

Established 1981

Music Technology

THE WORLD'S PREMIER HI-TECH MUSIC MAGAZINE

October 1990

£1.60



ON TEST

*Q-Logic
MIDI Metro*

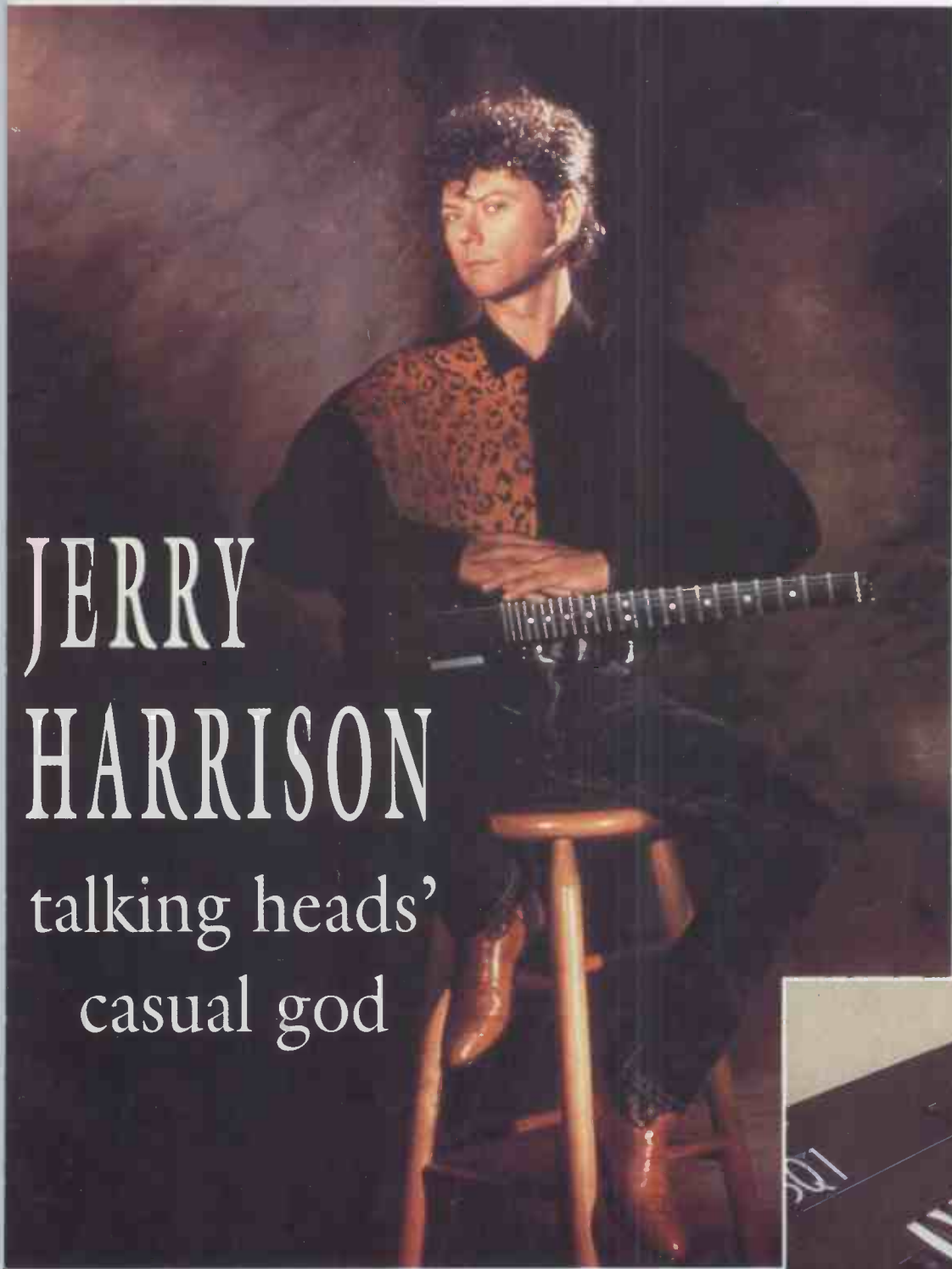
*JBL
SBI Sub-Bass Unit*

*Roland
CF10 Digital Fader*

*JBL
Control 1 Plus
Monitors*

*Roland
CN20 Musical Entry
Pad*

WIN
*VZ sounds &
software*



**JERRY
HARRISON**
talking heads'
casual god



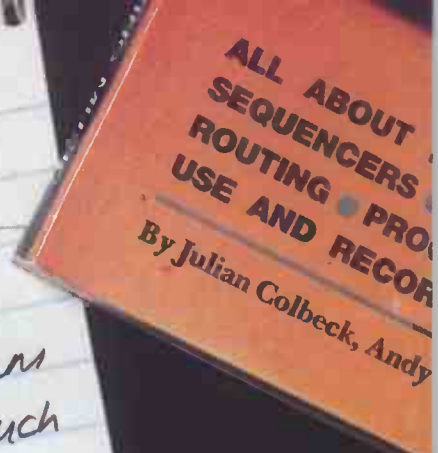
SEQUENTIAL CIRCUITS PRO-ONE
classic analogue technology

ENSONIQ SQ1
personal music studio



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MT10

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It's a sad fact that keyboard players have always had to pay more for the privilege than their guitar or drum playing associates. Tim Goodyer asks what can technology do to redress the imbalance?

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The musicality of synthesisers, synthesising the sound of an electric guitar and some free advice on using Dr T's X-Or provide the basis for discussion in MT's regular readers writes column.

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Appraisal

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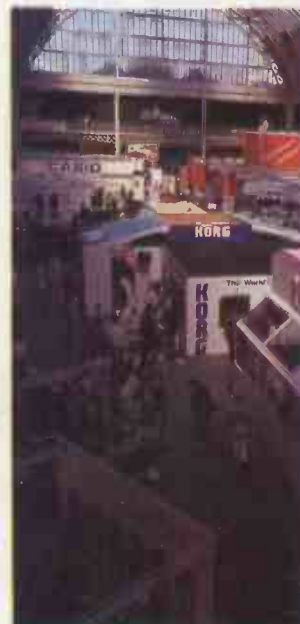
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Heard the one about the silent metronome? Simon Trask investigates a MIDI-driven metronome that uses light instead of sound to keep you to the beat.

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To complement their CM-series modules, Roland have released a Digital Fader and Musical Entry Pad - but anything MIDI has many uses. Vic Lennard becomes an accessory.



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ENSONIQ SQ1

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The term workstation is officially in demise - to prove it, Ensoniq's SQ1 is dubbed a Personal Music Studio. Simon Trask investigates the best-specified workstation to date.

JEFF RONA

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A long-time member of the MIDI establishment, Jeff Rona is a musician who gets more mileage out of computers than most. Scott Wilkinson listens in on Mac, PAN, digital editing and Jon Hassell's latest LP.

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With Talking Heads on the back burner, keyboard player Jerry Harrison is building a strong following as a solo artist. Nigel Lord talks messages and machinery to a Casual God.

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Choosing studio monitors on a tight budget can be a demoralising experience - unless

you're wise to JBL's new Control 1 Plus and its bass-driving partner. Nigel Lord takes control.

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The most popular post-Minimoog monosynth is still the best alternative for everything from new age to northern techno. Greg Truckell reintroduces an old friend.

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Often criticised for its shortcomings, MIDI is still being developed to meet musicians' needs. UK MIDI Association chief Vic Lennard brings news of the latest updates and their applications.

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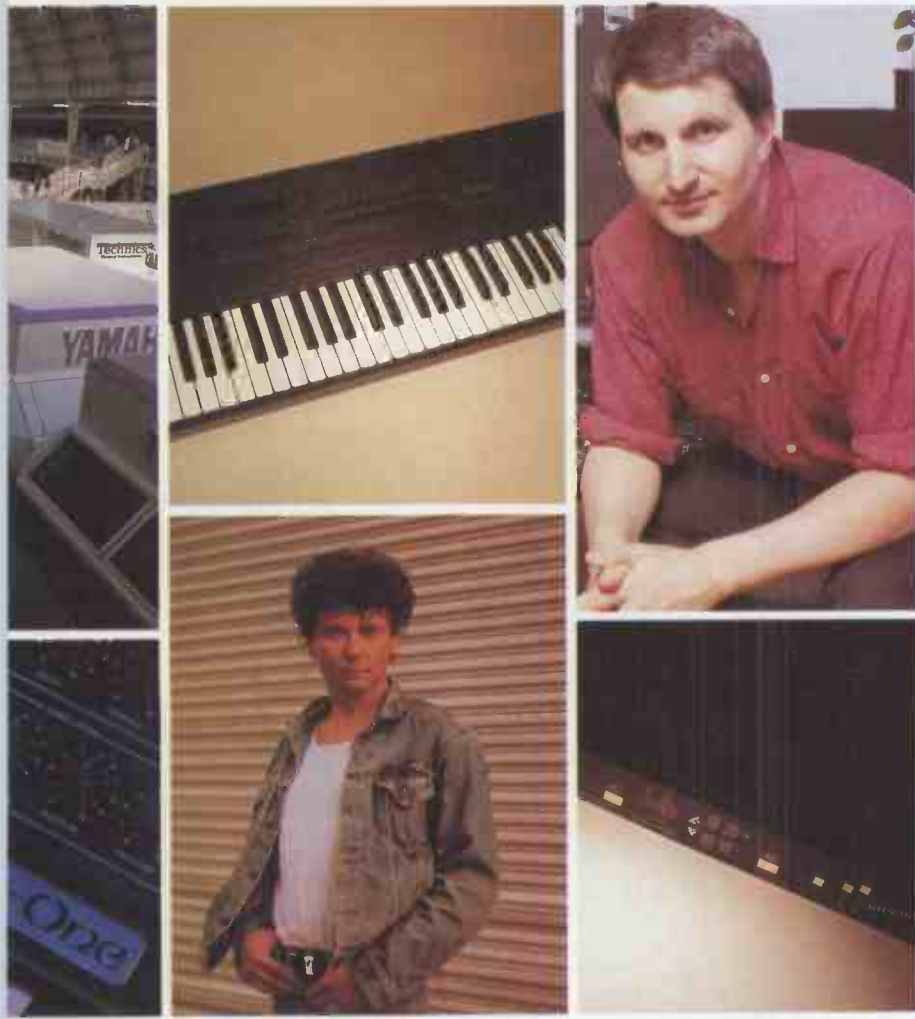
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The excessive heat in London's Olympia gave the latest hi-tech gear a run in the "who's hottest" stakes at this year's British Music Fair. Simon Trask sweats it out.

PATCHWORK

72

A wide selection of sound libraries from Sound Source Unlimited, Roland and Stiletto come under the scrutiny of the Patchwork reviewers.



THE GREAT DIVIDE

EVER SINCE ELECTRONIC keyboards established themselves as a legitimate part of the instrumental lineup in popular music, they have presented their players with a different set of problems from those facing their fellow musicians. Where a guitarist could begin his or her career on a cheap "copy" version of an instrument they might once aspire to own, the keyboard player has always lacked the cheap option - where, for example, was the "Junior" (as in Les Paul Junior) version of the Fender Rhodes or the "Japanese copy" of the Mellotron when they were needed? And where a drummer might opt for a kit with less robust hardware or cheaper wood shells to get himself - or herself - playing, there was no comparable version of the mighty Hammond C3. It's a sad, and sore, point that keyboard players have always had to find the money as well as the talent to succeed in their chosen career.

Let's look at a few facts: around 20 years ago the above instruments would each have cost you in the region of a grand to buy. At the same time, a genuine Fender Stratocaster would have cost about 250 quid. As recently as ten years ago many of the polyphonic instruments of the day - Oberheim OBXa, Roland Jupiter 8 and so on - would have set you back three grand or more. Today, a serious semi-pro guitarist could spend a similar sum on a complete rig, and feel pretty comfortable with it.

Let's take that a stage further. Three thousand pounds out of a gigging guitarist's pocket would cover a couple of guitars - a nice Paul Reed Smith and a Fender Strat, for example - a combo of the calibre of a Mesa Boogie and a decent multi-effects processor. To equip a keyboard player to a similar

standard you have to be talking about a couple of synths and a sampler: for the sake of argument, let's say a Roland D50, Korg M1 and Akai S950. I make the cost of that over four grand already - and that's before we've covered any signal processors or amplification.

In order to explain this situation we have to look at the construction of the instruments involved. Guitars and drums are primarily mechanical devices and it's possible to build them to different standards with corresponding savings in materials and manpower. Electronic gadgetry, however, necessarily involves considerable research and elaborate manufacturing techniques. And it is these aspects of the instruments we are paying so heavily for.

There was a time, in the heyday of subtractive (analogue) synthesisers, when most of the components of even the most sophisticated synths were freely available to anyone wishing to build one. Although there are a few notable cases of musicians having done just this, the requisite knowledge was as scarce as it was precious. In these days of complex digital systems, the heart of a synthesiser is invariably a custom integrated circuit that cannot be obtained by you or I outside the instrument for which it was designed. In short, you can't hope to build a synth on the cheap.

But for the first time in the synthesiser's history, now, and only now, can its players go out and buy a professional instrument for a similar amount to that of other instrumentalists. This is possibly the greatest benefit of the microprocessor revolution: hi-tech musicians are finally escaping the financial handicap they've previously had to endure. **Tg**

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The best thing about the **Roland SPD-8** is you don't need anything else. Simply take a line to the PA for instant LA percussion, modern drum sounds and effects.

Sounds vary from kit and electronic to Latin and effects, and the eight pads are velocity sensitive. 32 user patches store information such as pad assignment, customised sounds and MIDI transmit channel for each pad.

On-board voices can be mixed with external sounds, and optional DP-2 or FS-5U pedals can connect to two external jacks to trigger bass drum sounds, open or close hi-hats or to change patches.

Roland SPD-8

Go on - give it some stick!

Please send me more information on the Roland SPD-8

Name _____

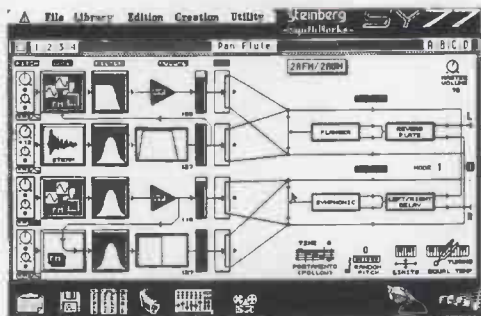
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EVENLODE EXTRA



We've news of two new programs from prolific software house Steinberg this month, the first being the next in the Synthworks series, an editor/librarian for the Yamaha SY77. The editor is fully graphics-orientated and incorporates a DX7, TX7, DX7II and TX81Z Sound Translator utility which translates sounds from these synths into SY77 sounds. Clever, those pike. Amongst the sound creation functions you'll find "Quadratic mixture" and "Mosaic Creation".

Steinberg are also proud to introduce a new librarian concept: the Neuronic Librarian, which allows the storage of Banks, Sounds (Voices), Multis, Sequences, Comments, Tuning tables, PCM card listings and Semantic Attributes. And when data is stored, it is automatically compressed by 50% as a memory safeguard. Ten out of ten, chaps.

Version 2.0 of Steinberg's pro sequencer, Cubase, should be available now, and existing version 1.5 users will receive two new disks, complete with new pages for their manual. This is free to all official Cubase owners and as they say themselves, "it's not even Christmas yet!"

Amongst the list of new features, there is full WYSIWYG score printing, an Interactive Phrase Synthesiser - a facility which enables you to model new versions from existing music - score printing with symbols, improved analytic quantise, plus a great deal more, that we don't have room for in these pages.

If any of this has caught your eye, get in touch with Evenlode Soundworks and they'll tell you more. Evenlode can be contacted at The Studio, Church Street, Stonesfield, Oxford OX7 2PS. *Ids*

British Manchester Fair

The BMF is moving north to Manchester for the G-Mex Music Fair on 5-7 October. The venue will be the Windsor Hall at the Greater Manchester Exhibition Centre, and the doors open 10am-8pm Friday and Saturday, while on Sunday the times are 10am-6pm. The entrance fee is £3 for adults and £2 for the under 14s.

Friday will be Schools Day, where any teachers and musical advisors possessing either an NUT card or letter of authority from their school can gain free admission. Parties of

twenty or more will be charged £1 per pupil with accompanying teachers being admitted free. Teachers and pupils will also be given an opportunity to win musical equipment for their school. Details for this will be available from the information desk.

The confirmed exhibitors include Akai, Casio, Hohner, MCM, Roland, Sound Technology and Yamaha amongst others.

Further information can be obtained from Westland Associates Ltd, 23a Kings Road, London SW3 4RP. Tel: 071-730 7852. *Ids*

THE KEY TO SUCCESS

Winners of MT's *Diskography* competition are as follows: the two first prizes went to G Gibbons of Hull and K Doncaster of Peterborough, while the five runners up were County Galway's Michael Grieve, London's A Tate and Paul Dickerson, Shropshire's C Wilde, Nottingham's Sandra Morrison and York's R P Brennan.

What did they win and how did they do it? Well, first prizes were copies of Keynote Software's very capable Chameleon generic librarian and runners up prizes were five copies of

Can U Feel It? The Champion Legend double CD. For anyone still wondering, the answers were "yes", Chameleon is compatible with all GEM-based sequencing programs, 'Check This Out' put Les Adams' LA Mix project into the charts, the Save icon doubles as Chameleon's copy protection and vocalist Chyna appears on the LA Mix LP and Stock, Aitken & Waterman's 'Roadblock' single.

Thanks once more to Keynote and Beer Davis Publicity for making things possible. *Tg*

Boomerang BOOM

Boomerang Sounds have announced the opening of a trade counter at their Manchester showrooms. The reason for this, we are told, is to cope with the increasing demand from local studios and radio stations for accessories.

They now hold large stocks of recording supplies - tape from Ampex, Agfa and BASF, custom-

wound chrome cassettes (from C5 to C100s), and Beyer and AKG mics, for example.

Even though Manchester might not be just up the road from where you live, don't worry, because mail order enquiries are welcome too. If you'd like a price list or account application form, then give them a ring on 061-873 7770 or fax 061-872 4494. *Ids*

ALIVE AND KICKIN'

Here's one for all those impoverished bands who currently can't afford to go to one of the many expensive studios and put together a demo that the record companies *couldn't* pass up.

Kickin Studio is a new recording facility with a difference. It's being run by musicians, with the intention to make deals with young upcoming acts and writers. They feel there's a need for artists to obtain a studio without having to pay extortionate fees and pledge to invest time on each act, hoping that at least one artist will be able to repay them.

Kickin appear to appreciate that

the street element is *the* mainstay of music in Britain. They are especially interested in creative rappers and writers, but all takers are welcome.

They've also asked us to thank GTI Records for their support by providing part of the premises for Kickin to operate. A special thanks goes to the boss of GTI who, "supported a lot of street without taking any credit". The only thing left for us here at MT to say is keep up the good work.

For more info, contact Kickin Studio, 282 Westbourne Park Road, London W11 1EH. Tel: 071-221 8698 or 071-727 5337. *Ids*

NOT A PATCH ON...

Patchworks, in conjunction with Quinsoft Software, are about to release the first in a range of software synth editors that are - for a limited number only - to be coupled with free synth voices.

The Casio "VZ Range" editor is for use with the Atari ST and retails at £49.95; however, the first 50

customers will be able to obtain two free banks of Patchworks voices - New Age and Pop Plus - which would normally set you back £14.95 per bank.

For more info contact Patchworks at Frederick House, 211 Frederick Road, Hastings, East Sussex. Tel: (0424) 436674. *Ids*

In distance of EARSHOT

News of an international festival of sound being held in Newcastle-upon-Tyne has reached us here at MT. The event, Earshot, is being presented by Projects UK, the interactive arts organisation, and will provide a mixture of live and pre-recorded sound, photographic and video projection, movement and action, and lighting and technology.

The dates to make a note of are 17-21 October, and amongst the bands taking part will be Etant Donnes from France, Poppo from the USA, Thu 20 from Holland and Nocturnal Emissions from the UK.

Further information and tickets can be obtained from Simon Herbert at Projects UK. Tel: 091-232 2410. *Ids*

CHINESE WHISPERS

Now to put the record straight. There have been rumours circulating that Valhala RAM cards for Roland and Korg gear will damage your equipment and that you'd be better off not using them. Valhala distributors, AMG, would like to point out that the situation has arisen from a few music stores who are under the impression that as Valhala cards are significantly lower in price than the manufacturers' branded cards, they must also be of lower quality. The truth according to Valhala is that the major manufacturers all buy their RAM cards from the same third-party source and hence are exactly the same as the Valhala cards.

Now you can relax in the knowledge that your Valhala RAM cards aren't

going to trash your gear.

For those of you who haven't yet invested in any Valhala sounds, but are considering purchasing some, the prices are as follows: the Valhala M256 RAM for Roland equipment is £55 and the Valhala MCR-03 RAM for Korg equipment is £65. Both these prices are fully inclusive of VAT and delivery.

There is also a credit card hotline for you to call: (073 088) 383. One more thing to look out for is Valhala's RAM cards for Yamaha, Peavey and Kawai equipment in the near future.

You can contact distributors AMG at Hurst Farm Barns, Hurst Lane, Privett, Nr Alton, Hants GU34 3PL. Tel: (073 088) 383. *Ids*

MAN ON

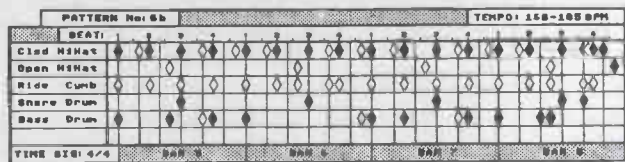
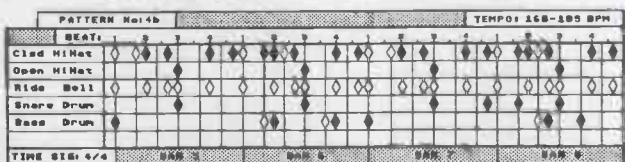
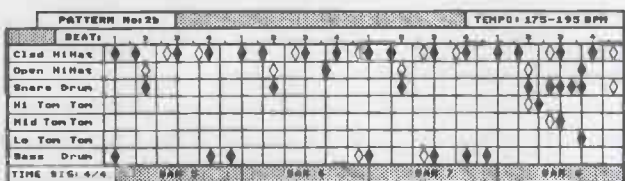
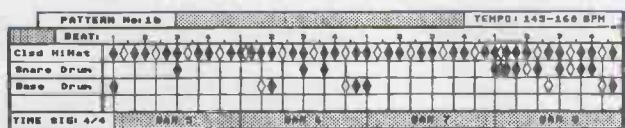
If you're one of the proud owners of Hollis Research's MIDMan, you can be expecting a free update around now. Not only that, but there's more; also being included is Performance, which will show you new ways of using MIDMan in any MIDI setup. Firstly, though, details of that free MIDMan update.

The new version of the program includes a new tutorial which'll help users who want to write their own profiles, plus many new control

files, including Roland D50-MEX, MKS70/JX10, U110, Yamaha DX11, EMT10, R100, V50, Kawai K4, K5, R50, Korg DW8000 and Ensoniq SQ80. What's more, the new version of MIDMan and profiles are fully compatible with earlier versions.

Lastly, the price, which is a friendly £89 including VAT. If you want to know more, contact First Rate Ltd, La Ramee, St Peter Port, Guernsey C.I. Tel: (0481) 23169. *Ids*

OFF THE BEAT



Did you hear the one about the postman who stole my correspondence course in learning to play the violin? Actually I got the first one, he stole the rest and is now a world-famous violin virtuoso - except that he can't play 'Three Blind Mice' and I can.

It wasn't the postman this time, but the more observant

amongst you will have noticed that someone had made off with certain of the grids which accompanied the June instalment of On The Beat. So, for anyone wondering why their Chuck Brown impressions were missing a beat, the errant patterns are printed below. Now you can go-go for it... *Tg*

Dates for the diary

We couldn't really let this month's news pages go by without telling you about some of the courses Micromagic will be running in the coming months. There are three courses, all dealing with digital audio.

The first is *The Integrated Digital/Analogue Studio*, running for two days on December 15/16, January 5/6 and March 23/24. Topics covered include digital theory, automated mixing and the various standards, interfaces and systems available for digital recording.

The second, *An Introduction to Digital Audio*, also runs for two days, October 6/7, December 1/2, January 26/27 and February 23/24. This course provides a comprehensive guide to basic

principles, applications and the various standards and practical knowledge needed to keep up with new developments.

The third course, *Digital Audio*, lasts for one week. This takes place on October 15-19, November 19-23, December 17-21, January 21-26, February 18-22 and March 18-22. Theory, standards, interfaces, digital mixing, automation and synchronisation are amongst the topics covered here.

The cost for each of these courses is £89.70, £138 and £345 respectively. All these prices include VAT. For more details contact Anita or Simon, Micromagic Ltd, Spen Vale Mills, Spen Vale Street, Heckmondwike, West Yorks WF16 0NF. Tel: (0924) 410880 or 410892. *Ids*

play it again, sam

Is it just me, or are synthesisers really becoming less and less musical? I cannot think of any synth, apart from the Kurzweil 250, that allows a keyboard player to sit down and play as inspiration arises.

I wish manufacturers would give their instruments (remember that word) a decent grand piano keyboard, updatable software architecture, a front panel allowing you to access all the parameters and sounds instantly, and an integral sequencer. I realise that this is a tall order, but if you can imagine a Korg T1 with a Jupiter 8-style front panel and a built-in Cheetah sequencer, then you might grasp what I'm after.

But perhaps I should just keep quiet and let the never-ending stream of user-hostile "flash for yer cash" machines keep flowing. After all, it's what everybody else seems to do.

Richard Clews
Wolverhampton
West Midlands

Tall order is right, Richard, but then you are the customer, aren't you?

Whilst I've got to agree with you in principle - synths and samplers are instruments and should be designed to be played - I feel you're being rather unkind to certain manufacturers. Roland, for example, have acquired the Rhodes name and are using it specifically to market musician-friendly instruments - to date, the new Rhodes pianos and Series 660 and 760 synths. Reassuringly, these seem to have found great favour amongst players with a technique to be proud of. And Roland are not alone in trying to restore some of the more traditional qualities to today's hi-tech instruments; you yourself mentioned Korg's T1.

One of the problems you're up against is that these facilities don't come cheap. But don't be discouraging when there are companies with your best interests at heart - a little encouragement sometimes goes a long way.

One last point: check through an issue or two of MT and you'll see that "instrument" is a term we're still attached to. If you're only interested in "product", there are other magazines with similarly deranged priorities around. . . Tg

x-or assist

In the November '89 issue of Music Technology the review of the Atari ST version of Dr T's X-Or referred to problems loading a customised copy of the program. I have recently used the program, and experienced similar problems. However, after a few expletives and a few beers worth of contemplation, I found a way around them using the Atari's internal drive and an external 3.5" drive.

Copy all the files you require (and deARC the profiles you need) onto a work disk, setting up your custom performance window using the ED.SETUP program as explained in the manual. Make sure that the default storage path for each module is B: (the external drive). From the desktop, click on the XOR.PRG icon to select it, then use the Install Application option from the Options menu to open a window which allows you to configure the program to auto-boot; don't put the X-Or program into the auto folder. Copy any desk accessories you may want, and save desktop information.

With the custom work disk in the internal drive and the Dr T's original in the external drive, switch on the ST and the program should load OK. The Dr T's original disk is then no

longer needed and can be removed so that the external drive can be used for storing library, bank and patch data.

If the X-Or program is not configured to auto-boot, as often as not it will freeze during loading. I suspect that the slightest mouse movement causes this, because the program does not freeze when auto-booted.

On a different tack, it seems that you cannot save an X-Or performance without the current banks being resident in memory as well as the current patches.

Fred Fee
Newport
Gwent

them guitar blues

I am sure that many non-guitar playing keyboard players - like myself - have wanted to derive great electric guitar sounds from their keyboard equipment. The problem is that the electric guitar sounds (as opposed to acoustic guitar sounds) included in manufacturers' sound libraries do not usually provide much excitement. I wondered if you could suggest suitable software or hardware - including effects units used by guitarists - that might help solve this problem?

My present equipment, which would seem to need supplementing, consists of a PPG Wave 2.2, Yamaha DX7, Roland D50 and MT32, Atari Mega4 ST and Passport sequencing software.

Anthony Bushell
Enfield
Middlesex

This is one area of imitative synthesis that's been quietly simmering for a few years now. If you remember the first series of

Miami Vice you'll probably also remember the hype that surrounded Jan Hammer's soundtrack - and the revolutionary "guitar" sound (which was also to be heard in his theme for Channel 4's *The Tube*) that he'd created using synthesisers.


Ian Curnow (of PWL fame) also made a bit of a name for himself with the guitar patch that graces much of Talk Talk's material.

Curnow calls his patch "Eddie", and I'm reliably informed by one of Talk Talk's crew that he creates it using two Roland Super Jupiter modules fed through a guitar overdriver. While the details of Hammer's sound are more difficult to obtain (he's quoted as saying he can make any synth sound like a guitar - it's down to playing technique), I'd put my money on an Oberheim six-voice being processed by a valve guitar amp and an MXR flanger. In both cases the secret of the sound seems to be in mixing synth and guitar technologies.

Your second best bet is simply to get hold of a guitar sample - it's the "real" sound of the instrument you're pursuing, but a sample won't let you articulate the sound as the original instrument would.

But there's more to it than sounds - as you'll already know if you've tried to synthesise any other instruments. The physical construction of each instrument imposes unique restrictions on its players. These restrictions are one of the most significant elements in shaping playing technique - and they apply equally to the keyboard. Saxophones, violins, trumpets and, of course, guitars, all influence their players in the shapes of chords and runs that they invite them to play. Consequently, if you're to get a convincing guitar sound out of a keyboard instrument you're going to have to learn to imitate the overall playing style of guitarists. Middy-widdly, anyone? Tg

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CONTROL 1 PLUS/ SB1 SUB-BASS UNIT



PHOTOGRAPHY: JAMES CUMPSTY

Previously the luxury of wealthier studios, quality monitoring systems are now becoming available at prices that will see them in many small/bedroom setups - JBL's Control 1 Plus/SB1 system, for example.

Review by Nigel Lord.

WHAT COULD be regarded as a final admission by manufacturers that size, when it comes to the design of speaker cabinets, is of critical importance and can only be compensated for to a very limited extent in small enclosures, there has been a tendency over the last few years to accept the restricted low-end performance of compact designs, and concentrate on improving the clarity and imaging offered within the mid-range and treble frequencies. The theory behind this seems to be, what the ear doesn't hear, the heart can't grieve about. And there can be little doubt that recent

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developments in compact systems represent a massive improvement over earlier designs which, in trying to go some way towards reproducing the troublesome frequencies below 100Hz, often severely compromised performance above this point.

A veritable glut of new designs have found their way onto the market over the last decade or so, and the development of new cabinet materials such as high density plastics (which lend themselves to mass production techniques in a way that timber derivatives do not), seem to have finally tempted the Japanese to enter the speaker stakes. These days it's by no means uncommon to walk into a small studio and see a pair of Yamaha NS10Ms or Roland MS100s occupying the position where once Tannoy, Celestion or Rodgers monitors might have been found.

JBL of Northridge, California have been putting their name to high quality monitoring systems for many years now, and it is a testament to their continued investment in research and development that the emergence of new manufacturers has done little to dent their reputation as makers of speakers of the very highest quality. It can be fairly said that a number of JBL models have, over the years, come to represent benchmarks by which other new designs are judged. The Control 1s, for example, since their introduction some four years ago, have become one of those "known quantities" quoted when the performance of other micro-monitors is discussed.

But now a new Control 1 is with us - the Control 1 Plus - and though it has inherited much of the performance which won its predecessor so many friends, it has been sufficiently revamped to warrant our consideration as a new contender in the speaker stakes. It also makes an ideal starting point for what will hopefully be a more regular inclusion of monitor reviews in MT.

IN CONTROL

IN THE JBL scheme of things, a pair of Control 1 Pluses come in at ground level - that is to say they are the smallest/least expensive speaker they produce. Where this puts them in relation to other makes, however, is rather difficult to assess. Unlike many hi-tech instruments, manufacturing practices differ widely amongst companies involved in speaker production, and what constitutes a particularly labour-intensive process for one might well have been completely automated by another. Because of this, pricing doesn't tend to follow a linear path and cost is seldom the best criteria to apply when weighing up the pros and cons of a particular class of monitor. (Though cost is always going to be a determining factor when it comes to putting your hand in your pocket.)

As small as they are, the Control 1 Pluses have a very business-like appearance and their impressive weight does much to dispel the scepticism which still tends to get the better of you when you consider the size of a micro-monitor along with the kind of work it's expected to do. Inside, a five-inch driver handles the low/mid range and a three quarter-inch tweeter takes care of the treble. Power handling is 160 watts, and this is certainly very creditable for monitors of this size. However, I've always found factors such as front cone projection when driving

micro-monitors from sources such as sampled bass drums and very resonant synth sounds have a very significant effect on the kind of SPLs (sound pressure levels) you can expect to achieve without damaging the drivers. Clearly, matching speakers to amplifiers is not quite as straightforward as it would be in a hi-fi system, and this is one reason why plain old hi-fi speakers tend to be unsuitable for monitor applications.

THE PLUS PLUS

UNLIKE MOST OTHER micro-monitors, the Control 1 Pluses have the added advantage of expandability, and if you're experiencing problems with speaker cones coming rather too close for comfort (yours or theirs), it could well provide the perfect solution. The SB1 sub-bass unit offers an extension to the frequency range of the Control 1s down to 50Hz (the response is 50Hz-200Hz, with a power handling of 300 watts), to form a complete three-way monitoring system. In case you're not familiar with the concept of sub-bass units, it might be worth taking a moment to explain the principle involved and in particular, why only one sub-bass unit is used, even in a stereo setup.

The audio information we rely on to detect the source of a sound is contained almost exclusively within the middle and upper frequencies. It follows, therefore, that providing the mid-range and treble units are fed individual signals from a stereo source and positioned so that they produce a convincing stereo image, the siting of the woofer or bass units becomes much less critical. So much less critical, in fact, that it really doesn't matter where in the room they are situated or even whether they receive discrete signals from the stereo source. The only condition is that distortion is not allowed to colour the low frequencies in any way as the high frequency harmonics this would generate tend to give a directional quality to the sound which would interfere with the stereo image produced by the mid-range and treble units.

Though containing four separate drivers (relying on what JBL refer to as "triple chamber bandpass technology"), the SB1 produces virtually a mono signal which emanates from three small ports at the back of the unit. The rest of the cabinet is totally enclosed and is of such rigid construction that no sound and very little vibration can be detected coming from it. Its overall size is approximately 12 x 22 x 7 inches and aside from four sets of connection terminals (also on the rear), it offers the casual observer few external clues as to its precise function. Incidentally, the reason four sets of terminals are required is to provide connections for the incoming amplifier signals and also for the outgoing signals from the SB1's internal crossover which feed the Control 1 Pluses.

It is my contention that an unprecedented amount of bull is talked about loudspeaker designs and the factors which affect their performance. Most of this arises from the fact that judgements about audio quality often tend to be made relative to certain reference points - whether these be "idealised" ►

► specification figures or merely another set of speakers placed side by side with those under appraisal. For most people, of course, these don't exist and the only criteria they can apply is whether they like the sound of a given pair of speakers within a given room environment. And though I am perfectly prepared to believe there are purists around who can detect the improvement in audio quality derived from the use of specialist heavy duty speaker cables and connectors - when this is put into context against factors such as positioning, room furnishing and, of course, the huge range of variables which may be introduced in a typical audio chain, I find myself struggling to keep a check on my cynicism.

I mention this not to initiate some debate about psychoacoustics, but to make it clear that when it comes to speaker appraisal, I tend to maintain a fairly down-to-earth approach. So what then, do I make of the Control 1 Plus/SB1 system? Well, in a variety of listening tests which included connection to a conventional stereo system (in a fairly conventional "front room"), direct connection to an Alesis HR16/D50/DX7 combination and also to a Fostex eight-track system in a studio environment - I can claim to have spent many hours listening to the system. Many more hours, in fact, than was absolutely necessary for the purposes of this review. The reason for this, as may have guessed, is simply that it sounded so damn good.

I don't know why JBL coined the name "Control" 1s, but I reckon they should have thought about using it as part of the title of the SB1 as well. Control (or perhaps "controlled") describes perfectly the sort of performance this system is capable of. I don't think I've ever heard such tight, well-defined monitoring at this sort of price.

Connected up to my hi-fi - still resolutely non-CD - they gave the system unprecedented clarity. Areas of sound which had been interpreted by my Leak 3080s (considered a quite radical design in their day) as ill-defined mush were revealed as belonging to specific instruments, and I began to hear space in pieces of music which I hadn't previously been aware of.

Further listening with other equipment revealed more of the system's tight, measured performance - even when confronted with the demands of an HR16 pounding through it at high volume levels. Having said that, I found the top end performance of the Control 1s a little disappointing. Some of the detail associated with instruments such as the hi-hat seemed to get lost amongst the more dominant mid-range frequencies, and this did make me wonder just what part of the spectrum people were referring to in claiming that these monitors are rather too bright in character.

Of course, the whole idea of a pair of speakers imparting their own character on the music they reproduce is anathema to the more pathological audiophile. But at this end of the market, you have to accept that colouration - whether in a positive or negative sense - is going to have a significant effect on the quality of sound you hear. This being the case, I'd describe the character of the Control 1s as being open (very open), a little hard, perhaps, but quite

precise. And that, for monitor purposes, would seem to be a rather useful combination.

As well as I got on with the Control 1s, however, it was the SB1 that stole the show. Any doubts I may have had that this would sound like an extended two-way monitoring system rather than an integrated three-way system proved groundless. The SB1 quite seamlessly slots in beneath the Control 1s and provides the kind of low-end solidity which belies its modest proportions. No matter where I positioned it, the moment I'd taken a couple of steps back it became quite impossible to determine where the sound was coming from. It's a most peculiar effect: the room is filled with a deep, hard, effortless bass and try as you might, you can't pinpoint the source.

It doesn't quite reach down to the kind of frequencies which produce that dull, percussive thud you feel in your stomach when you walk into a nightclub, but given its price and the fact that its intended companions are JBL's least expensive pair of monitors, this is perhaps not surprising.

What is surprising is that JBL insist on referring to it as a sub-bass unit - which with a stated frequency response of 50-120Hz it clearly isn't. I accept the fact that it draws on the technology developed for units which are designed for sub-bass frequencies and that it provides coverage of the audio spectrum below that which the Control 1s find it possible to go. But I think the term sub-bass has to be seen as misleading in this context.

VERDICT

THE CONTROL 1 Plus/SB1 combination really does have a lot going for it. Priced at the kind of level which keeps it in competition with the majority of low to mid-priced monitors - whose performance it can match comfortably - it clearly offers much more in the way of flexibility. Running the Control 1s on their own, for example, would give you access to an excellent near field/micro-monitor system which could then be expanded by the SB1 where full-range monitoring is required. (To this end, I'd have liked to have seen some kind of switching included on the SB1 which would have made this easier; as it is you have to swap the leads around.) But the system also makes a lot of sense in situations where space is at a premium: there seems to be no likely position which can seriously degrade the sound from the SB1, and with a surface area of only a few square inches, the Controls 1s are unlikely to prove too much of a problem either.

Anyone presently contemplating spending £300-£400 on a pair of monitors owes it to themselves and their music to check this system out. Agreed, the speaker has yet to be designed which will suit everyone's listening tastes, but you'd be hard-pressed to find a better all-round performance than that of the Control 1 Plus and SB1. ■

Price Control 1 Plus £179 (per pair); SB1 £230. Both prices include VAT.

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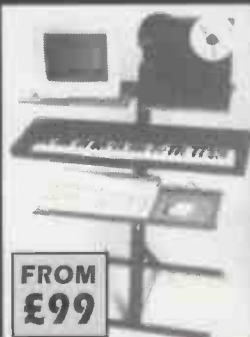
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CLOSE TO THE EDIT

GENERALLY SPEAKING, THERE are two ways of approaching the purchase of hi-tech musical equipment. The first involves investing in the technology as it becomes available; this assures you of the latest sounds, the latest techniques and the latest names - but it costs. The alternative is to buy up older gear as the new gear pushes onto the secondhand market, and watch out for bargains arising from instruments that *didn't* catch the public's imagination when they were first released.

The key to this "alternative" approach is knowing when and what to buy. And, of course, there are drawbacks: you're always going to be one step "behind" with the outdated gear, while the gear that never took off is often poorly supported in terms of third-party sounds and software. Take Casio's VZ series - it's not a bad line in synthesis, but it didn't measure up to the big guns of the day. Result: a VZ1, VZ8M or VZ10M will give you a good sound-to-cash ratio but you may forfeit the luxury of computer editing software, for example.

That is to say, you would have done had it not been for Quinsoft and their VZ-ED editing software for the Atari ST computer. Realising that there are a good few VZ users about, Quinsoft have included the neglected beast in their new series of editing software. The VZ-ED is compatible with all VZ variants (variants, not deviants), so nobody's been left out, and it should turn the arduous parameter-access style of editing into a far more musician-friendly task. After all, hi-tech or not, we're still talking about a musical instrument.

So, the booty described, let's get down to the serious business of the competition. Quinsoft have generously offered no less than six copies of VZ-ED for competition prizes (worth £49.95 each), and each will be accompanied by three banks of sounds - one from Quinsoft themselves, and two more (entitled *New Age* and *Pop Plus*) from sound specialists Patchworks. Incidentally, as VZ-ED is a brand new program, the first 50 sold will come with the same Patchworks sounds free - otherwise they're £15 per bank.

All you have to do to secure VZ-ED and the Patchworks sound banks is answer a few simple questions.

Q1

What system of synthesis is employed by Casio's VZ synths?

- a. PD
- b. iPD
- c. LAPD

Q2

Which series of Casio synths did the VZs replace?

- a. CZ
- b. FZ
- c. OZ

Q3

The VZ1 and VZ10M have twice the polyphony of the VZ8M. How many note polyphonic is the VZ8M?

- a. 4
- b. 8
- c. 16

ENTRIES TO ALL Music Technology competitions should be made by telephone, rather than on postcards - well, we had to do something about Ken Cooke's staggering 46 entries to the recent *Future Shock* competition for a Tascam 644. (Not that Ken was alone, was he, B Singh of Wolverhampton?) All you have to do is call (0898) 100768 and leave your answers and your name and address - technology will take care of the rest. The closing date for the competition will be Monday, 22nd October.

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ON THE

UBIQUITOUS HOUSE BEAT

UNO, DOS, TRES, QUATRO; THE UBIQUITOUS HOUSE BEAT RECOGNISES NO BARRIERS - LEAST OF ALL ANY THAT MIGHT KEEP IT OUT OF MT'S RHYTHM PROGRAMMING SERIES. TEXT BY NIGEL LORD.



A COUPLE OF months ago, I heard someone on TV explaining his approach to writing and recording house tracks and claiming that in his opinion you didn't need a good tune to create good dance music. Though I imagine people like Berry Gordy and Quincy Jones might have taken issue with this remark, I feel the point was well made. The emergence of house as one of the dominant forces in contemporary music has highlighted a radically new approach to producing music for the dancefloor - one which pays little regard to melodic considerations but

which locks almost the entire arrangement into a one to one relationship with the all-consuming beat.

On its transatlantic journey to the UK from Chicago where it first took root, it could be said that house lost a little of its eclecticism and took on a more refined feel which, though rather formulaic, has nevertheless been hugely successful in this country and has since been exported all over the world. Like most modern idioms, it has its points of reference and certain "trade marks" by which it has come to be recognised. The



ILLUSTRATION: CLIVE GOODYER

TR909 drum machine (at the time of its release, one of Roland's least successful machines) with its mixture of analogue and digital voices, has, in many ways, come to be regarded as the ideal house beatbox. And whilst it is perhaps more difficult to point to an "ideal" house sampler (though the S900 must still rank as the most popular), there have nevertheless been a handful of sample loops which seem to crop up with predictable regularity - the classic drum loops taken from James Brown's 'Funky Drummer' and Lynn Collins' 'Think' (with

its characteristic vocal grunts), for example.

Though always scheduled as a stop on our rhythmic roller coaster, I have to say I find it hard to believe anyone involved in the programming of house patterns should need any real help from me. Despite (or perhaps because of) their incredible effectiveness on the dancefloor, the inherent simplicity of house grooves puts them well within reach of even the rawest recruits to the art of programming. In fact, most people given a beatbox with which to program a basic four/four pattern could

come up with something usable within a house context.

Nevertheless, if this month's lesson is only that of keeping it simple and direct, it clearly falls within the scope of this series to highlight ways of accomplishing just that. Part of the problem is that in most house styles, so much of the track is given a rhythmic emphasis (from the drums right up to the vocals) that looking at the percussion parts in isolation can be rather uninspiring and usually gives you no indication of the effectiveness (or otherwise) of the music of which they are a part. But it would be wrong to deliberately "colour" a rhythm part in order to make it more impressive in its own right.

I have therefore resolved to keep a check on my natural tendency to go on tweaking patterns and have left this month's examples in a purer, less adulterated form. What embroidering there is has been restricted to "secondary" instruments such as handclaps, and these may be omitted if preferred. There is, of course, nothing to stop you rearranging and experimenting with the patterns: you could go a long way with these grooves before interfering with their basic capacity for getting the feet moving. But if it's house music you're involved with, there's likely to be a lot more instruments with a rhythmic role to play that have to be added on top of the percussion instruments, so remember to leave enough space within each pattern.

As regards choice of instruments such as the snare and bass drums: in general bigger ambient voices can be used, but the intimate nature of the TR909's sounds, and the space they leave for other rhythmic elements to work, is one of the reasons it found favour with house musicians. I have previously mentioned in this series that tighter, more intricate patterns simply will not accommodate long duration snare or bass drum voices. Well now we can start investigating the other side of the coin. If you have access to a TR909, then by all means use this, but there are more recent machines - notably the Alesis HR16B and the Roland R8 - which contain some excellent voices with which to program house patterns. In fact, I would strongly advise anyone with a sampler and a friend who owns one of these machines to do what they can to get hold of some of these voices, they really are that good.

Though I won't be touching on it here, it might also be worth looking into the possibility of writing the basslines (if they are being provided by a synth or sampler) into the same pattern as the drum parts. In many house tracks the bass parts ►

PATTERN No: 1a		TEMPO: 110-130 BPM	
BEAT:	1	2	3
Clsd HiHat	◆	◆	◆
Open HiHat		◆	◆
Snare Drum		◆	◆
Bass Drum	◆	◆	◆
TIME SIG: 4/4		BAR 1	BAR 2

PATTERN No: 1b		TEMPO: 110-130 BPM	
BEAT:	1	2	3
Clsd HiHat	◆	◆	◆
Open HiHat		◆	◆
Snare Drum		◆	◆
Bass Drum	◆	◆	◆
TIME SIG: 4/4		BAR 3	BAR 4

PATTERN No: 2a		TEMPO: 110-135 BPM	
BEAT:	1	2	3
Clsd HiHat	◆	◆	◆
Open HiHat		◆	◆
Snare Drum		◆	◆
High Bongo	◆	◆	◆
Low Bongo		◆	◆
Bass Drum	◆	◆	◆
TIME SIG: 4/4		BAR 1	BAR 2

PATTERN No: 2b		TEMPO: 110-135 BPM	
BEAT:	1	2	3
Clsd HiHat	◆	◆	◆
Open HiHat		◆	◆
Snare Drum		◆	◆
High Bongo	◆	◆	◆
Low Bongo		◆	◆
Bass Drum	◆	◆	◆
TIME SIG: 4/4		BAR 3	BAR 4

PATTERN No: 3a		TEMPO: 110-130 BPM	
BEAT:	1	2	3
Clsd HiHat	◆	◆	◆
Open HiHat		◆	◆
Hand Claps	◆	◆	◆
Snare Drum		◆	◆
Hi Tom Tom		◆	◆
Lo Tom Tom		◆	◆
Bass Drum	◆	◆	◆
TIME SIG: 4/4		BAR 1	BAR 2

PATTERN No: 3b		TEMPO: 110-130 BPM	
BEAT:	1	2	3
Clsd HiHat	◆	◆	◆
Open HiHat		◆	◆
Hand Claps	◆	◆	◆
Snare Drum		◆	◆
Hi Tom Tom		◆	◆
Lo Tom Tom		◆	◆
Bass Drum	◆	◆	◆
TIME SIG: 4/4		BAR 3	BAR 4

comprise such simple note progressions and take on such a percussive feel, it makes perfect sense to combine them into the same pattern as the drums and thus get a better overall feel of the rhythm track. With software-based sequencers, the delineation between percussive and melodic parts is much less sharply defined. As far as a sequencer is concerned, a note is a note: it doesn't matter whether it's on a drum machine or a synth. It's not quite as straightforward using a separate beat box, but it shouldn't be too difficult MIDling it up to a synth or a sampler and writing notes in as part of the drum pattern. Try it; you could say it represents the holistic approach to writing rhythm parts.

The first of this month's examples could, perhaps, be described as the classic house groove. A four-on-the-floor bass drum, a couple of snare drum beats to each bar and a constant off-beat hi-hat. It's been used a thousand times before and it'll be used a thousand times again, but it's simple and effective and you'd be hard pressed to find a better dance groove. Pattern 2 loses the drive of the four to the bar bass drum and consequently has rather more space into which you could slot other instruments. It will run quite happily without the bongo parts, but they lift the pattern so effectively you'd be losing out on a lot if you didn't at least try them. Like the first example (and indeed, most house tracks) tempo shouldn't really move too far from the 120bpm mark and don't worry too much about the limited dynamic range - light and shade has never been a prerequisite of the dancefloor.

Pattern 3 has a little interest added from the tom figures at the end of each bar, but again, these are entirely optional. I would, however, recommend you keep the handclap line, as this plays a fairly important role in the structure of the pattern. That said, there's nothing to stop you substituting the part for other sounds, or even dividing it up between the high and low voices of a tuned instrument. No such decisions affect the programming of Pattern 4. This is again just about as conventional a pattern as it's possible to get. In fact, it's so straightforward, I'm sure I haven't included anything like it in the series so far. Be warned/encouraged - whichever is appropriate.

In Pattern 5, the open hi-hat of the usual house groove has been replaced with a ride cymbal and this tends to give the pattern a rather more fluid feel. If you're happy with the handclap/side stick parts

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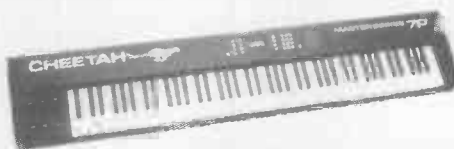
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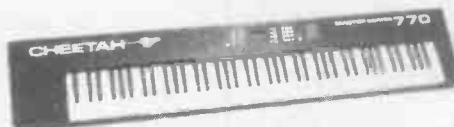
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PATTERN No: 4a					TEMPO: 110-135 BPM			
BEAT:	1	2	3	4	1	2	3	4
Cld HiHat	•	•	•	•	•	•	•	•
Open HiHat								
Snare Drum		•		•		•		•
Bass Drum	•				•			

TIME SIG: 4/4 BAR 1 BAR 2

PATTERN No: 4b					TEMPO: 110-135 BPM			
BEAT:	1	2	3	4	1	2	3	4
Cld HiHat	•	•	•	•	•	•	•	•
Open HiHat								
Snare Drum		•		•		•		•
Bass Drum	•				•			

TIME SIG: 4/4 BAR 3 BAR 4

PATTERN No: 5a					TEMPO: 100-125 BPM			
BEAT:	1	2	3	4	1	2	3	4
Cld HiHat	•	•	•	•	•	•	•	•
Ride Cymb								
Hand Claps								
Snare Drum		•		•		•		•
Side Stick								
Bass Drum	•				•			

TIME SIG: 4/4 BAR 1 BAR 2

PATTERN No: 5b					TEMPO: 100-125 BPM			
BEAT:	1	2	3	4	1	2	3	4
Cld HiHat	•	•	•	•	•	•	•	•
Ride Cymb								
Hand Claps								
Snare Drum		•		•		•		•
Side Stick								
Bass Drum	•				•			

TIME SIG: 4/4 BAR 3 BAR 4

PATTERN No: 6a					TEMPO: 115-135 BPM			
BEAT:	1	2	3	4	1	2	3	4
Cld HiHat	•	•	•	•	•	•	•	•
Open HiHat								
Snare Drum		•		•		•		•
High Bongo								
Low Bongo								
Bass Drum	•				•			

TIME SIG: 4/4 BAR 1 BAR 2

PATTERN No: 6b					TEMPO: 115-135 BPM			
BEAT:	1	2	3	4	1	2	3	4
Cld HiHat	•	•	•	•	•	•	•	•
Open HiHat								
Snare Drum		•		•		•		•
High Bongo								
Low Bongo								
Bass Drum	•				•			

TIME SIG: 4/4 BAR 3 BAR 4

➤ (the two are intended to go together), but require a slightly different sound, you might try substituting other voices, but the click of the side stick is designed to tuck itself in just after the snare beats and anything of longer duration might sound a little obtrusive.

Finally we come to Pattern 6 - and once again I've kept the best until last. With a healthy driving feel, this pattern fulfils all the criteria for an effective house groove but with enough rhythmic interest provided by the bongos to give it a very distinctive flavour. The tempo is slightly higher than

usual, but there is still enough variation to make the pattern usable for most dance tracks.

To wrap things up for this month, I'm hoping to compile an instalment of On the Beat entirely from contributions sent in by you, the great MT readership. Everyone must have at least one pattern with which they'd like to impress other programmers, so please, copy it out on a grid (or record it on cassette if you wish) and send it in to the editorial address. Your admission to the MT Hall of Fame is but a drumbeat away. . .

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TEXT BY GREG TRUCKELL.**

IN THE WORLD of analogue monosynths, two instruments stand out as *the* machines to own: the Minimoog and the ARP Odyssey. The SCI Pro-One never really acquired the same "legendary" status, but it came closer than almost anything else. It also has the distinction of coming from the same stable as the Prophet 5 - and no more distinguished analogue polysynth exists than that. The Pro-One inherited the quality of its filter, its modulation possibilities, its punchy sound and its classy good looks from the Prophet 5 and Prophet 10.

Features-wise the Pro-One has all you would expect from a classic monosynth. Two oscillators with sawtooth and square waveforms plus triangle on oscillator B, two ADSR envelopes, one for the VCA and one for the filter, which is a 24dB/octave affair with variable cutoff, resonance, envelope modulation amount, and keyboard tracking. The LFO has three waveforms (sawtooth, triangle and square), which, like the oscillator waveforms, can be mixed.

Beyond this, the Pro-One has what must be one of the most versatile modulation systems on any analogue monosynth other than the modular systems themselves. Based on principles

inherited from the Prophet 5, this innocent-looking section of the control panel sports eight switches and three knobs, and governs the routing of three modulation sources through two routes to five modulation destinations. The modulation sources are the filter envelope, oscillator B, and the LFO; the modulation destinations are oscillator A frequency and pulse width, oscillator B frequency and pulse width, and the filter. Two modulation paths exist to control these signal flows, one being direct, the other being controlled by the modulation wheel. It sounds rather simple - deceptively so, as many more possibilities exist than spring instantly to mind.

The modulation possibilities extend beyond the modulation panel itself. Oscillator A can be synchronised to oscillator B, and oscillator B can have keyboard tracking disabled and/or be put into low-frequency mode for use as a second LFO. The Pro-One also has a number of playing modes, including low-note priority (as standard), new-note priority, drone, repeat, arpeggiate, glide and fingered (auto) glide, and external triggering. You should be able to find a combination to meet your playing style requirements somewhere in that lot.

To get a feel for the Pro-One's modulation facilities, it's a worthwhile exercise to explore one effect in detail. Oscillator syncing is one of the all-time classic analogue sounds. Contemporary instruments like the Ensoniq VFX, the Waldorf Microwave and, more recently, the Yamaha SY22 represent a revival of interest in the depth of timbral movement possible with synchronisation - although, to their credit, the Ensoniq ESQ1, Cheetah MS6 and Oberheim synths feature traditional oscillator sync. In case you're unfamiliar with how oscillator syncing works, one oscillator is slaved to the other, such that the slave oscillator will be forced to restart its wavecycle

every time the master oscillator restarts its own wavecycle. Oscillator A is the slave, and oscillator B the master on the Pro-One. The pitch of the slaved oscillator is controlled by the pitch of the master oscillator. If any attempt is made to modulate the slaved oscillator without applying the same modulation to the master oscillator, then the waveform of the slave oscillator is modulated, giving rise to a change in timbre. For example, if the frequency of the slaved oscillator is raised through modulation, then it will restart its wavecycle at a frequency determined by the master oscillator - so its pitch will not modulate - but it will also restart its wavecycle a number of extra times per master cycle which will be determined by the ratio of the theoretical modulated frequency to the master oscillator frequency. The higher this ratio, the more wavecycles will appear within the master wavecycle. The behaviour of a sync'd oscillator is in fact rather similar to that of one of the three resonant waveforms (5-8) on a Casio CZ synthesiser, where the DCW value controls the number of sinewaves within the wave's "window".

The most popular sync effects fall into two categories; envelope modulated, and wheel modulated. The latter is more of a performance effect - the famous "sync-bend" (which still raises the hairs on the back of my neck). The former created hard "wow" effects. You get these on the Pro-One by routing the filter envelope directly to oscillator A frequency. Since the filter envelope doesn't have to be used to modulate the filter, you can set the ADSR controls however you need, although sadly there is no envelope polarity inversion. Oddly, versatile though the Pro-One's modulation system is, there's no means by which the modulation wheel can be used directly as a modulation source itself; consequently, in order to obtain a simple sync-bend you have to use wheel-controlled filter

envelope modulation of oscillator A frequency, with the filter ADSR set to the following envelope; zero attack and decay, and maximum sustain (obviously enough), but also maximum release, or at least a longer release than the VCA envelope, otherwise the sync effect will be cut off before the note decays, regardless of the position of the wheel. Of course, you can use a combination of wheel control for sync-bend with envelope control, by routing the filter envelope set to a fast attack, slow decay, lowish sustain, routed via the wheel.

But there's little point in having the most versatile modulation system in the world if the basic sound sucks. The Pro-One, with its ancestry and all, definitely doesn't. Probably the most significant contribution to the character of any analogue synth is made by its filter, and the Pro-One's filter is marvellous. At open settings, it has an upfront, fizzy sound. Lower settings are pure and mellow without being thin, while some resonance feeds the filtered signal back through the filter, adding punch and presence through a little distortion at the cutoff frequency.

The Pro-One is also capable of a weird and wide variety of sound effects,

courtesy of oscillator B's function as a modulator. Using oscillator B to modulate oscillator A gives a range of FM-type bells and screeches, while using oscillator B as a low frequency oscillator with filter envelope control of oscillator B's pitch can create variable frequency low frequency oscillator (VFLFO) effects with ADSR controlled LFO frequency - the sort of effects much used by Jean-Michel Jarre on *Oxygene*. Don't forget to turn oscillator B down at the oscillator mixer, though.

Many of the sounds and textures created through the more, shall we say, esoteric possibilities that the Pro-One offers, will not be the sorts of sounds that have a musical purpose which is immediately obvious. Some may be simply too weird. Of course, you could try sampling them and using them as an element in a more complex sound (see *The Analogue Sampler*, MT Dec '89). If you are using a MIDI-to-CV convertor and sequencing your Pro-One, then you can experiment with adding the Pro-One's texture to other instruments (as long as your sequencer will let you split a polyphonic part into discrete monophonic lines, otherwise the Pro-One will have an awful time trying to figure out which

notes to play). Some atonal component exists in many of the "evolving" sounds that characterise synths like Roland's D50 and Korg's M1 - you might be surprised how well a little weirdness can work. Another surprise is how "natural" many of the Pro-One's textures can be - the exponential envelope stages undeniably help here.

External signal processing with the Pro-One is possible, courtesy of a useful selection of interfacing possibilities found on the back panel. Among the standard 1V/octave CV in/out and 5V gate in/out, can also be found an audio input and filter CV in. When a signal is connected to the external audio input, the noise generator is disabled and its level control now controls the level of the external audio signal. The filter CV on the other hand accepts 0-10Vdc while adhering to the 1V/oct standard; the filter keyboard scaling amount is overridden by this CV in, which is, in turn, attenuated by the filter keyboard amount control. Those of you who read the retrospective on the Korg MS20 a few months back will have some idea of how useful these two inputs can be.

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With me so far?

Now program a sequence into the Pro-One's onboard sequencer - no more than eight or nine notes. (The pitches themselves aren't important unless you intend to have the Pro-One's oscillators make some contribution.) For the present, turn them down at the oscillator mixer, and/or turn off all oscillator wave-forms. Make sure that the pitches you record into the sequencer are widely scattered about the three octaves avail-

able to you. These will now be used to control the timbre of the processed guitar chords by modulating the filter cutoff. Setting the sequencer to play the sequence and rolling the tape, the intensity of timbral modulation can now be controlled from the filter keyboard amount control. Each time the kick drum triggers the gate generator, the sequencer advances to the next step, and a new filter frequency will modulate the guitar chords. If the sequence were a simple up-and-down arpeggio pattern, then the effects of filter frequency modulation would not be unlike a wah-wah pedal or slow phaser - with

resonance, of course. If the sequence is unlike a simple up-and-down arpeggio pattern, then the modulation effect will be quite unlike anything else.

Unless the kick pattern is very predictable, there's unlikely to be any relationship between the number of kicks in a measure and the number of steps in the sequence. Consequently, although the sequence of timbres will repeat itself, its rhythm should change at each pass. You have instant, self-contained, polyrhythmic signal processing - with knobs on. The possibilities extend beyond the simple ones just described, as the Pro-One also sports external control of gate, oscillator CV and filter CV; add something like a Philip Rees MCV MIDI-CV converter, with which either MIDI note number or MIDI velocity could

be used to control filter CV, and possibilities for linking the Pro-One to a MIDI sequencer as a MIDI-controlled signal processor start to open up. Using MIDI to trigger the Pro-One, there's no longer any need for the external signal being processed to be percussive enough to control the gate generator. This means that string pads, sampled choirs, even backing vocals could all be subjected to the Pro-One's filter and envelopes.

I confess that I find it difficult to summarise the Pro-One. In the preceding text I've only covered a couple of applications of this classic machine. It

goes without saying that the Pro-One is also capable of a remarkable range of powerful leadline, solo instruments, basses, and even the odd passable imitation of a monophonic acoustic instrument. What I can't convey is just how good something like the Pro-One sounds after years of progressively more digital and less expensive synthesisers. Make no mistake, I am as big a fan of FM, LA, PD and RCM as you could hope to find, but there's still something special about the classic analogue sound. It's something quite impossible to replace, something I can't imagine doing without.

**"THE PRO-ONE
NEVER ACQUIRED
THE SAME
'LEGENDARY'
STATUS AS THE
MINIMOOG, BUT IT
CAME CLOSER
THAN ALMOST
ANYTHING ELSE -
IT ALSO CAME
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STABLE AS THE
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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 one 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.

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Tascam TSR8 + RSD Pro-line 16"4"8	£2420 + VAT
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Alesis MMT8	£175
Korg M1	£899
Alesis Midverb III	£185
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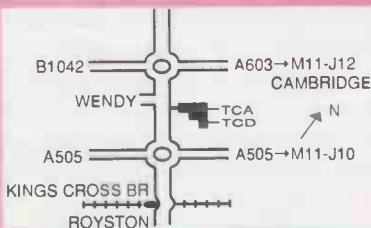
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The third issue of FOLDBACK, our free magazine is now available. Write or telephone for your copy.



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MIDI METRO



PHOTOGRAPHY: ADAM JONES

If it's in MT then it must be hi-tech, right? Fear not, the MIDI Metro makes intriguing use of technology to come up with a new angle on a familiar device.

Review by
Simon Trask.

LIFE CAN BE full of surprises. I'll bet that when you woke up this morning you never thought you'd be reading a review of a silent metronome. Yet that's exactly what you're doing, for the MIDI Metro is a metronome with a difference: it uses light instead of sound to provide you with the sensation of a regular beat. More specifically, it uses visual motion, switching on and off an array of eight LEDs to create a swinging pendulum motion, recalling the traditional mechanical metronome. The LEDs are positioned so as to form a shallow upturned arc, so allowing the "swinging" effect to be created. The manual claims that the MIDI Metro simulates the motion of a conductor's baton, but this isn't strictly true: a conductor beating 4/4 time traditionally uses a downward motion for beat one, a pendulum motion for beats two and three, then an upward motion for beat four - hence the terms "downbeat" and "upbeat" used to indicate respectively the first and last beats of a bar.

While we're getting used to the idea of a silent metronome, we might as well also get used to the idea of a metronome with MIDI In, Out and Thru sockets on its rear panel. Actually, their inclusion on the MIDI Metro isn't as strange as it might seem at first. After all, we're used to the metronome bleeps emitted by sequencers and drum machines, so being able to sync the MIDI Metro as master or slave to a sequencer or drum machine makes a lot of sense. In fact, the Metro's ability to substitute for those often irritating bleeps is one - but by no means the only - reason for its existence.

When the Metro is set to MIDI sync, its light pattern is activated by incoming MIDI Start and Continue commands, and stopped by an incoming MIDI Stop command, with tempo being derived from the 24ppqn MIDI clock rate (within the range 40-240bpm). One advantage of slaving the Metro to an external MIDI source rather than the other way round is that it can respond to tempo changes, and therefore to a sequencer's tempo track. Incidentally, when you're using the Metro in place of your sequencer's metronome bleep, the sequencer's own count-ins are rendered ineffective, because the Metro's light pattern is only triggered when it receives a MIDI Start or Continue command. So at the beginning of a track you'll need to use bar one as your count-in and then delete it later.

Q-Logic have used coloured LEDs set out in the

"palindromic" sequence yellow, yellow, green, red, red, green, yellow, yellow. The red LEDs are the default beat indicators, falling as they do in the part of the pendulum swing which we perceive as the accent, but you can effectively set the beat anywhere in the light pattern by editing the Metro's bias parameter. Bias adjusts the light pattern in relation to external timing, and can be used to compensate for playing which is consistently ahead of or behind the beat.

The Metro also allows you to select either Beat or Bar operation. The latter accents the first beat of each bar by flashing all eight LEDs at once. How does the Metro know what constitutes a bar? Simple: it allows you to set a time signature (0-31 for the numerator and 2, 4, 8 or 16 for the denominator). In case you're wondering how it would handle a time signature of 0/4, a zero numerator allows you to halve or double the apparent tempo by setting the denominator accordingly (so you use 0/8 instead of 4/4). Of course this only works for Beat mode, where the numerator is unimportant because no beat is required to be accented.

A quarter-inch jack socket on the Metro's front panel allows the unit to be started and stopped remotely from a footswitch, while on the rear panel the mysterious Link socket is apparently reserved for future Q-Logic equipment. MT's review model had an external PSU, but by the time you read this Q-Logic will be fitting internal PSUs as standard in all their Metros - a direct result of feedback from potential customers.

By now you've probably digested the concept. But does the MIDI Metro actually work, and is it likely to be a useful addition to your equipment setup? Firstly, by checking out timings with a sequencer I found that I was able to play more tightly to the beat (as in milliseconds) with an audio signal than I was with the Metro's light signal. But it has to be said that this isn't really the purpose of the Metro. Rather, it's intended to help you get away from the tyranny of the beat. There again, the Metro is ideal for drummers who have to play along to sequenced music and are tired of having a click track blasting in their eardrums. And apparently the most enthusiastic take-up so far has been from the drumming fraternity.

When you first start using the Metro there's a temptation to stare at it all the time, but this only has the effect of mesmerising you. In fact, you should have it at least 6-10 feet away from you, and off at an angle so

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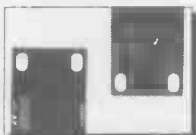
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► that you pick up its light motion in your peripheral vision. Then you should try not to concentrate on the Metro's pendulum motion (after all, you should be concentrating on your music) but should instead let it become an almost subliminal impression. You really do pick up a sensation of a regular beat by means of a perceived accent which falls on one side or the other of the "pendulum"'s central point, depending on the direction of swing - which is exactly where the red LEDs are. Apparently these LEDs are also given accentuation through being flashed twice, on consecutive MIDI clocks, though you don't perceive separate flashes.

One advantage of a visual metronome is that, by turning away from it altogether or closing your eyes, you can shut it out at any time, something which you can't do with an audio metronome (ever tried shutting your ears?). It's this sort of flexibility which allows you to get away from the constant beat reinforcement of an audio metronome, while by its very nature the Metro's signal doesn't clash with the music you're playing. This gives you the freedom to play "outside" the beat for a while (a rubato section, perhaps) and then pick it up again at any time.

When I started playing music, a metronome was something you practiced your scales and your music to in order to develop a good underlying sense of timing. Then you'd set it aside and put in all the nuances of timing which help to bring a performance to life. In our hi-tech world the metronome click has seemingly become more a device for keeping your playing in sync with a sequencer, and nuances of timing don't really come into it.

The MIDI Metro allows you to play into a sequencer without being a slave to it, if you see what I mean - though some experimentation with the Metro's bias parameter may be needed to bring your playing into sync with your sequencer's expectations. In this way you can lay down

your first sequencer or tape track without being constantly reminded of a beat. Having said this, a sequencer will still record your notes in relation to its internal timing, and if you're using a notation program the results might not be quite as you expect if you stray from this timing. Sequencing software such as C-Lab's Creator/Notator can nowadays extrapolate tempo fluctuations from your playing on the keyboard or other MIDI instrument, or even, in conjunction with an add-on box, from an audio signal. But that is, perhaps, another issue.

I'm concentrating on sequencing here, but although the Metro has MIDI connections it's by no means only intended to be used with a sequencer. To get away from the hi-tech side of things I took the old classical guitar out of its case and tried playing along to the Metro - and found that I took to it quite naturally. Perhaps by this time it had, er, clicked in my mind.

Learning to play to a light pattern is a bit like learning to ride a bike: you're wobbly at first, but once you've cracked it, it becomes second nature. Operationally there's very little you need to learn, but then you shouldn't need to know much in order to use a metronome.

Ultimately the MIDI Metro is something you need to try out for yourself. I suspect everyone will have their own reaction to it, some will take to it more readily than others, and still others won't see any advantage in it at all. Nonetheless, the MIDI Metro is a useful addition to the musician's tools of the trade, and something which other manufacturers will kick themselves for not thinking of first.

Price £239 excluding VAT.

More from Q-Logic, East Haugh, Pitlochry, Perthshire, Scotland PH16 5JS. Tel: (0796) 2001.

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1U 19" Rackmount unit having 6 trigger outputs for SIMMONS, UP5 Drum 'Brains' Triggers 0-10 Volt outputs and are variable in accordance with Velocity information. Receive MIDI channel and trigger notes are programmable.....

MIDI PROCESSING

MIDI Data Merger having 2 INs, 2 THRUs and 2 OUTs. INs are routable to OUTs and data can be filtered from either stream selectively. Filtering of Note, pitchbend, controller, aftertouch patch, realtime and exclusive information at the push of a button. Also for synths with early or limited MIDI specs.

Ability to set split points on synths without ie: DX7, DW800.

Ability for synths receiving all MIDI channels to receive on any MIDI channel ie: JP6, Prophet 600.

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channel. An internal light sequencer is also available for syncing to the MIDI clock. Add to this a further 8 channels of power on another MID channel and slave the POWER PACKS together and you are left with a complete lighting system in perfect time.

MIDI GATE

This controller is aimed at acts that already have a lighting desk. The control has 6 output triggers with 0-10 Volt outputs. This permits the brightness of lamps to be controlled from velocity and allows gate on time to illuminate the lamp for a time representative of note on/off data. The unit is 1U rackmounting and can be set to receive on any MIDI channel and be set to receive any MIDI notes. Ultimate control over MIDI for existing light desks.

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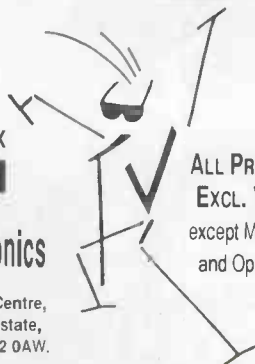
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MIDI Moves

REGARDLESS OF ITS CRITICS, MIDI HAS OPENED NEW DOORS TO USERS OF HI-TECH MUSICAL EQUIPMENT - THE COMPATIBILITY WE ENJOY TODAY WAS INCONCEIVABLE 15 YEARS AGO. NOW THE MIDI SPECIFICATION HAS BEEN EXTENDED. TEXT BY VIC LENNARD.

AT THE INCEPTION of MIDI in 1981, the detailed *MIDI 1.0 Specification* was created. This was a joint effort between the MIDI Manufacturers Association (MMA) in America and the Japanese MIDI Standards Committee. In it were covered the two main aspects of MIDI: firstly, Channel Messages for notes, MIDI controllers and MIDI modes; and secondly, System Messages which can be broken down into Real Time (like MIDI clocks and stop/start/continue commands), Common for all devices within a MIDI system and Exclusive for the transference of data between like devices and/or librarians.

Over the past nine years, there have been two major additions to the specification. The Sample Dump Standard was included for use in samplers. Prior to this, Sequential Circuits had their own method of transferring samples which was used on the Prophet 2000 and duplicated by Akai on the S900. Ensoniq used a different system on their Mirage. Happily, since the instigation of the Sample Dump Standard, most manufacturers have adhered to it.

The other addition was MIDI Time Code (MTC). This is a method for converting SMPTE code on tape to absolute time on a sequencer without the need for bars and beats. Less happily, this has not been universally accepted by software writers due

to the belief of some that MTC does not have a sufficient degree of accuracy.

THE SIGN OF THE TIMES

THE ABOVE ADDITIONS were made because it was felt that MIDI needed them. An unfortunate fact of life is that new techniques can rarely be made retrospective. A perfect example is the Prophet 2000 keyboard-based sampler and the rackmounted 2002; the former uses the Sequential proprietary sample dump while the latter uses the dump standard. The result is a total lack of communication between the two devices without using a generic sample editor on a computer to extract a sample from one and send it to the other. Yet you can connect a Prophet 2000 to an Akai S900 and directly interchange samples.

It would be useful to be able to control all front-panel operations of a MIDI device by MIDI commands. Some manufacturers have used System Exclusive messages to do this, but there is a problem. SysEx cannot be interspersed with other MIDI data except for System Real Time. For example, if you send note information while dumping the memory of your synth to computer, the dump will be aborted. Most sequencer packages will prevent SysEx from being interrupted, which leads to a further problem. A typical parameter change will take, perhaps, ten bytes which equates to 3.2 milliseconds. Your sequencer will have to stop all other MIDI transmission for this time. This makes a mockery of all the work which has been carried out to improve the resolution of sequencers, so making them closer to "real time".

MIDI controllers are used for the likes of the modulation wheel, MIDI volume, sustain pedal and so on. Generally, a MIDI controller message is only three bytes long - the same as a MIDI note message. A couple of years ago, two controllers were given the rather official name of Non-Registered Parameter Number. Controller #98 is the Most Significant Byte (MSB) while #99 is the Least

Significant Byte (LSB). This allows for 128 x 128 different parameters - a total of 16,384 - which a manufacturer can define for a particular MIDI device. For example, each button on the front panel could be assigned an independent parameter number. An implementation table for Non-Registered Parameter control of an instrument might begin something like this:

PARAMETER NUMBER		FUNCTION
MSB(99)	LSB(98)	
00	00	Select Utility Menu
00	01	Goto 1st opt
00	02	Goto 2nd opt

The MIDI controllers for data entry (MSB - #6, LSB - #38) and data increment (#96) and decrement (#97) would then allow you to select parameters and change their values over MIDI. Consequently, it would be possible to control every function of the unit with MIDI controller commands.

Other MIDI controllers exist which can be used for different purposes from one piece of equipment to another. Data entry MSB/LSB and data increment/decrement let you change the value of a parameter once it has been selected. There are also eight General Purpose Controllers, again with MSB and LSB values. The onus is on manufacturers to make the most use of these. This tends to mean a higher financial commitment to technology, which is often difficult to rationalise. Why offer the public something they haven't asked for? Suffice it to say, MIDI could be used for the most delicate and accurate of purposes if only fully implemented.

TOO MANY CHANGES

MIDI WAS INITIALLY blessed with the ability to change between a maximum of 128 patches within a MIDI device. A typical MIDI Program

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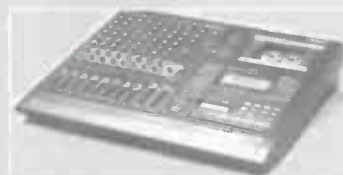
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*TALKING
ON WATER*



**Jerry Harrison's
involvement
with the
seminal Talking
Heads has seen
his solo
ventures cast
in a supporting
role - but with
the Heads'
future in doubt,
and a third
excellent LP
now under his
belt, Harrison
is moving
centre stage.
Interview by
Nigel Lord.**

PROBABLY THE BEST THING ABOUT being a former member of The Modern Lovers is that it keeps you forever young in the public imagination. Jerry Harrison is currently a former Modern Lover, and the way things are going, he seems likely to become a former Talking Head - along with the other members of the band: David Byrne, Tina Weymouth and Chris Franz. But that's something we'll (almost) come to later. Right now I'm confronted with a confident, good-looking, Harvard graduate whose charm and enthusiasm bely his 20-odd years in the music business.

Harrison would be the first to admit that those years have been pretty kind to him. From the cult following of The Modern Lovers and the early Talking Heads, he has enjoyed mainstream success as the band's popularity mushroomed to international proportions. Latterly his solo career has come off the starting blocks and taken on its own momentum with the release of his first two albums, *The Red and the Black* and *Casual Gods*. In the intervening periods, he has developed a parallel career as a producer, chalking up credits with artistes as diverse as Fine Young Cannibals, Violent Femmes and the BoDeans, recorded an anti-Reagan rap song with Bootsie Collins and found time for a spot of album sleeve design - for one of which, Talking Heads' *Fear of Music*, he was awarded a Grammy.

Like I said, the years have been kind to Harrison, but behind the successes one senses a very perceptive mind and a man who has come to realise he can rely on his own sense of proportion and good timing. His career, along with that of the other Talking Heads and many of their late '70s contemporaries, has been underpinned by the more temperate, understated approach of America's East Coast. A band like Talking Heads could never have been a product of Los Angeles.

Throughout his career, Harrison's willingness to embrace new advances in technology has drawn him into a much closer working relationship with keyboard and sampling equipment and this has provided much of the instrumentation for the latest album, *Walk On Water*. A many-faceted album, it parallels much of Talking Heads' careful melding of diverse international influences and sharply-honed pop sensibilities, and reflects a new-found confidence in Harrison's own ability.

Surely, as a member of a band with such an impressive track record, he must still feel himself to be labouring under the weight of their reputation?

"I actually feel that the more of these records I make - and there is an element of continuity with these albums - the more the identity of *Casual Gods* and my identity outside Talking Heads is growing", Harrison counters.

But is he not experiencing any of the usual antipathy reserved for artistes working outside the band with which they have always been associated? "That's one of the reasons I wanted to have some kind of collaboration with people that had been in Talking Heads when we were on tour - people like

Bernie Worrell, Alex Weir and Chris Spedding, all of whom are great musicians."

Clearly, Harrison is very aware of the way his solo work is likely to be perceived, but with the other two Talking Heads factions still immersed in their respective projects, how does he respond to the criticism that where successful bands are concerned, the sum of the parts seldom equals the whole?

"I think it's largely a matter of consistency", comes the measured reply. "Taking the Beatles as the obvious example, I think it has to do with how consistent their work was outside the band. In general the solo projects were never as consistent as the Beatles were as a band. *But*, a song like 'Imagine' by John Lennon was as good as anything the Beatles ever did together."

One possible solution could be to avoid those areas where his music might be identified too closely with that of Talking Heads. Any suggestion that this has been a deliberate approach are quickly quashed.

"Unlike the Tom Tom Club and David, who have very deliberately tried to do something different outside the band, I just try to write good songs. If they sound like something Talking Heads would do then it's just too bad. I don't care if it's similar and dissimilar, just as long as it's good."

Of course, this sort of conversation presupposes the continued existence of Talking Heads - a state of affairs which at the present time seems anything but certain. You might expect Harrison to be in as good a position as anyone to fill us in on the current status of the band, but this is apparently not the case. So accustomed is he to answering questions on this very subject, he has armed himself with a handful of skilful, if rather terse rejoinders.

Does the band still exist? "We're on vacation." It's been one hell of a vacation. . . are you ever likely to return? "Ask David". Chance would be a fine thing. It seems that some bands are always at the mercy of their more capricious members, would he agree? "It only takes one to say no." True. But if it's always the same one - "ask David".

ON THE SUBJECT OF NAMES, IT SEEMS that the title of the last album, *Casual Gods*, has been adopted by Harrison's current touring band. Anyone familiar with the album will remember that it was this name, together with the sleeve photography, which combined to form such an extraordinarily powerful image. The photographs were taken in a vast open cast gold mine in Brazil where countless hundreds of ragged mine workers carry huge sacks up an almost vertical slope in an effort to find gold. As the sleeve notes point out: "These are not scenes from a movie. Though they look like swarming ants or endless caravans of pack animals, they are men reduced to this condition by poverty and the bewildering indifference of casual gods". It's an image you don't easily forget. . .

"I kind of like making my album covers ▶

► arresting: beautiful pictures that have a slightly disturbing message - rather than using them to reflect some kind of vanity on my part."

What about the inevitable criticisms of exploitation? You may be using an album cover to draw attention to the plight of a group of workers in Brazil, but is this not ultimately exploitative in some way?

"I take the point, but I don't think my using those photographs is going to affect those people in any way at all. I also think that as unfortunate as they are, there is something inspiring about those pictures. I think it highlights just how far people will go to get ahead."

Or perhaps how far they'll go to stay alive. . . Images aside, *Casual Gods* and its predecessor *The Red and the Black* went a long way towards making the world aware that the success of Talking Heads had rested much more on Harrison's shoulders than had previously been believed. And with the new album set to consolidate this reappraisal of his skill as a writer, musician and producer, it seems that Harrison's time as a solo artist might well have come. But how much

of this self-affirmation, I wondered, had been prompted by living in Byrne's shadow?

"I think that anyone who was around when Talking Heads started as a trio was very aware of what I did when I joined", he replies. "Of course, when Eno became involved, because he was also associated with keyboards, it became that much more difficult to say what he did and what I did. But he was much better known than me, so I think there was a tendency to give him more credit and me less. And then when we became an enlarged band it was even more difficult to figure out who did what. So looking back, I think it was easy for people not to have a very clear idea about what any of us did - apart from David who was the singer.

"But really, I didn't make the albums as an attempt to prove something. I made them because I wanted to make them. At one point in Talking Heads' career we decided that the only healthy way of dealing with our different aspirations was to break up our lives into times we worked together and times we worked apart. From my point of view, the real challenge was in becoming a lead singer, because I had never done that in a band before. For me, it was a little bit like keeping yourself alive; doing something that you haven't done before. It's like going back to an earlier part of your life and starting again. I think a lot of people are afraid to do those things; if you're successful it can be really difficult to put your

reputation on the line. But it was that element of risk taking which I found quite exciting."

SINCE LAUNCHING HIS SOLO CAREER, has Harrison's role as an instrumentalist become any more clearly defined? Does he, for example, regard himself as a keyboard player or a guitarist?

"I've been playing a lot more keyboards lately", he reveals, "and keyboards are my first instrument. In fact, I originally had quite a problem because the first keyboard I owned was an organ which only had three octaves so you couldn't play it with two hands! After a while, my left-hand technique just began to fall apart. Of course, now you have full-size keyboards with the right feel which allow me to use all the dexterity I once had. It makes me want to go back to my early piano training."

So which instrument does he choose to write on - presumably it is easier for a solo artist to work with keyboards than the guitar?

"Yes, but it varies. Sometimes it's one, sometimes it's the other. Actually, my writing technique was helped most by the advent of multitracking cassette recorders and drum machines. I used to write out chords and stuff like that for the piano, but they were never really songs to me. I needed to build some kind of structure around a beat. In fact I had a hard time writing anything until I could put something like a small band together on tape. That was really freeing for me. Up until that point, I'd found myself getting bored with it; it was like, there's just not enough going on there."

After over a decade of mainstream success, what equipment could a man who started with a three-octave organ currently aspire to?

"I use the Emulator III as my major instrument and there's also some D50s, DX7s and DX7IIIs - I still like the DXs for bright, percussive sounds. But I think you need to become familiar with your library so you know exactly what sounds you have at your disposal. I just get so sick of learning new instruments."

Is that perhaps why the Emulator maintains such a high profile? "Yeah. I love having a 16-bit stereo sampler", Harrison enthuses. "I know there are a number of them now, but at the time I bought the E-III it was the only one that had SCSI and was actually up there and working. I found the difference between that and the E-II was like night and day for me. You used to worry that the old samplers didn't have the high end, and you'd have to use other instruments to compensate. Now samplers don't sound so grainy any more, in fact the E-III has a beautiful sound. It seems to have some problems with its stereo imaging sometimes but it's a great machine."

With such a heavy emphasis on sampled voices, where do the "conventional" synths fit into the picture?

"Again, I think it comes down to knowing your library so that you can go through on each instrument and find what you're looking for - whether it's something you've made up or something you've found. But then a lot of times, after I've decided on a particular voice I try to mess it up by putting it into a combination with other sounds. One of the things I am very aware of is

"My writing technique was helped by the advent of multitrack cassette recorders and drum machines - I used to write out chords for the piano, but they were never really songs to me."

how you can sometimes be listening to a record and think 'oh, there's the shakuhachi from the E-II, and that's that horn sample from the Akai...'"

Most of us have experienced this, or something like it, at some time or other. But how far, I wondered, would Harrison go out of his way to avoid the situation?

"Pretty far", comes the reply. "As I say, a lot of times I'll deliberately try to mess it up."

Can we assume from this that he would not consider using other people's records as a source in his sampling activities?

"Well, I did use Ronald Reagan's voice... Really, it isn't something I'm interested in doing. I suppose it depends on how much you take. If it's just something like a snare drum that's one thing, but if it's a whole phrase I think that's quite different. As far as I'm concerned though, other people can do anything they want - if they want to take the whole thing that's fine. Maybe they should have to pay some publishing or songwriting royalties. I know that Loleatta Holloway got paid for the Black Box record, but there they built practically the whole of the record around her voice. I think that's a perfect example of a situation where they really stretched the rule. On the other hand, it was a good song..."

HARRISON'S NAME HAS, FOR SOME YEARS now, been associated with the mid-west town of Milwaukee. Does he have some kind of studio set up there?

"Not an actual studio, but I have equipment there which at this point is like a virtual studio. I have a Macintosh II computer which is currently running Performer software. And I've tried a number of different sync boxes like the Jambox and one by Opcode called the Studio 3. Also, I've just been trying this thing called the MIDI Timepiece by Mark Of The Unicorn: I seem to have a lot of problems with sync, keeping things totally in time."

"I'm also using the direct-to-disk system by Digidesign, Soundtools, which is great. I believe they're also putting it together with video soon. They're going to have this thing called Sound Vision which will be a combination sequencer and a live two-track or four-track system. I can see myself changing to that when it comes along."

So where exactly is all this equipment used?

"I helped get this studio together in Milwaukee which has now been discovered by a lot of new age people. There's a label called Narada out there and they kind of book it round the clock. So I ended up at a new studio called AD Productions in Milwaukee which overlooks Lake Michigan. It has a beautiful Neve V-series desk and a Mitsubishi multitrack machine and they offered me this incredible studio deal, so I couldn't really refuse. But I actually worked in 11 different studios on this album, in Milwaukee, Lake Geneva Wisconsin, New York, Connecticut, London and Paris."

Not a West Coast location amongst them - does this reflect a continuing disenchantment with Los Angeles and its attendant culture by an artist who has long been associated with the East Coast?

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► "I don't know. I just feel more comfortable in New York than I do in Los Angeles. I think there's kind of an edge to New York - a kind of urban sensibility - and I find myself more at home with that.

"Recently, with a lot of the rap groups which have come out of LA, I think it's started to move away from that country rock and jazz rock image that it was often associated with."

While this is born out by such outfits as the Boo Yaa Tribe, LA still has a long way to go before it throws off completely its association with the more cliched excesses of the rock 'n' roll industry in which it plays such an important part.

On the subject of new music, does Harrison identify with any of the dance styles currently in vogue; what about the rap groups he's already mentioned?

"I see it as being a little bit apart from what I'm doing, but I still think it's interesting. They seem to have retained a lot of their vitality by changing up: just when you thought that it would burn itself out, they found ways of keeping it vital. I think it succeeds in being incredibly direct - everything is stripped down to lyrics and beat. I see it as being the converse of new age music which actually comprises no lyrics and very

little beat. But as far as dance is concerned, I'd say I preferred something like Funkadelic and more funky music, which often has a slightly slower beat. That's why I love playing with Bernie - he and I are kind of like brothers, we have a great time playing together."

Despite the kind of melodic and instrumental experimentation which characterised much of the first two albums and also *Walk On Water*, Harrison, like many American musicians, still has a tendency to fall back on a good ol' rock 'n' roll toon when the pace needs hotting up. (The same

thing was true of Robbie Robertson's eponymous solo album from a couple of years ago.) Does this reflect the continuing love affair Americans seem to have with what I suppose must be their most successful export?

"I think so", Harrison confirms. "I certainly still like rock 'n' roll. It gave me great pleasure, for example, to have written a track like 'Sleep Angel', which in many ways is a very traditional song. I liked the idea of having written a song that succeeded within a traditional framework. It didn't succeed by being experimental, it was almost like you could have written it on sheet music and heard someone play it and say 'yeah, that's a nice song'."

Well maybe, but as far as I'm concerned it's tracks like 'The Doctor Lie' and 'Bobby' from *Casual Gods* which provide the real high points. Both of them, incidentally, are songs which exploit the idea of

marrying Western melodic form with African rhythm. This in itself is quite a novel concept as crossover styles usually work in the other direction - that is with Western rhythmic form being coupled to Eastern melodies. This, of course, is a tradition which goes back to the Byrne/Eno collaboration, *My Life In The Bush Of Ghosts*, and probably stems from the desire to ensure a track is kept usable within a dance context.

But for Harrison, this isn't the only effort he's made to avoid the more obvious cliches of crossover projects.

"It's funny", he says, "people often ask me about playing world music, but for me it tends to work the other way round. Rather than going to Africa and trying to adapt my music to what I hear over there, I had people from Africa actually in the band. For example, there were some French African musicians I'd met when we were making *Naked* and on tracks like 'Kick Start' (Harrison's last solo single) which has a very aggressive guitar sound and a great thunderous rolling bassline, they played these really abstract hi-hats which gave the song a nice sense of syncopation against the more consistent instruments."

This kind of experimentation would seem to point to him having rather more space to breathe than David Byrne, who - because of the public perception of him as prime mover behind Talking Heads - is under considerable pressure to at least equal his work within the band.

"No", contradicts the keyboard player, "I think David has quite an advantage in that he can do something that is deliberately non-commercial and because he is identified with the success of Talking Heads it confirms people's belief in what a great artist he is. On the other hand, my records have to have some sort of link to the commercial market or I wouldn't be given the opportunity of making them, and in that sense I think I'm more constrained. But I believe pop music is largely about walking this cusp between commerciality and art. And it's always been about that. I think people that claim to be totally artistic have simply found a way to make what they're doing commercial. In a sense we're all doing it, so it's not a pure art form."

Our allotted interview time almost up, a couple of important questions still have to be answered. First "Are there any good pop songs left to be written?". Harrison's confidence is reassuring - so who's going to write them?

"I am. In fact a lot of them are on this new album."

Second question: will we, perhaps, get the chance to hear them live?

"Well, there are no plans to play any dates in this country at the present time, but I'm on my way back to the States to do rehearsals for a tour with Chris and Tina. We're going to do half Tom Tom Club material and half mine. Actually we're going out with the Ramones and Debbie Harry - we're calling it *The Escape From New York Tour*".

Sounds rather like *The Escape From 1978 Tour* to me - all it needs is Tom Verlaine and Patti Smith. And have the three Heads without Byrne thought of a name for themselves?

"We were thinking of calling ourselves Shrunken Heads", Harrison reveals, "but we decided against it." ■

"I think people who claim to be totally artistic have simply found a way to make what they're doing commercial - in a sense we're all doing it, so it's not a pure art form."

the steinberg system

Cubase

We're that fast.....

Steinberg sequencers, Cubase and Cubase, are the fastest and easiest MIDI recording programs to use. Why? because you never have to hit STOP to make any changes. And making those changes is simplicity itself thanks to ViSP - Steinberg's Visual Song Processing technology. ViSP animates the screen, making it an essential visual reference for any compositional process.

Now that Cubase 2.0 is here Steinberg offer full WYSIWYG score printing, and for those who don't need such score facilities Cubase is now available at virtually half the price. Both programs support MTC, so you can interface directly to MIDI controlled multitracks (eg. Fostex R8/G16/ MTC1) and can be used with large screens for particularly demanding applications.

The Steinberg system is completed by MIDEK and MIDEK+ which offer up to 5 separate MIDI outs (ie 80 channels), 3 MIDI Ins, 4 key expansion slots and full SMPTE Synchronization.

With an open architecture for expansion and updates, Steinberg's products are designed for the future, and are here now.

.....we don't even stop to edit.

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Cubase

VERSION 2.0

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Roland
D-70
SUPER LA
SYNTHESIZER

SYNTHESIS - IT'S ALL IN

Roland
D-70 SUPER LA
SYNTHESIZER

VOLUME
C1
BRIGHTNESS
MODULATION

LEVEL
CUTOFF
SOLD
PLAY

PHIL
PERFORMANCE
PORTAMENTO
MIDI
TUNING B

STACK
RELEASE
FOUR CAPS

TOPE PARTS
LOWER
UPPER
1 2 3 4
TONE/ZONE SELECT

TOPE DISPLAY 0
MIDI OUT B
EFFECT/CTRL
PART 0
LMS1
F1
F2



THE MIND



When it comes to creating sounds on the D-70 the only limit is your creativity. If it's standard sounds you want, you'll find the internal ROM contains tones from multi-sampled pianos, choirs and strings to synths and drums; and you'll find traditional synthesis techniques like filters and LFOs.

But the D-70 will appeal to those who want to break new ground. The raw elements of invention are there, not just in the form of basic waveforms and noise spectra among the 128 RS-PCM tones, but through innovative technology like Differential Loop Modulation. The unique DLM process can be used to truncate a waveform and process it with loop modulation, enabling the creation of thousands of new, distinctive waveforms from the original PCM wave. All you have to do is to let your imagination run riot.

Performance features in the 30-voice D-70 include real-time editing, on-board effects and full MIDI controller facilities. And in addition to velocity and aftertouch you'll even be able to control release time from the 76-note keyboard.

As for the sound - we'll leave that to your imagination...

Roland

Roland (UK) Ltd.,
West Cross Centre, Brentford, Middx TW8 9EZ
Fax: 081-847 1528 Telephone: 081-568 1247

Please send me more details on the D-70 Super L.A. Synthesizer

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PHOTOGRAPHY: JAMES CUMPOSTY

HOT HOUSE FLOWERS

THIS YEAR'S BRITISH MUSIC FAIR CAME COMPLETE WITH ITS VERY OWN GREENHOUSE EFFECT. AS THE TEMPERATURE SOARED AND OLYMPIA TURNED TROPICAL FOR SIX DAYS, THE BMF PROVIDED VISITORS WITH A PERFECT OPPORTUNITY TO SEEK OUT THE HOT NEW PRODUCTS
REPORT BY SIMON TRASK.

IT'S THAT TIME of year again, when the musical instrument industry shrugs its collective shoulders and prepares to spend six days immersed in an almighty cacophony which would no doubt be music to John Cage's ears. Quite how many of the attendees at this year's British Music Fair felt themselves to be participating in an *avant-garde* musical experience is unclear, but they were probably outnumbered by those who didn't. What we think we're doing as opposed to what we're actually doing: now there's an interesting subject. Which way are your ears tuned?

From irony to paradox. The more successful the Fair is, the less successful it is. Like our *avant-garde* experience, it's all a question of perspective. The greater the number of people attending the Fair, the less opportunity each individual has to try out the

gear and ask questions about it, and the more unpleasant the general ambience gets.

This year saw the BMF return once again to London's Olympia, now seemingly its permanent home following the widely unpopular relocation to Wembley a couple of years back. As well as playing host to a greater number of exhibitors, and taking up a greater amount of floorspace, than last year, the Fair was able to proclaim several firsts: the introduction of a Learn To Play centre, a Children's Musical Adventure Playground and the *Young Guitarist of the Year* competition, and the throwing open of the Fair both to companies who are not members of recognised British trade associations and to non British-based companies. Theoretically this means that any company anywhere in the world that's trading within the broadest confines of the music industry can take a stand, so to speak, at the BMF. The ultimate aim of the organisers is to make the BMF an event of international significance - a daunting thought for anyone who's ever attended the gargantuan Frankfurt Music Messe.

This year the BMF's fortunes were somewhat mixed. While trade attendance over all six days was up by around seven per cent on last year, and exhibitors were generally pleased with the volume of business they did, public attendance over the Friday, Saturday and Sunday was down by around six per cent. So is the BMF a more essential event for the trade than it is for the public? And is July - heatwave, holidays and all - the best time to hold the BMF? Food for thought which is no doubt presently being digested by the organisers.

It wasn't only members of the public who didn't show up. This year saw some big names staying away from the Fair, with Akai, Peavey, Marshall and Cheetah all choosing not to exhibit for one reason or another. However, one company present in full force were Yamaha, who for the first time were displaying their band instruments, tuned percussion instruments and even their hi-fi units in addition to the more familiar presence of synths, portable keyboards, pro audio gear, guitars, drums, Clavinova digital pianos and Electone organs. Latest addition to the company's new generation of synths is the TG77 (£1299), a 3U-high 19" rackmount expander version of the SY77 minus the latter's onboard sequencer and disk drive but with the welcome addition of eight polyphonic individual audio outs alongside the existing two stereo output pairs. The expander's internal AWM2 samples are the same as those on the SY77, but it comes with a new set of Preset Voices which reflect the growing experience of programmers with AFM/AWM2.

No doubt mindful of the problems which
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musicians had programming first-generation FM synthesis, Yamaha are leaving nothing to chance this time around. They now have three waveform and Voice card sets available for the SY77 and TG77: *Sax 1*, *Drums 1* and *Rock & Pop* (£99 each). The waveform cards can also be used with the SY/TG55. Yamaha Japan have produced a further five SY/TG77 Voice cards (£69 each), while from America and the company's London R&D Centre come nine Voice disks (£30 each), including 'Best of DX', 'Classical', 'Atmosphere Textures' and 'Pop Music'.

The London R&D Centre is also responsible for four SY/TG55 and three SY22 Voice cards, all of which are loaded RAM cards retailing at a not inconsiderable £95 each. It seems ironic that SY77 owners can buy disks of sounds for £30 while owners of the much cheaper SY22 and TG55 have to pay around three times as much to get their sounds. Perhaps a useful alternative would be for Yamaha to provide their 55 and 22 Voice libraries on disk as SysEx data dumps which could then be transferred via MIDI from various computer-based sequencing and generic patch librarian programs - much as Kawai are starting to do for their K4 and K4R synths.

If you're looking to add a MIDI percussion controller to your setup but can't afford an Octapad, check out a new addition to the Digital Drumbanks range of preset drum machines from Yamaha's Portable Keyboards division, the DD11 (£149.99). In addition to a chord sequencer, five melodic voices, 32 PCM drum and percussion samples and 100 rhythm accompaniments which range in style from cool jazz to speed metal (would I lie to you?), the DD11 has eight touch-sensitive drum pads and comes with a pair of full-size drumsticks. Each pad can be assigned any one of the 32 onboard samples. However, while these samples are respectable sounds in themselves, the DD11's primary recommendation to MT readers is its MIDI triggering capability.

While we're lingering in the Portable Keyboards division, if you're on a tight budget and can't afford an SY22, let alone an SY77, two new keyboards in the PSS range, the PSS590 and PSS790 Workstations, might be worth considering if you're not put off by mini keys and lack of velocity sensitivity. While today's home keyboards are breaking out of the traditional "Latin pops" mentality by providing an eclectic selection of musical styles in their accompaniment sections, they're also less inclined to be the poor relative to synths when it comes to the sound-generating technology.

The new PSS keyboards are a case in point, with a varied collection of musical

accompaniments for those that want such things, 100 AWM sounds and 28-note polyphony. Both are MIDI-compatible, and the 790 even has an onboard eight-track sequencer and an implementation of vector synthesis complete with a dinky front-panel joystick controller, together with Bass Boost speakers and eight assignable drum pads which are situated in front of the keyboard. The 790 has a very respectable five-octave-keyboard span, the 590 a reasonable four octaves. And the prices? £149.99 for the 590, £229.99 for the 790.

Yamaha are extremely active in the recording field these days, and two new items at opposite ends of the price spectrum illustrate the scope of their involvement. The MT100 II (£379) is the company's latest four-track, and as its name suggests it's an enhanced version of the MT100. While retaining the basic specification of the MT100, the II adds what Yamaha term "important performance and control refinements": a track-assignable five-band stereo graphic equaliser, mic/line compatibility on all four input channels, a stereo instead of mono auxiliary effect return, an improved metering system and a stereo monitor out in addition to a stereo out. MT100 owners might well feel that these "refinements" should have been on their machine in the first place - especially as the new four-track is virtually the same price as its predecessor.

Without a doubt, Yamaha's most sophisticated and most significant recording machine to date is the new DMR8 digital multitrack machine, which integrates an eight-track tape machine, a digital mixer, mix automation, an auto-locator and three digital effects equivalent in quality to an SPX1000/900 into a single unit. Certainly no-one can accuse Yamaha of skimping on signal quality. All signals inside the DMR8 are handled as 24-bit digital audio with up to 32-bit processing (including 32-bit parametric EQ), and are stored on tape as 20-bit data, giving a 120dB dynamic range.

The compact Yamaha M20P Metal Particle tape cassette specially developed for use with the DMR8 can record 20 minutes of digital audio at a 48kHz sample rate (44.1kHz and 32kHz are also possible), and in addition to its eight PCM digital tracks, includes two analogue tracks (for laying down click or guide parts), a timecode track and a control track. Virtually every mix parameter of the DMR8 can be automated, and mix moves can be locked to the timecode on tape to a frame-accurate resolution. Real-time fader and controller movements are recorded as a sequence which can subsequently be edited, re-recorded or overdubbed, and mixes can be built up stage by stage. Up to eight mixes

can be stored in the DMR8's memory, while a finalised mix can be stored in a special area at the beginning of the tape and subsequently loaded and replayed. Additionally, up to 32 scene memories (snapshots of the system configuration) along with other information such as track and channel names can be stored to a Yamaha MCD64 RAM card.

The DMR8 provides a 24-channel "virtual" mixdown facility when Yamaha DRU8 Digital Recorder units (essentially the DMR8 without all the mixing console capabilities - c. £13,000 plus VAT) and/or AD8X eight-channel, 19-bit A/D Converter units (£1ba) are connected to it, so you can run up to 24 digital tape tracks or a mix of tape and sequenced tracks.

DAT/SPDIF, AES/EBU and Yamaha's own MEL2 digital I/O formats are provided (the latter allowing direct digital interfacing with, for instance, Yamaha's DMP7/7D and DMP11 mixers and SPX100 and DEQ7 effect processors), while a V-Sync input is provided for synchronisation with composite digital video tape recorders. The DMR8 can also sync to MIDI Time Code as either master or slave, with dedicated MTC in and out MIDI sockets in addition to regular MIDI In and Out connections. The DMR8's internal Event List can be slaved to MTC (and therefore to a MIDI sequencer which is capable of outputting MTC), while DMR8 parameters can be controlled via MIDI controller codes. The Digital Mixer/Recorder can also output MIDI clocks and SPP via its MIDI Out for more traditional MIDI synchronising. Additionally, remote computer control of DMR8 parameters is possible via nine-pin and 15-pin RS422 inputs.

All in all, the DMR8 is a trailblazer - and, crucially, it sounds superb. Currently undergoing trials in Japan, production shipments are expected in October. Yamaha in the UK are currently quoting a price of around £22,000 plus VAT for a package of DMR8, AD8X and HA8 head amp.

The two big new instruments on show from **Roland**, namely the D70 synth and S770 sampler, have already received the MT in-depth review treatment. Also being exhibited were the company's latest Micro Composer, the MC50 (£549), and a new variation on the Octapad theme, the somewhat ambitiously named SPD8 Total Percussion Pad (£399), an Octapad II minus a few features but plus 39 built-in drum and percussion sounds. Watch for the reviews to follow soon.

In many ways the most intriguing new item from Roland is the MV30 Studio M, which manages to cram a 16-track sequencer, multitimbral RS-PCM sound source, signal effects processing, automated eight-track mixer, 3.5" DSDD disk drive and intelligent

► tape sync capability into one compact, lightweight unit which is expected to retail at £1500. Delivery is scheduled for November, but in the meantime you can discover more about the MV30 by turning to our preview elsewhere in this issue.

Kawai have been lying low on the hi-tech front of late, but the BMF saw them launch three new hi-tech units: the Spectra KC10 synth (£450), XD5 dedicated drum expander (£tba, under £600) and MM16 MIDI mixer (price tba, under £300), all of which are slated for November delivery.

The company's latest synth combines the K4's 16-bit clarity with a voice architecture more akin to that of a scaled-down K1 - hence two instead of four PCM sources per patch, and definitely no filtering. Emphasis has been placed on operational simplicity and, presumably, cost-saving, with editing controls being kept to an absolute minimum and a two-character LED display replacing the more usual LCD window.

The sonic basis of the Spectra is provided by 128 wave samples, including some 30 drum sounds, which are stored in 1Mb of ROM. The synth comes with 64 preset patches and allows you to program 32 of your own along with 16 MIDI multitimbral memories (four synth parts and one rhythm part). SysEx transfer of data is possible for remote storage purposes.

Kawai have given the Spectra an inbuilt arpeggiator and 36 preset rhythm patterns (plus intros and fill-ins) which can be synced to MIDI clocks or the arpeggiator. Signal processing is confined to stereo chorus. With the Spectra, Kawai appear to be trying to span the (admittedly narrowing) divide between synth and home keyboard. It can also purportedly be used as a strap-on MIDI remote keyboard, though as its (velocity-sensitive) keyboard has a 61-note span I'll reserve judgement on that.

The XD5 dedicated drum expander comes with 256 16-bit 44.1kHz sounds stored in 2Mb of memory, is 16-voice polyphonic and has eight individual audio outputs in addition to the usual stereo pair. Sixteen 88-note kits can be programmed in internal memory, with up to four sounds per key. Boding well for the sonic versatility of the expander, samples can be processed via filter, amplifier and LFO sections. The XD5 uses the same filters as the K4, which means that you can apply resonance to your drum and percussion sounds.

Kawai's compact MM16 MIDI Mixer deals purely with MIDI data. Two sets of MIDI In, Out and Thru sockets on its rear panel combine with split/merge capabilities to allow it to be used in a variety of MIDI situations. Its 16 assignable front-panel sliders allow realtime editing of MIDI

controllers or MIDI SysEx parameters, so that, for instance, you could mixdown volume on all 16 MIDI channels by assigning MIDI controller #7 to all the sliders, or edit up to 16 sound parameters on one or more instruments by assigning the appropriate SysEx edit commands to the sliders.

Another option provided by the MM16 is realtime MIDI velocity scaling, using the 16 assignable sliders as a kind of "graphic EQ". In true mixer fashion, a 17th slider has been dedicated to master volume control - which in this case means that it sends out MIDI controller #7 on all 16 MIDI channels.

A total of 64 16-slider setups can be programmed into the MM16 and then called up snapshot-fashion by means of MIDI patch changes. Apparently the mixer will come programmed with SysEx editing templates for the DX7, the D50 and the M1 as well as Kawai's own K1, K4 and K5 synths.

Kawai are also set to release a library of K4/K4R patches and drum patterns on 3.5" floppy disks, in formats suitable not only for their own Q80 sequencer but also for Pro24, Cubase, Creator and Notator. Volume 1 will offer 300 drum patterns, one Soundbank and two demo sequences. An interesting development, and one which other manufacturers would do well to emulate.

Korg were trumpeting their two new hi-tech developments, the Wavestation synth (reviewed in last month's MT) and the S3 drum machine (£899), both of which were making a mightily loud noise within the confines of the company's demo booth. To my mind, there's still plenty of mileage to be had from the dedicated drum machine. Whether manufacturers exploit the possibilities of the medium or continue to turn out variations on a well-worn formula is another matter.

Fortunately, the S3 is not just another drum machine - which is no doubt why Korg have chosen to call it a Rhythm Workstation instead. To begin with, it takes a leaf out of the general-purpose sequencer's book in allowing a mixture of recording methods, with four tracks dedicated to pattern-based recording and four to linear recording. You can also use S3 tracks to sequence external MIDI instruments, so that the drum machine isn't limited to a purely rhythmic function.

Another feature which sets Korg's new drum machine apart from the crowd is its inclusion of stereo digital effects processing. The S3 has two independent effects processors and a selection of 28 different effects including stereo reverb, delay, chorus, flanger, phaser and tremolo and dual-type effects such as equaliser/chorus and delay/hall reverb.

With its SMPTE In/Out connections the S3 can become the interface between your tape

machine and MIDI sequencer, while its ability to transmit MIDI Time Code via its two MIDI Outs opens up further interesting possibilities (triggering samples in a cue list, for instance). Other features of the S3 include 12-voice polyphony, eight touch-sensitive pads, 75 internal waveforms together with the ability to access further waveforms via two PCM card slots, and four polyphonic individual outs in addition to the familiar stereo pair.

But the feature which most sets the S3 apart from other drum machines comes in the area that matters most: the sounds. Korg have managed to separate out the attack and sustain portions of their drum and percussion sounds into different samples, so, as well as being able to combine the attack of one instrument with the sustain of another, you can for the first time tune the sustain portion of a sound down without losing the sharpness of its attack.

Touted by its makers, Luton-based company **Evolution Synthesis**, as "the first of a new breed of programmable algorithmic synthesisers", the 1U-high 19" EVS1 multitimbral digital synth expander (£299) uses a powerful 24-bit sound synthesis DSP chip to generate several forms of synthesis including FM, Phase Distortion and Wavetable. The EVS1 is 16-note polyphonic and eight-voice multitimbral, with 16-bit 44.1kHz audio quality. Each voice can make use of four assignable six-stage level and rate envelopes, while additionally there are two independent LFOs with a choice of nine modulating waveforms and five modulation sources. Included is a bank of drum and percussion samples, and the expander comes with 100 patches, 20 of which may be edited using external software. The EVS1 is unusual in that it comes complete with free editor/librarian software for the ST and an accompanying library of patches on disk, a reflection of the fact that full programmability is only available via MIDI SysEx.

The EVS1 is being distributed by Sound Technology, who as you probably know also handle the **C-Lab** range of software and hardware add-ons. Which leads us neatly to version 3.0 of Creator/Notator - a substantial upgrade to the existing software which comes with a substantial new manual and, for Notator users, an extra disk containing a selection of fonts (see below). Existing Creator and Notator users will have to pay £39 and £49 respectively for the new version, but the retail prices of the two programs remain the same (£299 and £499).

So is v3.0 worth forking out the upgrade fee? Well, you can start to ponder this question while reading about the new features in the following overview (which ►

► comes free of charge to both new and existing MT readers). An Arrange Pattern Overview window allows you to see at a glance what patterns are being used in the Arrange list and what patterns are free, while a Macro function allows any number of single or multi keystrokes to trigger user-defined mouse movements and keystrokes, and Adaptive Groove represents a further step towards making quantisation as transparent as possible by allowing different resolutions to operate at the same time. New RMG features include nameable faders, fader grouping, snapshots applicable to fader grouping and able to be restricted to selected faders, the ability to delete data for just one fader, and the addition of 64 user-definable faders for SysEx editing and 64 on/off switches. The Human Touch facility can now trigger a user-defined MIDI note, and song notepads can now be made to auto-appear on loading.

But probably the most notable addition to Creator is the Hyper Edit event edit page, a very accessible graphic editing display, based around vertical beams entered in a bar/beat "grid", which allows you to create and edit 16 "instrument" parts within any track. These "instruments" can be notes or MIDI controllers, with the height of each beam indicating velocity or controller amount respectively. Data can be entered for each "instrument" by clicking or drawing with the mouse. Hyper Edit is particularly effective for creating rhythm tracks or editing the results of RMG inputting.

The Notator upgrade includes all the new Creator features. New features specific to Notator include Diatonic Insert (entered notes adopt the pitch specified by the key signature), miniature cue notes on normal-size staves, MIDI Meaning (note accents in the score are replicated over MIDI by means of velocity increases), Page Preview (extremely useful in that it allows you to preview the printed page layout onscreen and make adjustments to that layout), tuplet scoring, broken chord and quarter-note-equals-tempo symbols, and greatly enhanced font selection for text, lyrics, bar numbers, track names, tempo symbols and the like. The accompanying fonts disk contains a selection of Times Roman and Helvetica fonts in several point sizes, but as the protocol uses *.FNT files, any fonts designed with editors such as Fontkit Plus 3 can be used.

Alesis have been keeping themselves busy. In addition to two new units, the Microverb III multi-effect processor (£199) and SR16 drum machine (£299), the company have developed software upgrades for two of their existing units, the Datadisk (now Datadisk SQ) and the

Quadraverb (now Quadraverb Plus). The good news is that these upgrades add nothing to the existing retail prices for new buyers, while for existing owners there's a modest £12 fee to pay.

You can find details on the upgrades in the MT August 90 Newsdesk, so I'll just make the observation that they're both substantial. Alesis deserve much praise for turning their back on built-in-obsolence and for keeping the upgrade cost for existing users to a minimum; no doubt these decisions will pay dividends for them in terms of user goodwill and confidence. I hardly need say it, but hopefully other companies will follow in Alesis' footsteps.

Scheduled for November release, the SR16 drum machine remained resolutely silent at the BMF. Bearing a marked similarity to Boss' DR550 drum machine in appearance, the SR16 is set to retail for £299 and will offer over 100 16-bit stereo samples (not HR16/16B sounds, apparently), 12 velocity-sensitive pads, 100 user and 100 preset patterns both with fill variations, 16-note polyphony, dynamic voice allocation, tuning and panning of sounds, and four user-configurable audio outputs. A new feature called Dynamic Articulation will allow the SR16's sounds to change timbrally in response to the strength of pad hits, courtesy of multisamples.

E-mu Systems and Ensoniq both chose to exhibit away from the noise and bustle - not to mention the heat - of Olympia, instead opting for the air-conditioned coolness and dignified tranquillity of the nearby Kensington Hilton. New from E-mu are Proteus 2 (c. £1300), Performance (£449) and Performance Plus (£529), three preset sample expanders which see the company move away from the predominant all-things-to-all-musicians philosophy and instead attempt to cater for more specific musical requirements. Hence Proteus 2 majors in orchestral instrument samples while Performance is a dedicated piano module and Performance Plus has Performance's 15 stereo piano multisamples plus 17 "related" sounds (including electric piano, vibes, double bass and electric bass). Operation has been made as simple and accessible as possible on the 1U-high, half-19" Performance and Performance Plus, with one front-panel pot for selecting the 15 piano sounds and another for selecting the MIDI receive channel. The Plus's extra 17 sounds, however, can only be selected via MIDI patch changes. Additionally, user-definable splitpoints can be created on the Plus, so that for instance you can play double bass and piano at the same time from your MIDI keyboard.

Long-time champions of the keyboard workstation **Ensoniq** are set to follow up their SQ1 Personal Music Studio synth workstation with the SQ-R rackmount version. Priced at just under £1000, the SQ-R not only offers all the features of the SQ1 except for the sequencer, it also adds a new feature of its own called Smart Transmit which adds controller keyboard features to any MIDI keyboard hooked into it, allowing you to program eight zones each with independent control over volume, transpose, MIDI channel, patch-change remapping and sustain on/off. These features control both the SQ-R's own sounds and those of any other instruments slaved to the expander.

The VFX SD II (£2025) is an upgraded version of the the VFX-SD, providing an additional 1Mb of ROM sample memory which is dedicated to a piano multisamples, a multitrack record feature which allows the SD's sequencer to record on all tracks at once (making transfer of sequencers from an external sequencer much easier), a step-time entry mode for the sequencer, and a new digital effect algorithm: chorus/reverb with distortion.

VFX SD owners can update their instrument with the new software features (v2.0) free of charge, even though new chips need to be fitted by a service engineer. However, while it will be possible to add the extra ROM sample memory to existing VFX-SDs, doing so will require a new main circuit board to be fitted at a cost of several hundred pounds. If it's a range of quality acoustic piano sounds you're after, opting for a Performance has to be a much better bet.

Lone Wolf's European distributors Plasmec had a stand at the BMF but were demonstrating the American company's fibre-optic MIDI networking system at nearby Nomis Studios. MidiTap and FibreTap are now joined by the MidiHub, a programmable patchbay/processor available in 8:8 and 16:16 configurations (at around £600 and £1000 respectively) which comes with driver software for the Mac and ST. The MidiHub features full merging of all inputs to any output(s); independent mute, solo, filter, transpose and channelise on each port/channel; program change and volume mapping transmission on all 16 channels of each port; naming of all connected devices; and a panic button for eliminating stuck notes and other "traffic jam" problems.

When coupled with a MidiTap, the MidiHub automatically becomes a MidiTap port expander with all standard MidiTap operations available, enabling it to be used within a broader fibre optic-based networking ►

► context. Up to eight MidiTap-compatible LanScapes (expandable to 128) can be stored within the MidiHub, and LanScape programming software is available for the Mac, ST and PC. As with the MidiTap, software updates can be loaded directly into an onboard EEROM chip using CodeLoad software. A bonus for travelling MidiHub users is that the unit can be used anywhere in the world courtesy of its AutoVolt power supply, which accepts any mains frequency and voltage.

Plasmec have now taken on Lynett Systems' ADAC-SE stereo digital recording card for the Mac SE, which we reported on a few months back in MT's Frankfurt Report. The good news for Atari ST owners is that ADAC is now also available for the ST - not only that, but it can even run on a 520ST. The company are talking about being able to use the ST version in conjunction with existing sequencing software as a desktop accessory, though apparently not as a stereo digital recording system - instead you'll be able to treat it more as a sampler, triggering samples from within the sequencer using notes on a particular MIDI channel.

Cheetah International decamped to a very pleasant hotel in the heart of the Hampshire countryside for a couple of days just prior to the Fair, inviting a group of dealers and journalists along with them. Demonstrations of the SX16 sampler, Master Series 770 MIDI controller keyboard (the 7P with polyphonic aftertouch - £849.95), a new three-pad, tripod-mounted electronic drum kit MIDI controller going by the name of Pod (£159.95) and the MD16 stereo 16-bit drum machine (£249.95) occupied the time that wasn't given over to more leisurely pursuits like strolling in the hotel's sizeable grounds.

The l-o-o-ng-awaited drum machine, which is also available in rackmounting form (the MD16R at £349.95), was given a demonstration by its designer, Chris Wright, which left no stone unturned. An impressive instrument it is, too, but I shall say no more until it's actually in my hands for review.

Cheetah also served notice that they're resurrecting their MS800 wavetable-based digital synth expander. Originally intended to complement the MS6, the MS800 seemingly died the death when the original designers failed to come up with the finalised goods. Now set to retail at £199.95, the 800 is 16-voice polyphonic, 16-part multitimbral with dynamic voice allocation, velocity-sensitive, fully programmable from the

front panel, and uses a mixture of sampled waveforms, sampled partials and whole samples including drums. Stereo audio outputs and MIDI In, Out and Thru sockets are included along with SysEx transfer of data and an Overflow feature which allows two or more units to be stacked for greater polyphony. At one time Cheetah would have had this particular area of the market to themselves, but now the MS800, when it arrives, will be in competition with the EVS1.

Back at the Fair, another unit which has been a long time coming made its public debut. **Philip Rees' PSP Percussion Sample Player** (£169.95) represents a first venture into the hi-tech instrument market for a company previously best known for their range of cheap but extremely useful MIDI boxes. The PSP isn't a drum machine but a dedicated drum and percussion expander designed to be triggered via MIDI from a sequencer or other MIDI controller. Coming in a 1U-high half-19" unit with internal PSU, the PSP offers dynamically-assigned four-voice polyphony, four individual outs and five internally-held percussion samples (crash cymbal, ride cymbal and open, closed and pedal hi-hats) with a maximum of 12 more sounds at a time accessible off a plug-in sample card. Cards so far available, at a modest £19.95 each, include *Analogue Drum Machine*, *Techno Kit*, *Latin Kit*, *Snare Collection* and *Tabla*. Many of the cards contain sounds recorded at CTS Studios in London by Jonathan Miller. Each PSP comes with one sample card, so you're not immediately forced to dig deeper into your pocket. The sounds are eight-bit companded, giving a dynamic range equivalent to a 13-bit linear system, and have been sampled at 31.25kHz. The samples I heard had a dynamic, sharp, tight quality to them, sounding as if a lot of time and effort had gone into producing them. With the budget drum machine market getting ever busier, is there a place for the PSP? Watch out for a review soon.

Scottish company **Q-Logic's** MIDI Metro (reviewed elsewhere in this issue) is an intriguing variant on that familiar tool of the musicians' trade, the metronome. Coming in 1U-high, 19" rackmount format, the Metro replaces the mechanical tick and the digital bleep with a light motion derived from the pendulum swing of the mechanical metronome. And yes, you can play along to it. The Metro earns its MIDI tag by being able to sync its light motion to MIDI sequencers and drum machines as either master or slave.

Thanks to Tascam and Fostex the

analogue tape machine market, from four-track through to 24-track, has never looked stronger. Now **Tascam** have a new eight-track cassette machine, the 448, scheduled for November delivery - at the BMF it was still in the "chrysalis" stage. This time round they've opted for a Portastudio-type layout, with built-in mixer. Expected retail price is around the £1000 mark. In amongst a flurry of new items from **Fostex** are the 280 Multitracker (£599.95) and the G16 16-track (£4995). The 280 has eight inputs offering three-band EQ with sweepable mid, 2 auxiliary sends with stereo auxiliary returns, Dolby C noise reduction and a rear-panel serial link from the tape transport to Fostex' MTC1 MIDI Timecode Controller (see review in last month's MT), providing the same facility for synchronisation to MIDI sequencers as is available to Fostex R8 and G16 owners. The G16 is Fostex' successor to the E16, and continues the hi-tech theme with a built-in synchroniser providing all the facilities of the MTC1 as well as allowing two G16s to be locked together. The G16 has been provided with a quieter and more responsive transport than the E16, and includes extensive memory, locate and zone limit functions. Like the R8 eight-track it also has a removable control panel, allowing operation away from the machine, and like all other Fostex tape machines it uses Dolby C noise reduction.

Other new units from Fostex are the 812 mixer (£1049), a 12-input mixer featuring three-band EQ with sweepable mid and low bands and two effects sends which have been designed to complement the R8 eight-track machine; the 8200 MIDI Mute option (£115) for the 812, which allows channel mutes to be recorded as MIDI data into a sequencer; the 2016 2U-high, 19" rackmount mixer, which can be used as a 16:2 or as two separate eight-channel mixers, and has a rear-panel socket which allows it to be "cascaded" into the 812 mixer; the compact 454 8:4 mixer (£609.95); and, for simplifying all those audio connections in your studio, three 1U-high, 19" 32:32 patchbays: the 3011 RCA phono-to-phono (£46.95), the 3012 jack-to-phono (£49.95) and the 3013 jack-to-jack (£54.95).

And on that note we leave the 1990 BMF and its memories of heat exhaustion and beer deprivation until next year. I hear Anchorage has a pleasantly cool climate and plenty of space - any takers for the 1991 BMF *On the Road*? ■

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CF10 DIGITAL FADER & CN20 MUSICAL ENTRY PAD



To accompany their "computer series" of sound modules, Roland also have a line of MIDI processors. But their applications extend beyond the computer addict's bedroom.

Review by Vic Lennard.

WITH THE INCREASING use of computers in music, and the growing musical activities of the computer fraternity, Roland saw an opportunity and released their Computer Sound Module series. Unveiled last year, this series of hardware sound modules are based on other Roland units and adopt the Atari ST styling - the CM32L is based on the D110, the

CM32P on the U110; these units are combined in the CM64 (see review MT, January '90). Certain games for the Atari, Amiga and PC have subsequently had their soundtracks written to play back via these modules.

Included in this series are two other rather unassuming devices, namely the CF10 and CN20. If you have seen them, there is every likelihood that you haven't given them a second thought. But let's take a closer look.

CF10 DIGITAL FADER

THE CF10 LOOKS like a mock-up of a miniature mixer in that it has the markings for the sliders but no faders. Measuring around 30cm by 25cm, the top face is angled for ease of use.

The surface is made from a resilient nylon substance which is marked out as a ten-channel mixer. The "faders" are touch-sensitive pads built into

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“I can see quite a few people with Roland RD-series pianos giving the CN20 careful consideration, as the lack of modulation and pitchbend wheels limits them as MIDI controller keyboards.”

► the surface with a fine-tune pair of arrows above each channel. The pan controls are a pair of horizontal arrows facing left and right and are provided for the first nine of the ten channels. The rear of the CF10 has MIDI In/Out sockets, switches for MIDI merge on/off and pan reverse and a socket for the external power supply unit.

The number of the channel on the CF10 coincides with the MIDI channel. The intended use for this is for interfacing with any of the multitimbral devices manufactured by Roland - which usually have the rhythm part on MIDI channel ten, hence the lack of a pan control on this channel. The CF10 allows you to control the MIDI volume (controller #7) and MIDI pan (controller #10) of an attached MIDI device as long as that device recognises these MIDI controllers. You can check this from the MIDI implementation chart at the back of the manual.

The idea of using touch-sensitive material is not new, but being able to transmit 128 different values by sliding a finger along a 6cm strip is interesting. The alternative would be cheap plastic faders which would probably feel worse, or a unit costing far more. You can increase or decrease the volume by one unit by using the Fine facility. The switches under the surface for these have a positive feel to them.

The pan controls split the stereo spectrum into 15 divisions with centre being instantly selected if you press both buttons together. The values transmitted are specifically tailored for Roland devices, including the Rhodes Models 660 and 760, and may not match up perfectly with units built by other manufacturers unless they also use 15 positions. Many MIDI devices can have the panning of the various sounds set from the front panel and yet do not respond to MIDI pan - an example of this would be Korg's M1. Most of the Yamaha multitimbral synths from the F801 onwards only have a three-position pan - left, centre and right. These will ignore all pan settings apart from the outermost positions and the middle. Should you find that the pan is moving in the wrong direction, a switch on the rear will cure this.

Finally, you can place the CF10 in-line between a MIDI controller and module, and use the unit's merge facility. This will insert the MIDI volume and pan controllers being created within the CF10 into the flow of MIDI data. So you could be playing back a sequencer, setting the mixdown pan and volume for each MIDI channel and be re-recording it back onto another track. In fact, the unit can be put to good use when you want to inject some life into tracks which have insufficient dynamic content, especially sampled hi-hats and other percussion instruments of a similar nature. Using the fine-tune controls will change whatever volume values are currently passing through the CF10.

CN20 ENTRY PAD

THE APPEARANCE OF the CN20 is very similar to that of the CF10 - both use the same surface material. The CN20 allows you to input the most common forms of MIDI data via two faders (“real” ones this time) and a number of micro switches.

The top three switches control the current application of the pad and have a small red LED above each of them which lights when that function is in use. MIDI Ch lets you set the MIDI channel on which data is being transmitted, by using ten numbered switches at the bottom of the pad. Clear and Enter can be used for correcting mistakes and accepting a final setting. The three-character display defaults to showing this current MIDI channel. With PGM you can choose the number of a MIDI program change and send it to a MIDI device. The third button, Chord, will be discussed shortly.

The 22 chromatic notes F-D each have a switch, with the layout being similar to that of a keyboard. Pressing any of these will send out the relevant MIDI note. The velocity of that note can be controlled by the Velocity fader, which, for a small plastic affair, has a particularly smooth feel to it. To allow you to move between octaves, there are seven switches adjusting the range from three octaves down to three octaves up. This gives you a range F0-D8 with C4 being middle C.

You can press more than one note to create a chord but using the chord function is easier. Pressing the Chord button enters this mode and allows you to make use of the ten chord shapes on offer, namely; Major, Minor, 7th, Major 7th, Minor 7th, Augmented, Diminished, Suspended 4th, 7th suspended 4th and Minor 7th with flattened 5th. Pressing a note selects the root note of the chord, and once the chord shape has been pressed, the chord is transmitted. Again, the position of the velocity slider dictates the velocity of the note.

In fact, using this slider is practically a good enough reason for buying the unit - it is so easy to build crescendos by continuously pressing a note or chord while moving the slider. This is especially true of percussion instruments where the timbre usually changes with the velocity value and which are easy to input via the pad.

The other part of the CN20 is for transmitting MIDI controller information. A single switch selects from the following; modulation (MIDI controller #1), volume (#7), pan (#10), general-purpose controller 1 (#16), channel aftertouch and pitchbend. A fader similar to that for velocity sets the value for the selected MIDI function. All of the possible 128 values are sent for the four MIDI controllers - not just 15 positions for pan - and for aftertouch. The pitchbend sends a total of 122 values from one extreme to the other - roughly seven-bit accuracy which is the equivalent of that found on any “reasonable” keyboard. The one other button, Hold, is the equivalent of a sustain pedal, MIDI controller #64.

Because being left with a modulation, pitchbend or aftertouch value of anything other than zero could be musically embarrassing, the LED next to these controllers' names flashes if this happens while it's in use. Once you change to another function, the flashing stops. It's a shame that Roland didn't use a separate, centre-detented slider for pitchbend. While modulation and aftertouch have their zero value at ►

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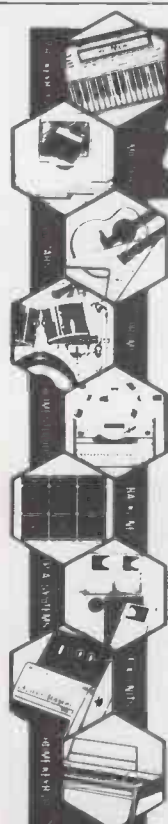
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► the bottom position, pitchbend has its zero value in the centre. This is difficult to find, although the flashing LED helps.

Merging any data generated within the CN20 with the incoming MIDI data can be achieved by using the merge slider on the rear of the unit, as with the CF10.

IN USE

THE OBVIOUS USE of the CF10 is in the situation for which it was designed. The CM sound modules themselves, MT32, D110 and so on have no immediate facility for control over MIDI volume and pan. The CF10 is perfect for correcting this. If you have a four-track recorder and a small MIDI setup, then this unit will give you a high degree of control over these functions.

The CN20 is a slightly different beast. Nothing amongst its facilities is specifically set up for use with Roland equipment, making it more flexible in use. The MIDI merge means that you can put it in-line with your master keyboard and input any MIDI data which is not readily available from the keyboard. MIDI program changes are often awkward to send, especially on a MIDI channel other than that currently in use by the keyboard itself. Aftertouch on a fader is an interesting concept; many keyboards have the kind of pressure sensitivity which requires you to play like a drummer in order to get any real responsiveness out of it. Playing chords with one hand and sliding the fader with the other is an easy way around this, and

gives a better feel than recording the notes on a sequencer first. I can see quite a few people with Roland RD series pianos giving this unit some careful consideration as the lack of modulation and pitchbend wheels on these instruments has always made them of limited use as MIDI controller keyboards.

Both units would sit nicely in a computer sequencer setup. In use with the new slider option on MOTU's Performer or with the Real-time MIDI Generator (RMG) in Creator/Notator, they give automated MIDI at little cost. It's a shame that there are only ten MIDI channels on the CF10 (you could use two units and remap the channels if the software has this option).

There are two other units in this series. The CA30 Intelligent Arranger adds an accompaniment of bass and drums to chords received via MIDI, along with the ability to change the musical style. More interesting is the about to be launched CP40, a real-time pitch-to-MIDI converter. This will take monophonic sounds via microphone or line input and convert them into MIDI data (for £169).

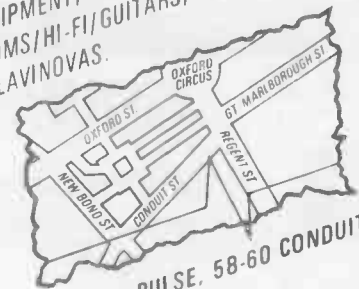
Perhaps this superficially computer enthusiast-targeted series of MIDI devices is worthy of a closer look by us MIDI aficionados. ■

Prices CF10, £129; CN20, £129. Both prices include VAT.

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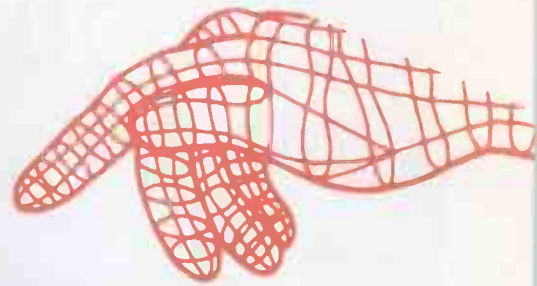
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PHOTOGRAPHY - ED COLVER

Computers are playing an increasingly important role in music of all kinds. Composer, performer, and synthesist Jeff Rona is one musician who takes full advantage of these new musical tools. Interview by Scott Wilkinson.

TRADITIONALLY, MUSICIANS HAVE WINCED at the mention of computers. With all their training in the aural arts, how could they possibly be expected to understand and deal with high technology? Having struggled with maths and science at school, computers threaten to rekindle the academic hell they struggled to escape. Not only that, there is also a common perception that computers and synthesisers are threatening their very livelihood by replacing them in the recording studios. This only serves to increase the resistance many musicians feel towards technology.

On the other hand, there are those musicians who embrace computers as the new tools of their trade.

Some find a deep intrinsic interest in technology, recognising the intimate relationship between music and mathematics. Others recognise that the increasing influence of technology on music-making will remain unabated no matter what anybody does or says. Those who can accept this inevitability and adapt to it will continue to work as musicians. Those who can't - won't.

American musician Jeff Rona is among those who can (and do) make heavy use of computers in their musical endeavours. Starting on the flute, he discovered a deep and abiding love for music of all kinds. His wide-ranging interests and intense curiosity have also led him to explore the use of technology in composition and performance, often in highly creative ways.

Rona currently works as a composer, performer, synthesist, and sound designer on a wide variety of projects with such diverse artists as Tina Turner, Philip Glass and Maurice White of Earth, Wind & Fire. He has just finished contributing to Jon Hassell's latest Land Records LP, *City: Works of Fiction*, where he is credited with playing keyboards and sampled percussion as well as co-production and writing. The album is typical of Hassell's unique writing and playing style - ethnic electronic rhythms provide an intriguing backdrop for his tortured, treated trumpet. Where much new age music is a poor substitute for silence, Hassell's music diligently explores the rhythms and ▶

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► harmonies that mainstream pop consistently neglects.

Rona has also contributed his specialist expertise to the film scores of Basil Poledouris and David Frank, in addition to working with Dennis McCarthy on such American television shows as *Star Trek: The Next Generation*, *The Twilight Zone*, and *McGyver*.

Never one to remain in the realm of commercial music exclusively, Rona has also worked in the fields of modern dance and performance art for over ten years. In fact, his keyboard skills were primarily acquired while accompanying dance classes given by the Bella Lewitzky dance company. This led to several commissioned works for the company and other dance troupes around the UK and US.

Like Brian Eno, Rona has produced a series of "sonic environments" for a variety of sculpture exhibitions. While Eno's recent *Contemporary Data Lounge* and *Rainforest* installations represented him in London, and a forthcoming installation will take him out to Tokyo, Rona's work has concentrated on galleries throughout Los Angeles.

"I created a sound montage using multiple tape loops of different lengths with various kinds of sounds", Rona explains. "The tapes would run for several weeks, and they would always synchronise in different ways, producing unexpected results. The patterns would never repeat themselves exactly at any time during those weeks."

One installation of particular interest was produced in 1983: "I was invited to participate in the *Technology, Entertainment and Design Conference*, which focused on the technology of media. I did a piece that played in the lobby of the facility during all four days of the conference. I used very high technology for the time, which was pre-MIDI. I used an IMSAI 8080 CP/M computer (one of the first microcomputers available to the general public). This computer was sending voltages to a Roland Jupiter 8 and a trigger signal to an E-mu drum machine and receiving information from two Polaroid sonar detectors. These were range finders used for focusing cameras.

"I wrote some software that would trigger these sonar detectors to read the proximity and velocity of people in the lobby, process this information in the computer, and use it to generate and modify phrases of music that I had pre-composed. As people walked through the room, they were processing a composition in real time - in essence, creating a composition. If somebody walked in one direction, the computer would play a melody forward. If they walked the other way, it would play the melody backward. In both cases, the melody would play at a tempo determined by the rate at which they were walking. In addition, other aspects of the program were improvising a sophisticated musical accompaniment."

Sophisticated stuff, for 1983. But how did Rona get into the musical applications of small computers so early in their development?

"I was attending music school at California State University and, in 1976, the university got a prototype of what was to become the Synclavier, which used an astounding new technology called FM synthesis. Even the people teaching how to use it were essentially at the same level as the students.

"Sometime later, I met one of the chief computer scientists at Jet Propulsion Laboratories, Dr Ray Jurgens. I met him at a concert one night, and overheard him talking about using personal computers for music. He invited me to his studio and showed me his system, which used a CP/M computer much like the one I would later use at the *TED Conference*. He was working on a language that could teach computers to improvise and process music. He'd built some custom interface hardware so that we could send information between the computer and the synthesiser.

"I started working for Roland Corporation in 1982, writing music software for the Apple II and Commodore 64 computers. I also helped develop the software for the MPU401 MIDI interface, which has become the industry standard interface for the IBM PC and compatibles. After that, I worked for a company called Digital Music Services developing music software for the Macintosh."

Quite an impressive career. And yet, making music led Rona away from the world of computer programming to follow the call of the muses. But of course, he still uses computers as musical tools.

"My computer is really the focal point for all my endeavours", he explains. "Ninety per cent of the time, I'm writing music in front of the computer, using a sequencer program.

"I use a few different sequencers, depending on the kind of project I'm doing. I'm primarily a Macintosh user, and I use either Opcode Vision or Mark of the Unicorn Performer. I tend to use Vision when I'm working on pop music, but on film scores, I tend to use Performer. It was the first sequencer for the Macintosh that I ever used and I'm still more comfortable with it. And it allows me to do certain things on the fly a little easier than Vision.

"But Vision takes a more modular approach to music, as well as offering the ability to slide tracks in real time while the music is playing in order to 'fine tune' a groove. You can make the hi-hat a little later, make the snare drum a little earlier, do things like that to adjust the feel of each part. Any sequencer can do that, but to do it while you're listening in real time is very important. That's pretty critical when I'm working with pop people."

What about music notation?

"I've used Passport's Encore for a couple of things, but I also write by hand. I can write by hand faster than the computer can transcribe. For big orchestral scores, it might be worth it just for the extraction of parts. However, when a piece of music is transcribed by the computer, it's not 100% accurate - more like 75-80%. Getting it up to 100% takes as much if not more time than just writing it out and being done with it.

"I worked extensively on the soundtrack for a fairly successful syndicated cable TV series called *Zorro* with a composer named Jay Asher. Synthesis-wise it was orchestral simulation, but we also embellished the sound track with a small ensemble of live players. In addition to creating all the sounds, one of my jobs was to do score preparation. The parts for the musicians all came out of an Atari ST. The composer gave me sequencer files on disk from Notator, which is a very good program and its first guess is really good, but it's

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► not enough. My job was to tweak the files and print them. Tweaking the parts - making them legible and meaningful for musicians - was an arduous process.

"Another type of software that I use quite a lot are the so-called 'interactive sequencers' from Intelligent Music called Upbeat and Jam Factory. They can be wonderful springboards for initial ideas. You play music into them as if they were a normal sequencer, but what they play back are endless variations of your material. In essence, they're improvising on your music.

"For example, you can play something into Upbeat, and it plays your part over and over again with constant variation. You can control the way in which it will improvise - specify rhythmic resolutions, densities, potential note variations, potential rhythmic variations. Sooner or later, something unexpected comes out. I can capture that in a MIDI File, transfer it into a regular sequencer, and incorporate it into a larger piece.

"You know, so much of science is based upon surprise. Something will surprise a scientist during an experiment. It may not be the result that they were initially looking for. An unexpected result happens, and that ends up becoming the goal. The goal wasn't anticipated before the process was determined. The same thing is true for these interactive composing programs. They don't replace what you do with a sequencer and your own creativity, but they do provide you with an unexpected beginning or unexpected results that can be used in a number of ways."

From Rona's comments, it seems that computers can help the composer a great deal. It's a safe bet, then, that his work as a sound designer is also being facilitated by silicon and software.

"I use Alchemy for processing and editing samples. It allows me to siphon samples out of my sampler, manipulate them, and put them back in the sampler. Besides getting clean loops and edits for traditional sounds, I've also used it for doing strange manipulations to create weird scary sounds.

"For example, I did a TV show called *False Witness*. We kept seeing a close-up of the villain's hand in different scenes, and the composer needed a really evil sound to go with it. I brought the composer and the music editor over to my home studio, sampled their voices just saying nonsense syllables, put these samples into the computer with Alchemy, sliced them up into little bits, rearranged them at random into new unpronounceable syllables, ran them through some signal processing, and resampled the output. That became the sound of this evil character."

Given such power to create and manipulate new samples, organisation is a familiar problem to the composer. But being resourceful, it's one he's managed to solve.

"There isn't a commercially available librarian for samples", he agrees, "however, I wrote my own sample librarian with HyperCard. I'm able to siphon just the names of the samples from the sampler into the computer via MIDI and break them down into 11 categories. Things like drums, percussion, basses, synthesiser sounds, sound effects, brass, winds, strings, guitars, other plucked instruments, and miscellaneous.

"I do have an editor/librarian program for each of

the synthesisers that I use. The librarians help me organise my synth sounds into categories similar to the samples. Patch editors can be a real time saver, even with easy to program synthesisers like the Korg M1. I can really zip around very quickly when I have things like graphic envelopes on the screen of the computer to see the relationship between the amplitude and filter envelopes of the same oscillator."

ANOTHER COMPUTER APPLICATION OF growing importance is hard disk recording, and Rona has wasted no time getting into that as well.

"I've just started playing around with hard disk recorders. We used the Dyaxis system on the Macintosh for the Jon Hassell record. We actually mastered the CD at my house. We dumped the two-track master onto the hard disk and saw the music visually as waveforms on the screen. Without doing anything destructive to the original music, we were able to chop it up, rearrange it, repeat sections, and do very sophisticated edits and crossfades that would have been impossible with a razor blade.

"Hard disk recording is a wonderful thing if you're doing something that requires post editing of any kind, or if there are sound problems. For example, the music might need some sophisticated EQ to get rid of a problem, or there's a balance problem, things like that. If you're just doing straight mixing, you need a two-track recorder, and the worst one you could get would be a hard disk recorder. For one thing, you lose your Macintosh to it, and there are no discernible advantages. When you're done with it, you have it on a hard disk. You need a whole Macintosh just to play it back. You'll have to transfer it to master tape anyway, so you might as well start there. But if you need to go in and do some tricky editing, there's no replacement for it. And the sound quality is pretty good."

One of the greatest differences between the opportunities available to American musicians and those working in Britain is the practicality of networking computers. While it's comparatively expensive and unpopular here, the Americans are quite fond of it. As you might expect, Rona finds the communications aspect of computing to be extremely valuable.

"I'm a member of a service called PAN, the Performing Arts Network. It's a global collective of musicians from all over the place doing all kinds of things. It's an electronic bulletin board that allows musicians to interact with each other by sending each other little notes, posting them on a bulletin board and reading the other notes that people have put up.

"For example, if I'm having a problem, if a piece of equipment that I'm using isn't working the way I expected, I'll put up a note saying, 'Hey, I'm doing such and such and this is the result I'm getting and it's not what I want'. Undoubtedly, somebody on the network will have had the same experience already, and they'll say, 'Oh, you need to do such and such', or 'Yeah, that's a bug, it's not you'. And I've been able to return the favour. You can also download synth patches, samples, and software through your modem. It's also a hotline to some of the manufacturers. If ►



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► you're having problems with a company's product, you can post a note and get some kind of technical response. It's a very cool, very useful thing.

"I also use telecommunications to send files back and forth to people I work with. I once needed somebody to play a solo on a piece that I was working on in my home studio, and I modemed my sequenced rhythm parts to a friend. He set up something in his studio that would make it sound about the same, sequenced the solo, and modemed it back to me about an hour later. I recorded it about an hour after that."

Of course, Rona must also manage the business side of his activities, and his computer is instrumental in this respect.

"I use a small accounting package to keep track of all my income and expenses. I'm self-employed, so it's really important for me to keep track. Instead of getting a regular pay cheque from one employer, I get pay cheques from many different employers. At the end of the year, I can just push a button and out comes a report that I can hand to my accountant.

"I've also written a program for myself in HyperCard that's my phonebook and invoicing system in one. For example, when I give a concert, I can generate mailing labels from my mailing list. When I do a job for a client, I can go to that client's listing in my program and ask for a new invoice. It pops up a little form and I indicate what my services were and what the bill was. It prints out an invoice and it says this invoice is due in the computer. When that cheque comes in, I mark the invoice paid and transfer the information over to my accounting package. My program also allows me to write short letters and

generates a letterhead. I have all of my billing, correspondence, contacts, mailing list names, everything in one program."

It begins to sound important for musicians to understand not just the musical applications of computers, but computer programming itself. Are we all destined to become mathematicians rather than musicians?

"Not at all", comes the reassuring reply. "I don't think of using HyperCard as programming in the traditional sense. My programming experience has made it easier for me to learn how to use HyperCard, but it's a very simple system. It could also be done with other commercial programs, databases, spreadsheets, and other similar programs."

Clearly, there are a plethora of possibilities for computers in music. But there must also be certain developments that Rona would like to see in the future.

"It would be nice to see interactive composing programs mesh with traditional sequencers. Maybe one possibility for the future would be to link programs such that tracks one and two are being generated by one program and tracks three and four are being generated by another program, and they're all playing at the same time. You can sort of do that now with Apple's MIDI Manager, but it's just a bit unwieldy."

Food for thought - which will undoubtedly require some time to digest. So it's just as well Jeff Rona's off to perform a piece he wrote for his ensemble in collaboration with Loretta Livingston and her dance company at the Los Angeles Theater Center. I think I'll go and catch the show. It should be fascinating - if not, I can always play "spot the computer" - there'll be



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SQ1



PHOTOGRAPHY: ADAM JONES

With some keyboard manufacturers moving away from the workstation concept, is Ensoniq's latest synth behind the times in wholeheartedly endorsing it? Review by Simon Trask.

THE SYNTH WORKSTATION of the late '80s and early '90s has combined multitimbral synthesis with multitrack sequencing, rhythm programming and digital effects processing. While cynics will say that this is no more than a marketing tool, and an inherently flawed one at that, those of a more optimistic persuasion will point out that if the workstation's inherent attractions encourage more people to start making music then it can only be a good thing. But if the limitations subsequently give the lie to the attractions, hasn't more harm than good been done?

When it comes down to it, a workstation has to give you enough flexibility to keep you from feeling restricted by it. This means that, in addition to having all the right sonic ingredients, it has to have enough polyphony, enough multitimbral parts, enough sequencer tracks and enough sequencer memory to handle the music that you want to record. And it has to allow you to put your music together in the way that you want to. Over and above this, any workstation worthy of the name should somehow be greater than the sum of its parts - put another way, it should be synergistic.

The "SQ" in Ensoniq's SQ1 must surely stand for Synergy Quotient, then, because Ensoniq's latest workstation has bucketloads of it. You don't have to play with the SQ1 for long to realise that Ensoniq have got the workstation concept well sussed - but then they have been championing it since the release of their first synth, the ESQ1, back in 1986, and have subsequently developed it through the SQ80, EPS and VFX SD.

While the latest addition to the catalogue of Ensoniq's workstation instruments is essentially a scaled-down VFX SD, it has virtues which make it an attractive proposition in its own right, rather than being an SD substitute for those musicians who can't afford the real thing.

DIFFERENTIATION

SO HOW DOES the SQ1 fare in relation to the VFX SD? The good news is that it retains the SD's 21-note polyphony. However, compromises have to be made somewhere, and so the cheaper workstation omits the SD's onboard 3.5" disk drive, poly-aftertouch keyboard, large fluorescent display and ability to act as a generic SysEx recorder. Its 61-note keyboard is sensitive to attack velocity only (though its synthesis section can respond to both channel and poly aftertouch via MIDI) and has a light, fairly shallow action.

The SQ1 has also undergone a fair amount of front-panel reorganisation in conjunction with its substitution of a 2 x 16-character backlit LCD for the SD's fluorescent display. To my mind, neither the reorganisation nor the new display work to the detriment of the SQ. Ensoniq have made the SQ's LCD work extremely well for them (or rather, for you). Aided by clear parameter organisation and a readily comprehensible layout of buttons on the synth's front panel, the LCD allows you to focus in quickly on just the right amount of information, with no extraneous parameters to distract you.

The SQ1 omits the Patch Select buttons of the VFX and the VFX SD, allows you to combine up to three

Voices within a Sound compared to the six of the other two instruments, allows you to layer Sounds only in Sequence/Preset mode, omits the user-definable pitch table of, and offers less digital effects than, its two relatives, and omits the VFX SD's second, dry stereo output pair. However, the SQ has more waveforms than the VFX (121 as opposed to 109) though a few less than the VFX SD, and the waveforms differ in some respects (the SQ1 has less Transwaves, for instance, but more drum and percussion sounds).

On the sequencing front, the SQ1 has 16 tracks as opposed to the VFX SD's 24, and comes with a 9000-note memory upgradable to 58,000 notes (as opposed to the SD's 25,000 notes upgradable to 75,000). Also, where the SD has 20 Presets and 60 Sequences/Songs, the SQ1 has 30 Songs and 70 Sequences/Presets.

SOUNDS

A TOTAL OF 340 Sounds are accessible on the SQ1 at any one time. These are divided as 100 ROM Sounds and 80 RAM Sounds Internally and a further 160 RAM or ROM sounds on a plug-in card. Sounds are accessed by selecting Int, ROM, Cart A or Cart B (as in card banks A and B, not two card slots) and then pressing the ten Bank and ten Screen buttons; you can also scroll through the Sounds with the Up/Down buttons located beneath the LCD. Quick and easy.

A standard SQ1 Sound consists of up to three Voices, each of which is a self-contained osc-filter-amp configuration and therefore effectively an independent sound. Depending on the keyboard range which you assign each Voice to, you can create split and layer textures within a Sound. A good example of this is 'Jazz Izz' (preset Sound 16), which uses its three Voices to create a double bass/acoustic piano split in which the bass is layered with an open hi-hat sample. This combination of bass and cymbal works extremely well in a jazzy context, not least because flexibility has been worked into the hi-hat by giving its amplitude envelope a short decay and a longer release - with the result that legato bass notes produce a closed hi-hat while staccato bass notes produce an open hi-hat.

The SQ1's raw sound material consists of 121 Waves, which are actually a mixture of looped multisamples, one-shot samples, waveforms, inharmonic loops and wavetables. These put "real" instrumental sounds such as piano, strings, flute, trumpet and guitar alongside more off-the-wall samples like 'Pot Lid Hlt', 'Doorbell', 'Toy Hammer' and 'Spray Can', a range of synthesised and sampled waveforms and various weird metallic sounds. The Waves are organised into 11 categories: Strings (13), Brass (6), Bass (6), Breath (4), Tuned Percussion (10), Percussion (22), Drums (23), Transwave (9), Waveform (22), Inharmonic (5) and Multiwave (1).

Each Voice within a Sound can be assigned one of the Waves, which can be pitched up and down over a wide range. A useful feature called Start Index allows the start point of sample playback to be altered, so that, for instance, you can bypass the sound's attack (this can be particularly effective when dynamically controlled from velocity).

The SQ1 provides two filters per Voice, connected in

series. Filter one is always low-pass and can be either 2-pole or 3-pole, but filter two can be either low-pass or high-pass and either 1-pole or 2-pole. The total of both filters cannot exceed four poles; if you set both filters to low-pass and 2-pole, you've got the classic analogue low-pass filter with 24dB/octave roll-off. As on the VFX and VFX SD, the SQ1 doesn't provide filter resonance, which I find a bit disappointing as it can be such a versatile feature.

The next stage is, of course, the amplifier. In addition to allowing you to set the Voice's volume, this also allows you to switch in a 12dB boost, a useful feature as long as you don't start switching it in on everything. At this stage you can also route the Voice to one of three stereo busses (Dry, FX1 or FX2), pan it within the stereo image and give it a low/medium/high note priority and a velocity window.

But what about enveloping? Well, each Voice has three five-stage envelopes which are automatically routed to pitch, filter and amplitude - though the first two can also be assigned to any modulatable parameter. You can set both times and levels, with envelope times ranging from 0.01 to a lengthy 49 seconds!

Additionally each Voice has an LFO which is freely assignable to any modulation destination. The LFO offers a choice of seven waveforms (triangle, sine, sine/tri, pos/sine, pos/tri, sawtooth and square) together with level, delay and speed parameters - the latter itself a modulatable parameter.

Each Voice has a total of 15 modulators, which in addition to the envelopes and the LFO include velocity, keyboard position, a noise generator, pitch and mod wheels, an external MIDI controller, MIDI aftertouch and Timbre. Assigning the latter as a modulator allows you to make real-time adjustments to any combination of modulatable parameters using the SQ1's Data Entry slider.

The SQ1's ROM Sounds give you a very good sense of what the synth is about, portraying its versatility and character and playing to its strengths. Play the first few Sounds in Bank 0 and you'll get a good idea of the breadth of the SQ1's sonic capabilities. Here you'll switch from a bright acoustic piano to an atmospheric and mysterious choral sound to a rough 'n' dirty guitar to a realistic bassoon-cum-oboe. The SQ1 can give you rich pad sounds, with or without breathiness and tinkling bells mixed in, it can give you spiky metallic techno sounds, reedy pipe organs, hard and punchy synth basses, warm and rounded fretless basses, funky percussive guitars, bright and punchy analogue-type brass, lugubrious clarinets, breathy flutes. . . You get the idea. As with the VFX and VFX SD, I'd say that the SQ1 handles the "real" sounds quite well, but doesn't match the quality or the number and variety of such sounds to be found on Korg's M- and T-series instruments - especially given the ability of the Korg range to access further samples on PCM sample cards, something which the SQ1 doesn't have. If you want your very own symphony orchestra in digital memory, there are other instruments which are more appropriate. The SQ1's forte is synthesis, and in this respect it allows you to achieve plenty of sonic variety.

Ensoniq's latest synth allows you to program a ►

“The Song tracks allow you to record extended parts while the Sequence tracks handle repetitive accompaniment parts in familiar fashion.”

► second type of Sound configuration, namely a "drumkit"-style arrangement of up to 17 Voices across the keyboard. In this arrangement, each Voice can be given its own key range, the only proviso being that Voices aren't allowed to overlap one another. ROM Sound Banks 8-9 contain 20 drumkit Sounds which have been given names like 'Big Ol' Rock Kit', 'Top Forty Kit', 'Fusion Kit', 'Synth Kit' and 'Out Kit'. In contrast to the limited number of drumkit memories provided by some synths, the SQ1 allows you to program any RAM Sound as either an instrumental or a drumkit Sound.

Ensoniq have provided the SQ1 with a healthy if not a comprehensive range of acoustic and electronic drum and percussion samples - but then it's hard to see how anything short of a sampler can provide the full range and diversity of rhythmic sounds which we've become accustomed to hearing nowadays. There again, Ensoniq have sensibly allowed you to incorporate almost any of the SQ1's Waves into your own drumkit Sounds (only Transwaves and the Multiwave are disallowed), and to pitch each Wave/Voice up or down across a wide range, play it forward or reversed, feed it through a four-pole low-pass filter (with a fixed cutoff point which can optionally be controlled from velocity), and give it gate and release times together with volume and pan settings.

Other Voice parameters govern velocity control of cutoff point and amplitude, and the output buss routing of the Voice, as well as whether or not its pitch will track the keyboard. All in all, you can program some pretty strange 'drumkits' if you want. However, it's a shame that there's no Exclusive facility whereby you can get one sound to cut off another (the open/closed hi-hat syndrome), while the scope for controlling how much signal processing is applied to each Voice is quite limited for the drumkit context.

The SQ1 offers you a choice of 13 24-bit digital effects: Concert Reverb, Hall Reverb, Room Reverb, Warm Chamber, 8-Voice Chorus, Chorus & Reverb, Flanger + Reverb1, Flanger + Reverb2, Phase Shifter, Phaser + Reverb, Rotary Speaker + Reverb, Distortion + Chorus + Reverb, and Compression + Distortion + Reverb. Wot, no DDL? Unfortunately not.

With between four and eight programmable parameters per effect, and the ability to dynamically modulate selected effect parameters from any one of 15 sources (pitch and mod wheels, CV pedal, keyboard position, velocity, aftertouch via MIDI, assignable MIDI controller, sustain pedal, timbre slider and six "ramp" envelopes), there's no shortage of flexibility in the SQ1's effects processing. In fact, the character and versatility of the SQ1's effects bring home the fact that effects processing can be as integral a part of sound creation for keyboard players as it is for guitarists. Be experimental: don't just put distortion on guitar samples, try it on other sounds too.

Each Voice within a Sound can be routed to one of three stereo busses: FX1, FX2 or Dry. In addition, you can set separate FX1 and FX2 mix levels per Voice. For single effects, FX1 and FX2 are both routed

through the same effect, with the two mix levels allowing you to apply separate amounts of, say, reverb to different Voices. Combined effects in conjunction with the FX1 and FX2 mix levels allow you to route some Voices through reverb only while others are routed through a more specific effect - distortion, say - and from there either to the reverb or directly to the stereo outs. So for that power trio number you want to work on, you can distort the guitar while applying reverb only to the drums and bass.

Talking of distortion, the Compression + Distortion + Reverb effect should appeal to anyone who likes to get nasty with their sounds. To my mind it's the most natural-sounding distortion I've heard from a digital processor. The signal from the processor's FX1 input is routed through a flanger, compressor, distortion (with a maximum level of 11!), hi/low EQ and - after being mixed with the direct signal from FX1 - reverb. There's a great deal of versatility in this combination of effects, but to top it all you can get into some ridiculous feedback effects by utilising the Reverb-to-Compression Feedback parameter, which routes the post-reverb signal from both the FX1 and FX2 inputs back into the compression stage. Not one for the faint-hearted.

Another effect that needs to be approached with a certain amount of caution is the 12-pole Phase Shifter, which has a stereo cross-feedback parameter that can do some serious damage to your speakers if you're reckless with the feedback level. But that's rock 'n' roll.

Where two Sounds have been assigned different effects (a) the SQ1's output is momentarily but noticeably muted while the new Sound's effect is copied into the processor, and (b) the sustained Sound takes on the effect of the new Sound. So while the SQ1 follows in the Ensoniq tradition of allowing you to overlap sounds - sustain a note playing one Sound while selecting and playing another Sound - the company have included a System parameter called Voice Mute which allows you to switch off the sound overlap feature if you'd rather not have it.

SEQUENCER

THE SQ1'S SEQUENCER will, in many respects, be familiar territory to anyone who's used an Ensoniq sequencer before. Anyone who is new to the Ensoniq *modus operandi* will find a sequencer that is versatile yet straightforward to understand. An onboard, dedicated sequencer should provide a certain operational immediacy, and this is something which the SQ1's sequencer manages to do very effectively with its dedicated transport controls and track buttons and an unfussy approach to sequencing.

Essentially, the SQ1's sequencer allows you to record up to 70 eight-track Sequences (Banks 0-6) which can be chained together in up to 30 Songs (Banks 7-9). A maximum of 99 steps can be programmed per Song, with each step containing a Sequence plus track mute and transpose settings and a repeat number (0-99).

However, following in the footsteps of the VFX SD, ►

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“Presets not only allow you to program a wide variety of keyboard textures, they turn the synth into a rather useful MIDI master keyboard.”

- ▶ the SQ1 allows you to record a further eight song-length tracks in parallel with each Song chain, giving you a total of 16 tracks (I always was good at arithmetic). The purpose of the Song tracks, as they're called, is to allow you to record extended parts while the Sequence tracks handle repetitive accompaniment parts in familiar fashion. However, you can record into Song tracks sectionally, while Sequences can be up to 999 bars long (memory permitting, of course), so there's no one way to go about using the sequencer.

Each track within a Sequence can be assigned one Sound, together with key range, transposition, MIDI channel, MIDI patch number, internal/MIDI status, aftertouch reception and sustain pedal on/off settings. With the appropriate key ranges set, Sounds can be layered and split in Sequence mode by clicking on one track button and then double-clicking on the others; if you really want, all eight tracks (up to eight Sounds) can be layered and split. Of course, not all tracks need play SQ1 Sounds: some can be set to play via MIDI only, allowing you to incorporate external sounds into your SQ1 sequences and keyboard textures. Individual track status can be set to Local, MIDI, Both or Ext, giving you plenty of flexibility in deciding how to combine SQ1 and external sounds.

Each Sequence can also have its own programmed effect. This effect is common to all tracks within the Sequence, overriding the effects programmed for individual Sounds. However, the Voices within each Sound can preserve their output buss routings, or alternatively you can force them to a particular buss; also, in order to avoid clashes you can specify a particular track/Sound as the only source of control data for modulating effect parameters.

When you create a Song, you can also program an effect for that Song; the SQ1 allows you to choose whether you want that effect to override the Sequence effects, or whether you'd rather be able to change effect from Sequence to Sequence. Bearing in mind the brief but noticeable muting of the SQ1's output level when you switch from one effect to another, you need to treat effect changes with caution - even more so, perhaps, when that held note in one of the Song tracks is interrupted by a Sequence effect change.

If you don't record any sequence data into a Sequence, but program all the above-mentioned parameters, you've got what Ensoniq call a Preset. In this way you can store 70 Sequences or 70 Presets or any combination of the two, which is a pretty flexible arrangement. Presets not only allow you to program a wide variety of keyboard textures using the SQ1's own Sounds, they turn the synth into a rather useful MIDI master keyboard as well.

The SQ1's sequencer memory is non-volatile, which means that when you switch the synth off you don't lose your sequence data - or, looked at another way, when you switch the synth on, your sequences are straight away available to you. In case you're wondering, sequence data can also be stored to RAM cards or via MIDI SysEx, but I'll discuss this later.

Real-time recording on the SQ1 can be set to Remove, Add, Loop or Punch in/out. Although you can layer/split two or more tracks for recording, the SQ will only record into one track at a time. Remove is ordinary recording, where you wipe over any previous data each time you record into a track.

Loop, as you might imagine, allows you to record drum machine-style within a track (looping in overdub), while Add is overdubbing without looping. With Punch in/out set, you can manually punch in to record at any point in a Sequence, then Stop the Sequence at the point you want to finish recording. However, if you also have Auto Punch enabled, you can get the sequencer to punch in and out of record automatically at predetermined in/out points.

A Sequence's length is determined by the length of the first track you record, though subsequently you can lengthen or shorten the Sequence as well as append one Sequence to another (or to itself). After you've hit Record for your initial track, you get a beat from the inbuilt metronome but the SQ1 doesn't begin recording until you start playing; this allows you to set a tempo (25-250bpm) and get a feel for the beat before you start playing. For subsequent tracks you're given a one-bar count-in, though you can switch this out if you wish.

Each time you finish recording, the SQ1 allows you to audition the take before deciding whether or not to keep it, while if a previous take exists you can compare old and new and decide which one to keep - a familiar and welcome Ensoniq practice. Another useful function is Goto, which allows you to locate the sequencer to any position within a Sequence or Song.

Each Sequence can be set to looped or one-shot playback, and Sequences can be selected and played like patterns on a drum machine. Sequence edit functions include track quantise, copy, erase, merge, transpose, shift, scale and filter. Some of these functions allow you to work on a section of a track and on a specific note range. The latter is a particularly welcome inclusion, as it allows you to do things like quantise or erase a specific drum Voice in a drumkit Sound, transpose one note only so that it plays a different drum Voice, or erase one of the Voices in a split Sound texture.

Quantisation on the SQ1 is post-record only, and includes straight and triplet values up to 1/64th-note triplets (the sequencer's maximum resolution is 96ppqn). Notes are simply shifted to the nearest beat of the quantise value. Shift allows you to slip a whole track forward or backward in time in 96ppqn steps, up to a quarter note either way, while Scale allows you to globally increase or decrease the level of various types of controller information in a track. You can also filter out note data and various types of controller data, and copy selected data to a different track.

The SQ1 allows you to edit individual event data within a track. To my mind the synth's small LCD does you no favours here, especially when compared to the large event lists and grid-type event edit displays offered by computer-based sequencers. Also, any event editor which doesn't allow you to edit the position of a note (you have to delete and

reinsert at a new position on the SQ1) just isn't trying to be friendly.

Available for the first time on an Ensoniq sequencer is Step-time recording, which allows you to enter notes and controller information. This can be with or without auto stepping (without allows you to record chords per step), and allows you to set note gate times as step length, any fixed duration or a duration determined by the number of steps you hold down a note for. With a minimum duration of 1/64th-note triplets, you can enter some impossibly fast runs, while the fixed note duration facility can be useful for getting that mechanical feel.

The SQ1 does have one other type of recording, called Mixdown, which comes into play, so to speak, when you're in Song mode. In addition to note and controller data, the Song tracks can be used for recording real-time "mixdowns" of volume, pan, envelope release-time and timbre data for both Sequencer and Song tracks. Using the Data Entry slider and Up/Down buttons, you can mix down one track and one type of data at a time.

One thing you can't do in either Sequence or Song mode is record real-time track mute and solo settings, which is a great pity - especially as you can solo and mute tracks in real time from a screen in the Mix Bank. You select a track by pressing the relevant track buttons, then use the edit controls to set the track to S(olo), P(lay) or (M)ute. While it's nice to have this facility, I would prefer to see muting and soloing done off the track buttons only - with, say, a

double-click to solo a track and successive single presses to play and mute it. If you were able to press more than one button at once, so much the better.

The SQ1 does allow you to record initial track on/off settings as part of each Sequence/Preset. If you're working with short Sequences, you could try making several copies of each Sequence and giving each one different track mute settings, then selecting them as appropriate for the moment.

Step-specific track mutes can be recorded at the Song chain level, where you can also transpose selected tracks per step. Chaining Sequences together to form a Song is a tedious business at the best of times. I'd like to see Ensoniq add an "auto-compile" feature whereby you play and select the Sequences in real time and the SQ1 automatically compiles a Song chain for you - surely a fairly trivial programming task. I'm not suggesting that this would always be a superior way of working, but it does have the virtue of allowing you to work at the musical rather than the "technical" level. And why not have the facility to record track mute settings at the same time as your Song is being compiled? This sort of spontaneous approach to recording/(re)mixing is something manufacturers should be paying heed to.

The SQ1 can, of course, act as master or slave for MIDI syncing purposes, and transmits and receives MIDI Song Position Pointers in both Sequence and Song mode. The synth can also be used as a multitimbral slave for playing back sequences recorded into an external sequencer (if you set the

"Whether or not Ensoniq like to use the term themselves, with the SQ1 they've come up with the best argument yet in favour of the workstation."

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- synth to Multi reception) or as a multitimbral sound source for MIDI guitarists (if you set the synth to Mono mode A or B reception).

SQ1 Songs can be called up via MIDI (using Song Selects 00-29), but, unfortunately, Sequences/Presets can't. I'd like to see the SQ1 adopt the Control Channel method used by Roland, whereby you reserve one MIDI channel for selecting Sequences/Presets using MIDI patch changes, while other MIDI channels select Sounds in the usual way. Not only sequencer users but MIDI guitarists and other MIDI instrumentalists would find this a useful feature, I'm sure.

STORAGE

THERE ARE TWO ways of storing the SQ1's Sounds, Sequences, Presets and Songs: to a plug-in RAM card (MC32 or MC64) or to a remote storage device via MIDI SysEx. The RAM cards can be used to store Sounds only, Sequences/Presets/Songs only or a mixture of the two. A maximum of 160 Sounds can be stored on either card (as two banks of 80), so the extra memory of the MC64 allows you to store more sequence data than on the MC32.

The SQ1's card slot can also accept ROM cards. Apparently there will be two categories, both offering 160 Sounds per card: SC Series cards will provide factory-programmed Sounds, while ISC Series cards will provide Sounds "programmed by leading sound developers from around the world".

With 3.5" disks being a significantly cheaper storage medium than RAM cards, sooner or later it's going to make a lot of sense to invest in a generic SysEx filing device, even if it does go against the grain of the "all-inclusive" workstation ethos. If you've bought an SQ1 because you don't want to get involved with computers, your best bet is probably an Alesis Datadisk, which will be able to handle the sort of file sizes required by SQ1 sequencer memory dumps.

Sounds and sequencer data are transferred separately via SysEx, with bulk and individual options in each case, and providing SysEx reception is enabled, the SQ1 will receive data automatically. Saving to and loading from disk via MIDI is inevitably going to be slower than using an onboard disk drive, not to mention a RAM card, so where you need speed (when playing out live, for instance) it's still going to be worth having one or two RAM cards to hand.

VERDICT

ENSONIQ DON'T LIKE to use the term "workstation", because, to paraphrase one of their adverts, they've taken the work out of their instruments. So instead they've called the SQ1 a Personal Music Studio - a description which conjures up images of portable karaoke machines in my mind. Rest assured, the SQ1 isn't about to assault your ears with versions of 'My Way' or 'Tie a Yellow Ribbon Round the Old Oak Tree', nor do you have to sing along to it if you don't want to. And while a karaoke machine encourages you to be recreative by taking all the hard work out of

music-making for you, the SQ1 encourages you to be creative by taking all the hard work out of music-making for you. For once, the advert writers may have hit the nail on the head instead of shooting themselves in the foot.

The SQ1's front-panel is easy to comprehend and straightforward to operate, yet this hasn't been achieved at the expense of flexibility and sophistication. At the same time Ensoniq have provided a very effective integration of programming and sequencing on the SQ1 - which is, after all, what you should expect on a workstation. The sequencer allows you to get your ideas down quickly and conveniently, while doing its best not to limit you in how you put your music together. All in all, the SQ1 encourages your creativity to come out by allowing you to put your ideas into practice with the minimum of fuss.

Of course, first and foremost you have to like not only the sounds that the SQ1 is capable of producing - and here it's a satisfactorily versatile instrument - but also its sound *quality*. There's definitely an "Ensoniq sound", and it's one which I'd loosely characterise as being grainy, gritty and gutsy while striking a happy balance between warmth and incisiveness. As such it's an effective antidote to the polite clarity which tends to characterise the sound of Japanese synths. The same sort of thing can be said about the SQ1's effects, notably the distortion - I just wish Ensoniq had included a DDL (they would've probably made it break up on regeneration).

Ensoniq have brought the SQ1 in at a good price for what you're getting, though if you take into account (or perhaps that should be take out of account) the extra cost of upgrading the sequencer memory and adding on some form of SysEx remote storage capability (both of which are advisable, it seems to me) then you need to think in terms of spending several hundred pounds more at some stage.

There are all sorts of arguments which can be made against the workstation instrument and in favour of the computer-based/modular approach. To some extent their validity is a personal thing, dependent on the way that you want to work and the requirements of the music that you want to record. At the same time, when certain workstation instruments seem to represent little more than an opportunity for flogging tired technology in a new guise, can you wonder that the workstation concept has acquired a tarnished reputation?

Ensoniq have always thought of the workstation as an integrated instrument rather than a collection of components which have to be made to fit together.

Whether or not they like to use the term, with the SQ1 they've come up with the best argument yet in favour of the workstation. ■

Prices SQ1, £1189; SQX70 sequencer memory upgrade, £165; MC32 RAM card, £TBA, MC64 RAM card, £TBA. All prices include VAT.

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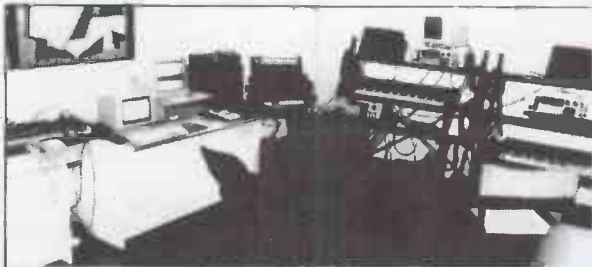
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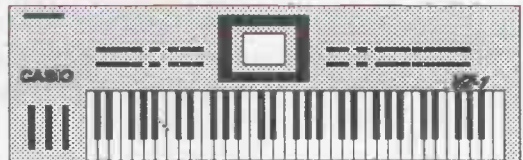


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SOUND SOURCE UNLIMITED

D50 Professional Voicing Series

There comes a time in the life of every synth when it ceases to be "exciting" and becomes "old faithful" - if it's lucky. If it's very lucky, it may become "a classic" like the Prophet 5 or Minimoog. The D50 is lucky because, right now, it's becoming a classic.

There's an important difference between the D50 and the Minimoog, however - the D50 was introduced in an era of "third party support". For most major keyboards you can now buy RAM expansions, programming aids, librarians, MIDI expanders and, the subject of this review, patch libraries. But, after four years, are there any new sounds to be had from the D50, or have they all been heard before? Who, as the D50 moves into middle age, is going to invest time and money producing yet another series of patches? Evidently Sound Source Unlimited feel that there's life and novelty in the old dog yet, and have released six ROM cards for it - the D50 Professional Voicing Series - each holding 64 patches.

I've often thought about producing libraries of sounds for the D50; each library would concentrate on a particular class of sound - brass, strings, woodwind, and so on, much as commercial sample disks do. But SSU are more astute - they've realised that musicians don't want 64 different timbres of trumpet on one ROM. What you and I actually needed are a range of sounds, conveniently available within one library, and each applicable to the same, particular, type of music. After all, there's not much similarity between a hip hop brass stab and the LSO, so there's no sense putting them on the same card. Consequently, we have six ROM libraries, each aimed at a different genre of synthesised music. While you'll

find (for instance) bass sounds on all of the cards, the idea is that you'll find appropriately funky basses on the *Dance Mix*, and rounder woodier ones on the *Producer Series*.

The first card (in no particular order) is the *TV/Film* library. Here the accent is on a broad spectrum of sounds, including a wide range of pads and sound effects. As on all of the cards, the patch banks have been grouped into families of sounds - patches 41-48 are pads, the 50s and 80s are effects, the 70s are orchestral, and so on. This is one of the best of the ROMs, and a serious attempt has been made to get away from the recognisable D50 sound. Even on first listening I noted 12 patches that stood out as well above average - a good score for a 64-patch card.

Next up is *FM Radio*, with its excellent Organ patches and another range of useable pads. Not my favourite card this one, but it has a difficult task. FM implies punchy pianos, loadsa guitars and driving basses - not all of which are the D50's forte. Still, if you don't have access to an M1 and an S900, you could do a lot worse.

Card 3 is the *Producer Series*, and is a triumph of organised programming. The eight banks are, in order, Pianos, Organs, Brass, Strings, Bells/Vocals, Guitars, Basses, and Orchestras. And very nice too - reliable, solid and safe. If you're looking for conventional sounds with no 'Aliens Taking Off', this could be your card.

Number 4 is another of my favourites: *Power Synths*. OK, so I'm an analogue junkie, but *Power Synths* does go a long way towards fooling the world that you've got a lot of that old hardware tucked away somewhere. The D50 will never actually sound like an Oberheim, but this card is a bold attempt to put some of the *je ne sais quoi* of these classic synths under your digital fingertips.

Card 5 is the *Dance Mix*. First impressions are of a card unashamedly modern, and you can look at many of these patches as either unutterably

tedious or brilliant. I suspect that most prospective purchasers will either love it or hate it, and that your age may well be the relevant factor here. But it's worth giving this ROM a listen even if you're not into house or disco as there are some useful textures as well as the predictable funky patches.

Finally we come to card 6, the *Artist Series*. Where the names of the other cards are pretty self-explanatory, I'm not sure where this one comes from. It should have been called the Effects (with a few conventional sounds thrown in) Series. If you're looking for unexplored caverns, aliens doing strange things, or Japanese motorbikes audibly rusting, this is your card. Even some of the more conventional synth sounds have the suffix "-ish" (legitimately) attached to them. This is clearly an attempt to mix a conventional card with sound effects, and I reckon SSU simply bottled out of producing a card with 64 weirdos on it. For devotees only.

All the ROMs come in the usual protective plastic wallet, which is mounted on a card (the cardboard type) on which the patch names are printed. Construction and presentation quality are good, and I didn't have a single problem with any of the cards.

There's nothing startlingly new here, but then again, if you're not either stinking rich or an MT reviewer (no-one is both), you're quite likely to find something of interest on at least one of these ROMs. But there is a gripe: the price. At a hundred smackers for 64 patches we're not bargain-hunting here. Fortunately, all the patches are also available on floppy disk for under £28 per library, and that's definitely worth considering. If you haven't got an Atari, however, I'd hesitate to call these ROMs good value for money. **Gordon Reid.**

Prices ROMs, £99; Disks, £27.99. Both prices include VAT.

More from Executive Audio Ltd, 159 Park Road, Kingston-upon-Thames, Surrey KT2 6DQ. Tel: 081-541 0180/5789.

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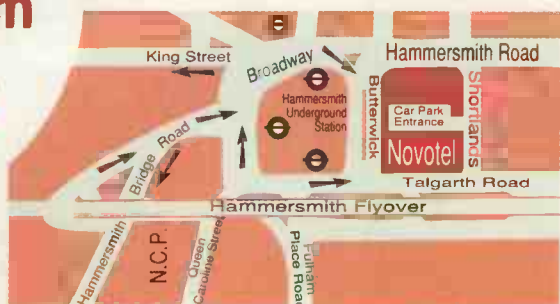
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Yamaha TX81Z Pro-Sounds

- "How'd you like 96 TX81Z sounds for a fiver?"

"OK, Angelo, put down the knife, I believe you."

As with other Stiletto collections, the TX81Z sounds are arranged in a bank template, so as you move through the bank you meet the following categories: pianos, harpsichords, plucked strings, bells, ethnic/oriental instruments, polysynth textures, crosswave sounds, chuffy breathy sounds, vocal sounds, brasses, strings, woodwind, organs, lead lines, percussive sequencer sounds, basses and an oddball sound. The sounds here come in three banks of 32 and roughly follow the above concept (given that a bank holds 32 sounds).

We kick off with 'Rock Piano', quite bright with a hard metallic edge and a little soft distortion, very faint. 'Meta-Cello' sounds like Julian Lloyd-Webber with go-faster stripes. 'Ard'n'Saxy' does a pretty good OTT sax impression and if 'Throat Bass' doesn't blow your tonsils out you've already had them removed. Oddball sound is 'Xenolith', a hard-edged, grating metallic pad with lots of sustain.

From bank 2 I particularly liked 'Grunt+Tine', a tine piano (you're supposed to grunt while playing it, I guess), while 'ppObikord' is good for keyboard-type chords and 'TheBrasses' is just about as full a brass sound as you can get from a TX. Oddball sound is 'Deep Sleep', a soft brass pad which brings in harsher overtones when held.

Favourite piano in bank 3 is 'DigitalEP+'. I also loved 'Rezzo-Klav', a full, funky clav sound and 'BasMunchki' provides a bass accompaniment. Oddball sound here is 'Don't Look', a soft metallic pad - probably the most musically useful oddball of the three banks.

All banks contain plenty of piano-type sounds and bass sounds which the TX synthesises rather well. There are several pads, choral and string ensembles, too. All sounds are Stiletto originals and are available on TX81Z data-cassette, Dr T's-compatible files,

voice sheets or a free sound injector. This ST desk accessory reads Caged Artist synth files and loads them into the synth.

At just a fiver, can the sounds actually be any good? I was sceptical too, but Stiletto have maintained their usual high standards - I won't say they're all corkers, and some I could find little use for. But preferences are, after all, personal.

I don't know why Stiletto are selling these for a fiver and I wouldn't bother asking - just buy them before they change their mind! **Ian Waugh**

Price £5 including VAT (Overseas add £2 p&p).

More from Stiletto Sound Systems, 14 Nelson Street, Dumfries, DG2 9AY. Tel: (0387) 65276.

ROLAND

D-series Sound Cards

These sound cards come from Roland themselves and are compatible with the company's D5, D10, D20 and D110. Each card contains 64 Tones, 128 Timbres and 128 Performance Patches.

Card PN-D10-01 (love the name) is titled *Unique D Sounds* and tries to capture the "essence" of LA synthesis. There are lots of ethereal floating sounds, strings, voices, pads, sweeps - the sort of stuff you'd expect LA to excel at. There's also a selection of lead sounds, bells, a few instruments and some sound FX and novelty sounds.

In 'Jet Stream' you can almost hear the pilot talking to the tower. Alternatively, if you want to know what a cat sounds like travelling at 100mph listen to 'Tom & Jerry' (children, please do not try this at home). Play 'Calliope' and you can hear those chestnuts roast (you may have to be a film buff or over 60 to fully appreciate this). 'Holly Pipes', when played quietly, is very spooky.

My favourites have got to be the pads, particularly those which contain more than one sound source. 'Future Pad' has an orchestral quality with breathy tines underneath; 'D50 Vox' is slow-attack voices saying "Ah".

This is probably my favourite of the three cards, typifying the reasons why I added LA to my setup in the first place.

PN-D10-02 is entitled *Rhythm and Bass Sounds*. Now, the D-series is blessed with over 60 preset percussion sounds, and I would have thought that that was enough for most types of music. How wrong can you be? This card contains another 48 - if you want more snares, bass drums, toms, hi-hats and other miscellaneous percussion sounds, here they are.

The other 16 sounds are basses - of the 'Mini', 'Rock', 'Thump', 'Wet', 'Perc' and miscellaneous varieties. Again, if the dozen or so preset basses are not enough, here are some more to add to your collection.

PN-D10-03 is called *Natural Variations* and contains electric pianos, harpsichords and clavs, organs, saxes, guitars, basses, strings, harps, vibes and brass plus a miscellaneous collection of other "natural" instruments, a few sweeps and some combination sounds.

I liked 'Quartet St', a solo(ish) string sound you can use across the full range of the keyboard, and also 'Floating Pad', a pad with a soft brass attack and a high metallic ring to it.

But are they sufficiently different to the D-series' presets to warrant purchase? Well, in as much as similar preset sounds in the synths are different from one another, yes they are. If you're looking for more "natural variations" on LA sounds, this is a good selection.

Additionally, if you have a D10 or D20, you'll be able to access 128 Performance Patches which are made up from the Tones provided. You can also experience 32 new rhythm patterns (per card) which cover a vast range of modern musical styles from jazz and rock to latin (check out PN-D10-02 in particular for these).

These cards, obviously, work out a little more expensive than just buying sounds. Their advantage is that the sounds, rhythms and performances are always there, ready when you are. If you need instant access, then the types of sounds the cards contain won't let you down. **Ian Waugh**

Price £56 per card.

More from Roland (UK) Ltd, Amalgamated Drive, West Cross Centre, Brentford, Middlesex TW8 9EZ. Tel: 081-568 4578.

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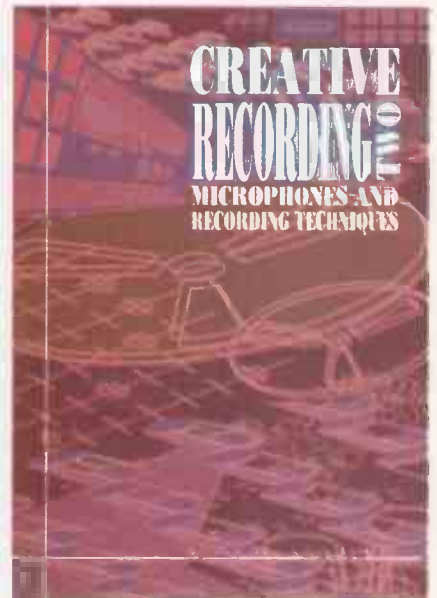
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CASIO CT650, full size keyboard, MIDI facilities, £110. Mike, Tel: 061-624 9968.

CASIO CZ synth cartridges, (2), suit all CZs, 64 sounds each, £55 the pair. Tel: (0602) 253916.

CASIO CZ1, velocity aftertouch sensitive, multitimbral synth, flightcase, 1300 patches, perfect, £450. Adam, Tel: (0865) 751369.

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CASIO CZ1000, £170 ono; MC202 sequencer, £100 ono; Yamaha CS5 monosynth, £50 ono; HR16 drums. Craig, Tel: (0742) 750419.

CASIO CZ1000, RAM, SPM8:2, X15/MN75, QX21, Gajits SEQ1, offers? Wanted: VZ1, TX81Z, Sansui MSR6. Tel: (0748) 5481.

CASIO CZ1000, £130; Yamaha RX17, £130, both good cond. Gareth, Tel: (0204) 593938.

CASIO CZ3000, DX21 synths, QX21 sequencer, immac, all £750; will separate. Chris, Tel: (0902) 862739, eves 9.30pm onwards.

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ENSONIQ SQ80, mint, absolute bargain, £799 ono. Gary, Tel: 051-933 4557.

ENSONIQ VFX, mint cond, latest MIDI update, £1100. Cliff, Tel: 081-951 0413, anytime.

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ROLAND JUNO 2, touch sensitive, good smooth sounds, Yamaha TX7 module, both £575 ono. Tel: (03636) 414.

ROLAND JUNO 6, case, manual, lovely machine, £110 ono, will deliver. Tel: (0292) 316608, after 6pm.

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YAMAHA DSR2000, £430; Yamaha PSS680, £120; Yamaha SHS10, £40, all perfect. Tel: (0235) 526302.

YAMAHA DX7, perfect, flightcase, manuals, ROMs, classic synth, £500. Graham, Tel: (0234) 45920.

YAMAHA DX7, Mkl, ROMs, hard case, 1000 sound (Atari), £490 ono. Chris, Tel: (0272) 277359, work/775747, home.

YAMAHA DX11, manual, RAM cartridge, flightcase, mint cond, home use only, £380. Tel: (03543) 5239.

YAMAHA DX27, excellent cond, manuals, case, £190. Tel: (0524) 53579.

YAMAHA DX100, as new, £150; Fostex X15, 4-track, £180, many MIDI leads. Tel: (0273) 463328.

YAMAHA DX100, excellent cond, Yamaha power pack, hardly used, £150. Tel: (0772) 614267.

YAMAHA FB01, multitimbral MIDI expander, £120; Casio HT700, MIDI keyboard, £100. Mark, Tel: (0744) 21691.

YAMAHA KX76 MIDI controller keyboard, perfect cond, boxed, £750. Tel: 081-202 0575.

YAMAHA PF80, excellent, £600; TX81Z, £275; Korg M3r plus RE1, £850; MU1602, £700. Paul Bovey, Tel: Tracey 833337.

YAMAHA PSS680, 100 voices, rhythms, custom drummer, excellent cond, £130. Tel: 091-488 3297.

YAMAHA SY22, boxed, manuals, mint, was £800, sell for £500. Tel: (0293) 29314.

YAMAHA TX7, plus editor and over a thousand sounds, £195 or swap for

comp/lm. Tel: (0538) 308680.

YAMAHA TX81Z, boxed, manuals, excellent cond, home use only, bargain, £180. Tel: Droitwich 779854.

YAMAHA TX81Z, with Steinberg editor, £230; Alesis Microverb II, £85. Norman, Tel: 091-284 8115, after 6pm.

YAMAHA V50, £800; DX100, £160; PSS680, with stand, £140, all immac, boxed, manuals. Mark, Tel: (0274) 547146.

YAMAHA WX11, wind synth, plus BT7 compatibility power pack, boxed, mint, £240. Tel: (0299) 403720, eves.

SAMPLING

AKAI S900 MIDI digital sampler, v2.1 software, disk library, mint, £780 ono. John C, Tel: (0203) 691054.

AKAI S900, mint, sell or swap D50, delivery possible. Jason, Tel: (0844) 261663, after 8pm.

AKAI S900, v2 update system disk, X-fade loop, VCF envelope, pre-trigger recording. Tom, Tel: (0706) 44410.

CASIO SK100 sampling keyboard, boxed, instructions, vgc, programmable rhythms, chords, £65. Andrew, Tel: (0485) 600513, after 7pm.

EMAX II, brand new, will pay shipping, £1950. Write: J Grahame, 6 Culliton, Regina, 545 4J6, Canada. Tel: (306) 584-2135.

EMULATOR II+, double disk drive, 17.5 secs, SMPTE, 8-track sequencer, cream of EII+ library, £2000, (possible p/x). Tony, Tel: (0706) 78141.

ENSONIQ EPS sampler, home use only, £850 ono or p/x for U220, M3r etc. Write: S Black, 30 Etime Crescent, Wishaw, Scotland ML2 0PL.

ENSONIQ EPS 4 times memory expansion board, 5 yrs warranty, £350. Terry, Tel: 071-703 7133.

ENSONIQ EPS sampling keyboard, vgc, home use only, large sample library, £850. Graham, Tel: (0753) 28973.

EPS MEMORY expanders, 2x, £180 ono; 2x with SCSI option, £200 ono, boxed, as new. Simon, Tel: (0489) 878734.

FIFTY original Emulator II disks for sale, £5 each or the lot for £100! Dave, Tel: (0274) 616107.

PROPHET 2000 sampler, £475 ono; Casio CZ101, SZ1, £150 pair. Tel: 061-231 6254.

ROLAND S10, flightcase, disks, X-stand, manuals, home use only, excellent cond, £425. Tel: Droitwich

779854.

ROLAND S10 digital sampling keyboard, 40 disks, excellent cond, £400. Jay, Tel: (0235) 812023, offers.

ROLAND S330 sampler, boxed, manual, version 1.03 software, mint cond, library available, Atari ST patch copy software, Director S sequencing software or S330, all for £750. Tel: (03543) 5239.

ROLAND S330 rack sampler, manuals, vgc, £750 or swap 2Meg Casio FZ1. Steve, Tel: (0602) 622846.

ROLAND W30 sampler/workstation, 4 months old, home use only, disks, boxed, £1350. Tel: (0793) 876259, after 6pm.

SEQUENCERS

ALESIS MMT8 sequencer, boxed, mint cond, £140. Tel: 081-748 6266.

ALESIS MMT8, £165; Hammond DPM48, with pad interface, £125; Roland SH101, boxed, £95. Tel: (0822) 612136.

KORG SQD1, 16-track, MIDI, boxed, manuals, 25 disks, home use, £180. Colin, Tel: 061-766 7984, eves.

KORG SQD8 sequencer, 16 quick disks, as new, £200. Tel: Hartlepool 263296.

ROLAND MC202, immac, both manuals and switch matrix, leads, power supply, £115 ono. Tel: (0909) 486971.

ROLAND MC202, £69; Korg KMS30 MIDI sync to Roland/Korg/Oberheim etc, £75. Tel: (0628) 473393.

ROLAND MC202, boxed, manuals, £100; Roland TB303, manuals, £100; Ladbrokees Midistudio sequencer, £30. Tel: (0203) 666246, eves.

ROLAND MC300, Super-MRC software, only 3 months old, perfect cond, boxed, £575. Tel: (0843) 62230.

ROLAND MC500, Mk2, £850; Roland D10, £600; U110, £480; Carlsbro PA, £450 ono, extras included. Tel: (0952) 582873.

ROLAND MC500II, Super-MRC and MRC500 software, all manuals, disks etc, also D50 sounds disk, £575. Tel: (0564) 775181.

YAMAHA QX5, boxed, manuals, 8 tracks, 20,000 note capacity, excellent cond, £160. Tel: Droitwich 779854.

DRUMS

AKAI XE8 drum expander, 48 16-bit sounds, 8 individual outputs, £180. James, Tel: 081-954 5275.

ALESIS HR16, excellent cond, £200. Tel: 071-735 1418, eves.

ALESIS HR16 digital drum machine, boxed, mint, plus manual, £190. Adrian, Tel: (0255) 432247.

ALESIS HR16B, 4 months old, vgc, 47 electronic and processed drum sounds, £200. Martin, Tel: (0865) 863718.

BOSS DR220A rhythm machine, 12 instrument voices, 64 rhythms, as new, bargain, £79. Tel: (0602) 253916.

DRUMTRAKS, tunable exchangeable chips, boxed, £125 for quick sale. Tel: 081-340 2850.

DRUMULATOR, as new, £150; Roland SH101, working, £35. Write: Dilly, 20 Trower Street, Preston, Lancs.

KAWAI R100 drum machine, £200; Carlsbro PA, £180; Gibson LGO acoustic, case, £300. Tony, Tel: 081-441 1792.

KORG DDD1, dynamic drums, excellent cond, ROM cards, box, manual, cassette, £275. Steve, Tel: (0403) 68292.

KORG DDD1 for sale, £160 ono; Yamaha QX5, £200 ono. Andy, Tel: (0425) 272488, days.

KORG DDD5 drum machine, £195; Korg SQD8 sequencer, £175; boxed 60s synth, £90; Sansui 2x40W amp, £85. Tel: (0763) 262134.

KORG KPR77, analogue drums, £49; Korg DDM220 digital latin drums, £49; KMS30, £75. Tel: (0628) 473393.

PEARL MX chrome 8-piece, 2002 hi-hats, 5 Sabian/AA cymbals, hardware, cases, immac, £1800 ono. Tel: (07844) 50302.

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ROLAND TR909, hip-house/techno drum machine, full MIDI spec, original manuals, £325. Tel: (0395) 278830.

SIMMONS SDS7, 7 drums, leads, stands, £425; Eprom blower and eraser, £90, both vgc. Tel: (0271) 79176.

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YAMAHA RX15, Roland SRV2000, Tascam 244, offers. Darren, Tel: 081-648 8713.

COMPUTING

AMIGA B2000, 3Meg RAM, Music X, MIDI interface, D110 editor, £1500 ono. Andy, Tel: 051-336 6657.

ATARI STE, plus monitor, £475; Steinberg M1 editor plus sounds, £110, as new, guaranteed. Tel: (0424) 436674, anytime.

ATARI 520STFM, DS drive, SM124 hi-res monitor, Atari Megafile 30, (dodgy but very cheap), loads of software, £375. Tel: (0926) 423940.

ATARI 1040ST, £285; also hi-res mono monitor available. Tel: (0529) 305611.

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BBC UMI 2B, sequencing ROM, plus interface, manual, £100. Richard, Tel: 081-506 0533.

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C-LAB NOTATOR, v3.00, 22.00, 2.2, plus all updates, £300 ono; Roland

U110, £400; EPS x2 expander, £200 ono, all as new. Tel: (0909) 566695.

HYBRID ARTS SMPTETrack II, latest update, plus SMPTE box, as new, £375 ono. Tel: (0923) 662486.

HYBRID ARTS SMPTETrack II hardware, reads and writes SMPTE, latest version, £350. Tel: 081-340 2850.

1MEG Atari external drive, new D110, Kawai PH50, £800, swap S50. Mick, Tel: (0302) 864877.

ROLAND MC300/500 performance software - a must for live work, as new, £50. Tel: (06333) 65758, eves.

STEINBERG CUBASE, latest version, key, manual, boxed, £270. Tel: (07048) 74903.

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STEINBERG PRO12, boxed, manual, £30 ono. Tel: (0625) 611704.

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STEINBERG TWELVE sequencing software, inc free Korg M1, £1050. Tel: 091-253 2460, eves.

VOYETRA Sequencer Plus, MkIII, v3, software for IBM PC and compatibles, offers? Tel: 031-667 8613.

XRI-MICON, TX7/CZ editors, sequencer, Cheetah sampler, (all Spectrum), offers. Write: J Leese, 244 Furlong Road, Tunstall ST6 5UN.

YAMAHA CX5M with DX editor, composer, and sequencer programs, £120. Tel: 081-340 2850.

RECORDING

AKAI EX90R digital reverb unit, inc Akai 19" rackmount, £130. Adrian, Tel: (0255) 432247.

AKAI MG614, just like new, £550; Roland Octapad, £250. Tel: (0602) 383068.

ALESIS QUADRAVERB, excellent cond, £325 ono. Tel: 071-735 1418, eves.

ALLEN & HEATH System 8, flightcase, vgc, £1500. Tel: (0752) 559082.

BOSS BX16 mixer, £349; DX11 plus sequencer, as new, boxed, £349; A-frame stand, £75. Tel: 081-868 0070.

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FOSTEX A4 open-reel 4-track, little

use since recent overhaul, very good cond, including service manual, £320. Good beginners machine! Tel: (03543) 5239.

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FOSTEX E16, half-inch, Tascam 85-16 dbx one-inch, immac, auto locators, offers around £2400; MT32, mint, £200. Tel: (03632) 4627.

FOSTEX M80, £900; Dynamix 16:8:2, flightcased, £850; Yamaha SPX90II, £250, all as new. Tel: (0737) 553195.

FOSTEX 160, only 4 hrs use, excellent machine, boxed, manuals, house forces reluctant sale, £340 ono. Tel: (0373) 826457.

LOOM for Fostex E16/B16, very high quality, £125 ono; Yamaha SPX90, perfect, £295 ono; SDE1000, £180. Tel: 071-485 6441.

STUDIO CLEAROUT: Korg SDD2000, £160; Simmons SPM8:2 MIDI mixer, £160; Boss KM600, 6:2 mixer, £65; Fostex X30, £225. Mark, Tel: (0646) 697163.

STUDIOMASTER 8:4, AKG/Shure mics, Nomad PZM MIDI trigger, Ovation semi-acoustic etc, offers. Tel: (0933) 50150.

STUDIOMASTER Session Mix 16:2, as new, immac, boxed, £550. Tel: (0533) 706959, weekday eves.

TAC SCORPION mixer, 24:16:2, 1 yr old, home studio use only, £4500. Tel: 081-348 0414.

TANNOY Gold, 15" dual concentric studio monitors, £395 ono; Dolby A360, two, £195 each; Aphex Type E, £75; Mirage input filter, £45 ono. Wanted desperately: Oscar. Tel: (0442) 862373.

TASCAM 234 portastudio, like MT100 but better, cash or swap; for sale: M1, flightcase. Tel: (0256) 50259.

TASCAM 244 portastudio, excellent 4-track, owner moving to 8-track, £400 ono. Tel: (0923) 817691.

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YAMAHA MEP4 MIDI processor, £160; Bokse SM9 MIDI/SMPTE sync, £220; Denon DRM20, 3-head cassette, £200, all mint, ono. William, Tel: (0924) 469439.

AMPS

ALLIGATOR 200W drum combo, 7 inputs, built-in reverb/graphic, soft

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EMINENCE PA cabs, 1 x 15" speaker plus horn, immac, home use only, £150 for pair. Neil, Tel: (0773) 540234, after 5.30pm.

HH K100, pair keyboard combos, excellent cond, never giggered, house forces reluctant sale, £275 ono each. Tel: (0373) 826457.

LANEY session keyboard, 100W, 7 inputs, 3 channels, plus mic channel, £150. Tel: (0926) 882913.

MARLIN LEAD combo, 2 inputs, chorus, reverb, overdrive etc, 50W, as new, £75. Tel: (0484) 518743.

SESSION 75W guitar combo, twin channel reverb, overdrive, footswitch, sought after amp, bargain, £130. Tel: (0273) 670805.

PERSONNEL

COMPUTER engineer/performer, S900/Pro24 literate, vocals, personality, image and stage work essential. Buj, Tel: (0831) 322984.

DESPERATELY seeking energetic, enthusiastic partner for songwriter/keyboardist. Write: Geoff Garland, 5 Croxton Close, Luton, Beds LU3 2UQ.

DRUMMER NEEDED, experienced, flair, steady, must play for the songs' sake. Mid Sussex/Brighton based. Simon, Tel: (0273) 550716.

GUITARIST/VOCALIST wanted for semi-pro duo running C-Lab. Norwich area. John, Tel: (0603) 409632.

NEW dance music group, require male/female vocalist. Please send demo tapes and telephone number that we may contact you on. Write: Keith Winds, 55 Lime Walk, Acton, Sudbury, Suffolk CO10 0YD.

SALT & LIGHT Productions seeks musicians, songwriters and engineers. Live and studio projects,

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WANTED: enthusiastic, determined keyboard and bass player for "On It" record deal hunting producer/writers, interested? Tel: 051-548 5829.

MISC

AKG D190 microphone, retail £90, swap for Korg M1 PCM card or £40, (ungiggered). Tel: (0242) 510434.

ARIA ADL1 delay pedal with PSU, £40; Commodore 64, with all accessories, £60. Tamer, Tel: (0622) 751629.

BOSS HM2, £25; Oberheim Prommer, £85; Electro-Harmonix electric mistress, £25, all boxed. Martin, Tel: (058283) 2828.

CITRONIC DISCO decks, £160 the pair or swap for good Roland drum machine. Tel: (0604) 843536.

DL-P3 turntable including Stanton 500AC club cartridge, still guaranteed, £130 ono. Tel: (0280) 703033.

MIDIVERB 2, £180; MV802 mixer, £170; EMT10 module, £150; FB01, £100; MMT8 sequencer, £180, all vgc. Andy, Tel: (0453) 752759.

150+ Electro Music magazines, £50; 2-PC trigger pad set, £20, also various effects. Tel: (0438) 350471.

Q-LOCK 310, £1950; Linn drum MkII, £250; Eddy Ryan drums, £500; Spencer upright piano, £750. Tel: 081-443 1523.

SAXOPHONE, Rosehill alto, vgc, selling because destitution beckons, £450 - will haggle! Tel: (08447) 445.

STEINBERG key expander, £75. Tel: (0424) 436674, before you're disappointed!!!

SYNCHRONISE your non-MIDI house gear together - and to tape, Synctrax, £20; Boss percussion synth, £15. Tel: (0524) 64116.

WANTED

AKAI S1000, Roland MKS80 and PG80, Prophet VS plus rack, Oberheim Matrix 12 and expander, EMS-AKS, Prophet T8, Mesa Boogie MkIII. Tel: 081-675 8115.

ALESIS DATADISK, Elka CR99, Korg DF1, or similar MIDI storage disk drive. Ian, Tel: (0633) 49623.

ALESIS MIDIVERB II digital reverb unit wanted. Paul, Tel: (0703) 283090.

ARP ODYSSEY manual, service info/diagram, (photocopies acceptable), also spare keys (low C, top ABC). Steve, Tel: (0983) 298969.

ATARI 520/1040, Korg M3R or p/x Roland W30. Paul, Tel: (0793) 876259, after 6pm.

CASIO FZ1 memory expansion, cash waiting, Matrix 1000 voices also wanted. Steve, Tel: 051-526 0235.

CASIO FZ1 sampler, preferably 2Meg, must be vgc, ungiggered, cash waiting. Steve, Tel: (0602) 622846.

KAWAI K5, plus RAM/s, £400 and Goodmans Maxamps, £50, both immac. Tel: (0455) 611328.

LET ME borrow your PG800 in exchange 4 studio time in huge MIDI setup, or cash!! Still want synth player into Tangerine Dream. Tel: Reading 580764.

PHILIPS MSX2, 8280 computer, Yamaha CX5M MIDI recorder, music input pad. Tel: (0292) 79136.

ROLAND D50, offering one mint cond Akai S900, delivery possible. Jason, Tel: (0844) 261663.

ROLAND MKS7 (super quartet), also velocity sensitive synth/keyboard. Derek, Tel: (0450) 75081, after 6pm.

SWAP my Roland JX3P for TR909, DDD1, Cheetah MS6, Pro1, Atari, cash adjustments either way. Colin, Tel: (0803) 311678.

URGENT: Korg VC10 vocoder, must be in working order, cash waiting. Brad, Tel: (0623) 752223.

WANTED: manual for Fostex X15 portastudio. Tel: (0273) 493659.

WANTED: Roland SBX10 or Korg KMS30. Tel: (0604) 843536.

YAMAHA QX3 or QX5FD, perfect cond only, can collect London area, cash ready. Tel: 081-693 2609.

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