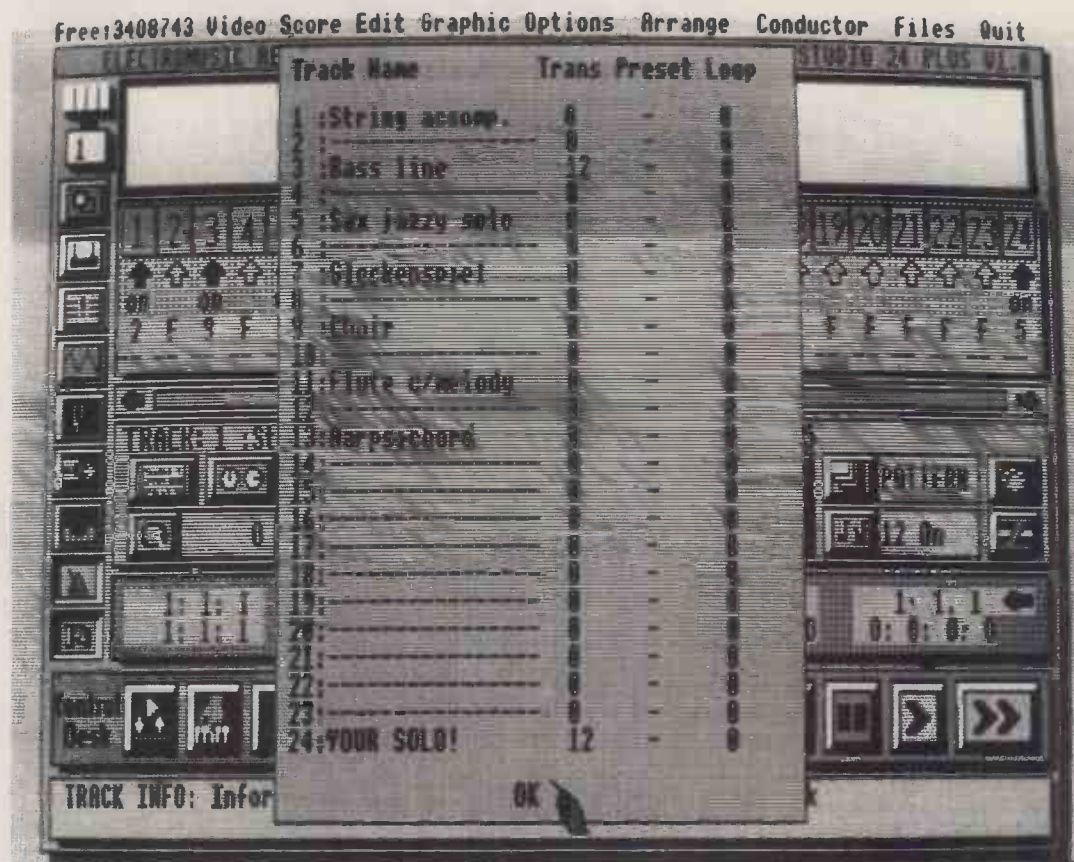
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EMR STUDIO 24 PLUS



KEYBOARD DISPLAY AT TOP OF MAIN SCREEN

The only 32-bit micro computer currently on the market is Acorn's Archimedes – but it's had to wait two years for its first music software.

Review by Ian Waugh.

IT'S A FUNNY old game isn't it, music and computers? I mean, there's never a right time to buy a computer or a piece of music software; there will always be something better around the corner.

I remember when the Commodore 64 was *the* music computer (it wasn't that long ago) and now I don't know of any company actively developing new C64 music software.

It wasn't until Atari unleashed their ST on the world that powerful and affordable music software became available to the masses and the ST assumed the tag of *the* music computer. And it looks likely to stay number one for a while at least, although it keeps glancing over its shoulder at the Commodore Amiga, the infinite variety of PC clones and the mighty Apple Mac.

And then there's Acorn, who made a fortune out of the BBC micro in England and lost it twice as quickly in America. Always at the forefront of technology, however, Acorn were not content with jumping from 8-bit to 16-bit processing, instead they leapfrogged over all the competition to produce a 32-bit computer,

the Archimedes – the fastest micro in the world. More speed, more power, more memory; surely this is destined to become the new music computer.

On top of the fastest micro in town, what else do you need? Well, some software would be nice, wouldn't it? The Archimedes has been with us now for nigh on two years but if you're a musician rather than a computer buff you can well be forgiven if you haven't given it more than a cursory glance. In spite of its enormous musical potential, the Archimedes is having a devil of a job attracting the attention of the music software developers. Acorn have produced a MIDI Podule which plugs into a backplane (along similar lines to PC plug-in cards) and at least three companies are rumoured to be working on music software but it's a long time coming. Part of the problem, I feel, is the cost of the Archimedes itself which is considerably higher than the ST and Amiga. OK, I think most pundits will agree that it's certainly worth the extra ackers, but the marketplace is largely governed by price, and even Acorn's new computer, the entry-level A3000 at £746, is hardly an ST basher. And if people don't buy it in droves, who

wants to write software for it, especially when the ST and Amiga are still burgeoning – and reasonably safe – markets?

THE CHALLENGE

ONE COMPANY, HOWEVER, has risen to the challenge. EMR (ElectroMusic Research) have a history of involvement with Acorn computers and have developed a range of music software for the BBC micro. EMR's Archimedes software falls under the generic banner of the Arpeggio Music System and EMR have been promoting the concept for well over a year. The vision is a fully integrated suite of programs including a range of sequencers – not just one – a scorewriter and a drum pattern editor complete with links to pro audio/visual equipment.

Studio 24 Plus is the first sequencer off the launch pad and, needless to say, it is also the first sequencer program for the Archimedes. As such, it sets the standard by which all others will be judged.

The manual describes the program as suitable for home, school and semi-pro use and it hits the shelf at a budget price. EMR have other plans for the pro user and are working on a program called, modestly, Megastudio which will accommodate 8064 channels. (This, however, requires additional hardware and that's another story altogether.) So let's plug in and boot up.

INTERNAL SOUNDS

ONE OF THE nice things about Studio 24 Plus is the ability to play music using the Archimedes' internal sounds, and up to eight internal voices can be assigned to the tracks. You can set the stereo position and pitch offset of the internal sounds and tune them, too, although the tuning table doesn't seem to bear any resemblance to the A=440 we know and love so well.

When you load the program you're asked to allocate memory for the Waveform Filing System which holds the internal sounds. In theory you can access 32 sounds but this figure is dependent upon the amount of memory you allocate to the WFS. EMR have also produced a SoundSynth program for creating and editing the internal sounds plus several Sound Creation disks containing sound samples and these can be loaded into Studio 24.

You can enter music from the computer keyboard, so external equipment is not essential, but to get the most from the program you need to link it to the outside world with a MIDI interface. You can opt for Acorn's interface which has one In, one Thru and two Outs or go for EMR's MIDI 4, a full-width Podule with four Outs. The program will not work, however, with the Acorn MIDI add-on to its I/O Podule. The program automatically recognises which interface is in which Podule.

The main screen is fair crammed with icons and information (some observers have remarked upon the similarity between this and Steinberg's Pro24) but there is a really useful feature to help you find your way around. As you move the pointer (suitably disguised as a hand holding a baton) around the screen, a two-line help window at the bottom of the screen tells you what the feature is, often with a note
MUSIC TECHNOLOGY OCTOBER 1989

on how to use it.

The program can be controlled almost completely with the mouse, although filenames – of course – and some numeric data must be entered from the computer. It's a shame you can't alter numbers by clicking on them. The three buttons on the mouse are used to select options and change parameters.

At the top of the screen are 24 tracks – hence the program's name. However, a recording is not limited to just 24 tracks. A song can be created from a number of patterns, each constructed from its own set of 24 tracks – when you change patterns, the track display alters accordingly. You simply add new patterns to the list when required – up to a theoretical maximum of 9999!

At the bottom of the screen is a set of now-familiar tape recorder controls in a section called the Control Desk. This includes a Punch In button and Cue finders.

TRACKING

TO BEGIN RECORDING, click on the Track number on which you wish to record, then click on the Record button and then on Start. Click on Stop or press the space bar when recording is complete. During recording, you can filter out program changes, pitchbend and aftertouch information and so on. Usefully, the Track display shows which Tracks contain recorded material. A VU display above the Track numbers indicates the velocity levels during both recording and playback. You can toggle between the VU display and a keyboard which shows which notes are playing.

You can solo Tracks, mute them and switch them off. A Pattern will play until the end of the longest Track and switching a Track off (as opposed to muting it) makes the program effectively ignore it.

The Track options are quite comprehensive, with separate settings for recording and playing back. Normally a Track will record data arriving on all MIDI channels (this is shown by F for Full in the display area) but you can make it record data from just one channel. On playback, a Track will transmit data on the same channel it was recorded on, but again, it can be set to transmit on any single channel. Furthermore, if you are using EMR's MIDI 4 Interface, each Track can be assigned to one of the four MIDI Out sockets giving access to 64 discrete MIDI channels.

When the MIDI Thru icon is activated, it sends incoming information to the MIDI Out socket on the currently selected track's channel number. This enables you to play a master keyboard and test musical lines with sounds on other equipment. However, this only works when record is activated so you can't audition a sound before going through the record procedure, which is a shame.

When a Track is selected for recording, its number appears under the Track display area and you can give it a 16-character name – very useful. It would have been helpful if the Track box became shaded when selected, too.

You need some way of keeping time during recording and Studio 24 lets you define a note number, velocity level and MIDI channel to act as a metronome. This obviously takes up one voice on your equipment, ►

“EMR's vision is a fully integrated suite of programs complete with links to pro audio/visual equipment.”

➤ which could be precious if it only has four or eight voices. The pitch, too, may clash with what you play and this can be offputting. The manual suggests you hook up to a drum machine to keep time but this won't suit all users. Why not output a click through the Archimedes' speaker?

RELOCATION

JUST ABOVE THE Control Desk are the Locators which show positions within the Tracks in bar/beat/tick format. These include Track Start and End points, Track Offset, Left and Right Locators and Destination position. There is also an indicator which shows the current bar, one which shows elapsed time – neat – and one for SMPTE timecode which isn't implemented in the current version.

The Locators are used to define a section of music to be edited in Copy and Paste operations using a Clipboard. There's a handy Undo button here, too – just in case. Locators were one of the first methods used by sequencers to pinpoint sections within a track but they really are highly numeric. Many modern sequencers now offer some form of graphic editing which is generally easier to understand and work with.

To edit events you go to the Edit screen which, again, is highly numeric although quite

comprehensive. Notes and other events are shown in an event list in bar/beat/tick format. Notes have separate entries for Note On and Note Off times. It would have been a little more user-friendly, I think, if the actual note durations had been shown.

MIDI events can easily be inserted in the event list by selecting them from a small menu. You can insert notes this way, too, but there is a step-time entry mode which lets you choose durations by clicking on a note symbol to cycle through the durations. Oddly, this doesn't have a semibreve (whole note). The constant clicking to cycle through the durations can become a nuisance (step-time is time consuming at its best) and it would have helped if all the durations had been shown on screen – there's plenty of room – and selection made with just one click. The pitch can be entered via MIDI or from the computer keyboard.

Quantisation takes place from the main screen by selecting a value between two and 64 (why not specify a note by value or name?). There are no quantisation frills or tricks (such as a tolerance range or velocity quantisation) and quantise affects the whole of a track.

During playback, the mouse is effectively disabled – apart from allowing you to click on Stop – so you can't alter MIDI channel settings, change instruments, mute Tracks and so on as a piece plays. This is standard fare on many 16-bit machines and as one of the Archimedes' most powerful facilities is multitasking it seems an odd omission. The tempo and pitch, however, can be altered during playback from the keyboard.

“As you move around the screen, a help window tells you what the feature is, often with a note on how to use it.”

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Other features include a facility to print out information about the current Pattern, transposition and Track loop. You can select internal or external clock, transmit a stream of up to 50 bytes of MIDI data (previously set up from within the Options menu) and there's an All Notes Off button easily accessible from the main screen – every sequencer should have one.

SONGS AND PATTERNS

YOU CAN CREATE a piece from separate Patterns by stringing them together in the Arranger – this is a doddle. To hear the song, you click on a button on the front panel to toggle between Pattern and Song modes. The Conductor function lets you change tempo at different points throughout the song although there is no tempo scale function to let you program automatic rallentandos and accelerandos. Many windows only have an OK button – no Exit or Cancel. Especially during the early stages of use, it's very easy to make an alteration to something, realise you've made a mess of things and want to get back to where you first started. Sorry, but in Studio 24 that's not always possible.

In the Files menu you can load and save eight file types: Song, Arrangement, Pattern, Track, Clipboard, Voice Set, Conductor and Waveform. Comprehensive, eh?

The manual begins by telling you what Studio 24 can do and how it is constructed. If you know little about MIDI and nothing about the program this is not really very helpful. And presumably you already have the program so the sales pitch is no longer required.

The manual suggests that if you're new to MIDI you read EMR's booklet, *MIDI, Micros & Music* (a mere £1.75 but couldn't it have been included with the package?). It could be a little lighter in style and a tutorial section would have been reassuring, although it doesn't lack much in the way of information. It has a good contents page but no index.

VERDICT

THERE ARE SOME aspects of the design of Studio 24 Plus which bring to mind EMR's programs for the BBC micro. The user interface, I feel, could be improved in many areas and I personally would have preferred a more graphic and less numeric bias.

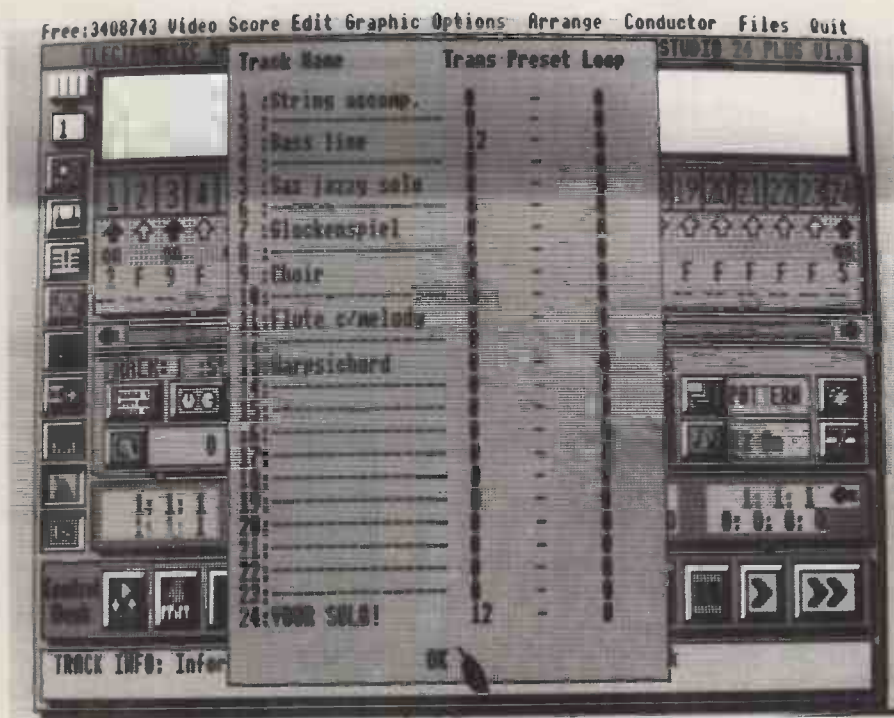
The program has many powerful features but some are not implemented as well as they could be and there are tantalising glimpses of facilities not yet implemented at all. Ultimately you come to the conclusion that full use has not been made of the Archimedes' power and facilities. But then it's certainly budget priced by current software sequencer standards so you need to balance the price against its facilities and assess your own personal requirements.

EMR, I'm sure, realise the program's limitations, and Studio 24 Plus version two is already in development. It will provide support for Render Bender pictures and feature full multitasking control, extra edit facilities and will probably cost under £150.00. A SMPTE Podule will also be available. Megastudio, mentioned earlier, is planned as Studio

24 Plus version three.

Other developments in the pipeline include entry of data from printed music with a scanner. I'm sure this is technically possible but I for one won't be holding my breath.

Let's go out the way we came in, with a few philosophical musings about the state of computers and music software. The Archimedes is waiting patiently in the wings for someone to write the perfect piece of music software for it. Studio 24 Plus, alas, is not perfect – but then it is a budget program, as I keep reminding you. If you already have an Archimedes and want a sequencer for it, at the moment you have no choice. If, however, you're looking for a musical excuse to buy an Archimedes, I'm afraid I don't think Studio 24 Plus is it.



TRACK INFO SCREEN

“Ultimately you come to the conclusion that full use has not been made of the Archimedes' power and facilities.”

There are other music developments on the horizon but until they draw closer and we see what they're made of, Studio 24 Plus has no competition. Whether EMR will retain its market advantage remains to be seen. Steinberg's Pro24 was the first sequencer for the Atari ST – and look where it is now! If EMR take advantage of their lead they could become to the Archimedes what Steinberg are to the ST.

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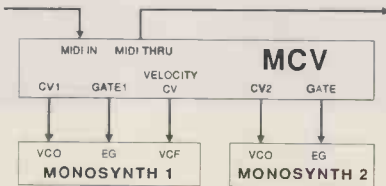
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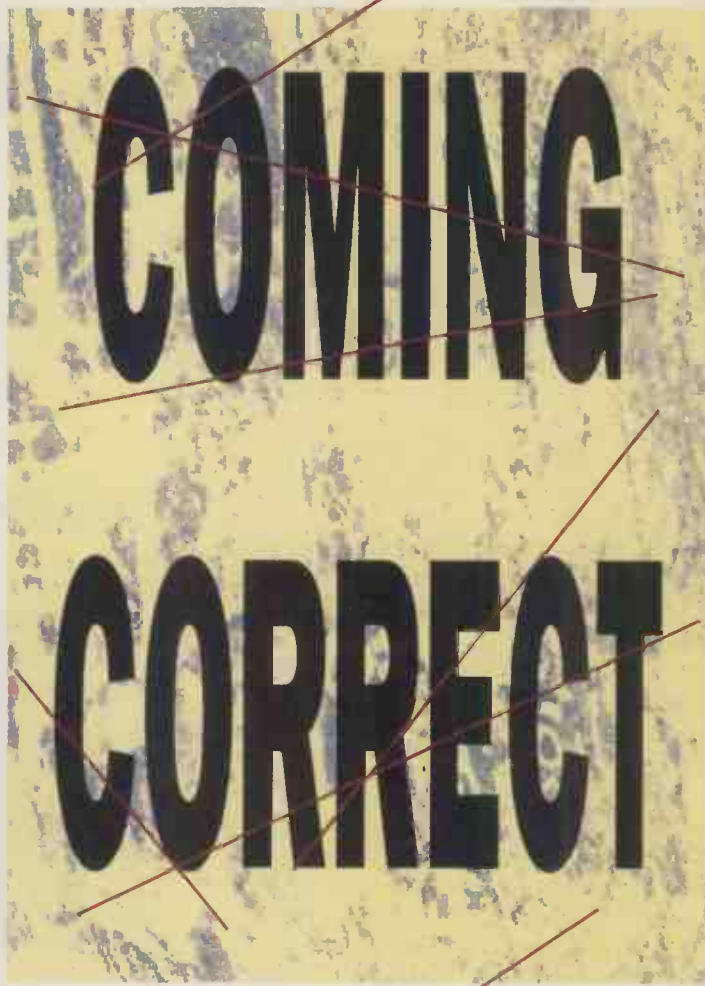
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programmable, MIDI plus adaptor, 1 year old, £400. Tel: Somerset (0458) 33304.

CASIO HT3000 keyboard/synth, RAM card and chord sequencer, £275 ono. Colin, Tel: (0934) 713079.

CASIO HT6000, programmable keyboard synth, extras, home use only, mint cond, £495. Tel: Stoke-on-Trent (0782) 639450.

CHEETAH 61-KEY MK5, note on, note off MIDI master keyboard, as new condition, £110. Paul, Tel: Medway (0634) 34811.

EMINENT 1600, orchestra double manual organ and stool, £600 ono. Tel: (09073) 5157.

ENSONIQ ESQ1, mint cond, £649 ono; Gauss 15" speaker, £99 ono; Dynamix 6:2 mixer, £149 ono. Dave, Tel: 061-705 2534.

ENSONIQ ESQ1, sequencer expansion, cartridge, manual, boxed, perfect condition, £600. Tel: (0395) 516768.

ENSONIQ VFX, £1000; Atari 1040, monitor, C-Lab Creator, £530. Mick, 9 Royal Park View, Leeds LS6 1HN.

ESQ1 synth/sequencer, additional voice cartridge, manual, first £425 secures. Tel: 01-950 2882 (Near Watford).

HAMMOND B200 portable organ, drawbars, home use, £850 ono/swap master keyboard. Robin, Tel: Lincoln 752458.

HAMMOND B200, plus speaker unit, Fender suitcase piano, £500 ono. Buyer collects. Tel: (0803) 844403.

JUNO 6 mine, swap for analogue expander module, MKS7, etc. Tel: (0387) 720133.

KAWAI K1M, boxed, still under guarantee, home use only, £280. U20 forces sale. Tel: 021-4714157.

KAWAI K1 plus DC8, Alesis MMT8, HR16, M/Verb 2, Boss KM04 (2 off), stand, prologue 10L mic, £1200. Dean, Tel: (0753) 31049.

KAWAI K1M, boxed, amazing sounds, multitimbral splits, layers, everything, £290. Tel: (0272) 675047.

KORG 707, multitimbral, touch sensitive

synth, splits, layers, fantastic sounds, £290. Tel: (0272) 675047.

KORG DW8000, £550; Kawai R50, £240; Carlsbro keyboard 150 amp head, £220. Ian, Tel: Hull (0482) 708863.

KORG DW8000, programmable synth, 5-octave, manual, data cassette plus stand, immaculate condition, £430 ono. Tel: Warwick (0908) 582796.

KORG DW8000 synth, excellent condition, flightcase, £500. Tel: Near Bristol (0761) 53317.

KORG M1, £1200; Roland D550, £550; Kawai Q80, 32-track, £450. Julian, Tel: (0792) 299699, 6pm-8pm.

KORG M1R, 3hrs home use, mint, £999; Cheetah MK7VA, 9-octave, documented, £250. Tel: (0222) 792027.

KORG POLYSIX, recently serviced and calibrated, £230 ono; Westone Thunder 1 guitar, mint, £100. Graham, Tel: (0482) 41186.

KORG POLY 800, exc cond, very trendy, £200 no offers. Dave, Tel: (0474) 365247, after 6pm.

KORG POLY 800, £190; Korg EX800, £125; Casio CZ1000, £190; Yamaha EMT10, £190; QX21, £125. Tel: 01-997 2179.

KORG TRIDENT, warm analogue sounds, multitimbral, split keyboard, £295. Bucks/Northants area. Tel: (032 733) 378.

KURZWEIL ENSEMBLE GRAND piano, external speakers, Yamaha EME1 and Roland U110. Tel: 01-688 4955, after 7pm.

MOOG PRODIGY, £110 or swap for Jupiter 4, Promars, TR707. Tel: (0254) 823871.

ROLAND ALPHA JUNO 1, mint cond, £290. Tel: (0272) 675047.

PROPHET VS, boxed, manuals, £1000 ono; Korg Polysix, flightcased, £265 ono. Steve, Tel: (0253) 892402.

ROLAND ALPHA JUNO 1, mint cond,

boxed, manual, £295 ono. Tel: 01-574 5265.

ROLAND ALPHA JUNO 2 with flightcase, 4mths old, some studio sounds, £425. Tel: 051-546 0314.

ROLAND D10, £600; Steinberg D-Series Editor, £40; Prosonus Sample Disc Electric Volume 1, £25. Kev, Tel: (0276) 34466.

ROLAND D10, mint condition, £660; Atari 1040 ST, mono monitor, Sonus Software, £500. Tel: 01-998 8149, eves.

ROLAND D20, £750; Casio HT6000, £350; Yamaha R100 reverb, £90; Shure Prologue mic, £20; Boom stand, £10, all ono. Tel: (0455) 212562.

ROLAND D50, DX100, SH101, TR606 plus JHS 50W keyboard amp, all home use. Tel: 01-353 3521.

ROLAND D50, £900; Alesis MMT8, £150, both as new, will deliver to London. Orlando, Tel: (0672) 62633.

ROLAND D50, absolutely immac cond, home use only, £925 ono. Tel: Nottingham (0602) 211309.

ROLAND D50, boxed with 5 ROM cards, mint cond, only £795 or offers. Tel: (0709) 815644.

ROLAND D50, flightcase, manual, £750; Yamaha RX5, boxed, manual, £450; both in excellent condition. Stewart, Tel: (0896) 55844 days.

ROLAND D50, home use only, with stand, hard case, £875 ono. Tel: (0792) 201604.

ROLAND D110, £450; Akai MX73, £200, all 3mths old. Jeremy, Tel: (0262) 679563.

ROLAND D110 rack synth, boxed, immac, £40 ono; Guitar-MIDI interface, £320 ono. Tel: Guildford (0483) 65757.

ROLAND D110, boxed, as new, can deliver, £400. Tel: (052 42) 41505.

ROLAND E20, 5 octave, touch sensitive, fantastic rhythms and accompaniments, stand and box, pristine condition, £825. Tel: 01-644 8825.

ROLAND JUNO 2, £375; Roland MT32, £265; Yamaha EMT10, £195. All very,

very good condition. James, Tel: (0784) 456898.

ROLAND JUPITER 6 with MIDI, £460; Roland Juno 6, £220; Korg Mono/Poly, £150. David, Tel: Tyneside 091-266 7803.

ROLAND JUPITER 6, flightcased, £450 ono; Roland Juno 106, flightcased, £350; Casio CZ3000, £250, all immac. Mel, Tel: Sheffield (0742) 847369.

ROLAND JUPITER 8, Groove MIDI, flight, delivery possible, £800. Tel: Paris based, 33.1.3995.1064.

ROLAND JX3P, manual, flightcase, good cond, warmth with clarity, £275 ono. Tel: Brighton (0273) 550716, after 5.30.

ROLAND JX3P MIDI synth, with PG200 programmer, £350 ono; Korg Poly 800, £190 or swaps considered. Tel: 01-997 2179.

ROLAND JX8P, plus Carlsboro Hornet amp, all boxes, leads, manuals, perfect condition, £599. Tel: 01-894 7375.

ROLAND MT32, mint condition, plus Atari Dr T's MT32 Editor, £280. Tel: (0272) 675047.

ROLAND RDD300S digital piano, perfect cond, home use only. Ashley, Tel: (0604) 34946 (Northampton).

ROLAND RDD300S piano, immac cond, £899 ono, p/x KX88 possible. Tel: (0234) 767174.

ROLAND SH101, vgc, classic monosynth with internal sequencer, great effects, £95. Tel: 01-643 1209.

ROLAND SH101, acid generator, flightcase, £110 ono; Roland MC202, versatile sequencer/expander, interface cables, boxed, £100 ono. Andy, Tel: 021-433 4066.

ROLAND W30 workstation, brand new, swap for M1 or sale £1400, includes disks. Steve, Tel: (0204) 883213, after 7pm.

SEQUENTIAL SIXTRAK, fully programmable synth with built-in sequencer, £275 ono. Tel: (0484) 655770.

SEQUENTIAL PROPHET 5, Rev 3.3, perfect, full flightcase, 120 sounds, manuals, etc, £550 ono. Tel: (0706) 54756, after 6pm.

TECHNICS K700, top range, home keyboard, home use only, immaculate condition, £650. Tel: Sussex (0243) 786005.

TECHNICS SXX700, exc sampled sounds, immac, sad to see it go, £595 ono. Tel: 01-642 9131, eves.

TECHNICS SXX700 flightcase, MIDI FBS-Computer, 61 keys/split, £790; 100 W-Amp, 2 speakers, new, £250. Tel: 01-591 0866.

YAMAHA B200, synth sequencer, ideal

in MIDI set-up, £595 ono. Tel: (0934) 713079.

YAMAHA CP70B electric grand, £750; DX7 MK1, Syco MX1 update, £575; Roland MC500, £450; Tascam 246, £590; all immaculate. Tel: 051-356 0019.

YAMAHA CS01 classic analogue synth with strap, only £45. Tel: (0280) 814235.

YAMAHA CP70B, mint cond, £750; Roland JX3P, £230. Tel: (0942) 37095.

YAMAHA DSR1000, programmable sounds, built-in drum machine, manual, adaptor, £320. Mark, Tel: (0895) 634783.

YAMAHA DX7, £449; Yamaha TX81Z, £179; Yamaha KX1, £299; Akai S950, £1079; Quadraverb, £359; Tascam 244, £329; Casio FZ10M, £699. Tel: (0782) 723101.

YAMAHA DX7 ROMS, mint condition, stand, boxed, manuals, £350 or exchange for FB01 and £250. Tel: (0895) 673564.

YAMAHA DX9 and QX7 sequencer, Roland VK1 organ, Spectrum MIDI system, offers. Tel: (0836) 556129 (West Midlands).

YAMAHA DX11, multitimbral synth, mint condition, boxed. Offers? Tel: 01-428 1415.

YAMAHA DX21, mint, £300; Yamaha QX7 sequencer, never giggered, £100. Tel: 091-386 7807, after 5pm.

YAMAHA DX21, QX21 seq, Roland TR505 plus Korg MS10 thrown in, £500 the lot. Or swap plus around £500 for Korg M1. All gear perfect condition. Tel: Leeds (0532) 560914.

YAMAHA DX27, exc cond, manuals, BC1, £250. Tel: 01-942 7374.

YAMAHA DX100 and quality hard carrying case, both hardly used, £199 no offers. Mark, Tel: (029 671) 2411.

YAMAHA DX100, QX21, TR505, Mirage keyboard, boxed as new, reasonable offers. Tel: 041-334 6707, after 6pm.

YAMAHA DX100, suit small child or adult with small fingers, £140; battered MT1X, £120. Tel: (0285) 712480.

YAMAHA FB01 sound generator, £130; Yamaha ROM music books, volumes 1, 2, 3, 5, 7, £10 each. Tel: 01-455 8831.

YAMAHA FB01 expander, exchange for Alesis MIDIVerb or Microverb. Tel: (0935) 814911.

YAMAHA MK100 digital synth, melody, bass, plus drum sequencer, stereo, auto-harmonize, Keyfax rating QQQVVV, £60. Tel: 01-505 3807.

YAMAHA OX7, £450; QX21 sequencer £100; CX5 120k computer, 3 programs (including DX7 voicing) and keyboard,

£150. The lot £600. All excellent condition. John, Tel: (0823) 258547.

YAMAHA PF70 electronic piano, £350 ono; Casio VZ10M synth module, £300 ono; Akai MX73 mother keyboard, £275 ono; Casio AZ1 remote, £225 ono. Richard, Tel: (0488) 58812 (leave message on answerphone).

YAMAHA PF80 digital piano, boxed, manual, home use only, excellent condition, £750. Rohan, Tel: 061-224 0059, evenings.

YAMAHA PSR70, £320 ono; Yamaha DX100, £220 ono, both boxed, with manuals, adapters, immac cond. Tel: (0452) 412904.

YAMAHA PSS680, stereo music station keyboard, 32 PCM drum/perc sounds, digital synth, multitimbral, full MIDI spec, £140. Tel: (0384) 410853.

YAMAHA SHS200, sling-on FM MIDI synth, chord sequencer, pitchbend, 49 sounds, stereo, £80. Tel: 01-505 3807.

YAMAHA TX7 MIDI expander, £230; Yamaha QX21 sequencer, £125. Tel: 051-648 1668.

YAMAHA TX802, mint cond, boxed, £700. Andy, Tel: 01-347 8954.

YAMAHA TX81Z, mint, boxed, inc manual, £260. Tony, Tel: (0458) 31444.

SAMPLING

AKAI S612/MD280, plus 25 disks, £230; Yamaha CX5 mkII, £190; YK20 keyboard for CX5, £35. Tel: 01-997 2179.

AKAI S900 sampler, V2.1 upgrade, access to 100-disk library plus free disks, £900. Tel: March (0354) 58448.

CASIO 2-MEG EXPANSION board for FZ1, £170; Nomad Axxeman or Rockman Sustainer wanted. Tel: (0562) 67666.

CASIO FZ1, as new, £650; Yamaha TX81Z, £195. Tel: (0491) 575588, evenings.

EMAX DISKS, please someone in Edinburgh must have samples to swap. Tel: 443 4976.

EMAX with many disks in mint condition, home use, boxed. Tel: Guildford (0483) 578497, evenings.

EMAX SE KEYBOARD, with Atari editing software and disks, £1200 ono. Tel: 01-950 5543.

ENSONIQ EPS SAMPLER, 4 times memory, immaculate, flightcase, manuals, guaranteed, 2 months old, £1400. Tel: Telford 251753.

ENSONIQ EPS, many disks, Prophet 5, rev 3.3, perfect cond, Roland M160 mixer, wanted TR909 drums. Rick, Tel: (0962) 841775.

ENSONIQ MIRAGE, library, £499;

Yamaha DX9, £295; Yamaha RX11 drumbox, separate outs. Paul, Tel: (0328) 738840.

ENSONIQ MIRAGE keyboard sampler, flightcased, library, £400 ono. Tel: (0225) 337118.

KORG DSS1 sampling synth, includes disks, boxed, studio use only, £760 ono. Tel: Guildford (0483) 65757.

KORG DSS1 DISKS sought to buy or copy. Help! Tel: 0450 78828.

KORG DSS1 sax and brass, ENS 1, disk unopened, £5. Tel: Cambridge 22946.

OBERHEIM PROMMER, £100; Korg EX800, £100. Simon, Tel: 01-568 4633 days, or 01-567 6070 eves.

ROLAND MKS100 plus disks, £350; MPU104, MIDI-switcher, £30; Yamaha WX7, £350; FB01, £95; YME8 Thru-Box, £50. David, Tel: (0923) 34887.

ROLAND S330 SAMPLER plus mouse, £850; TV/Monitor, £150; TR505, £100. Steve, Tel: 01-422 8937 days, 01-868 9527 eves.

ROLAND S330 sampler, boxed, hardly used, £1100 (complete with disks and mouse.) Tel: (0226) 384791.

ROLAND U110 sample player, mint cond, boxed, 2 ROM cards, bargain at £440. Tel: 01-654 7707.

ROLAND U110, six part sample module, excellent sounds, as new, boxed, £460. Gavin, Tel: (0494) 440903.

YAMAHA VSS200 voice sampler keyboard, Aria L/H, black, perfect, Fender 12 string, right hand, Hohner, considered R/W. Rob, Tel: Beaconsfield (0494) 674523.

SEQUENCERS

CASIO SZ1 with expansion RAM, PSU, £80; Casio DH100 MIDI Horn, £75. Tel: (0536) 84744.

KORG SQD8 sequencer, boxed, as new, 8 tracks and disk drive, £250 including disks. Stu, Tel: (07596) 516.

ROLAND MC300, boxed, 1mth old, genuine reason for sale, £425 ono. Tel: 01-643 8530.

ROLAND MC500 sequencer, excellent cond, plus full flight case, software, manual etc, £475. Dave, Tel: (0666) 822385.

YAMAHA QX3 sequencer with disk drive, £475; Oberheim Xpander, £1100. Tel: 01-446 3098.

YAMAHA QX5, £165; Roland TR505 percussion, £140, both mint. Tel: (0269) 850933.

YAMAHA QX21, boxed, as new, manual, £120. Tel: (0432) 265680.

YAMAHA QX21 in vgc, £120. Tel: 01-254 0678.

DRUMS

ALESIS HR16, boxed as new, £260 ono. Move forces sale. Richard, Tel: Hull (0482) 792839.

ALESIS HR16, immaculate, boxed with manuals, guarantee, two months home use, only £275. Tel: Telford 251753.

BOSS DR220A drum machine, cost £165, sell for £100, in exc cond. Tel: 01-420 1585.

KORG DDM110 with book containing famous patterns, immaculate, £60 with PSU. A bargain! Tel: (0782) 502420.

MAXWIN single-headed tom-toms, 8" plus 10" with stand, £40; 12" plus 13" with stand, £50. Casio 52-1 Polyphonic sequencer. Tel: (0203) 673133.

SIMMONS SDS8, red, five pads with all stands and leads, £350 ono. Tel: (0202) 600777.

SIMMONS SDS9, ZIF sockets, spare chips, pedal, stands, looms and cases, best offer. Tel: March (0354) 58448.

SIMMONS TRIKER, boxed, six weeks old, great sounds and triggering, £545. Greg, Tel: (0497) 821138.

ROLAND TR505, exc cond, 16 superb sounds, only £130 ono, boxed and with manuals. Tel: (0532) 759933.

ROLAND TR505, separate outs, as new, manual, boxed, £160. Tel: Norwich (0603) 56781.

ROLAND TR505, mint, professionally fitted separate outs, great sounds, upgrading, £145, boxed, manuals. Tel: (05242) 62258.

ROLAND TR808, good cond, £280; Yamaha PSS570, £130. Mike, Tel: (0386) 553555.

YAMAHA RX5, cartridges, boxed, £475 ono; Yamaha TF1 modules, £225 each. Paul, Tel: Swansea (0792) 589296.

YAMAHA RX5, £495; CZ5000, £395; MT2X, £365; Siel DK80, £265; QX21, £125. All mint cond with leads, manuals, cartridges, power supplies etc. Mark, Tel: 01-908 1104.

YAMAHA RX7 drums, boxed, as new, home use, £450. Tel: Walsall 39970, after 8pm.

YAMAHA RX7 digital drum computer plus sequencer, effects, MIDI, mint cond, £414 ono. Tel: (0203) 501521.

YAMAHA RX11, good cond, box and manual, £150. Tel: Herts (0462) 481546.

YAMAHA RX15, 3-tier microlight Taurus controller, Prodigy, Rogue, sensible offers. Tel: Leyland 422623.

YAMAHA RX17 drums, boxed, as new, £150. Write: Mark McLaren, Emanuel College, Cambridge. CB2 3AP.

YAMAHA RX21 AND RX21L drum

machines, immaculate, manuals, extra pattern books, £170. Chris, Tel: 01-635 0968, evenings.

COMPUTING

ATARI, Dr T's KCS, £100; Korg SQD1, plus disks, £295; Vox Venue keyboard combo, £225. Cliff, Tel: (0684) 296600 Ext 270, daytime.

ATARI 520STFM and Pro24, offers? Swap for 1040 ST? Korg DSS1 plus disks, offers, swap for Akai S900? Brian, Tel: Buxton (0298) 77349.

ATARI 1040ST, SM125 monitor, Pro24 V3 plus loads of software, £650, as new. Tel: (0533) 849368.

ATARI 1040ST, mono monitor, Dr T's KCS Level II, £499; Yamaha TX81Z, £199. All in mint cond. Tel: East Sussex (0424) 218711.

COMMODORE 64, disk, printer, tape, mouse, touchpad, games, utilities, magazines, books, worth £750 plus, £300 ono. Tel: (0222) 708408.

COMMODORE 64, disk drive, printer, Steinberg interface, sequencer, CZ-Editor, sampler, very good, £270. Chris, Tel: 01-635 0968, evenings.

DIGIDESIGN Universal Sound Designer, Dr T's D110 editor, both with original library, £240, £60. Gary, Tel: 051-423 6158.

DR T'S AMIGA MIDI Recording Studio plus MIDI Interface with leads, £70. David, Tel: 01-637 9111 Ext 1523, days, (0442) 866326, eves.

DR T'S KCS V1.6, 48-track sequencer for Amiga, no offers, £120. Tel: 01-202 7068.

EMR MIDI INTERFACE, plus performer, composer, editor, notator, £30. Tel: 01-657 0725, eves.

MASTERTRACKS JUNIOR, Passport's 64-track Atari sequencer, manual, pristine cond, snip at £59. Tel: Letchworth (0462) 679915.

PASSPORT MASTERTRACKS Junior, 64-track Atari sequencer, professional, brilliant, cheap! Original, complete, £59. Jerry, Tel: (0928) 563458.

PD LIBRARY STARTING: wanted, all your ST programs, esp music. Shareware? Writers? SAE. All disks returned. Write 45 Elswick, Skelmersdale WN8 6BX.

STEINBERG PRO16 and DX7 editor, plus MIDI interface, all for C64, unused, £80. Tel: 01-435 9617, eves.

STEINBERG PRO24 version III, a software classic, bargain at £180. Tel: (0706) 815912.

STEINBERG PRO24 version III, plus switcher program, bargain at £190 ono. Dave, Tel: (0639) 843372.

XR1 MICON interface, step time

sequencer, multitracker, Casio editor, £40. Tel: Cardiff (0222) 756932.

XRI SPECTRUM MIDI Interface, step and multitracker sequencers, voice editors, etc, £55. Tel: 021-384 6669.

YAMAHA CX5 software: MIDI recorder and DMS 8-track onboard voice recorder, £40, swap YRM501. Tel: (0468) 71476.

YAMAHA CX5M, SFG05, DMS 16-track, large keyboard, voice editor, composer, B/W TV, games, £200. Tel: 01-993 2844.

YAMAHA CX5M, large keyboard, voicing, composer software, boxed, VGC, £110. Can deliver, Tel: (0765) 5082.

RECORDING

A BOOM BOX bass enhancer, dbx 120X, £200. Why does your mix sound thin? Tel: 01-370 0732.

ACOUSTIC RESEARCH loudspeakers, AR18s LS, exc cond, good power handling, £80. Paul, Tel: Medway (0634) 34811.

AKAI EX90R reverb, £110; AKG BX5 stereo reverb, £75; 6:2 mixer, £95; QX21, £125. Tel: 01-997 2179.

BOSS RX100 stereo spring reverb, separate input, output, volume and panning controls, £55 ono. Andy, Tel: 021-433 4066.

CANARY 16:2 desk, £240 ono; Commodore 64, disk drive, Steinberg interface, Pro16 software, printer, £270 ono. Tel: 021-766 7822.

DBX SNR1 single ended noise reduction, reviewed MT June '89. Brand new, boxed, genuine reason for sale, bargain, £145 ono. Tel: Hemel Hempstead/London (0442) 862373.

DESTECH 16:2 mixer, immaculate condition, boxed, guaranteed, with manual, two months old, £350. Tel: Telford 251753.

HILL 28/4/2 flightcase, m/core 63 metres, flightcase, £1250; various PA cabs, loaded/empty. Tel: (0495) 532436.

IBANEZ SDR 1000+, digital reverb and effects, true stereo operation, £320. Tel: 01-318 2429.

MTR 12:8:2 recording desk, £350; Roland Digital effects Processor-3, £150. Tel: (0382) 552768.

PHONIC professional series, stereo mixer, 4-stereo/mono input channels, master fader, LED level indicators, 5-band equaliser, £90 ono. Tel: (0384) 410853.

RTL EVENT SMPTE to anything, 3 clocks, MIDI, delay board, £520; also EWI complete, £420. Tel: (09277) 66664.

SCULLY 16-track, 2", 15/30ips, good

working order, £1150. Alan, Tel: (0603) 592453.

SECK 12:2 mixer, £325; Yamaha MT100, £275; MIDIVerb II, £199. Tel: (0473) 232406, 687852.

TASCAM 244 Portastudio, vgc, new heads fitted recently, £400 ono. Tel: Port Talbot (0639) 893962/887576.

TASCAM PORTA TWO, four-track porta studio, never used, £400 ono. Tel: (0532) 578130.

TEAC 144, hardly used, £225; 8U flight case, aluminium, new, £100; Charvel 6, £475. Tel: 01-690 8415.

TECHNICS R5-B305, stereo cassette deck, Dolby B/C, metal tape, ideal home studio, £75. Tel: Telford 251753.

YAMAHA MV802 8-channel, rackmount mixer, 2 effects loops, £175. Tel: March (0354) 58448.

Amps

ALLIGATOR 4x10 plus horn, 400W cabinet and 400W amplifier, £450 or swap Ebony 200W combo. Tel: March (0354) 58448.

CARLSBRO COLT 45W keyboard combo, 4 inputs, 2 channels, reverb, EQ, mint, cost £200, accept £145 ono. Mark, Tel: 091-528 8806.

DENON PMA 700V 100+100WRMS stereo amp, processor loop, 7 stereo inputs, £180. Tel: (072) 876376, after 7pm (Suffolk area).

FENDER 15" bass cab, vgc, £80; Bass flightcase, £20. Tel: (0532) 430177 (Leeds).

HH MA100 PA amp, 2 2x12 cabs, £220 ono; Peavey XR400, £110. Tel: Guildford (0483) 65757.

MARSHALL 100W MV amp, flightcased; Slope 4x12 300W cab, vgc, £420 ono. Tel: Guildford (0483) 65757.

MARSHALL 100W PA plus HH 4x12" cabs and 15" bass bin 150, 3-tier keyboard stand, £75. Tel: (0730) 67167, evenings.

MCGREGOR 200W keyboard combo, 3-channel, graphic, reverb, vgc, £250. Ian Kay, Tel: 01-688 5608 (home), 01-763 1030 (work).

SELMAR treble and bass, 50W 4 ins 2 outs, Celestion 75W, new, £80 pair. Martin, Tel: (0248) 355600.

SESSION 4x10 bass combo, 10-band graphic, D/I FX loop, mint, £250. Tel: Leeds (0532) 780954.

WEM 50W bass valve amp, 2 inputs, treble boost, soft cover. Tel: (0903) 764392.

Personnel

CLASSICALLY TRAINED keyboardist required, Malmsteen, Metallica style, original HR. Transport essential, Manchester area. Tel: 793 6779.

ESTABLISHED EXPERIMENTAL group

need inventive drummer for Europe/USSR tour and recording. Simon, Tel: 01-232 2682.

GREENGATE DS3 USERS: Is there anyone else out there interested in starting a users group? Chas, Tel: 01-584 6733 days, or 01-360 1348 eves.

GUITAR SYNTHIST available, voice programming and arranging a speciality. Any work considered. Martin, Tel: 01-902 2941, eves.

KEYBOARD PLAYER wanted for band negotiating with record company. Tel: Reading (0735) 292871.

MALE, 18 seeks studio work, enthusiastic and hard worker, experienced 4-track and gig engineering. Simon, Tel: (0279) 24986 day, (0279) 443877 evenings.

MALE, 20 wants to form synth rock/pop band (OMD, Act). Steve, Tel: Bracknell (0344) 428679.

PROGRAMMER/ENGINEER, 20, seeks studio work, superb synth programmer, own gear, etc. Steve, Tel: (0344) 428679.

SINGER, LYRICS needed for chart material, be sure, no time wasters please. Brian, Tel: Buxton (0298) 77349.

SONGWRITER PARTNER required, ideas more important than technical ability. Instrument or vocalist, M/F. Martin, Tel: 01-677 9558.

SONGWRITER seeks same with programming experience especially Motor Rhythms. I have Notator, D10, U110, etc. Tel: (0909) 566695.

SYNTH WANTED (18-25), West Midlands, into Manufacture/Skinny Puppy/Rap. Write P Groll, 31 Armitage Lane, Rugeley, Staffs.

VOCALIST NEEDED for synth duo, 20-24, New Order, Techno, no Tories! Southwest London. Al, Tel: 01-942 3063.

MISC

AKG 410 headset mic, brand new, real quality, cost £140 new, will accept £100. Tel: (0706) 54138.

ALBUMS for sale (LP,CS), mint condition. Write: R. Clews, 17 Enderby Drive, Penn, Wolverhampton. West Midlands. WV4 5QU.

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JUNO 60 flightcase, £40; standard case for Yamaha DX7 or Juno 106, £30. Wanted info on Tascam 80-8. Tel: (0342) 323094.

KORG DDM110 drum machine and Roland MC202, both VGC for £140. Paul, Tel: 01-394 0432 evenings.

KRAMER SUSTAINER, hi-tech guitar, Floyd Rose trem, 39 hours sustain, flick to harmonic mode, new £1070, sell for £850. Tel: (0270) 669224.

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Patrick, Tel: 021-458 5134.

CASIO CZ101 RAMs desperately wanted! Go on, sell me one! Please. Paul, Tel: Blackpool (0253) 42445.

KORG DW8000, or EX8000 keyboard/module required in good condition, max £300. Paul, Tel: (0634) 34811.

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PPG 2.2, manuals, user and service! Data tapes, please help, good price paid. Paul, Tel: (0532) 406886.

ROLAND MKS80, with MPG80 programmer or not. Tel: (0532) 578130.

ROLAND PG800 programmer, urgently required, cash waiting, will collect if London area. Tel: (0757) 702695.

SIMMONS SDS7 instruction manual to buy or photocopy. David, Tel: (04022) 29961.

SONUS Super Sequencer for Commodore 128, plus Sonus interface. Tom, Tel: (0622) 763909.

SOUNDS for ESQ1, willing to pay! Tel: Cambridge 68979, evenings.

SUPER JX10 programmer, PG800, cash. Tel: (0532) 578130.

TRANSCENDENT 2000 circuit diagram, required to mend synth. Fax: (0253) 792272, if possible. Tel: (0253) 695809.

VERY URGENTLY WANTED, Ram Music Machine, about £30. Write: David Korver, Apartado 30, 2655, Ericeira, Portugal.

WANTED: Hybrid Music 2000 MIDI Interface for BBC. Will collect in London. Phil, Tel: Near Croydon (08832) 5482.

WANTED: Casio CZ1 synth, in good condition, £450 offered. Michael Eves, Tel: 01-450 1163.

YAMAHA CX5 software wanted, especially MIDI recorder. Douglas, Tel: (0292) 79136.

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		MT-32 Editor	Issue 3
		FB-01 Editor	Issue 4
	Yamaha	M1 50 Vox & Librarian	Issue 5
	Korg	M1 50 Combi & Combi Editor	Issue 6
NEW VOICES	Roland	D-Series/MT32 Comp.(128)	Issue 6
	Yamaha	FB-01 (98, 48)	Issue 3, 5
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