

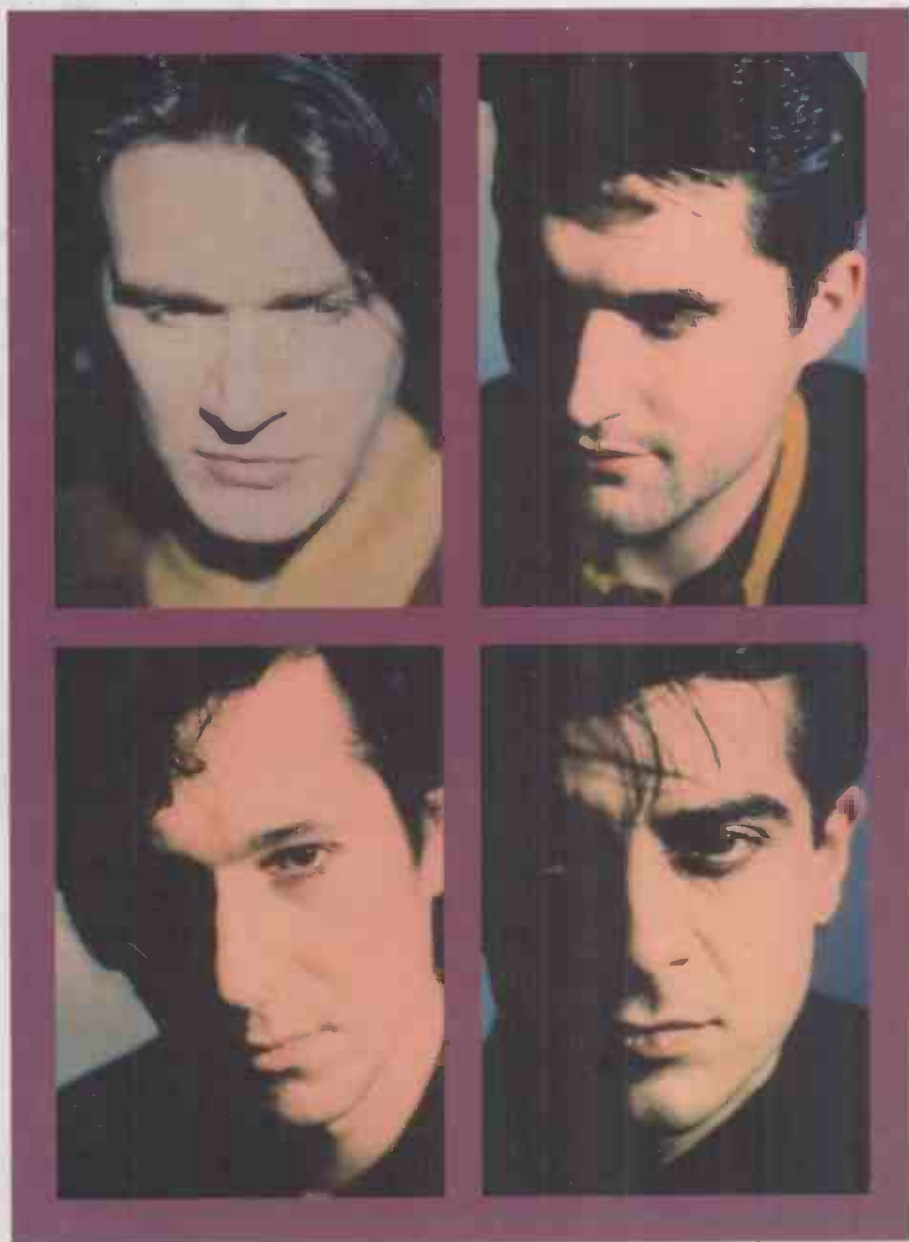
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Music Technology

THE WORLD'S PREMIER HI-TECH MUSIC MAGAZINE

May 1991

£1.60



ON TEST

*C-Lab Notator Alpha
ST Software*

*Yamaha QY10
Sequencer/Expander*

Steinberg Cubeat ST Software

C-Lab Midia ST Software

Kawai XD5 Drum Expander

C-Lab Aura ST Software

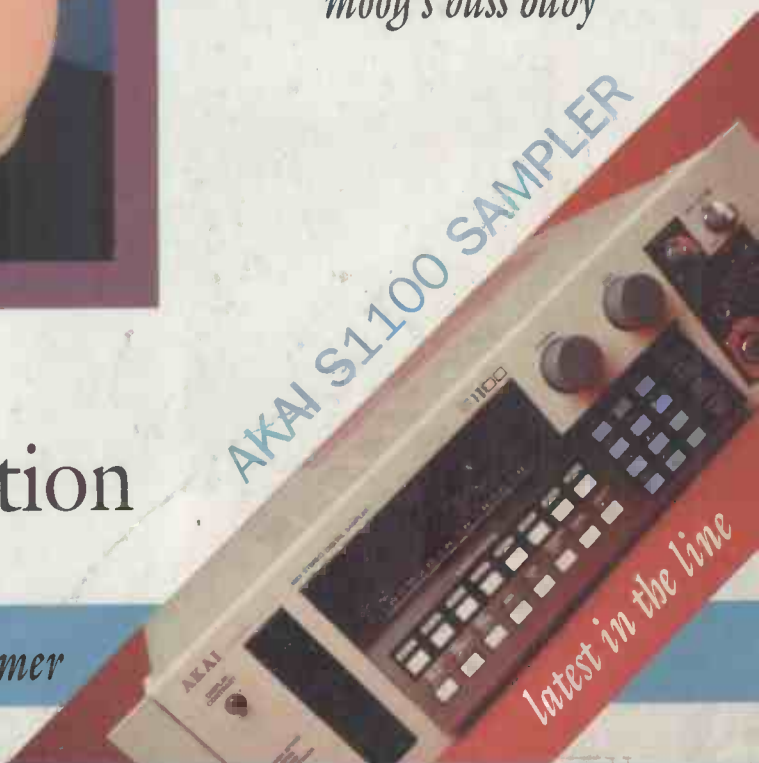
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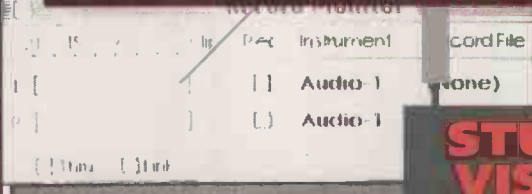
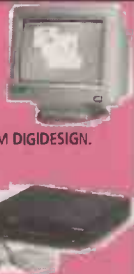


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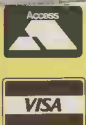
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Concluding C-Lab's educational series of programs for the Atari ST is the ear training program, Aura. Ian Waugh teaches the world to sing.

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THE PERSONAL TOUCH

IF YOU HAVEN'T noticed already, the music interviews in this issue of MT are both dedicated to the same band, Rain Tree Crow - although many of you will more readily recognise the line-up as that of Japan. Devoting an entire issue's worth of interview space to one band (and hence, one musical perspective) is a first for the magazine, and not something we're likely to repeat in the foreseeable future. The coverage is partly occasioned by the reunion of a band who proved so influential in the early '80s, and partly by the fact that the various musicians are also involved in different projects and have their own experiences and opinions to discuss. Without getting into details, there's also the issue of personal disagreements within the band that mean the reunion is over almost before it's begun. What we've come around to here is the issue of people.

Much as modern music tends to rely on equipment for its sounds, construction and dissemination, people are still an essential part of the process of making and enjoying it. We regularly hear warnings issued about machines de-humanising music, but consider this: even if a machine is capable of composing, recording and playing music without human intervention, the exercise is worthless without people to appreciate it. Without us, it's debatable whether the noises the machine's made actually constitute music.

I'd also go so far as to suggest that the vast majority of people making music *need* other people to help them - a statement at odds with the currently popular image of the lone musician working into the night with a computer and sampler. How many of us are capable of seeing a piece of music through all stages of its development and still coming up with something other people want to hear? (OK Prince, sit down.) In most of our cases, collaboration with another musician not only

helps us out when we're short on inspiration, it can present problems which actually help bring out the best in us - a curious situation that is uniquely human.

The magazine you're reading relies heavily on people too - in more ways than you might readily recognise. Obviously you're important as a reader because without you there would be nobody to write for; advertisers' support provides the bulk of the money that keeps everything running; and musicians who agree to be interviewed provide invaluable insights into their experiences and philosophies. But what about the people who put the magazine together? As MT's editor, let me assure you that finding people with the required experience, knowledge and writing skills is not an easy task. And the right combination of writers with the right range of experience and perspectives is even more difficult to assemble. Let me also assure you then, that I feel confident there's no better team of journalists working in this area of journalism - largely because we're aware of the importance of people (I'm talking about *you*) as well as the importance of music and, particularly, the importance of equipment.

Returning to the interviews with Rain Tree Crow, had the remarks exchanged between David Sylvian and Steve Jansen been documented by some "reporting machine" rather than a person, I feel certain that further damage to the people involved - and to the music they purvey - would have resulted. Instead, the possession of potentially damaging information was in the hands of a person (myself) who has attempted to respect the other people involved. I sincerely hope it's been handled responsibly.

David Torn observes in the sleeve notes (and lyric) of his excellent album *door x*, that music is "about magic". You're certainly not wrong, David, but it's also about people. **Tg**

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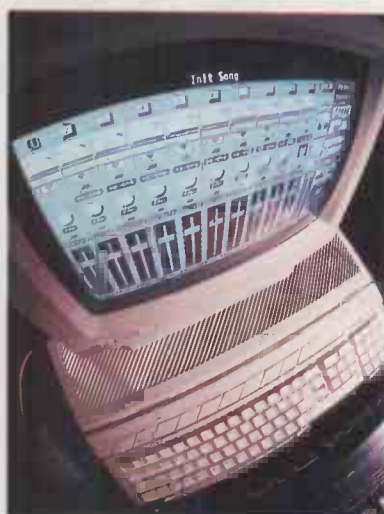
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The Roland MC-50 and MRM-500

Some Hard Facts and a Soft Option



The quickness of the hand deceives the eye. The MC-50 is compact, easy-to-use — and fast. Super-MRC Sequencer and Super-MRP Performance programs in ROM, so no wasted loading time.



The big screen. Addicted to your personal computer's large monitor? No problem. The optional MRM-500 Converter accepts standard MIDI files from all standard sequencing hardware and software.



On your bike. The rugged and portable MC-50 was designed for the road. And using MRM-500 you can take your home-produced sequences to stage and studio for performance, recording or editing.



Hard facts, soft options. Stand alone sequencer or portable extension to a personal computer setup, for writing or for performance, the MC-50 is the right hardware for the job. With the software it adds up to the only option.

Hard Facts: Int. Memory — 40,000 events; Disk — 150,000 events; 10 Tracks (mutable in real time); 16 MIDI Channels (effectively 32 when using both MIDI Outs); Tape Sync II for multitrack sync'd drop-ins; Price — MC-50: £575rrp. **Soft Options:** Super-MRC — 8 Phrase Tracks; Rhythm Track; Tempo Track; Real-Time or Step Recording; 15 macro functions, plus event editing; 8 assignable locate points; 14 song functions; 8 utilities (inc Time Calc). Super-MRP — max 99 songs per disk for performance with optional loops, start/stop points and pauses between songs. MRM-500 — Standard MIDI File Converter enables MC-50 to interface with different computers/sequencers. Price - MRM-500: £75rrp. Further info: Roland (UK) Ltd, Atlantic Close, Swansea Enterprise Pk, Swansea, West Glam SA7 9FJ. Fax: 0792 310248. Tel: 0792 310247.

FREE & EASY

If you're an owner of one of Roland's more recent samplers, you'll be well chuffed to hear that Roland are making available hundreds of free samples. Roland's extensive library of three CD-ROMs (equivalent to around 500 samples), for the S770, S750, W30, S550 and S330 can be yours for the copying, if you're prepared to make an appointment and head up to the Roland HQ at Fleet in Hampshire or their Swansea premises in Wales.

The Roland sample library, most of which is multi-sampled, is composed of traditional, effects and synth sounds. All you need to do to get your grabbing hands on all these free samples is to take along as many formatted disks as you think you'll need, or your own SCSI hard disk system if you have one. Appointments should be made with Chas Smith at Roland on (0252) 816181, extension 2226. There is no charge for this service. What are you waiting for? **Dp**

SAMPLES TO ORDER

Back on the sample trail again, we've been asked to introduce you to the 4D Productions Production Series Ensoniq EPS Library, which, we're told, offers a lot more value for money than other sample libraries on the market - because you're able to choose exactly what samples you're paying for, rather than getting some you don't want along with those you do want. The library is available per instrument, so if you're looking for basses only, or orchestral samples, that's what you'll get.

When you ask for info from 4D Productions, you'll be sent a comprehensive listing of all samples available, grouped into instruments. The size of each instrument is given

next to its name, in EPS blocks. You simply choose which samples you'd like on your disk, up to a maximum of 1585 blocks per disk - and there are a number of small samples to enable you to fill all the gaps for maximum value for money.

The library is quite extensive, and probably the best part is the astonishingly reasonable price - £4.50 per disk, or (as a special introductory offer for a limited period), £39 per box of ten disks. 4D are even hinting that if you want larger quantities than ten, you might be able to secure a further discount.

More information on the above from 4D Productions on (0392) 876675. **Dp**

DE-COMPOSER DE-MYSTIFIED

Following MT's exclusive review of the incredible AF-1 De-Composer analysis/composition software from Audio Fast, the MT offices have been deluged with mail (and more than the odd cheque) and the phones have been hot with enquiries. However, in another startling development of the De-Composer story, it appears that the whole item was a hoax. Perpetuated by MT's staff in a rare moment of irresponsibility, it seems that the April issue of your favourite hi-tech music mag was too good an opportunity for an April Fool to miss.

Apologies, therefore, to all who were taken in - we could drop a couple of "names" here - and congratulations to Vic Lennard for his retaliatory wind-up of MT's editor. Cheques will be returned (reluctantly). **Tg**

AUTOMATIC RECITAL

News has come in today of a new MIDI automation system from Kent-based R-Technology. Called Recital, the new system is housed in a 1U-high rackmount box and offers a positive plethora of features, "fusing MIDI control with professional VCA technology", (according to the press blurb). As with other automation systems, Recital will plug into the insert points of your mixer and will interact with your sequencer to give full fader automation. Since the system uses MIDI controller information, it will work with any of the MIDI sequencer packages on the market, and promised for the near future is R-Technology's own fader-page software.

Recital offers control of up to

112 audio channels, uses high-quality VCAs throughout, includes ten resident fader laws selectable by MIDI control, and has left and right mix-in buss giving "unlimited scope for future expansion" (we take this to mean that it's possible to cascade more than one unit), as well as many other features. The best news is probably the price - at £480 for 8-channel operation and £799 for 16 channels, the Recital system compares very favourably with other systems on the market. Look out for a review in the near future. In the meantime, you can get more information from R-Technology at Wynn House, 20 Church Street, Tankerton, Kent CT5 1PH. Tel: (0227) 264862. Fax: (0227) 771600. **Dp**

CD BREAKS

Sample CDs continue to proliferate, with the impending release of Time & Space Datafile One, the first in a three-CD series entitled Zero-G. Produced by Rhythm King signing Ed Stratton (alias Man Machine), the CD is aimed squarely at the dance market, with over 60 breakbeats, hundreds of vocal hooks and vocal effects, synths, loads of dance-orientated percussion, including TR808, 909 and 727 kits, techno and electro "beats & pieces", scratches and scratched vocals, ethnic flutes and other instruments, and spacey and ambient FX, as well as a host of unique "one-offs and off-the-wall FX". The breakbeats supplied on the CD consist of either one or two bars to be sampled and programmed in on the first beat of

the bar, or looped. Bass samples have been carefully chosen for their effectiveness in house and hip hop tracks. Vocal samples include such gems as "You got it baby you got it!" and "It's what's up front that counts!", as well as a veritable plethora of assorted hip ejaculations (look it up).

All sounds are level-matched for fast sampling, the CD is cut in 99 tracks for fast access, and the comprehensive documentation includes a detailed track and sample listing for easy location.

The CD will be available from mid-May, and MT will be giving it a spin as soon as we get our hands on a copy. More info from Time & Space, PO Box 306, Berkhamsted, Herts HP4 3EP. Tel: (0442) 870681. **Dp**

We don't often get the opportunity to convey information about forthcoming radio and TV material which might be of special interest to MT readers, but since we've recently been put on the mailing lists of both Radio 1 and Channel 4, that could be changing.

First up is news from Channel 4 about their forthcoming season of late-night jazz documentaries, which will be screened on Tuesdays from 30th April. The one we thought would be of most interest to you lot is scheduled for transmission on 7th May, and is cunningly titled *Herbie Hancock Meets Herbie Hancock*. Also from Channel 4

MEDIA BULLETIN

is *Sound Stuff*, a 12-part series running on Saturdays from 30th March. The series takes a look at a wide range of musical subjects, with programmes focussing on the role of that stuff you wish they would turn off in the supermarket - muzak (and did you know that Ted Nugent once bid \$10 million for the American Muzak Corporation just so he could destroy their tapes?), the story of disco music from The Village People to Stock, Aitken & Waterman, (with many strange

stops in between), the RPO (Reggae Philharmonic Orchestra) and (required watching for me) a programme devoted entirely to an exploration of that cheapest of all instruments, the human voice. The shows will be airing on Saturdays from 30th March until 22nd June, so by the time you read this, you'll have missed a few.

Sticking with media news for the moment, changes are about to be made in Radio 1's famous "Playlist" (in case you didn't know, this is the list of

what will be played on Radio 1 every week and how often it will be played). The new format playlist will apparently herald broader-based daytime programming on Radio 1 with more slots for new singles and a new "C"-list for highlighting selected album tracks - meaning that new album tracks will receive guaranteed airtime in daytime shows.

While these changes should be good news, it still remains to be seen whether they will reduce the enormous amount of inane DJ babble which listeners are constantly subjected to. **Dp**

STOLEN

A number of brand new Roland instruments were stolen from the Central Hotel, Glasgow during the night of Sunday 17th March. The stock was in a locked function room in readiness for one of the regional training courses that Roland regularly put on for their dealers. However, the thief (or thieves) probably didn't know that some of the items were pre-production samples and so new that they had not even been delivered to music shops.

The items stolen are as follows:

JX1 Synthesiser (s/n ZC20137)
JX1 Synthesiser (s/n ZC20129)
JX1 Synthesiser (s/n ZC20130)
MV30 Studio M (s/n ZC00658)
MV30 Studio M (s/n ZC23262)

CR80 Rhythm Unit (s/n ZC10105)
CR80 Rhythm Unit (s/n ZC10107)
CR80 Rhythm Unit (s/n ZC10108)
M24E Mixer (s/n 930192)

The MV30s were stolen without system disks and the JX1s without their special power supplies. It would be suspicious if anyone were to try and obtain these missing parts from a music shop or to sell the instruments without them. If anyone is approached in this way, or is offered these items for sale, they should contact their local police station, making reference to Strathclyde Constabulary Crime Number AB-08100391. Or if you prefer, you can of course contact us at Music Technology. **Dp**

THE VIDEO AGE

Ever wondered about the technology behind that peculiarly Japanese visual showpiece, the videowall? After all, there's some clever signal processing involved if you want to stack up 16 or so TVs and have them show sections of the same image, or scroll an picture across their combined image area (for example).

In recognition of this under-explored visual medium, Robert Simpson has written *Videowalls* (Focal Press, ISBN 0 240 51294 4). In it he describes the technology and techniques

involved in videowalls in such a way as to make it a useful reference to those already in the field, as well as a comprehensive introduction to the curious. *Videowalls* costs £16.95 (softback only) and its writing style is unusually approachable for a reasonably technical book - although an appreciation of television is an asset. Additionally, Simpson has included information that throws the whole of TV broadcast into a far more understandable light. Recommended (and entertaining) reading. **Tg**

A SPATIAL ODYSSEY

Devoted watchers of that venerable technological omnibus *Tomorrow's World* will have seen (and hopefully enjoyed) the recent demonstration of Roland's new 3D RSS sound system featured on the programme on 21st March. For those of you who missed it, the programme linked up live with stereo Radio 1 FM and played several examples of music processed using the RSS system. All you had to do was position your hi-fi speakers either side of the TV, turn down the TV sound, tune in to Radio 1 FM and sit back comfortably. What ensued was discussed with varying

degrees of enthusiasm in the MT office next day - but the general consensus was that the system represented a significant improvement over standard stereo reproduction, with a perceived enhancement in separation, definition and directionality. Claims that the system can create the impression of sounds passing behind the head were found to be correct (at least by *extremely* perceptive MT staff).

The RSS (Roland Sound Space) system is based on an understanding of the way sound is perceived by the human ear. The brain calculates the position of the sound source by interpreting the slightly different information given by each ear. For example a telephone ringing to the left of a listener would be heard by the left

ear slightly earlier and brighter than by the right ear. When used at mixdown stage of a recording, RSS is designed to give the impression of three-dimensionality. It places the tracks of sound around the listener as the producer rotates the instrument's control dials. No specialist knowledge is required to operate the system, and as RSS is encoded into the recording at mix stage, no special equipment is needed for the listener to enjoy the benefits.

Suitable for use on CD, tape, vinyl, video or CDTV, the system has recently been used by artists including The Rolling Stones and Simple Minds, and in the CDTV game "Megablast", featuring music by Bomb the Bass. No doubt we'll be hearing more of the system in the near future. **Dp**

GROOVIN' MOVIN' PART II

MIDI retrofit specialists Groove Electronics are on the move yet again, this time to Unit 2, The Old Silk Works, Factory Lane, Warminster, Wiltshire BA12 8LX. Their new telephone number is (0985) 218188, and you can fax them on the same number. **Dp**

APRS EARLY WARNING

Just a quick note to remind you to keep space in your diary for the APRS recording show, which is taking place at London's Olympia from Wednesday the 5th to Friday the 7th of June this year. More details on who will be there and what they'll be doing as soon as we have them. **Dp**

piano: endangered instrument?

I was particularly interested to read Steve Wright's article, *Performing Musician*. . . in the March issue of Music Technology, because I frequently spend long hours as "a lone figure hunched over a computer, entering and adjusting notes one at a time. . ." (with a mouse).

I am engaged in a small project in music technology which is concerned with the simulation of human piano performance using a computer and digital electronics. One practical outcome might be that people who are not able to play a piano conventionally could interpret music by producing their own performances. This requires the characteristics of a human performance - more specifically, a good human performance - to be expressed in quantifiable terms. My long hours as "a lone figure" are spent taking measurements from existing piano recordings and, using a sequencer, reconstructing the performances as note-synchronous facsimiles which are then available for study. Replaying the performances is another matter, and this brings me to Dermot Walls' letter in the same issue because I sympathise, or rather empathise, with him in his experience with a piano module. For my particular purpose I need a keyboard-less piano which is suitable for solo performance and plays softly and expressively, but so far I have not been able to find one. The piano modules available seem to be designed to be impressive rather

than expressive (see Mark Morgan's comment on acoustic piano in the same issue), but this is to be expected where designs are governed by demand and cost. Expressivity requires tone/timbre as well as volume, to change with velocity, and with a sampled piano this means more (expensive) multi-samples.

When I first realised that the stunning Concert Grand and the Mellow Upright of the module were remarkably like the hard and soft sounds of my own digital piano, and that changes in playing velocity produced changes in volume only, I made up a simple computer aid to listening which I now use whenever the opportunity occurs. To go back to Mr Walls, I did have an E-mu Proformance module for a weekend and made an assessment of it for my own purposes, since no reviews had appeared at the time. This involved some simple measurements and the recording of a few examples, which were taken round to two independent groups of people for their opinions. Comments varied as to the sound quality, but two comments were universal. These concerned an extended trill in crescendo which suddenly became harsher in mid-stream, and a peculiar impression that the piano "moved away" when played more quietly (I had similar comments but from different people when I tried a Kurzweil module). Referring to my previously-made measurements I concluded that, in going from *piano* to *forte*, the trill passed through its first sample change at velocity 64 (other changes were at 80, 96 and 107). The distancing effect may be due to the lack of sample changes below *mezzoforte* (or *forte*, wherever that is set in the Kurzweil), since an ear

accustomed to a real piano would expect quiet playing to sound softer and more intimate - "closer", if anything. The effect of hearing the sound quieter but not softer is that obtained by moving the source further from the listener.

To my ears (I am over 60), some of the sounds produced by modules are quite convincing in appropriate circumstances, the Proformance's sounds particularly so. Considering that, in the top half of the velocity range, it appeared to have more samples than either my own piano module or the Kurzweil, I would rate it highly. I am trying to reproduce quiet, legato passages, however, and if it were possible to trade the stereo outputs for mono and more low-velocity samples I would be very pleased. But then I am "a lone figure. . ."

Sid O'Connell
University of Surrey

soul searching

I spend hours upon hours at home programming up our "live set" - and on stage it's not hard to recognise the act as being a hi-tech duo (Apex stand with Korg M1 and Roland D10; twin X-frame stand with 12:2 desk and Yamaha QX3; 8U rack with bits and bobs in). Yet everywhere we play there's always one dickhead who says something like "aargh, it's Karaoke night!". Is it worth it, I ask myself?

Chris Clark
Hull

so lonely

Over the last 18 months I have been busy setting up my own home recording studio. I think it would be

true to say that, with due patience and effort, both my studio techniques and my songwriting abilities have greatly improved. I must say, however, that I feel quite isolated in this ever-increasing MIDI jungle that I call a studio. From time to time I feel the need to meet, or correspond with others busy in similar environments to exchange ideas or even just have a moan to.

Perhaps it's wishful thinking, but I'm sure that there are clubs, groups, organisations or events where people like myself can meet and exchange views. So far the only club I've found is the Roland Newslink club.

Please, please could you advise me of any groups like those I've described (if there actually are any)? In the meantime I await your next issue with bated breath. Keep up the brilliant work - your mag is a definite "must".

Josef Asid
New Malden
Surrey

While I fully sympathise with your plight, I'm afraid I can't put you in touch with any such group, Josef. There almost certainly are loose alliances of musicians around Britain but, as yet, none have made themselves known to MT. Perhaps now is the time - anyone wanting to publicise a group along the lines mentioned in the above letter should contact MT at the editorial address and we will see if we can put a few of you in touch with each other. Just think of it as a kind of dating agency. . .

In the meantime, you won't find a hi-tech music mag with as many personal experiences and ideas expressed in it as MT. Keep the faith. Tg

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C-LAB NOTATOR ALPHA SCOREWRITER



C-LAB HAVE BEEN at the forefront of Atari ST sequencer software since launching their Notator program at a time when musicians were seriously asking for a professional scoring package. Derived from Notator, Notator Alpha is a 16-track sequencer with the ability to score up to four tracks of musical information. On a 1040, the program gives you 61,000 events (roughly 30,000 notes). Using tails up and down for two independent MIDI channels, up to eight MIDI channels of information can be scored and printed out.

The main screen is unmistakably C-Lab, but is less busy than other members of the family. The central panel is the Pattern window, containing 99, 16-track Patterns. To the left is the Arrangement window; here you can dictate the order in which Patterns play. To the right are the transport controls, Track information box and left/right locators. Along the top are boxes for tempo, time signature, score quantise option and so on.

But Alpha is more than a simple scoring program - it is also a sequencer in its own right. MIDI information (at 192ppqn resolution) can be recorded onto a Track using the transport controls (which lack only an automatic punch in/out control from Creator/Notator). The track information box then allows you to alter MIDI channel, quantise value and transpose per Track, as well as increment or decrement the velocity values of all notes on a Track. All parameters are changed in real time. Tracks can also be solo'd and muted, and you can copy between Patterns, Tracks and parts of Tracks.

The edit page is entered via the Edit icon in the track information box, or by pressing E on the Atari keyboard (most functions have keyboard equivalents). The Graphic editor is the same as the Creator/Notator version: each MIDI event is listed with its timing and a small grid to show its position within the bar. You can move events, alter them, delete from or add to the list by grabbing from the choices on the left of the list. An event will be created at the same position as the current event (shown in inverse graphics).

Alpha's second editing function is for notation. The master quantise box gives the note value to which all notes will be resolved. Before entering the Edit page, the Edit option on the menu bar lets you select whether you're going to see the first four active Tracks in the current Pattern scored (full score) or just the current Track (note display). There is also the option for step-time input from a MIDI keyboard.

Parameter mode allows you to decide the visual setup of the note display for each Track. Split point for double stave and independent transpose for each stave can be set from here, as can the removal of all beams and replacement by single tails for vocal top line. If two MIDI channels of data exist in a Track, this is regarded as two voices, each of which can have their tails up or down. There is also the choice of whether to have rests for one voice if no notes exist at a point where the other is playing. The minimum distance between any two notes and the degree of slant for beams is edited via the Global Score option.

Using the note display is quite intuitive. Clicking on the clef sign changes between treble and bass clefs while adding or changing notes is achieved by simply selecting the note value from the choices to the left of the score and clicking on the correct place in the score. There is a library of articulations below the screen accessed by dropping the cursor; chords, text and lyrics can all be added, and you can manipulate the distance between staves on screen.

Printing out the music is equally straightforward. The Printer option gives you control over parameters like whether Track names are printed, how often the bar numbers are shown on the score and the left/right margins. Over 30 printer configurations are currently offered, including draft and final options for many printers. Unfortunately you can't edit the configurations so you're going to have to rely on C-Lab bringing out a version for your printer. Most popular printers are catered for though drivers for laser printers are a little scarce.

Alpha files are fully compatible with Notator, and MIDI Files can be loaded from other sequencers. There are a few additions I would have liked to have seen: two arrangements instead of one for overlapping Patterns would have been useful, and the lack of MIDI clock input makes it impossible to run Alpha under external sync. With schools - the main market for Alpha - starting to network Ataris, this omission prevents a central timing device from controlling multiple computers running Alpha.

Notator Alpha represents excellent value for money, and schools already using Notator stand to get more out of it when used in conjunction with Alpha. ■ **Vic Lennard**

Price £199 including VAT. Price may be subject to change due to the recent increase in VAT.

More From Sound Technology, 15 Letchworth Point, Letchworth, Herts SG6 1ND. Tel: (0462) 480000.

C-LAB MIDIA

ALONGSIDE NOTATOR ALPHA and Aura, Midia is one of three programs comprising C-Lab's Education System (see reviews elsewhere in this issue), and although it comes under the education banner, it could well find a home in many a musician's MIDI studio. Essentially, I suppose, it's a MIDI analyser, but it's presented in such a way as to remove much of the "mystique" which surrounds the bits and bytes of MIDI messages.

One main screen contains icons for most of the common MIDI messages. When plugged into your MIDI system, the program reflects actions and events which your system generates and - and this is the interesting bit - vice versa. For example, a keyboard runs along the bottom of the screen and pressing keys on a connected MIDI keyboard lights the corresponding notes on screen. Click on the on-screen keyboard and your system will play the notes. A couple of vertical bars indicate the On and Off Velocities while a couple of "wheels" mimic modulation and pitch bend wheel movements.

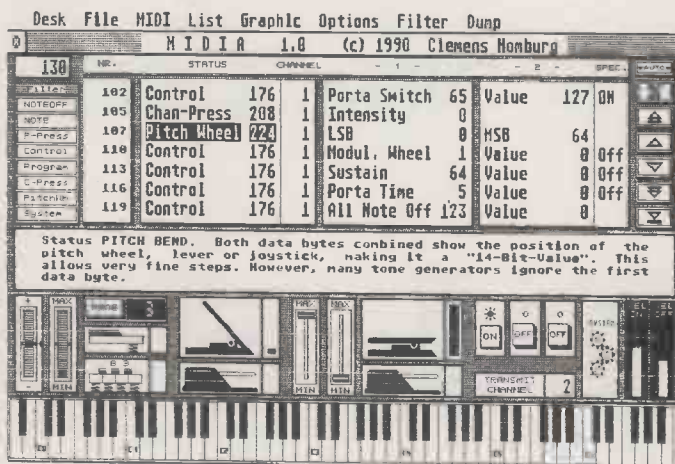
Other icons correspond to aftertouch, program change number, foot control, volume control, sustain, portamento time, soft pedal, sostenuto, hold pedal and MIDI transmit channel functions. Wait a minute, I hear you say, what about balance, data entry, pan, breath control and the hundred and one (well, 128) other MIDI control functions? Each icon can be assigned any MIDI control message, so if you tend to give short shrift to sostenuto, you can replace it with something more useful like celeste depth. In this way you can customise the program to respond to any specific areas you wish to check.

Above the icons is an event list, but rather than showing data as an incomprehensible list of numbers, the messages are explained in English. For example, a Note event will show the event name (Note), the MIDI channel, the key (note name) and MIDI note number, and velocity. There's also a "special" interpretation which shows the velocity as a dynamic symbol ranging from *ppp* to *fff*. A window below the list helpfully supplies more information about the message currently highlighted.

The list acts rather like a sequencer; events generated by the program or from an external source are stored in the list and can subsequently be played back. This lets you record data, edit it and retransmit it. For detailed analysis, you can print the list, too.

Trouble with active sensing? Use the filters to remove it from the incoming events. You can also remove MIDI clock, aftertouch and a whole range of other types of data.

Another set of eight filters will hide certain events in the list so you could, for example, hide note off messages, aftertouch or pitchbend



data. This affects the display only and doesn't remove the actual messages.

Using the functions described so far, Midia can be a useful check if you think your equipment is acting up. You can make sure your gear is transmitting what it's supposed to be transmitting.

But more than that, Midia can handle system exclusive data. You can load sound definitions into it and save them off to disk, so turning it into a cheap voice storage device. The SysEx data appears in the event list. You can look at it in ASCII and edit it if you wish (if you dare) before saving. The adventurous can even create their own SysEx messages. To assist the stout hearted, a handy MIDI calculator is available to convert between binary, decimal and hex. Alterations made in the calculator can be inserted in the list.

Like Aura, Midia runs in hi-res only and comes on a copy-protected disk (which can be copied but which then acts as a key disk). All in all, Midia is an intriguing little program which could well find applications on both sides of the educational fence. Although it can help you understand the nature of MIDI messages, I wouldn't have thought this would have a particularly high priority in education. But for any educational establishment in which it does, Midia will be a worthwhile investment.

From a muso's point of view, Midia can act as a useful data analyser. Although you don't get the raw MIDI data (except in SysEx messages), in most detective cases this will be an advantage. Usually you simply want to know if equipment is putting out note, program change, pitch wheel data or whatever. MIDI hackers will know if Midia will suit them or not.

Midia can even help the casual user, one who simply wants to know more about MIDI or, for example, someone who wants to check on certain aspects of his equipment such as the program numbers transmitted by instruments with voices arranged in banks or the pitchbend or mod wheel data generated by an instrument. And as Midia can generate MIDI data, it can also be used to send messages to equipment which may not be able to generate such messages itself. Last, but not least, it offers simple voice dumping facilities.

On top of this it's fun. My main regret is that it doesn't run as a desk accessory but you can't have everything, I suppose. . . ■ Ian Waugh

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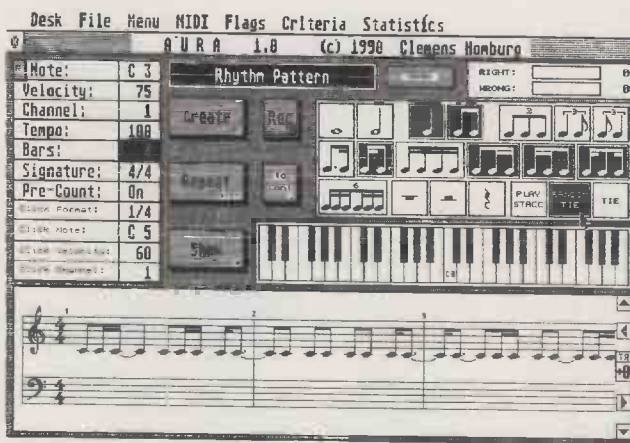
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C-LAB AURA



AURA IS ONE of three programs in C-Lab's new Education System package. The other two are Midia and Notator Alpha (see reviews elsewhere in this issue). While all three have been tagged "educational", Midia and Alpha have a range of applications outside education and will be of interest to many musicians. Aura, however, is unashamedly educational and although it's both curiously addictive and enjoyable, its sphere of interest is likely to be restricted to those who need its help.

Aura is an aural training program - and consequently provides what is traditionally the music student's least-favourite part of the syllabus - yet it performs its task with finesse and aplomb. There are five types of exercise - Intervals, Chords, Scales, Random Music Lines and Rhythm Exercises, which each have their own (slightly different) screens. Operation, however, is broadly similar for all exercises. For example, you can select the highest and lowest notes to be used, the velocity and MIDI channel. All exercises let you choose a range of difficulty options.

You can enter your answers in a variety of ways - by clicking on the on-screen keyboard, from a MIDI keyboard or by selecting one of a range of answers offered by the program.

Let's look at the Intervals exercise. Aura plays two notes in succession (the "arpeggio" time can be adjusted) and you must name the interval either by playing it on a keyboard or from a proffered list (the proffer is optional). You can select which intervals the exercise will contain from a list on the right of the screen.

You can repeat the question (in case you weren't listening the first time) and you can make the program wait until you find the first note (helpful if your sense of pitch isn't quite perfect). It will accept inversions, although if you can't even tell if one note is higher than another you should take up drumming (sorry Nigel). You can also select Next Question and Repeat options from a MIDI keyboard, which is very useful.

The Chords test works in a similar fashion except it plays, er, chords. You can really tie your ears in knots here. There are five levels of complexity - simple, average, advanced, consonant and dissonant - plus a range of chord styles including classical, pop and jazz.

If the supplied chords aren't tricky enough you can create your own and add them to a chord library file. A Chord Analysis option will analyse any chord you play. If it can't match it with a chord in memory it applies a bit of logic to the situation to see if it can work out what it is.

Scales offers similar complexity levels and style options as Chords. After a well-deserved pat on the back for recognising the difference between

harmonic and melodic minor scales, try some of the mixolydian and blues scales. Again, the adventurous can make up their own scales (I do, frequently) and save them in a scale library.

Random Lines plays a sequence of notes from one or more of the scales, which you then have to repeat. The length of the sequence can be set from two to 14 notes. As the notes are selected at random, there is little melodic (or harmonic) structure to the sequence, which can make it difficult to remember - budding Stockhausens sign on here.

Rhythm Pattern taps out a rhythm (you might like to assign the output to a drum sound) which, again, you have to repeat. The pattern is made up from over a dozen rhythmic motifs such as quavers, triplets, dotted quavers, random ties and so on. This is fun (especially when you get the answers right) but if you mix motifs (almost as bad as mixing metaphors) the rhythmic pattern can be quite difficult to analyse. There are four levels of quantise, however, which offer various degrees of tolerance towards your input. Handy.

To tie everything together, the program keeps a record of your answers in the statistics page. It shows the number of questions, the number of attempts and the number of right and wrong answers. All the individual tests are summed up as an overall percentage.

For use in the classroom, a whole series of exercises can be linked together in the Auto Lessons page - just like an exam.

Aura will only run in hi-res and although it's not dongle protected (thankfully) the disk is copy protected. You can copy it but the original then acts as a key disk.

Although Aura tackles a rather dry subject, it handles it in quite an entertaining way - as entertaining as aural questions can be. As it can readily be customised, it's ideal for tackling students' specific problem areas. It can go far beyond the level of aural ability required by standard music exams. It is, however, very much a program to be used by individuals one at a time rather than a group.

If aural expertise is your weak point, it could well be worth buying Aura to help you through your exams. Educational establishments, too, I'm sure, will find it very useful in reinforcing students' aural skills. ■ **Ian Waugh**

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EFFECT



IF YOU'RE NEW TO RECORDING AND THE "OUTBOARD" EQUIPMENT THAT MAKES MUCH OF IT POSSIBLE, THIS INTRODUCTION TO AUDIO EFFECTS WILL BREAK DOWN THE MYSTIQUE SURROUNDING EFFECTS PROCESSING.

TEXT BY AARON HALLAS.

IF YOU WORK in a studio environment for any length of time, you'll discover that equalisers, compressors, limiters, and reverb devices are all essential tools for making good recordings. However, these units are seldom used for purely creative purposes - that isn't to say that they're

never used creatively, but more often than not they're used to "fix" a technical problem rather than to enhance the music.

The signal processors used to add delay, chorus, flanging and phasing effects as well as pitch shifters and aural exciters, on the other hand, *do* take a

more creative role in the studio. In fact, most of these effects were created specifically to produce special effects with music.

DELAYING TACTICS

DELAY DEVICES COME in several forms: tape, analogue and digital - digital delay being the most commonly used these days. Essentially, delay devices repeat the input signal at regular intervals, and are often used to add depth to sounds. Most delay devices provide control over Delay Time, Delay Level or Mix, Feedback Level, Modulation Level and Modulation Speed. Figure 1 illustrates the signal path in a typical delay device.

Looking at the various areas of control we have over the process, we find that Delay Time is the time interval between the input and output signals and is specified in seconds or milliseconds ($\frac{1}{1000}$ of a second). Various effects can be achieved by using different delay times. If the delay time is between about 20ms and 40ms, an effect called doubling or Automatic Double Tracking (ADT) is produced. As the delay time is increased to between 50ms and 150ms, an effect called slapback echo is produced. Delay times of 200ms or longer are simply called delay or echo.

The Delay Level determines the relative balance between the direct and delayed signals. In most cases the delayed signal is set at a much lower level than the direct signal. The Feedback Level determines the amount of output signal that is returned to the input. High feedback levels will cause the signal to repeat many times; very high feedback levels cause infinite repeats. Modulation is used to automatically vary the pitch of the delayed signal for chorus effects. It's also used to vary the delay time for flanging effects and the centre frequency for phasing effects - more on these shortly.

The first delay devices were based on tape recorders. In a tape delay system, the input signal is recorded onto magnetic tape at the record head. The delayed signal is derived from the playback head. The delay time in this type of system is determined by the distance between the record and playback heads divided by the tape speed - for example, a tape delay unit with the record and playback heads spaced two inches apart and a tape speed of $7\frac{1}{2}$ inches per second (ips) would have a delay time of 266ms.

Dedicated tape delay units (like the infamous Watkins Copycat) usually have several playback heads or a moveable playback head so the delay time can be varied over a wide range. A standard tape recorder can be used to create delay effects if it has separate record and playback heads. However, it stands to reason that a tape recorder with fixed record and playback heads will have a fixed delay time. A recorder with multiple tape speeds and a variable pitch control can be more useful.

There are several drawbacks to tape delay systems. When using the feedback circuit to create multiple repeats, each successive cycle adds tape noise. The sound eventually degenerates into a sea of tape hiss. The mechanical components of the unit must be properly maintained - heads must be cleaned and demagnetized

regularly, the tape transport needs to be lubricated and kept in proper alignment, and the record and playback heads may need to be replaced eventually. The magnetic tape itself also needs to be replaced on a regular basis.

Analogue delay systems use electronic circuits to replace the tape record/playback components found in tape delay systems. Although analogue delay devices require less maintenance than their tape delay counterparts, they also have several shortcomings, one of which is that most analogue devices can't reproduce the full bandwidth of music. A typical analogue delay device will have a bandwidth of around 6kHz-10kHz. To accommodate the full bandwidth of a recording, a device is currently expected to offer anything between 15kHz-25kHz, although some very expensive mixing desks use EQ circuitry with 50kHz. Also, maximum delay time is usually limited to around 500ms ($\frac{1}{2}$ a second), which can be pretty restricting (500ms is the duration of a crotchet at 120bpm). Since analogue delays are relatively inexpensive to manufacture, they're often used for guitar footpedal effects and the Boss DE200 became something of a classic analogue delay a few years back. Though cheap, these delays aren't the best bet for studio use due to their inherent limitations and high noise levels.

Digital delay units have become increasingly popular and are now very affordable. This is primarily due to advancements in microchip technology and low-cost memory chips. In a digital delay (often called a DDL, or Digital Delay Line), the input signal is sampled and stored in a RAM (Random Access Memory) memory buffer. The sampled sound can be replayed an infinite number of times without loss of signal quality. The maximum delay time is determined by the amount of memory available and can range from about one second to as high as eight seconds.

There are two design characteristics that will affect the sound quality of a DDL: the sampling rate or frequency and the quantisation level. The *sample frequency* is the rate at which the input signal is digitised into discrete samples. Sample rates are specified in 'samples per second' and typically range from 24kHz to 48kHz. To give you a point of reference, CDs are recorded at 44.1kHz. The highest recordable frequency in a digital device is a little less than one half of the sampling frequency.

The *quantisation* determines the dynamic range in a digital device and is

measured in bits. Early DDLs used 8-bit and 12-bit quantisation, but most currently available units use 16 bits. The higher the quantisation, the greater the dynamic range. Each bit of quantisation will yield 6dB of dynamic range. This means that a 16-bit DDL with a 32kHz sampling rate will have a dynamic range of 96dB and a 15kHz bandwidth.

There is a useful method for calculating tempo-related delay times: multiplying the

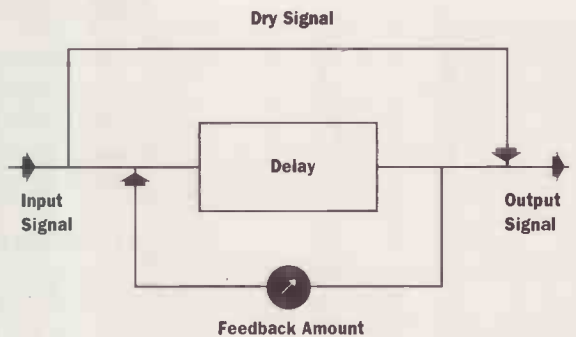


Figure 1: The signal path in a typical delay device.

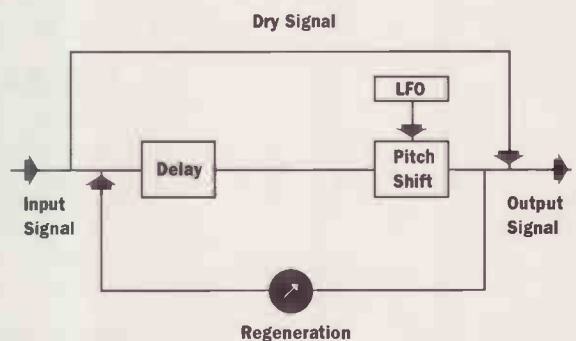


Figure 2: The pitch of the delayed signal is modulated by an LFO in a chorus device

musical interval you require (quavers, or 8th notes, for example) by 60 and then dividing the tempo (in bpm) by the result, gives you the delay time (in seconds) you need to set on your delay line. To convert to milliseconds (the units used by most delays), simply multiply this answer by 1000.

JOIN THE CHORUS

WHERE REVERBS AND delays can be said to add depth to a sound, chorus adds breadth or fullness. Chorusing is produced by modulating the pitch of the delayed signal in a DDL using a low-frequency oscillator, or LFO (see Figure 2). Very short delay times of 20ms or less are used. The dry signal and the modulated signal are mixed to add fullness or to thicken a sound. If the two signals are panned to either side of the stereo field, a broadening of the sound occurs. Most units allow you to route the output signal >

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The PCM.EX is an upgrade for the Roland D50/550 that greatly expands the sonic options and effectively transforms the D50 into a 'workstation'. The PCM.EX adds 50 entirely new PCM samples to those currently available on the D50, there is no bank switching so these are available in addition to the standard PCM's. A range of timbres are featured including 3 complete drum kits. The PCM.EX also adds a second MIDI transmit channel to the D50 and updates the card slot to accept PCM cards, such as those created by the PCM Programmer, in addition to the standard ROM cards.

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- back to the input ('regeneration') to get a deeper chorus effect. Chorus effects work very well on most instruments including guitar, bass and synthesiser sounds -

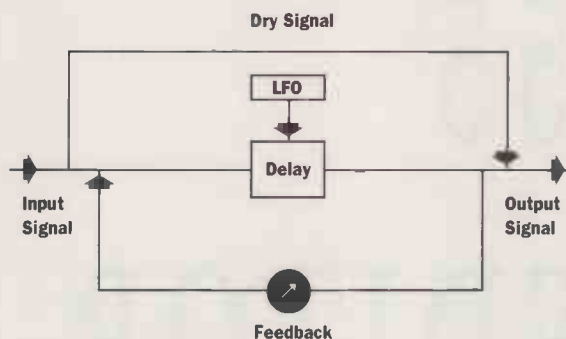


Figure 3: The delay time in a flanger is modulated by an LFO.

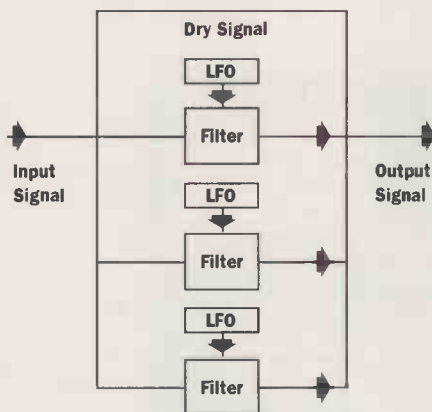


Figure 4: The centre frequency of several filters is modulated by an LFO in a phaser

however, using chorus in an attempt to make a solo singer sound like a chorus of singers is seldom convincing.

ON THE FLANGE

FLANGING IS SIMILAR to chorusing, but it has a more profound effect on the timbre of a sound. According to who you believe, the effect either got its name from two tape machines playing the same recording while one machine was speeded up and slowed down against the other by applying pressure to the "flange" of the reel. This would cause the phase relationship between the two recorded sounds to vary, producing the flanging effect. The other story describes the same effect but credits John Lennon with having invented the term as part of a longer, pseudo-technical term. That's rock 'n' roll.

In a modern flanger, the delay time is automatically varied (or "swept") from 0-20ms, again using an LFO (see Figure 3). The delayed and direct signals are mixed at the output. As the delay time changes, so does the phase relationship of the two signals. You may recall that when combined signals are in phase, they reinforce each other,

causing an emphasis or resonant peak at that frequency. When they are out of phase, they will cancel each other out, causing dips in the frequency response. This is called the *Comb Filter* effect. When the delay time is modulated, the comb filter moves up and down the audio spectrum and the flanging effect occurs.

PHASERS ON STUN

PHASING EFFECTS ARE similar to flanging, but more subtle, and the phaser achieves its effect in a different way. The resonant peaks and cancellations at certain frequencies are caused by combining the outputs from a series of phase shift networks with the direct signal. (Phase shift networks are filters with a variable centre frequency). As the centre frequency is varied (again, with an LFO), the phase cancellations move through the audio spectrum (see Figure 4). To get a deeper effect, more phase shift networks are needed. Studio engineers often use phasers to simulate Leslie (rotating speaker) effects.

PITCHING IN

THE THEORY BEHIND pitch shifting is quite simple. When a sound is recorded or sampled at one sample rate and played back at another rate, its pitch will be shifted up or down. Increasing the playback rate will raise the pitch; slower playback rates will lower the pitch. Pitch shifters can be used to add harmonies to a melody line or to transpose an instrument to another key, and if a small amount of pitch shift is used, the resulting sound will be very similar to chorusing.

It's worth remembering that unless your device employs specialised pitch-shifting algorithms, the length of the sample also will change. For example, if a note is pitch-shifted up one octave by playing the sample back at twice the recorded rate, the sound will be only half as long. Some dedicated pitch shifters also have intelligent algorithms that maintain the correct diatonic intervals for a given scale. For example, playing a C would yield a major third, while playing a D would result in a minor third (in the key of C major).

PSYCHO THERAPY

THE APHEX AURAL Exciter and the BBE Sonic Maximizer are two examples of devices that employ psychoacoustic processing to add clarity to a sound. As an alternative to using high-frequency boost, the psychoacoustic processor alters the

harmonic content of the sound or changes the phase relationship of high and low frequencies within the sound.

The Exciter and similar devices add harmonics to the sound. When mixed at very low levels with the direct signal, the added harmonics serve to enhance the original sound. On the other hand, the Sonic Maximizer divides the audio spectrum into high- and low-frequency bands. The low frequencies are then delayed by a few milliseconds so that the high frequencies reach the listener first. This gives an apparent boost in high-frequency content to the sound.

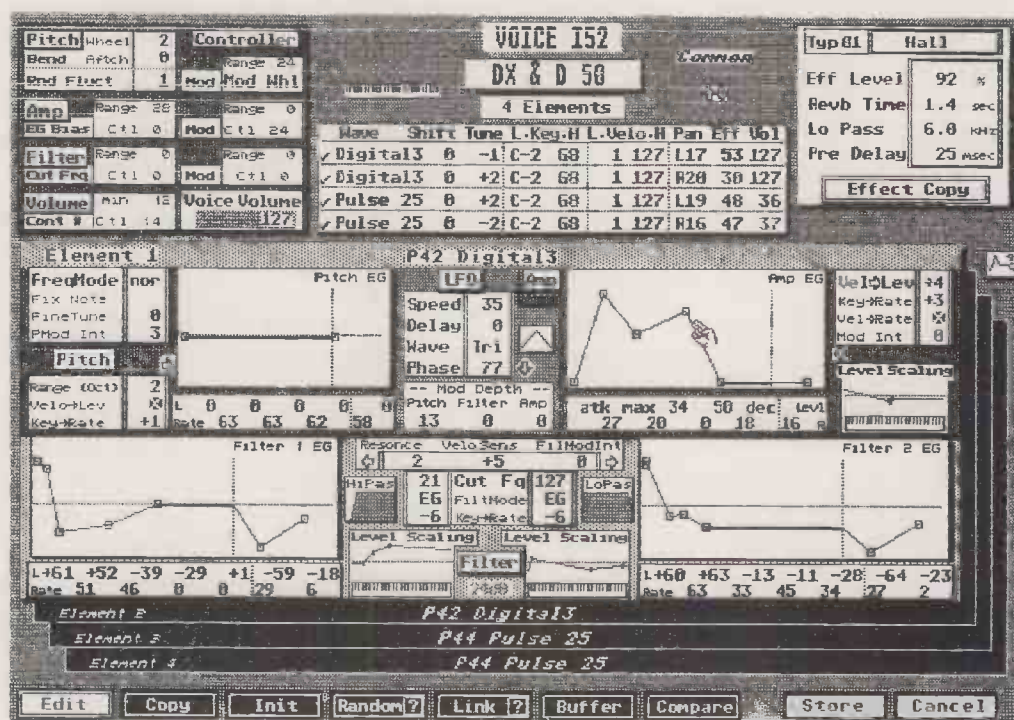
MULTI-STORY

IT'S NOT UNCOMMON to find most or all of the effects described here, plus reverb, in a single unit. These are called Multi-fx devices or Digital Signal Processors (DSP), and include units such as the Alesis Quadverb, ART Multiverb and the old Yamaha SPX90. The creative possibilities of these units are vast; however, the advantages gained by having numerous effects in a single device are offset by inflexible internal signal routing and the lack of individual inputs and outputs for the different effects.

Most multi-fx units have a single input, but offer stereo outputs. A stereo signal is usually derived from the mono input source, although some do have true stereo signal routing capabilities. If you need true stereo processing (for use on a complete mix, for example), be sure to check the device's specifications carefully, because several currently-available devices have two inputs that are summed together inside the unit before the signal is processed. This means that you will lose the original stereo separation of your input signal. Another important factor is the nominal input and output levels and impedance. Most effects devices allow you to select between -10dB and +4dB levels. Make sure that these are set properly for your system.

Of course, the technicalities (at least, those you have to deal with) of effects processors are straightforward. What really counts is the musical uses they can be put to. Echoes - on a snare drum for example - can be synchronised to match some multiple of the tempo of a track or de-sync'd to give syncopation effects (a trick used extensively by Stuart Copeland with the Police). A pitch shifter, alternatively, can be used to correct the pitch of a drum loop that has had its playback speed altered. And that's where you come in. . . ■

SY/TG55 MANAGER/EDITOR



There will be others, but EMC's SY/TG55 Manager is the first software of its kind to appear - and the price is definitely right. Review by Ian Waugh.

YAMAHA'S NEW RANGE of SY/TG synths is certainly attracting a lot of attention from software developers. Not only are programmers busy programming sounds, but software writers are also turning out the required software. The SY/TG55 Manager/Editor comes from a German company called EMC. If I tell you that their logo is Albert Einstein you can probably guess that the name is derived from his general theory of relativity equation, $E=MC^2$. The package looks deceptively simple (an impression reinforced by the slim manual) but it packs a wholesome range of facilities.

The program is supplied on a protected disk. You can copy it or install the program on a hard disk but the original is then needed as a key disk. It requires 1Meg of RAM and a hi-res monitor. It is compatible with C-Lab's Softlink and Steinberg's M.ROS but you'll need at least 2Meg for this.

On booting you select either SY55 or TG55.

There's a cute scrolling welcome message which also scrolls across the SY/TG's display, but can't we just get on with the program, boys? When you quit the program it leaves you with a "C U soon" message which appears on the instrument, too.

BANK ON IT

THE MAIN SCREEN shows 64 Voices and 16 Multis. Along the top are five bank icons labelled SY/TG55, Presets and Memory 1, 2 and 3. The Voices for the currently-selected bank appear on the screen. Little crosses by the name show how many elements each Voice contains. The Presets are the sounds built into the 55. The Preset bank can't be changed but the sounds can be copied and edited and stored in another bank.

Data can be saved and loaded directly to and from internal memory or RAM card. The program warns if it can't detect a card (perhaps the batteries are low) but

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➤ it's obliging enough to let you transmit to it anyway.

To the right of each Multi is a mini LED mixer which shows the relative volumes of each of the active MIDI channels (and assigned Voices).

Ten buttons along the bottom of the screen are used to select basic operating functions including copy, swap, delete, edit, receive and transmit. You can select them by clicking or by pressing one of the ST's ten function keys.

COPY AND SWAP

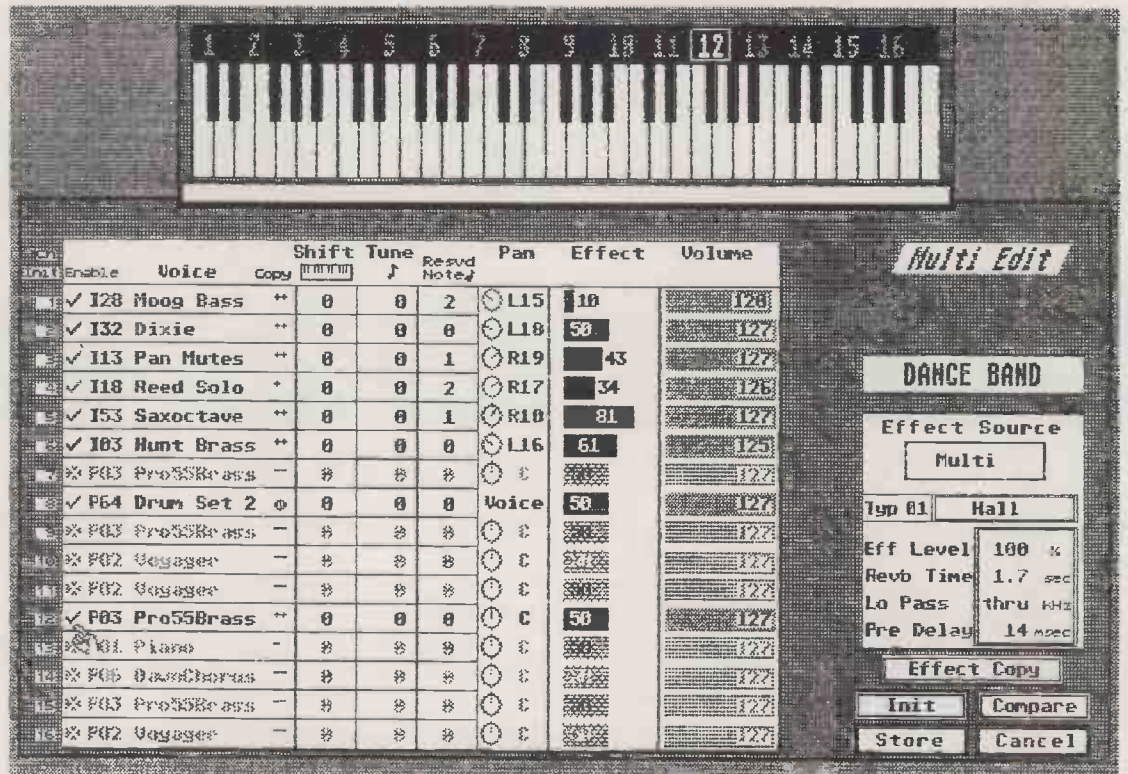
SELECT COPY, CLICK on a Voice and move the mouse. The Voice name becomes highlighted and moves with the mouse. The name is superimposed

into the slot and it becomes assigned to the Multi(s).

Now, if you copy a Multi from one bank to another, it takes its Voices with it if they are not there already. Copy Multis into an empty bank and the voice slots fill from the bottom (slot 1) upwards. The Voices won't necessarily occupy their previous original slots.

The Control Multis functions warns you if you are about to overwrite a Voice which belongs to a Multi. If you run out of voice slots while copying Multis to a bank, you're told how many extra slots you need. The program switches to delete mode until they have been freed (still warning if any Voices belong to Multis) and then switches back to copy mode. Helpful, I call it.

So just to spell it out, Multis can be constructed in



on the Voice slots as you move over them. To copy, select the slot and click. You can copy Multis in the same way.

You can copy and swap between banks by clicking on one of the other bank icons. Right clicking swaps between the last two selected banks which makes it fairly easy to construct a working bank from the others.

The system works extremely well. In fact, it's a pleasure to use.

THE REMOVAL MAN

ONE PROBLEM FACING librarian programmers, is what to do with the Voices when you mess around with the Multis. For example, Voices are usually assigned to a Multi by their position in the bank rather than by name. If you remove or swap a Voice, what happens to the Multi?

Well, the Manager handles the situation very well. What's more, it handles it logically. If you swap Voices within a bank, the correct sounds stay with the Multis. If you delete a Voice, any Multis which used it remember the Voice slot. Put another Voice

any of the banks using whatever Voices are there and then copy them into your working bank knowing the Voices will move with them. The Auto Store function automatically sends changes made in the program to the SY/TG55. The Delete Unused Voices option deletes any Voices in a bank not used by a Multi. Useful.

All this Voice and Multi assignment may appear rather confusing but you can tell which Voices are assigned to which Multis - and vice versa - using Show Assign. Clicking on a Voice then shows which Multis it is assigned to and vice versa. You can also see which Multis a Voice is assigned to by clicking on its number so you don't have to enter Assign mode to see check assignments.

PLAY IT AGAIN

KEY PLAY PRODUCES an on-screen keyboard when you click on a Voice. Click on it to play the sound. There is also a (very) mini sequencer (play, stop, record, save and load options) which will loop through a recording and let you change Voices as it plays. Nice.

“You can construct Multis in any of the banks and then copy them into your working bank, knowing the Voices will move with them.”

➤ In the Tools menu there's a MIDI Thru so you can route a keyboard through the ST to play a TG55. Two options let you call up the instrument's Device number and discover the version number of its software. You can also switch memory protect on and off.

The System menu lets you set parameters such as note shift, tuning, receive channel, velocity curve and the card bank number.

EDIT

SELECT THE EDIT button and click on Multi and you are transported to the Multi Editor. Here you can assign new Voices and set shift, tune, note reserve, pan, effect, volume and output settings. You can select the effect type and adjust its parameters. It's all done by clicking and is quite painless, although some of the areas you have to click on are rather small.

You enter the Drum Editor if Voices 63 or 64 are selected. You can select the range of keys you wish to edit on a giant scrollable keyboard. Each "key" contains drum parameters for selecting the sound/waveform, pan position, output, volume and so on. You can initialise a key, copy assignments from one key to another and select the effect. It's far better than fiddling about with the SY/TG55 itself, although the manual doesn't explain what all the "buttons" do so you'll either have to read your instrument manual or experiment.

There is a Voice editor, too. This is rather more complex and there is a dearth of information about it in the manual, which makes it a little more difficult to get into - although if you know your synth you should have few problems.

The Voice editor contains element mute and swap facilities. Filter, pitch and amplitude envelopes can be altered by clicking and dragging. You can set the filter level scaling by dragging nodes above an on-screen keyboard.

You can change the way the envelope's parameters are displayed. Most synth users will probably associate low numeric values with short phase times but Yamaha uses the opposite convention. Thoughtful.

The parameters of Voices with more than one element are overlaid like overlapping windows. Click on the "window frame" to bring an element to the top. There's also a random function (love these) which works in a rather unusual and unique way. All the parameters for a particular function are grouped together in a block and you select the function you want to randomise by clicking on the block. You can try a sound and then alter selected bits of it, or select all parameters for a complete re-hash job.

Variations of 10, 20 or 30 percent can be chosen, or parameters may be randomised from scratch. As ever with these things, small variations tend to produce the best results. Although they generally end up as variations of the original sound. You can copy parameters using the same "block select" technique although the program will let you go through the initial stage of copying mismatched parameters (for example, amplitude parameters to the LFO) before

telling you you can't do it.

A compare function and an associated buffer can store up to five Voices for you. This can help the transfer of parts of sounds from one Voice to another.

MANUEL

UNFORTUNATELY, THE MANUAL has been written/translated by a German. As well as wishing us a "comfortable sound manager" and extolling the virtues of a "flexible mouse", it also offers delights such as the Control Multis option which "continuously controls the mutual affection of Voices and Multis" and tells us that "to check the adjustments of the selected Voice/Multi they are sent if the last selection of a Voice/Multi is longer than one second ago". OK, the Manager may be inexpensive but the manual is positively cheap. Have a groan and a chuckle but after a bit of messing about, if you know your synth it's fairly easy to suss the program.

Operationally, my other main niggle is the fact that the filing system doesn't remember the last-used filepath. It's a nuisance if you're working a couple of folders into a disk.

Two banks of Voices and Multis come with the program. They could just have caught me on a bad day but I'm afraid I wasn't terribly impressed - although there are some good 'uns amongst them. But then I have just ploughed through over 2000 sounds - honestly - for Yam's SY/TG range, so perhaps complacency has set in. Anyway they're basically free and they are worth a little more than that.

The review program was version 1.01 and free updates are promised fairly soon. Among the new features will be better library functions, such as a facility to let you search for sounds by name and by parameter characteristics. You will, for example, be able to look for sounds with an attack time below a certain value. All clever stuff.

VERDICT

ALL IN ALL, the SY/TG55 Manager/Editor is an impressive piece of code and it'll be even better when it gets more sophisticated librarian utilities. It is also the first SY/TG55 Librarian/Editor to hit my desk (although there may well be others by the time you read this).

Grumbles (which, apart from comments about the manual are admittedly minor) aside, it's a competent, comprehensive program which can be highly recommended to anyone with a SY55 or TG55.

The price can't have escaped your notice. Put the Manager in a bigger box, add a better manual and it could well be selling for two to three times the amount - it really represents excellent value for money. Buy it before they read this and put the price up. ■

Price £55. Price may be subject to change due to the recent increase in VAT.

More from AMG, Hurst Farm Barns, Hurst Lane, Privett, Nr. Alton, Hants, GU34 3PL. Tel: (0730) 88383.

MUSIC TECHNOLOGY MAY 1991



PHOTOGRAPHY: TIM GOODYER

FRANKFURT: THE

LIKE THE CREW OF CAPTAIN KIRK'S ENTERPRISE, MT'S REPORTERS ARE ENGAGED IN AN ONGOING MISSION TO BOLDLY GO - AND EUROPE'S LARGEST MUSIC FAIR WAS THE MOST RECENT PORT OF CALL. REPORT BY TIM GOODYER.

LIKE SOME ANNUAL holy pilgrimage, Frankfurt's Musik-Messe attracts the music equipment industry's hordes from across the globe. Frankfurt always acquires a dominant theme of some kind: a trend in the application of new technology or an improvement in the image of local German musos if we're lucky, a bit of industry gossip or a new musicians' joke if we're not. This year as the reporting teams from MT and sister magazine Rhythm arrived in Frankfurt, we were trying to name all the members of German rock outfit The Scorpions. You can decide for yourself how our luck was running.

Out on the many floors of the exhibition, however, there were many places to go and

some exciting gear to see. This year marked the withdrawal of the DTI subsidy scheme that had assisted British exhibitors in previous years. Consequently there were fewer Brits occupying a few square yards of German land. In spite of their non-appearance at last year's British Music Fair, **Cheetah International** were part of the occupying forces situated on the outskirts of the massive Roland camp. Cheetah were making much of the 700 sounds that now inhabit their MD16 drum machine (see review, MT March '91). Also on display were the new MS770 MIDI Master Keyboard (£849.95), fresh from its NAMM debut and the still uncompleted MS800 Sampled Wave Synthesiser. The MS770 is a

weighted, 88-note MIDI controller boasting both velocity and aftertouch sensitivity. The MS800 expander (£199.95) is enjoying a second lease of life, having been withdrawn from Cheetah's catalogue once already. The unit is still awaiting its finishing touches, but expect to see a 16-voice, digital multitimbral unit available soon.

Entering **Roland** territory, you couldn't escape the presence of their impressive new JD800 and JX1 keyboards. The JX1 (£535) features a 61-note, velocity-sensitive keyboard, and 64 preset and 32 user-programmable Tones derived from PCM sources and processed by Roland's Time Variant Filter. The JX1 is being touted as a Performance Synthesiser and is intended to appeal to newcomers to synthesis as well as live players. The JD800 (£1699), however, is decidedly up-market, offering a weighted 61-note keyboard, 24-voice polyphony, 64 patch memories (64 further patches on RAM cards), 108 digital waveforms, TVF, TVA, two LFOs, and transient generators for filters, amplifiers and oscillator pitch. The filter may be configured as high-pass, low-pass or band-pass and permits self-oscillation - very analogue. And it's an analogue approach that's behind the front panel layout, which allows extensive control of the synthesiser's functions from good old buttons and sliders and includes a Palette function facilitating

simultaneous modification of a single parameter for up to four Tones. The JD800 also has a selection of onboard effects including reverb, chorus, phase, delay, parametric EQ, spectrum enhancement and distortion. More keyboard activity took the form of the Rhodes VK1000 Drawbar Keyboard (£1850). Picking up where Roland's own VK1 left off in the mid-'80s, the VK1000 offers the classic sounds of the Hammond organ without the backache. Based on what's termed the Adjustable SA Sound Source, the VK1000 will generate 16 ten-Partial voices - complete with key clicks. A 76-note unweighted (naturally) keyboard accompanies 13 drawbars in presenting those old tone-wheel sounds in a traditional setting, and these are accompanied by a selection of pipe organs. What's new to the arrangement is velocity sensitivity - but you can switch it out if you wish. The VK1000's three-part multitimbrality allows you to recreate the dual manual and pedals of the Hammond C3/B3 and there are Rotary Speaker, Overdrive, Reverb and Delay effects to help complete the illusion.

On the subject of sampling, Roland's impressive S770 sampler sees the arrival of new (v2) software and a sibling in the form of the S750 sampler. The S770's software update brings Compression, Expansion and Digital Filtering to the instrument. A new feature called Wave allows you to draw

waveforms with a mouse, while sample conversion facilities permit exchange of data with CD and DAT formats. The S750 (£2750) offers 16-bit sampling at 48kHz, 44.1kHz, 24kHz and 22.05kHz sampling rates. Expandable from 2Meg to 18Meg (2Meg more than the S770 max), the sampler will accommodate an impressive 94 seconds of stereo sample at 48kHz. Conversion is via 20-bit D/As while internal processing is 34-bit. Onboard is a 2Meg 3.5" floppy drive, which is part of the sampler but can also be connected to hard disks, optical disks and Roland's CD5 CD-ROM player.

Also in evidence were the intriguingly-titled SB55 Sound Brush and SC55 Sound Canvas sequencer/sound module pair. The SB55 (£435) is a 16-part multitimbral expander offering 315 sounds and onboard effects treatments. The SC55 (£485) will accept sequences in MIDI File format from your regular sequencer or from any other source of pre-recorded sequenced music. Combining MIDI sequencing and SMPTE syncing, the new SBX1000 (£1995) is aimed firmly at film and video suites. Thirty-two tempo maps can be held in memory to be edited for use with the unit's Cue Sheet. Here up to 30,000 events can be assembled in step or real time. The 16-track sequencer will hold up to 10,000 notes which can be sent via two MIDI Outs. Recording is again in step and real time, and

FINAL FRONTIER

loop-in-record programming is supported. The sequencer is compatible with the MV30, W30 and MC-series sequencers via its internal 3.5" disk drive.

If you're in the market for a preset rhythm machine the CR80 might have taken your Frankfurt fancy. Although preset (36 styles), the CR80 (£449) allows real-time modification of patterns and features sounds from the TR808 as well as Latin, jazz and rap voices. Another Roland handy - or Boss handy - on show was the BL1 MIDI Bulk Librarian. The BL1 (£175) will accept MIDI SysEx information from (and transmit them to) instruments supporting bulk dumps - up to a capacity of 32K. For storage of dumps the information

can be transferred to M256E RAM cards.

Roland were also making quite a play of their new GS Standard - the format offers guidelines for allocation of voices and MIDI assignments (tone mapping) so that pre-recorded sequences can be readily played back with fair, if not total, correspondence of sounds to their musical roles. Roland claim GS to conform to the forthcoming MMA GM (General MIDI) standard.

New keyboards were the order of the day for **Ensoniq** - three of 'em to be precise, although details were only forthcoming after the show was over. The SQ1 had become the SQ1 Plus (£1195) as a result of taking on board a Megabyte's worth of sampled piano

waveforms. The SQ2 (£1345) is a new workstation boasting a 76-note weighted keyboard, 21-note polyphony, and Mega Piano Waves amongst the 125 sampled waveforms. No less than 180 sounds are stored internally in the instrument, with a further 160 available on RAM card, and these can be further enhanced by the SQ2's onboard effects processing. The synth lays claim to "workstation" status through its onboard 16-track sequencer, which will hold 9000 notes (expandable to over 58,000) in 30 songs based on 70 sequences. The SD1 (£1996) looks all set to replace the VFX-SD as Ensoniq's Music Production Synthesiser. Featuring a 61-note, velocity and poly-pressure

➤ sensitive keyboard, the SD1 holds 3.5 Meg of waveforms including those of the VFX-SD II and the above piano waves. The SD1's 24-track sequencer offers real- and step-time input while the synth itself holds 180 sounds and 60 Performance Presets. Effects processing is covered by 22 effects algorithms including Leslie and distortion treatments, as well as the more usual reverb and chorus effects.

Moving from the Ensoniq stand to that of Alesis (since they're both distributed by Sound Technology in the UK), the recently-released



Alesis D4 drum module

SR16 drum machine had undergone a metamorphosis into a 1U-high rackmount unit called the D4 (£499). The number of voices has been boosted to "over 400", and six onboard trigger-to-MIDI channels make the D4 well-suited to use by (short intake of breath) drummers.

On the theme of drum machines, no visitor to the **E-mu Systems** stand could have failed to spot the new addition to the *Prosomething* family of sound modules - the *Procussion* (price to be confirmed; expected to be around £679). Filled with over 1000 16-bit drum and percussion voices, *Procussion* takes the form of a full-width, 1U-high rack unit. The voices are organised into 128 kits (64 in RAM, 64 in ROM), 16 of which can be played simultaneously - hence the unit's 32-voice polyphony. *Procussion* also features real-time expression control over its sounds (see also Yamaha's RY30 Rhythm Programmer) and six polyphonic audio outputs. The standard set by the *Proformance* module is high, so *Procussion* is sure to encounter high expectations. But then, E-mu are good at meeting them. Also attracting the right kind of attention was the *EIIIx Emulator III* expander. Designed to work with the *EIII* or as a stand-alone unit, the *EIIIx* (£TBA) possesses 16 stereo (24 mono) voices; 16-bit encoding/18-bit decoding; 48kHz, 44.1kHz, 32kHz, 24kHz, 22kHz and 20kHz sampling rates; 8Meg of memory as standard (expandable to 32Meg); onboard 3.5" floppy and optional 200Meg hard drives; SCSI interface for further hard or optical drives.

Staying with samplers inescapably brings us to **Akai**, who hadn't failed to litter their stand with new kit. In no particular order then, the S1100 (see review elsewhere in this issue) has gained a friend in the form of the S1100EX (£1899), a 16-voice expander incorporating the heart of the master unit but without the user interface. Up to seven S1100EXs can be chained together to form a massive 128-voice system. Also for use with

the S1100 was the HD84 hard disk unit (£849).

The sporadically popular MPC60 has become the MPC60II. The 'II' is the same unit with improved cosmetics and a smaller price tag (£1899). Perhaps this will get what's essentially an excellent compositional tool into wider circulation. Given that MIDI patchbays are currently gaining a higher profile and that Akai's ME30P was one of the first to appear, the new ME80P (£229) is a timely addition to their range. The 8 In/10 Out matrix with two-channel merging, MIDI filtering and

128 memories should be an attractive unit to small studios and gigging musicians alike. Another old favourite - the Akai EWi/EVI/EWV2000 system - came in for a '91 update in the form of the EWI3000m expander (£399) and X335i breath controller (£99). Anxious to broaden the use of the EWI3000m, Akai are promoting its use with systems other than the original wind and valve controllers - synths for example. To this end, the breath controller, which looks more like a headset mic than a kazoo, is intended to offer keyboard players the sort of expression that's previously been reserved for brass and wind players. The intentions are good, now it's down to you and me.

Following on from their M1 Music Workstation, **Korg** have enjoyed considerable success with related M-series instruments and the T-series keyboards. Obviously not content with this, Korg had additions to both series' on show in Germany. The T2 and T3 had become the T2EX (£2999) and T3EX (£2399) respectively,



Yamaha RY30 rhythm programmer

being endowed with 8Meg of ROM and built-in PCM RAM as well as the T-series' range of effects processors. The M1R had also acquired "EX" status (£1599), doubling up the M1R's memory to 8Meg of ROM and 275 Multisound programs. The sound programs have also undergone what Korg describe as

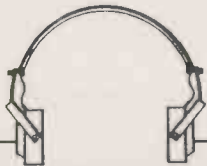
"enhancement" to add to their clarity.

Perhaps most interesting of the new Korg instruments, however, was a *Wavestation* variant, the WS1-AD (£1575). What made the WS1-AD of special interest was the inclusion of analogue inputs (on its rear panel) complete with analogue-to-digital conversion, allowing you to involve externally-derived sounds in a wave sequence or make use of the unit's seriously impressive vocoder functions. There was talk of an upgrade kit for the *Wavestation*, giving the same power and samples (but not the analogue inputs) as the WS1-AD. Both units are definitely worth watching out for.

Waldorf's excellent *Micro Wave* was seen keeping good company in the form of the *Wave Slave* voice expander and the MIDI Bay MB15 programmable MIDI patchbay. The *Wave Slave* (£699) uses 32 oscillators and 16 analogue filters to fuel the eight additional voices it provides for the *Micro Wave*. Powerful stuff. The MB15 (£549), meanwhile, is a 15 x 15 matrix with two-channel merging and remote control via the MBR1.

On entering the vast territory occupied by the mighty **Yamaha Corporation**, there was much to see and hear. On the keyboard front you couldn't miss the latest addition to the SY range, the SY99 (£TBA). Predictably based on the current flagship SY77, the SY99 boasts an entirely new set of 267 samples at the heart of its AWM2 tone generation system which is twinned with AFM capabilities. A 76-note velocity- and aftertouch-sensitive keyboard gives you control of the instrument's 16-note (16 AWM2, 16AFM) polyphony. Onboard RAM is 512K as standard, expandable up to 3Meg. Sample data can be accepted via MIDI Sample Dump standard and the synth is readily conversant with sample data from the company's TX16W sampler.

Voice memories break down into 128 presets, 64 internal programs and 64 on card, while a choice of four of the 63, 28-bit effects processes can be used simultaneously to modify patches. On top of this, there's a 16-track sequencer capable of holding roughly 27,000 notes in ten songs. One word of ➤



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> caution, though: the SY99 was very much in its preliminary stages at the show - display models were in perspex cases with just a handful of sounds to be heard on headphones - so don't start throwing your cash at Yamaha just yet. Watch this space for further details and a full review as they become available.

Also causing a stir in Yamaha's camp were the QY10 voice module/sequencer - small enough to fit into your pocket, big enough to warrant a review elsewhere in this issue of MT - and the RY30 Rhythm Programmer. Drawing on Yamaha's AWM2 system for its (impressive) sounds, the RY30 (£449) is 16-voice polyphonic, sports 12 velocity-sensitive

including a CD player in their AP7 model which is intended, amongst other things, to take advantage of interactive CD systems as they arrive.

FROM HARDWARE TO software. On their home turf, **Steinberg** took the opportunity of the Musik-Messe to demonstrate the portability of their software. We're not talking about the ease with which you can slip a 3.5" disk into your pocket, rather the fact that Cubase has now found its way onto the Apple Macintosh (£550). Version 1.8 currently lacks any music scoring facilities but they are scheduled to appear later in the year. Similarly, the old Atari



Roland JD800 synthesiser

pads commanding 96 voices, 100 preset/100 user-programmable patterns, 20 songs and can accept further voices on plug-in cards. The most interesting aspect of the RY30, however, has to be the inclusion of a synth-style "bend" wheel for real-time control of the unit's voices. Options for this control include pitch, decay, pan, filter, balance and timing parameters - all of which can be recorded as part of a drum pattern. It's so neat you wonder why it's taken so long to appear, and as one perceptive British Yamaha man observed at the time, it

ST favourite, Pro24 (£285), is now firmly ensconced within the chips of the Commodore Amiga 3000. Back on the Mac, Cubase Audio (£695) is a version of the Cubase program that falls in line with C-Labs' Notator in supporting Digidesign's Sound Tools digital editing system. Integration is the name of the game.

Changing the name to supercession, the powerful Avalon Sample Processing program for the ST (£325) had reached v2.0 and included SCSI interface facilities and what



Roland JX1 synthesiser

makes sampling the RY30 that bit less satisfactory.

Although there isn't room to mention new additions to the ever-widening range of digital pianos here, if you're in the market you should check out a fresh new range from **Akai**, as well as more from **Roland**, **Yamaha**, **Korg** and **Casio** - who warrant special mention for

Steinberg call a "synthesiser" facility for scratch-building sounds. The program has also followed Cubase's example by becoming large-screen compatible. Completely new at Frankfurt were editing software for Korg's Wavestation (and rackmount Wavestation) in the Synthworks range (£165), the SMP11 (£TBA), a slimmed down (and therefore

cheaper) version of the SMP24 SMPTE synchroniser, and the VLTC1 video sync unit (£TBA).

Visiting Americans **Opcode** had brought a variety of new programs with them. Vision 1.3 (£399) is the latest version of Mac sequencer Vision which, amongst other things, facilitates the use of over 200 MIDI channels. Studio Vision 1.3 (£799) is ready and waiting for use with Digidesign's imminent four-channel digital audio hardware as well as offering the features of Vision 1.3. Galaxy Plus Editors (£TBA) is a soon-to-be-available editing program supporting in excess of 40 current MIDI devices including Korg's Wavestation, E-mu's Proteus and the complete Kurzweil K1200 series. Two more programs from Opcode are Track Chart (£TBA) (which generates hard-copy track sheets) and Max (£TBA) (a real-time graphics programming environment) - not essentially musical, but they're there if we need them. What Opcode have chosen to call the Open MIDI System is a new approach to integrating the software and equipment currently found in the recording studio. Details are scarce but it permits a one-off setting up of your system to optimise its use, after which operation of the gear is somewhat streamlined. Needless to say, Vision 1.3, Studio Vision 1.3 and Galaxy Plus are all OMS compatible.

Back on their home turf were **C-Lab**, who were concentrating on consolidating the recently-released v3 of Creator/ Notator, and more recent suite of educational programs, Aura, Midia and Notator Alpha (all reviewed elsewhere in this issue). Seen at last year's British Music Fair but still unavailable at the time of the Musik-Messe, the Polyframe modular generic editing system was still looking good - review to follow.

Crossing over into the recording side of this year's show, both Cubase and Notator were benefitting from demonstrations of **Plasmec's** ADAS direct-to-hard disk recording system for the Atari ST. ADAS (£850) offers to turn your ST into a hard disk recording system by using the computer purely as a host and leaving the hard work to the ADAS hardware. Because of this, you can still run your sequencer on the ST and - if it's Cubase or Creator/Notator - you'll be able to integrate direct-to-hard disk recording into your MIDI recording techniques. On top of the ST and ADAS unit you'll need a hard disk (10Meg gives 1 minute of stereo sampling at 44.1kHz) and if you want high quality D/A and A/D and digital ins and outs for DAT editing you'll need an extra card (£299), but this will also allow you to back up your hard disk to DAT (any data, not just ADAS information). However you look at it, it's going to be an extremely cost-effective system.

Less cost effective but certainly no less impressive is **Yamaha's** YPDR601/RC601 CD >

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Fostex R8 + RSD Proline		24:16:24	£12,500 +VAT
16:8:16	£1875 +VAT	Tascam MSR16 plus Saber 16:16	£6499 +VAT
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Tascam TSR8 + RSD Proline		Fostex R8 + Mixdown 16:8:16 (original)	£2399 +VAT
16:4:8	£2399 +VAT	Tascam TSR8 + Mixdown 16:8:16	£2899 +VAT
Tascam TSR8 + Seck 18:8:2	£2460 +VAT	Tascam MSR24 + Spectrum	£7250 +VAT
Tascam TSR8 + RSD Mixdown		Tascam MSR16 + Spectrum	£5550 +VAT
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16:8:16	£4275 +VAT		

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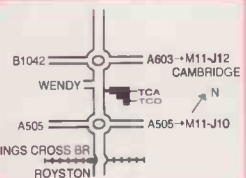
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➤ recording system. The complete system comprises a mastering unit and remote control, and is expected to cost around 15 grand - considerably less than other currently-available systems. Yamaha's system isn't intended to produce CDs for domestic consumption, rather to produce the CD equivalent of test pressings. Still, if you've got the cash and nobody else will sign you up, you could be knocking out CDs for the family in your bedroom.

While the DMR8 digital multitrack isn't hot news, the DCM1000 (approx £21,300) certainly is. It's a digital mixing desk intended for use with the DMR8, having 22 inputs, ten main busses, four aux busses, snapshot automation of all control settings and dynamic automation of channel levels, pan, routing, EQ and aux sends. Mix automation information is stored via an onboard 3.5" floppy disk. Yamaha also unveiled their first DAT machine, the DTR2 (£1099). The machine is intended for professional use and supports both 48kHz and 44.1kHz sampling rates, boasts co-ax and optical digital ins and outs, and remote control. Several new signal processors put in an appearance at Frankfurt; amongst them were the EMP100 Multi-fx unit (£249) - a 16-bit unit based on the SPX series and containing 100 preset and 50 user-

mixing and effecting and editing down to waveform level. Powerful or what?

Cheap or what? was the **Alesis ADAT** - Alesis Digital Audio Tape (£3700). The word was already out in certain circles before the show (that is to say we knew about it . . .), but it was on a short leash (. . .but couldn't tell you). Even at the Musik-Messe, ADAT was in a back room with a photography blackout in effect. Secrecy aside, ADAT is a 16-bit, 8-track recorder based on S-VHS videotape. The unit comes in two sections (ADAT recorder and BRC remote) and uses a variable sampling rate (42.76kHz-50.85kHz) with 64 times oversampling. Apart from its price, the system's greatest appeal is likely to be its facility to slave up to 16 units together under the control of the BRC unit (under £2000) to give 128 tracks of fully-synced digital recording.

Roland's bid in the direct-to-hard disk recording stakes took the form of the DM80 (£750). The 16-bit system is configurable as a four or eight track, will record at 48kHz, 44.1kHz or 32kHz sampling rates, features 24-bit digital mixing and comes with a cable remote unit. Where the four-track DM80 contains a single 100Meg hard disk (giving 18 minutes of monophonic recording at 44.1kHz), the eight-track version used two. Additionally, Macintosh operating software will be available

MIXING DESKS OF note at Frankfurt included **Studiomaster's** new Showmix line. These come in 16:2 and 16:4:2 formats (both expandable to 40 input channels) and feature four-band, two-sweep EQ and six aux sends. Although they're intended primarily for live use, they might also double for use in a sequencer-based studio setup. **Soundcraft**, meanwhile, were making much of their new Spirit range. The Spirits follow the in-line format and come customised for both studio and live applications and they'll only make a "budget"-sized hole in your pocket instead of a professional one. Reviews imminent. From Soundcraft to **Soundtracs**, and their new Megas range of desks. These adopt the split monitoring format and come in 16- and 24-buss formats. Live Megas go under the name Megas Mix.

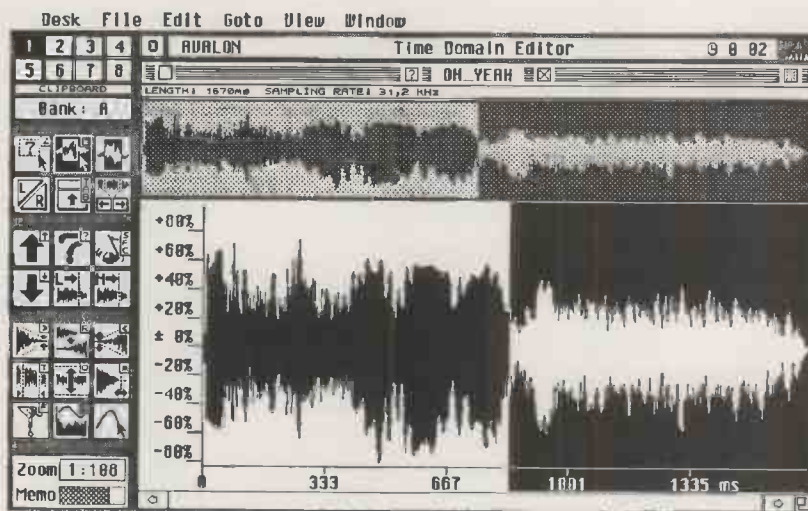
The Dolby S version of **Tascam's** MSR24 one-inch, 24-track recorder - the MSR24S - was being given a high profile on the Tascam stand in the absence of anything genuinely new. More affordable but still remarkably desirable Tascam units, however, are already lined up for forthcoming MT reviews.

In contrast, **Fostex' G24S** Dolby S one-inch, 24-track machine was keeping the company of the new X28 personal multitracker and 1612 mixing desk. The X28 is a four-track cassette unit equipped with Dolby B and an eight-channel mixer, which allows simultaneous four-track recording. The 16-channel 1612 is another budget desk and boasts 12 output groups for use with up to 12 or 24-track machines.

Returning to the G24S, the machine's ability to be integrated with Steinberg's Cubase sequencing program as part of a fully-integrated, computer-based, MIDI-controlled recording system was being demonstrated to dramatic effect by none other than UKMA mentor and regular MT contributor Vic Lennard. Off to Italy for more demonstrations almost immediately after returning from Germany, Mr Lennard paused only to comment on his satisfaction with the G24S/Cubase interface and to knock out another couple of reviews.

And with that we must leave Frankfurt for another year. New gear we've got - synths, samplers, software, digital recorders, mixing desks. . . It makes you wonder what's left for next time, doesn't it? And another thing: was that really the Scorpions' Uli Jon Roth I passed on the escalator on my way out? ■

Most prices quoted in this report include VAT at the old rate of 15%. Prices are subject to change due to the recent increase in VAT; prices may also change before equipment becomes available in the UK.



Steinberg Avalon v2.0

programmable memories - and the FX900 (£649) Simul-Effects Processor. The FX900 contains 100 preset and a further 100 user-programmable memories and features real-time parameter modification.

Back on the **Korg** stand, the company's new A1, A2 and A5 signal processors were much in evidence (the only reviews that count will be appearing in MT soon), but pride of place went to the Audio Link Digital Audio Production System (around £23,000). Audio Link is an 8-track direct-to-hard disk "Workstation" involving MIDI and video interfacing, MIDI sequencing, internal digital

to enable more than one DM80 to be used together.

Another impressive piece of Roland kit on display was the RSS (Roland Sound Space) Processing System. This 3D sound system - which has since been aired on a *Tomorrow's World*/Radio 1 linkup - uses special encoding of sound at the recording stage to describe a three-dimensional sound image on playback over a conventional stereo hi-fi system - and it works. The system comprises the RSS 8084 Sound Space Processor, ADA 8024 (18-bit linear A-to-D/20-bit linear D-to-A) convertor and SSC 8004 Sound Space Controller.

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S1100



PHOTOGRAPHY: JAMES CUMPSTY

The demands being placed on the digital sampler are greater than ever.

Akai's newest sampler represents the company's response to those demands. Review by Simon Trask.

SAMPLERS HAVE COME a long way since the glory days of the Fairlight CMI, when eight-bit monophonic sampling, eight-voice polyphony and 16K of RAM per voice were considered the heights of technological sophistication - at a price tag of around £20,000. In the first half of the '80s, sampling was almost exclusively the preserve of CMIs and Synclavier, and of the musical elite who could afford them. It took the introduction in 1985 of two sub-£2000 digital samplers - Akai's S612 and Ensoniq's Mirage - to bring sampling within the reach of the average musician, who proceeded to enthusiastically embrace it.

That Akai - a company with no particular track record in hi-tech instruments back in 1985 - should have brought out the S612 and gone on to dominate the professional sampler market with first the S900 and then the S1000 perhaps shouldn't be surprising. Why? Because the company did have a significant track record in recording technology, not least with the best-selling 4000DS stereo tape recorder in the '70s. The move from audio to digital sampling technology on Akai's part in 1985 was both a logical and a timely one.

Six years on and the demands placed on digital samplers have never been greater as sampling technology is now used in ways barely glimpsed when the S612 appeared on the market. Akai's newest professional sampler, the S1100, is an enhanced version of the studio-standard S1000 which represents the company's response to changing times.

OVERVIEW OF THE NEW

THE S1100'S ENHANCEMENTS involve not only new software features but also superior circuitry, with 20-bit DACs providing improved s/n ratio and dynamic range. The S1100 also introduces onboard digital effects processing, something which is only otherwise available on Ensoniq's new EPS16 Plus sampler.

Perhaps the most significant new feature on the S1100 is the SMPTE cue list, which can be used in conjunction with the sampler's built-in SMPTE/EBU read/write capability to turn the S1100 into a machine well-suited to audio/visual post-production work. Also significant is the S1100's ability to address up to 32Mb of onboard RAM. The machine

MUSIC TECHNOLOGY MAY 1991

comes with 2MB of RAM fitted as standard, but you can upgrade the memory bit by bit - or rather, megabyte by megabyte - using 2Mb and/or 8Mb boards (EXM005 and EXM008). The full complement of memory gives you a maximum sampling time of 12 minutes 40 seconds (mono sampling at 22.05Khz), which means that mono 44.1kHz and stereo 22.05kHz give you six minutes 20 seconds, and stereo 44.1kHz gives you three minutes and ten seconds. Of course, you can use a mixture of stereo and mono, 22.05 and 44.1kHz, sampling - while if you use the S1100's resampling facility to convert samples to even lower sample rates (for special low-fi effects, perhaps) you can give yourself even more sampling time.

Like the S1000, the S1100 includes dedicated software for programming Akai's ME35T trigger-to-MIDI interface (in fact, up to two units can be independently programmed), which is good news for any drummers or percussionists wanting to play sampled kit and percussion sounds on the S1100 from pads via an ME35T.

The S1100's rear panel provides the complement of analogue and digital connections required on today's professional sampler. Thus you'll find Left/Mono and Right stereo audio outputs, eight polyphonic individual audio outs, a mono effect send output, a headphones output, a footswitch input, the standard trio of MIDI In, Out and Thru sockets, SMPTE timecode in and out sockets, a SCSI port (for hooking up hard disks, optical drives and CD ROM units), an XLR digital audio output for transmitting stereo audio data in AES/EBU format, and two expansion slots. The optional IB04 digital interface board provides both coaxial and optical digital links, allowing direct digital sampling at up to 48kHz and hard disk data backup to DAT. The maximum size of hard disk which can be used with the S1100 is an impressive 510Mb.

SAMPLE STRUCTURE

IN MANY RESPECTS the S1100 is the same machine as the S1000, so much about it will be familiar to S1000 users - not least the front panel, which has the same layout as the S1000

The S1100 can access up to 200 samples and 100 Programs in memory, or up to 400 samples + Programs + Keygroups. An S1100 Program can contain up to 99 Keygroups, each Keygroup being a collection of up to four layered samples assigned to any area of the keyboard, with the option of velocity-switching or velocity-crossfading between layered samples. If you set Keygroups to overlap on the keyboard you can also crossfade between them.

Additionally, the four samples within a Keygroup can be routed through a common filter (18dB/octave low-pass, still with no resonance), LFO and amplitude-envelope configuration, with a second envelope that can be set to modulate pitch and/or filter cutoff. However, some measure of independence is provided by amplitude and filter-cutoff offsets for each sample, while individual samples can be given their own stereo pan setting and output offset (relative to the output assignment of the Program).

The Mix page allows you to define for each Program an overall output level, an individual output assignment, the level at the stereo outs (this allows you to remove a Program from the stereo mix when you want it to go to an individual out only), a stereo pan position and the level at the effects send.

The S1100 is 16-part multitimbral via MIDI, in that it can respond to all 16 MIDI channels. However, the way it goes about defining Program response is interesting. You can assign each Program to a single MIDI channel or to Omni, and give it a note range, an octave transposition amount, a polyphony amount and a response priority (low, normal, high or hold) that allows you to determine which Programs should have priority when polyphony is tight. If you give two Programs the same Program number (a Program's individual identity is established by its name rather than its number) and assign them both to the same MIDI channel, when the equivalent MIDI patch is received both Programs will be called up. Whether or not they are layered or split depends, of course, on their note range settings.

Also included on the MIDI front are a MIDI Receive Filter page (so that you can filter out certain types of MIDI data on each MIDI channel independently), a MIDI note Peak Program Meter page (a convenient way of checking the MIDI channels on which notes are being received), a MIDI Monitor page (so you can check incoming data) and a MIDI Exclusive page. The latter allows you to dump the S1100's Program and Sample data via MIDI SysEx, using MIDI handshaking protocol. Data can be transferred using either standard MIDI Sample Dump or an Akai-specific format. Alternatively, because MIDI transfer of sample data can take an extremely long time, Akai have given you the option to send your SysEx dump via SCSI instead - some generic sample editing software can read and write sample data via SCSI.

What of the sampling process itself? It's straightforward enough: you select stereo or mono sampling, the sample bandwidth (10kHz or 20kHz, referring to the S1100's two sampling rates: 22.05kHz and 44.1Hz), the original-pitch playback note, the sample time and the sample start method (input level, MIDI note or footswitch1) on the Rec1 page. Then you call up the Rec2 page, which presents you with an onscreen PPM which allows you to set the correct input level in conjunction with the front-panel Rec Level knob. Then you initiate sampling and watch the S1100 trace out the sample across the LCD window as it records. Once sampling has finished, you can trigger the sample from the Ent/Play button or a connected MIDI keyboard.

There are three sample edit pages: Trim, Loop and Join. All you have to do for Trim is set the sample start and end locations while playing the sample to check the right positions, then press the Cut softkey and the dirty deed is done. The Join page allows you to copy a part of a sample to another sample, splice a sample to another sample (all or part of in each case) and mix two samples (or parts of two samples) together. When splicing you can also set a crossfade amount if you need to smooth over the splice point.

The Loop page allows you to program up to eight loops per sample, and define how long each loop will

“The S1100 also introduces onboard digital effects processing to Akai's range, something which is only otherwise available on Ensoniq's new EPS16 Plus sampler.”

“The S1100 allows you to program up to 50 effects patches, drawing on four basic effect types: reverb, chorus/flange, stereo pitch shifter and echo/DDL.”

➤ play before the S1100 moves on to the next loop. You can use these multiple loops to do clever things like break up speech samples, repeating certain words or groups of words several times.

For a straightforward single loop you set the loop time to Hold, which means that the sample will continue to loop until you release the key. To find the right loop you have to edit two parameters, At and Length. “At” is the loop end point, Length defines the loop length. As you adjust these parameters, you see two vertical bars moving across the graphic sample display in the left half of the LCD, while the right half is updated to show the sample “curves” on either side of the loop point.

Personally I'd prefer to be able to set both the loop start and end points as absolute positions, as you can on, say, Roland's S770 - it's a simpler and quicker method than Akai's.

Each time you press the Find softkey, the S1100 goes in search of a zero crossing point, the received wisdom being that this will make a good loop point. Sometimes it will, sometimes it won't - but it's still a good feature to have. If all else fails, you can turn to Xfade, which crossfades the sample data on each side of the loop point, over a range defined by you. As this alters the actual sample data, it's a good idea to make a backup copy of the sample first. Finally, you can select either Loop In Release, Loop Until Release, No Looping or Play To Sample End (the latter being useful for one-shot drum and percussion sounds).

TIME-STRETCHING

TIME-STRETCHING, WHICH is also available on the S1000 and S950, allows you to lengthen or shorten a sample without affecting its pitch. You could, for instance, lengthen or shorten various drum and percussion sounds or special effects (in the latter case perhaps playing a sample in “slow motion” to complement a slow-motion section of film). But the main value of time-stretching lies in it allowing you to bring sampled performances into sync when the originals are running at different BPMs. I say “performances” because they could be anything: breakbeats, spoken words, a capella vocals, guitar riffs, horn riffs. . .

The S1100 provides a choice of two stretch modes: Cyclic and Intell. Cyclic is the more straightforward of the two, employing a fixed interpolation rate throughout the sample. For this mode you can set a cycle length, though quite what makes a good length isn't readily apparent. Still, you can get the S1100 to search out what it considers to be good lengths - rather as you can get it to search out good sample loop points for you. However, Cyclic mode is really only suitable for individual instrument samples, and even then it can come out a bit “warbly”.

Intell mode is, as you might guess, more intelligent - it varies the interpolation rate according to the sample content. This is the one to go for in the majority of cases. There are two parameters specific to this mode: quality (the time that the S1100 spends working out cycle lengths) and width (the width of stretch crossfading).

The stretch range in both modes goes from a reasonable 25% to a quite extreme 2000% of the original length. Helpfully, as you change the percentage figure the S1100 updates the parameter fields, displaying both the time of the resulting stretched sample and the number of sample words it will take up.

In Intell mode, the stretch processing time rises quite drastically as you set higher quality and width values. For instance, a 200% stretch (doubling the time) on a 2.73-second 44.1kHz mono sample took just under 30 seconds with quality and width values of ten, but two minutes 40 seconds with values of 50 and five minutes 30 seconds with values of 99 (the maximum). It's best to begin with low values because these can often be quite adequate, especially if you're not doing extreme stretches.

The less the stretch percentage is, the quicker the processing. For instance, a 110% stretch on the same 2.73-second sample with quality and width values of ten took nine seconds. Going in the other direction seems to take even less time - a 75% stretch took six seconds. Given that most stretches will probably be within a $\pm 25\%$ range, time-stretching takes up negligible time and the results it produces don't affect the tonal character of the sound notably (something which can happen on much greater stretches).

DIGITAL EFFECTS

THE S1100 ALLOWS you to program up to 50 effects patches, drawing on four basic effect types: reverb (large hall, medium hall, large room, small room, plate one and plate two), chorus/flange, stereo pitch shifter and echo/DDL. These patches form a common pool of effects which can be drawn on by the Programs - each Program *number* can be assigned an effect patch, which will be called up automatically when the Program is selected. Programs using the same number will automatically have the same effect patch, but if you want to use differently-numbered Programs together you'll need to assign them the same patch, because not more than one effect patch can be active at the same time. When any Program having a digital effect assigned to it is selected, individual outs seven and eight automatically assume the role of dedicated effect sends, and so lose their individual output function.

The FX page allows you to select a Program and assign an effect patch to it. However, if the Int parameter in this display is set to Off, the patch won't be activated. The other routing options are Int, Ext and I + E. If you select either of the latter two, the audio signal present at the sample inputs is routed through the selected effect and out via individual outs seven and eight (along with the internal Program in the case of I + E). You could use this feature to record an effected signal to tape without having to sample it first, and then sample the effected signal off tape (unlike Ensoniq's EPS16 Plus, the S1100 can't resample internally with effect). In a performance situation rather than a sampling session, you could plug, say, a microphone into the S1100 and use the sampler's effect processing to add reverb to vocals.

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Other unique features include a Roland digital effects chip, 8 channel mixer with memory, balanced XLR inputs for microphones, 10 track upgrade option, rehearse Punch I/O, and a custom 6-track back which is in-line, unilateral 8-track back. Dolby C, the noise reduction of first choice for multi-track, keeps noise and crosstalk un-noticable, so you can sync to MIDI and still have 5 audio tracks free. You can record up to 21 tracks while only bouncing each track once.

We have managed to secure a limited quantity of these best-selling units at a 35% reduction. R.R.P. £1430 NEW BOXED

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AKAI XE8 16 BIT DRUM SAMPLER PLAYER

The Akai S1000 and MPC 60 are by a long way the most common source of drum sounds in professional live/recording environments. In these situations price is often of little concern. We can now offer every winner/player these sounds at under one tenth of the cost.

The Akai XE8 - 1 meg memory of 16 16bit samples x 2 FREE 1 meg ROMs (16 sounds each - kits, percussion, orchestral brass etc - use 2 cards simultaneously (two slots) - Store any 16 samples in one of 32 programs - assignable key note 0-127; play melodies, cyrnals, balance pongs etc - tailor sounds to your requirements, variable hold and decay times (e.g. gongs), reverse, variable volume. Bright, punchy drum sounds are the foundation of any mix and time again the average drum machine just doesn't cut it in the studio. The XE-8 gives you customizable 16 bit drum samples to turn up to 32 tracks of your Akai/C Lab sequencer set up into a super heavy, state of the art drum machine. Alternatively use it to expand your drum machine or trigger from drum pads. Octapad/velocity sensitive keyboard etc.

Hurry! We have a small quantity. Package includes FREE 2 1mg ROMs & C-Lab drum samples. A great package price with C-Lab sequencers. £129 Add £6 carriage RRP £499 NEW BOXED

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The range of applications for stereo mixers is growing fast e.g. Multitrack synth/sampler/drum machine mixing - Live main/sub mixing (12 channel 700W P.A. systems compatible for under £300) - Mix your Atari/synth arrangements direct to DAT for C.D. quality demos.

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EMU EXCLUSIVE MEAGDAL

16 BIT 32 CHANNEL STEREO SAMPLER WITH THE LEGENDARY EMULATOR SOUND

Coming from the company that invented the sampler as we know it, the EmxII has a unique pedigree, and is a worthy successor to the superb Emulator series I, II and III. No other sampler gives you 32 audio channels (except the Synclavier). This means that in stereo, the EmxII is a full 16 note poly. The sound quality is equivalent to that of the highly acclaimed Eoli and Proteus series, thanks to the 18-bit D/A converters and unique digital filtering. For separate outputs there are 4 stereo pairs and 3 stereo effects-loops. The EmxII has both SCSI and RS232C interfaces as standard, giving access to our vast EMI libraries available in store on floppy, SyQuest and CD-ROM and at a remarkable £199 per disk from our 24 hr mail-order copying service. The RS-422 allows almost instant sample dump intoAlchemy™ or Sound Designer™. Most samplers play back samples raw. The EmxII features 3 distinct types of synthesis, subtractive, additive and transform multiplication. Any one of these gives more sonic potential than most top-of-the-range synths. For all those Emx owners, the EmxII will convert all your old data.

This offer represents a unique opportunity to get the legendary E-mu sounds at a fraction of the normal price. Hurry, these will sell out very quickly.

EXCLUSIVE OFFER
£1399 19" RACK VERSION
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“Akai have responded to the requirements of the A/V and broadcast industries, which represent new markets for the company alongside the musical instrument market.”

- The S1100's effects are of a reasonably high quality, and quite versatile, but personally I prefer the character, power and flexibility of the effects on the EPS16 Plus. There again, while the 16 Plus has great distortion and overdrive effects, the S1100 has a versatile and very useful stereo pitch shifter - which you can use, for instance, to match up the pitches of different performance samples, recording one or more effected samples to tape and then resampling them back off tape.

SMPTE CUE LIST

PRESSING THE UTILITY button takes you into SMPTE Cue List territory, a new feature for an Akai sampler but a logical progression for a company whose samplers are often used in A/V contexts. Also, the combination of SMPTE Cue List and built-in SMPTE read/write facility makes the S1100 a suitable companion for the company's new DD1000 optical disk-based digital audio recorder.

New it may be, but Akai's implementation of what they call QPLAY mode has been well thought out and well implemented. One cue list can reside in the S1100 at any one time, and can contain up to 250 events. A SMPTE offset time can be entered at the head of the list, allowing the cue list to run from whatever timecode position you want. The S1100 can run as either master or slave with another SMPTE device.

Each event consists of a SMPTE time together with a Program, a MIDI Note On or Note Off, a note number and note velocity. Taken together, the event parameters tell the S1100 when to play, what sample(s) to play and with what velocity to play them. If the sample being played has looping set, in order to tell the S1100 when to stop playing it you need to specify a matching note off for the note on (which of course uses up an event). One event doesn't need to end before another one begins - remember, this is a polyphonic, multitimbral sampler you're dealing with. You can also take advantage of the S1100's individual outs and built-in effects.

If you want to compile a cue list for adding sound effects to picture, the best way can be to punch in the hits "live" while watching the relevant section of film. Fortunately the S1100 allows you to do this - you just press the Grab softkey, start the cue list running in sync with the timecode and press the F4 softkey at the relevant points. Once the event timings have been entered, you can always fine-tune them when you go into cue-list edit mode and assign the relevant samples to the events.

Other cue list functions allow you to insert, delete and slip backwards and forwards in time individual events or blocks of events, and sort events into chronological order. Cue lists can of course be saved to and loaded from disk, either as part of an Entire Volume (all data held in memory) or individually. You can store as many cue lists as you want on disk.

MANUAL ACTION

AKAI HAVE BEEN RESPONSIBLE for some pretty abysmal manuals in the past - and received plenty of criticism as a consequence. So it seems only fair that

they should be praised for providing the S1100 with an extremely good manual. Written in a clear, friendly, methodical style, it doesn't assume too much knowledge on the part of the user but at the same time avoids being patronising. Also, a combination of thorough contents page and well thought-out index helps you to get straight to whatever you want to read up on. Oh, and all you environmentally-friendly musicians will be glad to know that Akai have printed their manual on environmentally-friendly recycled paper.

VERDICT

THERE'S NO DOUBTING the professional credentials of the S1100 - but then it can't really go far wrong considering it's based on a tried and tested industry standard. Akai have a good thing going with the S1000 - deservedly so - and they know it, but it's never a good idea to rest on your laurels in the hi-tech instrument business. Last year Roland finally fulfilled the promise of their earlier samplers when they brought out the stereo 16-bit S770, a serious piece of kit, as you'll know if you read last year's review. Could it be coincidence that Akai released preliminary details of the S1100 at around the same time, and brought in price reductions on their existing samplers? Surely not. But then the success of their samplers means that they can afford to be very competitive on pricing - indeed, they announced further price reductions at this year's Frankfurt Music Messe. And due in July at a current cost of £1899 is the S1100EX, a 16-voice-polyphonic expansion module for the S1100 which can be connected to the 1100 via SCSI and used in either one of two modes: voice expansion up to 32 voices, or multitimbral use in which a maximum of seven S1100EXs can be chained to an S1100 as SCSI devices.

What Akai have done with the S1100 is respond to the requirements of the A/V and broadcast industries, which represent new markets for the company alongside the well-established musical instrument market. Whether the many musicians who already have S1000s should trade them in for an S1100 depends on whether or not having the highest sound quality, the biggest memory and the possibilities offered by SMPTE cue lists rate as important considerations. And now there's another consideration to bear in mind: Roland are bringing out a cheaper version of the S770, called the S750, which at £2809 including VAT (17.5%) is set to be serious competition for the S1100 (see the Frankfurt Show Report elsewhere in this issue for more details on the S750). If you're in the market for a professional sampler then you need to check out both these machines. ■

Price £3299 including VAT at 15%. Prices are subject to change due to the recent VAT increase.

More from Akai (UK) Ltd, Haslemere Heathrow Estate, Silver Jubilee Way, Parkway, Hounslow, Middlesex TW4 6NQ. Tel: 081-897 6388. Fax: 081-897 1508.

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

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

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

SHEEP'S CLOTHING

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

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

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

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

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

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

ADDING TO THE MIX

Via ten more 'buss' inputs, which connect directly to the main and aux mix busses, the 812 lets you



COULD YOU USE FIFTY CHANNELS?

connect external expanders without sacrificing any of the thirty inputs that you've configured so far.

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

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

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

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

MYRIAD OF EFFECTS

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

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

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

Configured for coming or going, as extra inputs or sends, the 2016

adds unprecedented versatility to the Fostex 812 mixer

DON'T STOP

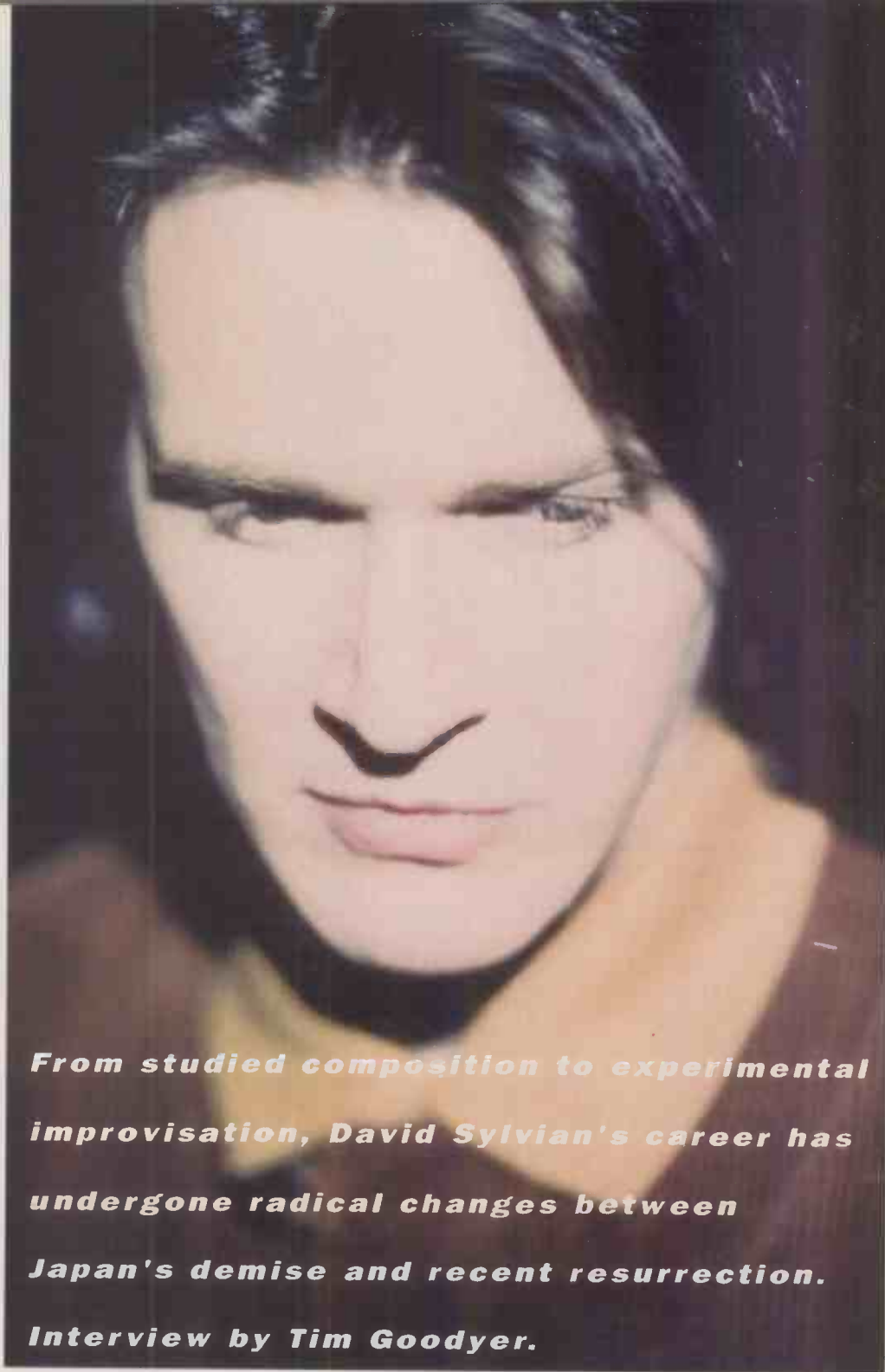
During the mix, some sources require the full 'treatment' available on main input channels. Others like rhythm units, need no more than level and stereo to balance their carefully sampled sounds. The number of additional effects you choose to use are anybody's guess.

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

Fostex

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EXORCISING GHOSTS



From studied composition to experimental improvisation, David Sylvian's career has undergone radical changes between Japan's demise and recent resurrection.

Interview by Tim Goodyer.

PHOTOGRAPHY: THE DOUGLAS BROTHERS

IT WOULD BE FAIR TO SAY THAT DAVID Sylvian's career has come a long way during his fourteen years in the public eye. From his glam rock debut with the fledgling Japan, through their development into an accomplished quartet of musicians making some of the most innovative popular music of the early '80s, he displayed his developing songwriting abilities. When Japan finally went their separate ways in '83, Sylvian began a succession of collaborations with artists as wide ranging as Ryuichi Sakamoto and Marcus Stockhausen, and became involved in projects as diverse as a contemporary dance production by Gaby Agis (*Kin*) and an audio-visual installation with artist Russell Mills (*Ember Glance (The Permanence of Memory)*), demonstrating his broadening interest in musical composition.

Through the course of his three solo albums (*Brilliant Trees* ('84), *Gone to Earth* ('86), *Secrets of the Beehive* ('89)) and his experimental works with Holger Czukay (*Plight and Premonition* ('88), *Flux and Mutability* ('89)) Sylvian involved an ever wider range of musicians in his work and, as a result of his relationship with Yuka Fujii, began experimenting with improvisation as a form of performance and composition. And it is largely as a result of this continued interest in improvisation that 1991 will see the first studio release from Japan in a decade - although to find it you'll have to look under "Rain Tree Crow" rather than Japan.

Last interviewed in MT (E&MM) in September '86 following the release of *Gone to Earth*, Sylvian commented on the subject of a possible reformation.

Then he regarded it as a romantic rather than practical idea, and admitted that it had been discussed on several occasions: "It almost came off", he revealed, "but there wasn't enough conviction and now I'm happy that it didn't. I'm sure that it'll be talked about again in another five years but I hope it'll always be talk because I don't think it would be a good thing."

Curiously, it's just four months short of the prescribed five years that I find myself face to face with David Sylvian once again. Dressed in a brown suit and sporting the long hair that has become the badge of "the artist" over generations, he is happy to talk about the reasons for his change of heart.

"It was mainly my interest in this method of composition: improvisation", he begins. "I began to feel that there was possibly more to be gained at this moment in time by putting myself into situations where I would be forced to respond on the spur of the moment to what was happening in the studio or a given environment. That if I was to rely on my compositional techniques - as they eventually become, no matter how you try to evade these things - I might miss certain developments in my work, or that the developments might be rather too slow.

"I felt I was going through some inner changes which I found hard to encapsulate in my own songwriting, and I wanted to put myself in a situation where I would have to respond immediately without thinking about the situation to see what would surface. Then I could kind of glean an understanding of what was going on there and try to adapt that and develop it - whether this was along the lines of lyrical content or musical content.

"I began to think that the idea of group composition would be a good thing to put myself through. I carried the idea of a conceptual band where the line-up changes from album to album about with me for quite some time, and I needed a testing ground. I needed to work with people I knew very well and who I thought would also benefit from the experience - so it was an obvious choice to turn to Mick, Steve and Rich. They responded really favourably to the idea and it worked in the way I expected it to."

Could it have been that, after ten years of being solely responsible for the direction of his music Sylvian needed the security of a regular line-up of musicians to help him take the next step?

"I would say that the next step was so unclear", he responds, "There were so many avenues I could walk down, that I thought the best thing to do was just jump in at the deep end, into a project I had no pre-conceived ideas about material-wise, content-wise to see what would happen. So it's not so much helping a pre-conceived form of composition or content, it's really to move away from having the room to think about what one wanted to do, and go ahead and put myself into a project where I *had* to go through with it no matter what happened. You take the first step and from that moment on, you've got to work through the whole process of making the album."

The album in question - also entitled *Rain Tree Crow* - is unmistakably both David Sylvian and Japan. Gone are the carefully-ordered arrangements that characterised Japan's last studio LP, *Tin Drum*, and

gone are the obvious sonic references to the Far East. In their place are twelve more introspective pieces reminiscent of Sylvian's solo works, along with the unmistakable styles of Richard Barbieri's synthesiser programs and Steve Jansen's drumming. Aside from the fresh approach to constructing the songs, the greatest departure from the old sound of Japan is the rationalisation of Mick Karn's fluid bass playing.

More surprising is the fact that roughly half the pieces carry Sylvian's distinctive vocal. Back in 1986 he had expressed reservations about his abilities as a singer to realise his musical goals. Instrumental works, he suggested, removed this obstacle from the working process.

"I guess I was most in favour of doing an instrumental album", he concedes, "but often it would be mentioned that a vocal would suit a piece and we'd try a few ideas out. The problem lies in that there aren't enough soloists in this particular band, and the vocals are a capable solo instrument as such. Otherwise we'd be constantly resorting to the same instruments over and over again, treating them and so on - which is what we did. We treated the saxophone in various ways, and the bass clarinet makes numerous appearances. We got a few guitarists in to compensate for my lack of ability. Basically we were trying to keep it all in the family rather than get too many people involved."

Part of Sylvian's readiness to provide vocal melodies relates to the success of the songs on *Secrets of the Beehive*

"I was far happier with my performance on *Beehive* than anything I'd done previously. That album was far more lyrically based, therefore the emphasis was on the voice. The pieces were short and to the point; that was a different way of approaching the same problem, but the instrumental work is still very important. That's the area in which I see the most potential for working within a group format - whichever that group may be. I find I know exactly what I'm doing when I write a song; I know where its value lies and how to develop that. I can do that with instrumental pieces, but I get far more satisfaction out of the give and take situation which exists within a group."

Discussing the recording process with the other members of Rain Tree Crow, it quickly becomes apparent that each musician's experience was unique, and that each has an individual perspective on the experience. The compositions were drawn from hours of improvisation which took place at a number of recording studios. It was therefore necessary to invest a large amount of work in editing, restructuring and, in some cases, re-recording the improvisations. It all began with a track called 'Blackcrow Hit Shoe Shine City'...

"That was one of the most difficult pieces for me", comments Sylvian. "It surfaced, I think, on the second day of recording and it was the only piece where the band were totally confident that a piece would work. On all the other pieces there was somebody who was a little unsure about whether it was working.

"I worked on this piece obsessively, trying to make some sense of the structure of it, but the band themselves found the piece complete as it was. I was

"I needed to work with people I knew very well and who I thought would also benefit from the experience - so it was an obvious choice to turn to Mick, Steve and Rich."

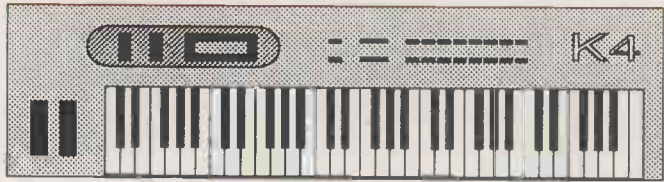
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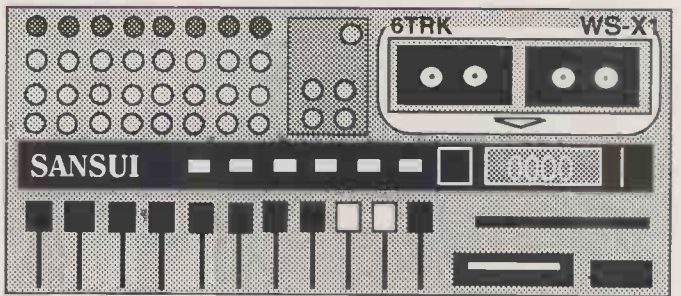
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working alone and also against everyone else because they weren't really in favour of me taking it any further. The vocal went on at the very end because I was trying to avoid putting a vocal on it at all, then I got Bill (Nelson) in to play some guitar. Once I'd got Bill's guitar on, it began to fall into shape. I could see there was a structure with the right dynamics to make it work for me, but there wasn't a dynamic peak as such so I had to put the vocal on. I had the idea, but I had to get to that point where I recognised it was absolutely necessary."

True to the traditional artistic stereotype, Sylvian's satisfaction with any of his endeavours is balanced by his dissatisfaction over their shortcomings. Given that the project could not have come about without his full co-operation, and that he's already on record as saying "One of the most important lessons I was reminded of was that being in overall control of a recording should rarely be relinquished. Group decisions are invariably of a compromised nature", had the project been a success or a failure? His reply, however, is uncompromising.

"I am always disappointed in some respects with the work that I do. I always feel that it falls short of its original potential in some way, but maybe that's what spurs me on to try again and again. What I tend to find is that, as much as I like some of the songs on the album, it's the instrumental pieces that justify the album's existence. It was on the instrumental that we really worked together as a four-piece. That was the aim of the project: to get the full potential from these four musicians working together in a really collaborative sense. I found that with the songs, I could see references to my own work far clearer than I can in the instrumental work, so I kind of feel that the emphasis should be placed on the instrumental work.

"New Moon at Red Deer Wallow' I think is really exceptional. I feel the track realises the potential that this group always had that was never realised before. For me this is the first time, and maybe the last time it will be. And I'm happy; I don't mind if it's the last time because it's there, and I'm very happy with that piece of music. If it was that piece of music alone that came out of these sessions I'd be happy. It would justify the recording process, it would justify this project."

Sadly, however, the project seems unlikely to yield anything more than one album and the possibility of a single. The reasons for this are shrouded in personal politics within the group (see Steve Jansen's comments elsewhere in this issue).

"It was always considered to be a one-off", states Sylvian. "There was a slight possibility of a second album, but I don't think it would work. The impetus wouldn't be there, the enthusiasm for the project wouldn't be there, the flexibility wouldn't be there. . . All the elements that made this album work - the kind of mental approach you take to a project like this - would be absent. There'd be too much anxiety and there'd be too many conflicts. I know now there'd be conflicts because of coming out this side of the album, so to speak. There are now disagreements about certain aspects of it, but that didn't happen while we were making it, because there was so much enthusiasm going into making it. It's a unique experience in that

way. In ten years time, who knows? But it would be silly to do it again now."

MOVING ON TO THE MORE PRACTICAL aspects of Sylvian's music, his move towards improvisation has brought about various changes in his playing. Instead of spending time writing material, he now finds playing for his own pleasure a rewarding experience - though the predictable acoustic piano or electronic keyboard are not his chosen medium.

"Because of steering away from writing, I've found myself picking up instruments and, where my inclination in the past was to write immediately, I've started just to play. I've become a much better guitarist for a start. Some of the more adept solos on the album came from Bill (Nelson), Michael (Brook) or Phil Palmer, but I played all the other things.

"I really got into playing the Steinberger I bought on the last tour - influenced by (David) Torn's playing - I find it so flexible. And I've just got into processing the sound and finding techniques to make up for my lack of technique. I've been finding ways of playing that I feel totally comfortable with which are maybe not what one would see as technically correct, but I enjoy approaching it. . . Putting myself into that situation with the group I really saw myself as a guitarist. That was the role I wanted to play: guitarist in a band rather than sitting up front with keyboards and a vocal mic."

But sitting with keyboards and a vocal mic was a large part of Sylvian's role. The keyboards in question were a Korg M1, Roland D50, "very occasionally" a Prophet VS and a Kurzweil 250. Of the Prophet VS he says: "I've had that for some time and I've been meaning to try it. It seemed to have a limited scope". The Kurzweil, on the other hand, served to "supplement a few of the acoustic sounds".

Most of the more recent advances in synthesiser technology, however, have failed to impress: "I find with later keyboards that they're far too attuned to pop performance, pop composition, and so on. And they're that much more inflexible because of it. Whereas the older synthesiser had a wider scope, you could buy one, use it for five to ten years without thinking of picking up another. These days you can run through the capabilities of a new synth fairly quickly and wear it rather thin over a period of months."

His words have an uncomfortable ring of truth to them.

Another practical aspect of music is taking it to the people - which Sylvian did on his *In Praise of Shamens* tour in 1988. Accompanied by Jansen, Barbieri, guitarist David Torn, trumpet player Mark Isham, guitarist/keyboard player Robbie Aceto and bassist/percussionist Ian Maidman, Sylvian performed material from *Brilliant Trees* and *Secrets of the Beehive*. From the front of house, it looked like a finely-managed collective of musicians performing music of rare quality. From backstage, however, came stories of Sylvian's dissatisfaction.

"Generally my disappointment came from being too muddled", he offers in explanation. "The emphasis wasn't on songs on that tour, I was trying to create an atmosphere in a hall, and I thought it was going to be relatively easy to do that because it was something I

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> thought I knew how to do. Although it was successful to a certain extent, I thought there wasn't enough dynamics, there wasn't enough colour. Occasionally too much happened, it could have been pared down.

"Unfortunately there wasn't enough time to mature musically throughout the tour. We did to a certain extent of course, but all the time there were technical problems and organisational problems, and to deal with that at the same time as knowing you'd got a performance that evening is hellishly difficult to go through.

"I tried to pick musicians who were potentially the most flexible - Mark could cover some of Jon Hassell's work and Kenny Wheeler's work as well as his own, and the same with David Torn. But there are limitations; maybe I was trying to cover too much and should have gone for something a little smaller in scale. My dilemma was that I needed enough people on stage to be able to build layers and textures - we had to have enough of a diversity of instruments to deal with that."

Sylvian seems to find the experience of recording music a more valuable one than that of performing it.

"It is the recorded medium that is important in that it has the potential to reach so many people. The live performance is far more transient, obviously. But it's a different kind of experience and maybe shouldn't compare in any way. Let's say that what I have got to date from live performance is nowhere near as profound as what I can take from recording and writing material. The only person I've found to agree with me on a certain approach to writing is Scott Walker in a comment he made to me: I mentioned something about recording an album being very difficult and very painful, and he said 'that's the way it should be, if it isn't there's something wrong'. That's what I've always felt to be true, but a lot of people I've worked with don't share that. It is important, because the actual process of writing and recording, although it is a by-product of your life's experience, it itself becomes a life experience through the process of making it. It becomes part of your learning process. The process of making a record is normally very difficult; very challenging and emotional on all different kinds of levels, but by the time you complete a project it holds within it that experience. That emotional depth is captured in the work somehow. And that can be brought out through the excavations of the listener if they care to probe that deeply.

"There must be a meaning within the music. To me that's very important and it's very hard to get that kind of intensity in a live performance. I haven't achieved it, maybe that's why I want to go back and have another bash at it, because there must be something I'm missing, something in my approach, something in my self-conscious awareness of standing on a stage performing that I can't lose. I can't find a musical experience to take me above that and out of it. Occasionally it happens, occasionally something raises you above that intimidating feeling of standing in front of a lot of people performing, but a lot of the time I feel self-conscious of being there running through the motions of something - which I think is an awful thing to do."

While all this might reasonably lead you to believe that Sylvian's only "solo" live outing to date will also

be his last, there's more encouraging news.

"This idea of the composition and that this is going to tape and is permanent is something I feel I ought to get away from. I ought to somehow be more immersed in the event itself rather than removing myself in some sense and objectively analysing what's going on as it happens. It's a silly thing to do really, but it's the way I work. It's the way I've always worked, and it's very hard to get out of the habit.

"I want to tour again, and I see myself touring possibly next year. I've got some projects to get through this year which will keep me in the studio, and I'm not sure when I will get around to doing an album - whether it's my own album or this group concept album - but whichever it is, I will tour with it. The problem is that the recorded work always takes priority. If I have ideas for something, I desperately want to jump into it right away rather than go on the road."

Returning the conversation to the progress of Sylvian's career, I find that the sense of optimism that characterised our last conversation has been replaced by the sort of confusion that accompanied the dissolution of Japan.

"What happened to me after *Beehive* was that I thought I'd said something quite well, quite concisely, that I'd been trying to say for a long time. With the recognition of that fact all this other stuff came to the surface which I hadn't dealt with, which was much heavier, much darker. And I'm now back in the position I was in prior to *Brilliant Trees*, where I'm immersed in some very heavy emotional baggage I'm carrying around with me. I'm struggling to find a way of expressing that at this moment in time. I need to let time pass, but I don't want to sit around doing nothing so I'm putting myself in situations which may just trigger something off. When Riu (Sakamoto) asked me to write the lyrics for 'Forbidden Colours', something happened and I was off - that lyric helped me a great deal. So I'm just moving through different projects at the moment, allowing things to take their time. When the moment is right, when I see that it is possible for me to write about this thing that I'm experiencing, I'll go ahead and do it.

"In the meantime I'm developing some of the other capacities that I knew I had, but that had always taken a back seat to the writing - such as guitar playing, engineering, producing. I feel far better at all these things than I was just four years ago. I feel as if I'd got halfway up a ladder and had to take a few steps back to reassess where I am and what's happened to me before I could go any further. Or maybe I've reached a level and I'm wandering back and forth until I find the next ladder. That's what it feels like."

Perhaps most encouraging of all is Sylvian's reaction to the suggestion that there might be an end to his involvement in making music, that at some point, he might feel he has said all he has to say. His response is not to recognise the question: "There can't be an end in sight. It would be self-defeating to think that there was an end."

The interview closes positively; for Sylvian there's another interview and a career to attend to, for me there's an album by a band called Rain Tree Crow which I really must play again. . . ■

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Which brings us neatly to the subject of this month's exclusive MT competition - and to the latest attempt to transform the dyed-in-the-wool synthist into music's answer to Leonard Zelig. On offer this month, thanks to distributors MCM, are Oberheim's newest additions to the Perf/X range, The Strummer and The Drummer, designed to take the sweat out of creating those dead-ringer guitar and percussion parts.

The Drummer offers, as well as over 1000 possible rhythms, an auto-randomise function with intelligent variations, and an ingenious Interactive Volume feature, which enables your programmed drumming to respond to the dynamics of your playing or sequence - just as a "real" drummer would. The Strummer deputises for the (much-derided) widdly-merchant by converting keyboard chords to guitar voicings. Strum rate and direction are selectable, and Riff Record will have you sounding like Yngwie J in no time (well, maybe). In short, this month's prizes (worth around £150 each) offer two MT readers the chance to sack that maddeningly greasy axeman or that infuriatingly dense skin-basher (only joking, *Guitarist* and *Rhythm*)...

To win these highly desirable goodies, all you have to do, as ever, is to answer a few insultingly simple questions. We've given you a list of famous musical pairs - each consisting of a "strummer" and a "drummer" - and a list of bands. All you have to do is to tell us which pair do their thang with which band. Easy, eh? (Ask a tame drummer for assistance if you need it).

- a. Ultravox
- b. Toto
- c. Jesus Jones
- d. Living Colour
- e. Tackhead
- f. Japan

- 1. Jerry de Borg & Gen
- 2. Rob Dean & Steve Jansen
- 3. Vernon Reid & Will Calhoun
- 4. Midge Ure & Warren Cann
- 5. Steve Lukather & Jeff Porcaro
- 6. Skip McDonald & Keith LeBlanc

When you've got your answers, all that remains is to call them in on MT's Competition Hotline - (0898) 100768 (calls cost 33p per minute cheap rate and 44p per minute at all other times). Please remember to speak clearly, and don't forget to leave your name and address with your answers (it has been known to happen). Calls should be made by our deadline of *Tuesday, 14th May*. Employees of Music Maker Publications, MCM and their relatives are not eligible for entry. Multiple entries will be disallowed. The editor's decision is final and no correspondence will be entered into unless accompanied by a photograph.



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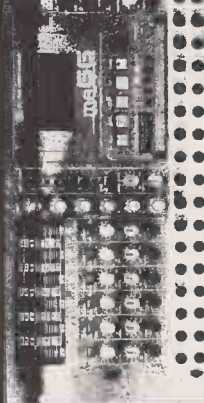
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QY10



PHOTOGRAPHY: JAMES CUMPSTY

It's a multitimbral tone generator, a drum machine and an eight-track sequencer - yet you can hold it in the palm of your hand. Could the QY10 be the start of something small?

Review by
Simon Trask.

PICK UP A VHS videocassette from that pile of *Neighbours* tapes you've never got round to watching and hold it in the palm of your hand. Now when I say that Yamaha's latest variation on the workstation concept is compact and portable you'll know exactly what I mean, because the QY10 is the size of a videocassette and weighs just a few ounces more than one when batteries are fitted for portable use. It even comes in its own protective videocassette case - on which the legend "Yamaha QY10 Music Sequencer" is boldly emblazoned in order to prevent you from returning it to the video hire shop by mistake.

Although Yamaha call the QY10 a Music Sequencer, in addition to an eight-track sequencer its compact frame contains an eight-part-multitimbral PCM sample sound source and a combination of preset and programmable accompaniment patterns - all for under £300. The front panel miraculously crams in a 1x16-character non-backlit LCD and a total of 46 buttons, cleverly laid out and colour-coded to clearly indicate different operational aspects of the instrument. The power on/off switch is located on the

left side panel, volume slider on the right side panel, and power input, MIDI In and Out sockets and 3.5mm stereo line out socket on the rear panel (Yamaha provide a 3.5mm-to-two-phono lead with the QY10).

With its front-panel "micro keyboard", the aforementioned battery power option (which gives you 5-6 hours operation), and a 3.5mm stereo headphones socket on the right side panel, the QY10 is nothing less than a portable workstation - or a "walkstation", to use the term coined by Yamaha UK - which you can use wherever you are for "jotting down" rhythms, basslines, melodies and chord sequences for later use.

You can also use the QY10 as a ready-made four-part backing band by drawing on 76 preset Patterns and programming chord sequences for them to play. From this perspective, the 24 user Patterns which you can program into the QY10's internal RAM memory can act as a means of "spicing up" the preset Patterns. Not that they necessarily need spicing up. If you think that presets must equate with foxtrots, sambas, waltzes and cha cha chas, think again. The QY10 is part of a trend in portable keyboards and the like which is seeing the foxtrots

and the cha cha chas being squeezed out in favour of more contemporary rhythms: In fact, the Music Sequencer is probably the best example to date of this trend, not just because it includes a sizeable selection of modern dance rhythms alongside the likes of r 'n' b, rock, country rock, hard rock, heavy metal, pop, jazz, reggae, ballad, salsa and bossa nova, but because many of these dance rhythms are, well, eminently danceable. Clearly the programmer(s) responsible know what they're about in the good groove department - surely it can be no coincidence that the presets were programmed in London (at Yamaha's R&D Centre) rather than in Tokyo or LA. The "authenticity" factor is helped by the fact that the QY10's drum and percussion sounds work well in the modern rhythmic context - as do a number of the other, pitched sounds.

So what is this strange beast? Is it a preset machine with a little bit of programmability thrown in? Or is there enough programmability and enough memory to make it a reasonable first workstation for the budding musician on a tight budget? Is it worth buying simply as a portable musical notepad for those moments of inspiration which occur in the most unlikely of places? Is it worth buying simply as an eight-part multitimbral expander? So many questions. . .

VOICES

THE QY10'S 31 voices cover a satisfactory variety of sounds, including acoustic and electric pianos, organ, clavinet, strings, brass, electric guitar, marimba, vibes, synthlead, breathy flute, bowed bell and jazz, picked, slapped and synth bass. However, no-one's going to claim that these samples - and the circuitry used to output them - represent the best that technology has to offer. For one thing, sampling memory is clearly at a premium, as sample loops typically start as soon as possible after the attack and in most instances have clearly been kept as short as possible, so that sustained sounds noticeably thin out. The 'RckOrgan' and 'Organ' Voices are actually the same sample, the only difference being that a touch of modulation is applied to one of them. Similarly, the 'HiStrEns' and 'LoStrEns' Voices are the same sample, the latter being pitched an octave lower and given a slightly slower attack - the idea presumably being that you use the "Lo" Voice for low strings sounds because low strings naturally have a slower attack. The loop on the strings is noticeable, and if you listen carefully you can hear a slight click - but the overall effect with chords is to give sustained sounds more of a sense of movement.

The QY10 scores well with a powerful bass end and some funky sounds such as the clavinet and muted electric guitar. The pianos, on the other hand, are on the anaemic side - and there's a glaring change in tone between two adjacent samples in the 'RckPiano' Voice.

Voice 31 (Drum Set) is actually a collection of 26 drum and percussion samples with factory-fixed MIDI note and micro-keyboard pad assignments (the latter

indicated on the pads themselves - you use the up and down arrow buttons to switch between two sets of 13 samples). Samples include three bass drums and four snares (including the inevitable 808 bass and snare - now seemingly public property), open and closed hi-hats, crash and ride cymbals, claps (808), low and high agogos and timbales, and low, mid and high toms and congas.

Overall, the QY10's Voices work best when they're working together in ensemble, where they complement and support one another very effectively, meshing together to create a pleasingly warm, gritty, low-tech but solid and punchy sound.

PATTERNS

THE QY10 HAS two performance modes: Pattern and Song. In Pattern performance mode it behaves like a drum machine, looping the currently-selected Pattern until you select another one, then playing to the end of the current Pattern before moving on to the new one. Except the QY10 isn't confined to playing drum rhythms. Each QY10 Pattern consists of four tracks: Rhythm (RT), Bass (BS), Chord 1 (CI) and Chord 2 (CII). This labelling reflects the function of each track within the QY10's preset Patterns, the idea being that each of these Patterns provides not just a drum and percussion backing but a complete accompaniment, drawing on the collection of 31 Voices in order to do so. Voice assignments (one Voice per track), tempo (30-250bpm), track volume (0-99), track pitchbend range ($\pm 0-12$) and track output pan (Left, Centre, Right) are stored per Pattern - factory-fixed for the 76 preset Patterns, user-programmable for the 24 user Patterns. The BS, CI and CII tracks can each play any Voice, but the RT track is limited to the Drum Set. Alternatively, if you want to use an external sound instead of an internal one for a particular track, you can set the track to Voice 32: Off, which disables internal playback but not MIDI transmission for that track.

As the QY10 is eight-part multitimbral, there are four parts available over and above the four accompaniment tracks. Yamaha call them Tracks 1-4, although they aren't internally sequenceable in Pattern mode. You can assign one Voice to each of these Tracks, globally rather than per Pattern, and play one Track/Voice at a time from the QY10's micro keyboard, or sequence/play all four at once from an external MIDI sequencer or appropriate keyboard controller. In this way you can have a four-track accompaniment playing away while you tap out a melody on the QY10's micro keyboard or sequence/play something more ambitious using an external source.

The QY10's Tone Generator is 28-voice polyphonic, and allocates its voices dynamically across the eight parts, so in most circumstances you shouldn't find yourself running out of notes. Further good news is that Voice overlapping has been implemented ie. a patch change within a track doesn't cut short any active notes/Voices.

MIDI channel assignments on the QY10 are fixed, with Tracks 1-4 assigned to MIDI channels 1-4, and

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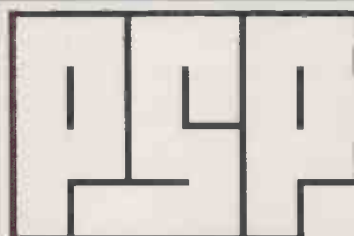
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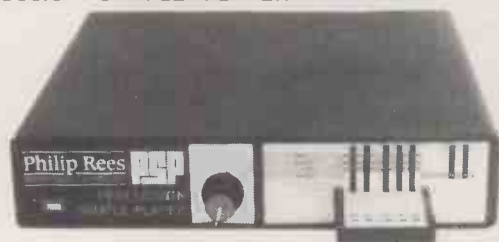
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➤ the CI, CII, BS and RT tracks assigned to MIDI channels 5-8. Unfortunately there's no way of disabling MIDI note transmission or reception, so if you wanted to run two QY10s together you'd either have to put something like an Anatek Pocket Filter between them or else run them both off a sync box such as Korg's KMS30.

In addition to MIDI notes and velocity, the QY10 can respond to, record and transmit patch change, pitchbend and sustain pedal data, and transmit and receive standard MIDI sync data (with the exception of Song Position Pointer) in both Pattern and Song modes. Transmission and reception of MIDI sync data can be disabled if need be - for instance, if you want to use the QY10 solely as a multitimbral expander in conjunction with an external sequencer which is transmitting MIDI sync data.

I mentioned earlier that you can program chord changes into the QY10. That comes in Song mode, but in Pattern mode you can actually tap in chord changes while a Pattern is playing and the QY10 will respond instantly, adjusting the notes it plays to fit the new harmony. The actual notes programmed into the CI, CII and BS tracks within each preset Pattern are based on a single harmony (C dominant), the idea being that the Patterns are harmonically "static" so that you can impose your own chord changes on them. When a Pattern is playing you can scroll to an LCD page which allows you to enter chord changes by playing the chord root on the QY10's micro keyboard and selecting the chord type from the numeric keypad, then pressing Enter at the moment where you want the chord to change.

Each number button is labelled with two chord types - you tap the button once or twice to select which type you want. The QY10 provides a total of 20 chord types, including major, minor and dominant 7ths and 9ths, dominant 13th, augmented and diminished, 6th and suspended 4th - enough to keep most people happy, though perhaps unsurprisingly, some of the more jazzy chord types aren't available (dominant 7th flattened 9th, dominant 9th flattened 5th, dominant 13th sharpened 11th. . .).

Selecting chords in real time takes a bit of practice (the trick is to select the root and/or type in advance, then press the Enter button when you actually want the chord to change), but it is possible to change chords every beat once you become adept at it - providing the tempo isn't too murderous.

Just changing chord types can be interesting - for instance, you can move between dominant 7th, 9th, 13th and 7th sus 4th chord types as a means of introducing variation into the accompaniments. Tapping in chord changes with the left hand while soloing on a MIDI keyboard with the right hand offers an interesting exercise in coordination.

Selecting different chord roots and chord types with the user Patterns can give some very unusual results, because of course when you program the Pattern you aren't restricted to notes of a single harmony. For instance, if you've programmed in the chord sequence FM7 - A_bM7 - E_bM7 and you select C13 as your chord, the QY10 changes the G in the A_bM7 harmony to an A natural! It doesn't attempt to

change all the notes to fit the selected harmony, so maybe the A is just a desperate attempt to get the dominant 13th in there somewhere. But what's interesting is that you can actually apply chord changes to the user Patterns just as you can to the presets.

User Patterns can be up to eight bars long, and can be recorded in overdub and/or step record modes. Overdub recording is the familiar drum-machine method: the Pattern loops in record mode and you can add new notes to the existing ones on each pass. However, it seems that you can only delete notes in step-time edit mode, which is a shame.

Not only the RT track but also the BS, CI and CII tracks can be recorded in overdub mode, so that as with the drum parts you can build up the bass and chord tracks over several passes. You can record from the QY10's front-panel micro keyboard and/or a MIDI keyboard.

The former only allows you to play monophonically, so if you want to record chords you have to play them in one note at a time, on different passes. The micro keyboard's physical 13-note range can be extended several octaves in each direction by successive presses of the up and down arrow buttons. As you might expect, the keyboard pads aren't velocity-sensitive, though the QY10's Voices are themselves velocity-sensitive and the sequencer can record velocity via MIDI and in step-time mode.

Step-time recording allows you to program in events from the QY10's micro keyboard or a MIDI keyboard. You select a bar, beat and clock position to begin from (the QY10 records to 24-clocks-per-quarter-note resolution), program in a step time (1-96 clocks), a note (C2-G8), a gate time (1-99) and a velocity (1-127) and then press the Enter button to take you on to the next step. There are various options available before you press Enter, selected using the numeric buttons with and without the Shift button: rests, triplets, ties, dotted notes, a chord entry mode, quick ways of entering preset step, gate and velocity values, and delete and back delete.

The QY10 also allows you to copy preset Patterns to user Pattern locations, so that for instance you can change the tempo or the Voice assignments. As well as whole Patterns you can copy individual tracks, which means you can use, say, a preset drum pattern as the basis of your own Pattern. It also means that you can take parts from different presets and combine them into a new Pattern. In fact, you can come up with some great Patterns this way. The only restriction is that you can't combine parts from preset Patterns of different length, but as most of the presets are four bars long this isn't too much of a problem. Copying is also possible from one user Pattern to another.

One feature of the QY10 that's definitely worth a ➤

“Overall, the QY10's Voices work best when they're working together, where they mesh together to create a pleasingly warm, gritty, low-tech but solid and punchy sound.”

- Mars bar or two is track muting. Press the Trans/Track button and you can use the eight "white key" buttons on the QY10's micro keyboard to mute and unmute tracks while the sequencer is running in Play mode - so that you can, for instance, drop out the drums for a few bars, or drop out the two Chord tracks and leave just the Bass and Rhythm tracks running for a while.

Notes that are playing when a track is muted aren't cut short by the QY10 but are allowed to play for their recorded duration. One problem with track muting occurs if you've recorded a user Pattern using sustain pedal on a Voice such as strings - if you mute a track while the sustain pedal is held down, the Voice hangs because the QY10 ignores the subsequent matching sustain pedal off command. Oops.

Pressing the Trans/Track button again takes you to the Master Transpose page, where you can transpose the overall pitch of the QY10 up or down an octave in semitone steps - useful if you want to practice playing over an accompaniment in different keys, for instance.

SONGS

IN SONG MODE the QY10 becomes an eight-track sequencer. Tracks 1-4 are linear, or continuous, while tracks 5-8 are pattern-based in that they're created by chaining together QY10 Patterns. As in Pattern mode, these eight Tracks transmit and receive on MIDI channels 1-8.

The QY10 allows you to record a modest eight Songs, each of which can be up to 299 bars long.

You can set a master tempo for each Song which overrides the tempi of the individual Patterns, and give each of Tracks 1-4 within a Song its own Voice assignment.

A Song is created initially by programming chord changes and Pattern selections into a track known as the BCK (BaCKing) track. A Pattern assigned to the BCK track will continue to play until a new Pattern assignment is encountered or until the Song ends, which makes life easy if you only want to use one Pattern throughout a Song. The

Song end point is defined as the highest-numbered bar into which you've program a chord change.

If your Song has a lot of chord changes and pattern changes, programming the BCK track can get a bit tedious. It's a real pity the QY10 doesn't have a facility for "auto-compiling" live pattern selections and chord changes made in Pattern mode into a Song. It seems to me that companies should be looking at this sort of musical approach - which returns the emphasis to what you hear and feel - as an alternative to the "computer operator" approach of having to scroll through bar and beat numbers in

an LCD screen, and tap in chord changes and pattern selections, without being able to hear a note of music.

Which isn't to say that the latter approach should be done away with, because it allows you to do things that you couldn't do the "live" way. For instance, as well as being able to assign preset and user Patterns to the BCK track you can assign them to each of the accompaniment tracks individually. For instance, if you assign Pattern 45 to the BCK track and Pattern 43 to the CII track, the RT, BS and CII tracks play the relevant Pattern 45 parts and the CII track plays the CII part from Pattern 43. You could then assign, say, Pattern 71 to the BS track and that track would play the bassline from Pattern 71. Accompaniment tracks which are assigned their own Patterns use both the Voice and the notes of their Pattern's part, unless you assign a Pattern to the BCK track *after* assigning Patterns to the individual accompaniment tracks, in which case the latter use the notes of their own Patterns but the Voices of the BCK Pattern - something you have to discover for yourself, because the manual doesn't tell you (except that now you won't have to discover it for yourself, because I've told you).

A Pattern assigned to an individual accompaniment track in Song mode plays only once, then the track reverts to playing the Pattern assigned to the BCK track. In other words, Yamaha seemingly conceived this approach as a means of dropping in variations or fills. However, if you want an accompaniment track to keep playing a certain Pattern, you can always assign the Pattern to the relevant track every four bars (for a four-bar Pattern, that is).

Tracks 1-4 are continuously recordable, which means you can record lengthy solos if you want - but equally you can start and stop recording anywhere within the Song length defined by the BCK track, so you can record in short sections, too. Both real-time (replace or overdub) and step-time recording are available for these tracks, with input accepted from the QY10's micro keyboard or an external MIDI keyboard.

Tracks 1-4 aren't affected by the chord changes of the BCK track. However, you can transpose all or part of each track within a ± 1 octave range in semitone steps, which allows you to match any changes you make in the BCK track's chord sequence. Other editing functions for Tracks 1-4 are Mix Track (which mixes two different tracks onto a third track), Quantise Measure(s), Copy Measure(s) and Combine Track. The latter rather intriguingly allows you, say, to combine the timing data of Track 1 with the note data of Track 2 and the velocity data of Track 3 and place the result on Track 4. Erase Measure(s), meanwhile, can be applied to any one of Tracks 1-8 or the BCK track, while Create, Insert and Delete Measure(s) operate across all eight Tracks.

Get Parts allows you to extract part of a Song track (Track 1-4) into a user Pattern, while Put Parts allows you to copy an accompaniment part from a preset or user Pattern to any position in a Song track. If you specify a chord root and type before Putting a part into a Song, the QY10 will copy the notes it would

"If you want to use an external sound for a particular track, you can set the track to Voice 32, which disables internal playback but not MIDI transmission for that track."

SONS OF

Ten years after their last studio album as Japan, Richard Barbieri and Steve Jansen are reunited with their old colleagues as Rain Tree Crow. But how will the technology pioneers of the early '80s fare in a new decade? Interview by Tim Goodyer.

"I THINK THEY SHOULD SELL SYNTHESISERS without presets and all the parameters at zero, then only people who wanted to play synths would buy them. Now people buy synths because of the presets they've got."

It's a bold proclamation to make - and not one that the hi-tech musical instrument industry is likely to welcome at present, but you've got to admit that there's a lot of sense in it. The man with the perspicacity and the courage to make such a statement is Richard Barbieri, once keyboard player with Japan, now keyboard player with Rain Tree Crow - who share exactly the same line-up as Japan, but we'll come to that presently. In the meantime, Barbieri, who was one of the original pioneers of synth "programming" in the early '80s is in his element.

"If I went by those standards" he continues, "I'd never have bought the VFX because it's got awful presets. If synths didn't have presets, people would only buy them if they were prepared to work on them, but people just want *that* sound *now*, and that's why I think so much music sounds the same. In fact, I think digital keyboards are all much the same if you stick to the presets."

Barbieri built his reputation as a "sounds" man with Japan. Synth patches that convinced you they were actually acoustic sounds existing in some corner of reality you'd yet to encounter were one of the main ingredients in the band's ability to create unique and genuinely innovative music.

Since their heyday in the early '80s I've lost count of the respected musicians who've cited Barbieri as a unique talent. Much the same can also be said of the remaining Japan members: drummer Steve Jansen brought a fresh sophistication to pop rhythms through Japan's drum patterns and programming, and found himself in demand with bands as diverse as Propaganda and Ippu Do. Meanwhile, Mick Karn's approach to bass playing earned him something approaching over-exposure in the days immediately after Japan; more recently he contributed to Kate Bush's *Sensual World* LP.

Returning to Barbieri and Rain Tree Crow, we find the first important departure from the Japan days. One important element of Barbieri's programming was his reluctance to repeat himself - the patches in each song would be unique to that song. Few players are creative enough to maintain such a policy and even for Barbieri, after over ten years, it's time for a change.

"There are certain sounds I've come up with over the years that I see no reason I should leave behind", he explains. "When you look at musicians like Hassell or Fripp - any musician with a strong personality - they have a sound. And although keyboards can have so

many different sounds, when I find a good one I think I should stick with it and use it in other contexts. Until now every single track has had a new sound; every single overdub was a new program, but it's too much hard work."

Barbieri's second departure from old programming methods was necessitated by new methods of composition. Where everything used to be carefully scripted before going into the studio, all the Rain Tree Crow material has been written through a process of improvisation.

"I had to do my programming before we started playing because we didn't know what we were going to be doing", he recalls. "I programmed a wide range of sounds and hoped that would be all right. During the recording - actually with every album I've ever done - I spent time programming either early in the morning or late at night because I felt I was slipping behind. There's so much work, as far as sounds go, involved in an album. It's not just a matter of playing something, it's having a new sound that's going to work. So about halfway through the album I ended up having to start programming new things.

"A lot of the sounds that went down originally stayed there - those either work or they don't work. When we then got into the overdubbing stage and somebody else was working on something, I'd start programming again *then* with a better idea of what was going on. Before, it was just a matter of getting as much as I could from the VFX - that was my main keyboard on the album, along with the Prophet 5."

Along with his Ensoniq VFX and Prophet 5, Barbieri used an Emax, D50 and the System 700. All were set up as if for a live performance - routed through various effects processors and then to the studio desk. Anyone able to recall the image of Barbieri hunched studiously over his stage keyboard rig from the Japan days will remember the distinctive shape of an Oberheim OBX too.

". . . I sold it to Mick ages ago", he reveals. "I thought I'd given it to him, but now he's trying to sell it back to me at this ridiculous price! I just took him to have it MIDI'd - because he didn't know what MIDI was - and now he's put the price up even more. I can't get it back. But I'm holding the sounds, and I think it's my sounds he wants."

The Oberheim aside, the keyboard line-up remained the same throughout recording and overdubbing.

"It's very rare you'd find a keyboard that's so wonderful and so different from all the other keyboards you need it for a specific job", he comments. "People do it with guitars, yeah, but I don't think that's the case with digital keyboards - they're either better than one another or they're not. I mean, the

PIONEERS



PHOTOGRAPHY: THE DOUGLAS BROTHERS

VFX is better than the M1 because it's more readily programmable. The way I like to work is the way the VFX is set out. For me the M1 is too simple; you can't go deep enough into it for me. The VFX is the nicest keyboard I've come across since the Prophet. Although I still get some good things from the D50."

Unlike the approach to composition that helped make *Tin Drum* a milestone in popular music, the composition of *Rain Tree Crow* was completely based on improvisation.

"None of us had done any improvising or 'band' composition before", recalls Jansen, "but I think we've all dealt with that in some way since Japan split up. On our (Jansen and Barbieri) first album together we worked that way on a couple of tracks, and when I produced Mick's last album it was pretty much pre-structured, but there were a few tracks he'd left open.

"But this was new to all of us because there was no material and we had to come up with something as a band. There was no pre-production, it was all written on the spur of the moment, so what was improvisation

was also writing. There were no ideas, nobody had any ideas ready, it was just plug in and play.

"All the drums were acoustic, Richard was to one side in a booth. Mick was set up near me with the bass direct-injected to the desk. Dave was at the back end of the studio with his D50, M1 and Kurzweil DI'd as well and he chopped and changed between them, his guitar and a vocal mic. On top of that he'd be writing his lyrics as he went along. We'd be jamming and he'd start singing along.

"We worked like that for a few tracks and then started changing around, like we'd set up percussion and all play percussion. Or I'd play keyboards and Rich would be at the piano, David would be at the Hammond and Mick would be on bass clarinet. We'd just keep shifting around."

"At the end we had hours and hours of material that we had to listen to", continues Barbieri. "Some things we kept as the basis of a track, other things we thought 'it's working well here but we need to concentrate more on this part', so we'd go back and re-record that. . ."

➤ While sections of the improvisations were subsequently re-recorded, much of the original recordings appear as part of the finished pieces.

“‘Big Wheels in Shanty Town’ was built upon improvised bass and piano lines”, Jansen elaborates. “‘Red Earth’ was where we were all playing percussion, ‘New Moon’ was a reconstruction. The first track we recorded just formed itself - with all its dynamics and everything. Nobody spoke about it. . .”



Richard Barbieri's keyboard rig: Roland System 700, Roland D50, Ensoniq VFX, Prophet 5, E-mu Emax



Richard Barbieri at keyboards during recording

Barbieri picks up the theme: “Other tracks were in danger of falling apart. It was like a tightrope between what we'd improvised and what was needed to hold the arrangement together. In a lot of those situations we were fighting all the way. There was a danger of the track becoming like a patchwork quilt and we had to fight it. It was certainly a new way for us to work.”

“The nicest thing was not being so obsessed with your instrument and listening to what the others were doing”, continues Jansen. “It was what jazz improvisation is all about - you hear what somebody else is doing and you feed off it, or you play to it, or you cut down to let them breathe. And it was really fun, learning to do that.”

Apart from the musical considerations, the practicalities of recording a band using around ten

keyboards (many of which appeared at the desk in stereo), a full drum kit, bass, various clarinets and saxes and a multitude of percussion instruments presented its own problems.

“It was 64-track recording for most of the tracks”, explains Jansen. “Two Mitsubishi 32-track digital machines running together. Some of them made it on just one. . . We had a few nightmares besides the odd power cut that always seems to happen whenever we record. We had to completely reconstruct one track because something went wrong with the machine.”

“It was something of a job for the engineer”, agrees Barbieri, “he had almost every track permanently in record. There was stereo from every keyboard, Steve had about 12 tracks. . .”

“The other thing we were using was a Macintosh and Performer - you don't mind me mentioning that do you?”, says Jansen, light-heartedly.

“No”, comes Barbieri's reply. “All my keyboards and Dave's keyboards were going to a Macintosh that Steve was controlling. When we were playing live it was just receiving MIDI information from the keyboards, but it gave us the opportunity at a later date to go back over, say, four hours of music and find 30 minutes that we liked and keep it in its original form and reconstruct around it. And that's the only real way we used any sequencing.”

Sampling, too, has played only a small part in the recording process.

“On ‘Blackwater’ I decided I wasn't happy with the original brush part”, says Jansen. “The studio time had finished, so I had time to go away and think about it and I really didn't like what I'd done. I had taken samples of the sounds at the time so I took a SMPTE mix of the track home to our E16 and started to duplicate what I'd played using an Akai S1000 and the Macintosh. I used a variety of samples and literally compiled them on top of the original - slowing down where it slowed down and so on. Hopefully it doesn't sound too bad. I was surprised at the quality of the Akai; it was the first time I'd used one.”

Happily, the technicalities have taken second place to the music.

“It was a very creative time for everybody”, reports the keyboard player. “Because of that some of the recording has suffered - sometimes we had to take a bit of distortion or whatever - but it doesn't matter because we got a good performance and that's the important thing. We were less involved in being in the control room and knowing what was going on from that side of things because we were more concerned about what we were playing.”

WHEN JAPAN FINALLY TOOK THE DECISION

to shut up shop in 1983, the event couldn't have been better tailored to the requirements of the popular music press. Stories of the personal conflict between Sylvian and Karn were perfectly synchronised with the height of the band's success. Japan's fifth studio album, *Tin Drum*, had shown them at their most creative, and packed concert halls had underlined their popularity.

“We started talking seriously about this in April '89”, recalls Jansen, “and we finally got it off the

ground to go into the studio in September that year."

The news will be welcome to many, but why change the name if the lineup remains the same?

"We all differed on the reasons for that", replies Jansen. "David didn't want to use it for reasons I can't specify; my reason was that we were going to have a long-term project happening, and to have a new name and a fresh start was a challenge. The name we've come up with isn't actually the name that everybody would like - we've just had to use *something*. But it is a Japan album basically. . ."

Arguments over the name of the project quickly reveal more significant problems, however. Jansen's references to a "long-term project" are contradicted by record company press releases declaring the album a one-off.

Jansen begins again: "A few months before the final decision to reform I remember talking to David about his idea of forming a band using improvisation. We were interested in that method of working and we were talking about it quite seriously, but at the end of the day he turned round and said 'I may not have mentioned it, but if this does happen it has to go under my name'. So we all backed off immediately: 'bye, see you next year' . . ."

"Then Rich and I were in Italy and Mick and Dave got together and started talking about what they wanted to do. They were really keen to see everyone working together again. We were surprised, but we got this phone call saying 'it looks like it could happen'.

"When we got back to London we talked about what we'd like to do and we all agreed again that it would be improvised, we'd all co-write and there'd be no politics. We went into this knowing that we had to be very tolerant towards each other in the studio. Because we were improvising we had to be very careful in the way that we would give each person enough time to develop their ideas. We went into it very positively and it stayed that way well into the overdubbing period. *Then* it all started to get politically and morally screwed up. There were problems with the record company that were unavoidable - to do with finance. But then there were moral issues too. On the one hand Dave was trying to say that he wasn't too happy with what was going on but he was going to see it through, and on the other hand trying to make it his baby by taking the credit. Obviously we're a bit upset about that, and that's the reason I can't see us continuing to work together.

"At the end of the day he's tried to take it away from us. We weren't allowed to go to the mixing because he put up the money, and that, for us, doesn't show real respect. If he believed in the material that's there, he'd have believed that us being there was an important issue. I'm sure his reasons from his perspective will come across as being fair, but we see it from our point of view and he sees it from his. All I know is that we all went into it under a bond of friendship and respect and it ended up that the freedom he was allowed in his lyric writing was turned around by him saying 'well, I've done most of the work then'. We were saying 'have your freedom' and he's thrown that back in our face. There's not an easy way to explain it.

"I know he believes he's right in what he's doing. He believes in himself to such a degree that he abuses his friends. That's the bottom line. It's obviously going to get talked about and I'm not going to sit here and lie about it - and I doubt whether he will either."

Confronted with Jansen's statements exactly a week later (see interview elsewhere in this issue), Sylvian is visibly shaken by his brother's comments. After some moments of consideration he confesses to being



Steve Jansen and "Improvised" percussion

"upset" and begins to put his side of the story. Instead of retaliating, he attempts to shed light on a difficult situation which involves more personal matters than the recording of an LP. But at almost midnight the same day, he is to send me a fax withdrawing all his comments on the grounds that there are "too many negatives" involved. Implicit in both his words and the fax is a sense of personal sadness that, five years after the public arguments that accompanied Japan's demise, it's in danger of happening all over again.

Returning to the interview in hand, Barbieri is more positive about the role of the record company in the project.

"I'm really surprised we got a preferential contract when they knew that we weren't going to call it Japan. There was a lot of pressure from them for us to do that >

Thanks to Richard Barbieri for use of photographs from his personal album



Mick Karn - Steve Jansen & David Sylvian look on

> but we'd got David at the other end wanting it in the contract that the name wouldn't be used. We thought once that happened they'd offer us less money, less time to do the album, less of a deal. . . But they still gave us a good deal, so we can't complain."

The deal was good enough to take them on a minor world tour of recording studios. Starting at Miraval in France they moved on to Condulmer and Zerman in Italy, then Marcus in London and Tears for Fears' The Wool Hall in Bath. The mixing began in London's Olympic studios with the help of Japan regular Steve Nye, and was completed in Ireland - although neither Jansen or Barbieri were present by this time.

"The main reason we started off with those two studios was the rates", comments Barbieri. "We knew

that we were going to need a lot of studio time, and were getting these for about £800 a day - saving £500-600 on doing it in England."

Although the project began with guitarist Michael Brook in the role of producer, it quickly became apparent that the musicians could ably produce themselves. Instead Brook joined the ranks of guest musicians - alongside Phil Palmer, Bill Nelson and Salif Keita's backing vocalists - who contributed to the recordings. The result is an album that retains the innovative approach defined in Japan's closing days, but combines it with a broader outlook on other musical styles.

"There's quite a lot of aggression on the album" says Barbieri. "We haven't previously gone in for that, all the stuff's been harmonically pretty, but I like that side of it. I think it's more 'rock' than our other albums. There are phrases and sequences that are more blues and sometimes rock. I used to like Led Zeppelin; I think it's all coming back - I'll probably start digging out all the Pink Floyd albums next."

"That's something I've always been aware of", concurs Jansen, "we all enjoy listening to quite rough and ready music, and yet we rarely get that quality in our music - although we've tried to with this album. We have a tendency to over-polish what we do; with this album we haven't done that. I hope that's what will come across."

As for the future, Jansen and Barbieri are still active as the Dolphin Brothers and have a recording in progress for Virgin's Venture label.

"We've decided to do it as Jansen and Barbieri, not Dolphin Brothers", corrects Barbieri, "because we want to keep Dolphin Brothers as a commercial song project. The album we're doing now is probably going to be all instrumental - but not ambient. We had the deal with Venture to do this album before the group got back together - then it took a back seat. They didn't mind waiting for it because they thought the group was more important. But the budget was so incredibly small that we thought the only way to do it was to use the budget to buy some equipment and record on a 16-track. So we decided to do it that way. We've recorded about half of it so far."

There are various other projects under consideration too, but most of the musicians' enthusiasm seems centred on the possibility of some live work.

"The three of us really enjoy playing live", says Barbieri of himself, Jansen and Karn. "David's never really enjoyed it; I don't think he really considers himself a 'player', that's not his thing. We'll ask him and he'll probably say no, but we'll probably go ahead with some of the new stuff because a lot of it's instrumental and it was all co-written. So we're getting a band together ourselves; David Torn's probably going to be involved. We could do concerts and 'feature' things from the Dolphin Brothers and from Mick's album, from the Rain Tree Crow album and from David Torn's album."

Taking the strength of the music on *Rain Tree Crow* and David Torn's recent release, *door x* (on Windham Hill), and the fact that Torn is currently in Italy producing Mick Karn's forthcoming solo album, a live date could be essential for your diary. ■

EQUIPMENT LIST

DAVID SYLVIAN

Hammond Organ
Korg M1 Workstation
Kurzweil 250 Synthesiser
Roland D50 Synthesiser
Sequential Prophet VS Vector Synthesiser

RICHARD BARBIERI/STEVE JANSEN

KEYBOARDS

Ensoniq VFX Synthesiser
E-mu Emax HD Sampler (2)
E-mu Emulator Sampler
Sequential Circuits Prophet 5 Synthesiser (2)
Roland System 700 Modular Analogue Synthesiser system
Yamaha DX7 II FD Synthesiser

RECORDING

Alesis Quadraverb Multi-fx Processor
Apple Macintosh SE Computer

Fostex E16 Multitrack & 4050 Autolocator
Korg SRV2000 Reverb
Lexicon PCM70 reverb
Mark of the Unicorn MIDI Timepiece Software
Mark of the Unicorn Performer Software
Roland SBF325 Stereo Flanger
Roland SDE3000 DDL (2)
Sony DTC1000ES DAT Recorder
Soundtracs PC MIDI 16-Channel Mixing Desk
Stereo Ring Modulator
Yamaha SPX90 II Multi-fx Processor

RAIN TREE CROW RECORDINGS

Emax HD processed by Stereo Ring Modulator, SBF325 & Quadraverb
VFX processed by SDE3000 DDL
D50 processed by SDE3000 DDL
System 700 processed by Ring Modulator, SBF325 & Quadraverb
Prophet 5 processed by SPX90 II

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D70 - Cards coming soon! - Perhaps

Yamaha

SY77 - 2 Disks Available - £45 each
SY/TG77 - 3 Cards Available - £65 each
SY/TG55 - 4 Cards Available - £60 each
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Kawai

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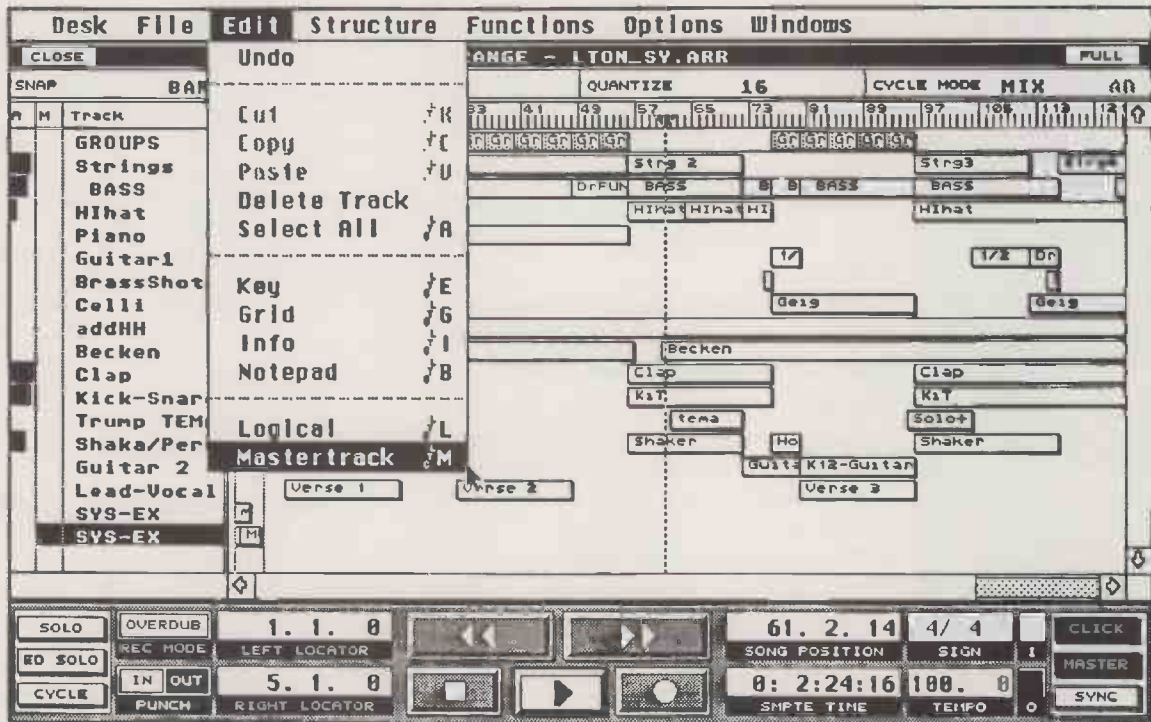
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CUBEAT



Retaining many of the features of its sophisticated parent, Cubase, Steinberg's latest sequencer attempts to capture that elusive balance between musicality and affordability.

Review by Nigel Lord.

THOUGH I CAN'T believe it would make any sense for one of the newer software houses to venture into the mid-priced ST sequencer market at the present time, it's perhaps not surprising that a company like Steinberg should attempt to take up any slack by releasing a scaled-down version of their flagship sequencer. After all, when you've invested the time and effort that's gone into Cubase, recycling some of the technology is a sensible move.

Sensible, too, for the punter short of £150 or so to buy the sequencer of his dreams. For them, the prospect of a sequencer from the same stable as Cubase and equipped with many of its more innovative features, may seem too good to be true.

With this in mind, I've resisted the temptation to wax weary about the release of "yet another sequencer. . ." As cynical as we may have become about ST software, the release of Cubeat will set a few pulses racing.

From the similarity in name and Steinberg's description of "a low-cost Cubase derivative", there's no doubt that Cubeat is being marketed as a cut-down version of its big brother rather than a beefed-up version of anything else (the ageing, but still available Pro24, for example). And this being the case, we're entitled to make direct comparisons between the two. After all, some punters may still be in the process of deciding if it's worth the bread and water rations to save the extra they need for Cubase. Clearly, we need to find out where the cuts in

facilities have been made and how much they affect overall performance. But before we get into that, let's look at what is on offer.

ON THE BEAT

THE FIRST GOOD news is that the main Arrange page (around which Cubase is built) appears in Cubeat in exactly the same form. This, in my opinion, is Cubase's greatest strength and will be the single most important factor behind Cubeat's success - if success it has. Forget note editing facilities, forget scorewriting and sync options - if it takes an age to put a song together (as it did on Pro24), software sequencers quickly lose their appeal. With Cubeat, recording couldn't be easier: record your parts (individually or in groups) across any of its 64 tracks and you'll see them appear as oblong boxes of varying length within the Arrange window.

From here, thanks to Steinberg's excellent Visual Song Processing (ViSP) system, arranging a song is a go-anywhere, do-anything relationship between imagination and mouse. Parts may be moved, combined, joined, split, extended or shortened. They can overlap and be moved from track to track; they may be repeated within the same track or copied into different tracks. You can mute them or listen to how they sound isolated from the rest of the music - and if you don't like them, you can delete them altogether. As I said in my review of Cubase, I cannot think of a musically useful function which cannot be accomplished in the Arrange page.

To help you out, you'll find a set of special tools which you can call on (by pressing and holding the right-hand mouse button) at any time. Amongst them are a pencil, scissors, glue, a magnifying glass and an eraser; I'll leave it to you to work out which of them does what. Below the Arrange window, and present at all times in Cubeat, are the "transport" controls which, as with most software sequencers these days, replicate those on a conventional tape recorder. In addition to the standard functions such as play, record, fast forward and rewind, you can cue at varying speeds by clicking the right-hand mouse button at different positions within the fast forward or rewind icons. You can also instantly return to zero by a second click on the stop icon.

Within any arrangement it is possible to set up a cycle using the left and right locators, and this function is used when recording in any of the three Cycle Record modes - Normal, Mix and Punch. In Normal mode (used also in non-cycle recording) you record in the conventional way on the first cycle, but if you carry on playing as recording enters its second (or any subsequent) pass, everything previously recorded is wiped out and only the new data is kept. In Mix mode, data recorded on the second (or subsequent) pass is added to that on the first, whilst in Punch mode recording doesn't start until you begin playing, but carries on from that point to the end of the cycle, erasing anything recorded previously. Incidentally, you can also record conventional punch in/out using the left and right Locators and clicking on the icons just next to them.

In addition to editing the notes that go to make up each Part (which we'll come to in a moment), it's possible to edit a number of parameters associated with the Parts themselves. This is accomplished by double clicking over any Part icon, then adjusting the parameters presented to you in the dialogue box which appears. These include transpose, velocity, (MIDI) delay, length, and (MIDI) volume. There's also a compression function which restricts the overall dynamic range of a Part, and a program change facility where you can enter a MIDI program change command which will be sent out as the Part is played.

On top of this, information about the Part itself is included - its name, position, MIDI channel and so on - and there's a filter to prevent the output of certain kinds of MIDI data such as aftertouch, pitchbend and program change.

ON THE EDIT

EDITING AT THE level of individual notes is a fundamental requirement of all sequencers. Previously, this was an area in which Steinberg software excelled; on Cubase, for example, it's possible to edit note information in any of five different pages - Score, Drum, Key, Grid, and Logical - the last three of these having found their way onto Cubeat in virtually identical form.

Key Edit is probably the most intuitive, and features a piano-style keyboard running from top to bottom down the left-hand side of the screen and a large grid alongside it. Like the Parts on the Arrange page, the notes appear on the grid as oblongs of varying length and lie opposite the corresponding notes on the keyboard. Visually, it's reminiscent of the old player-pianos, except that the notes are not scrolled in real time as they are in that (century old) technology but remain stationary and sound as a cursor line passes them. After the notes in each grid have been played (amounting to perhaps three or four bars of music) the screen is updated with the next grid, and so on, to the end of the song.

If you wish, the velocity level of each note can be represented in bar graph form in a display beneath the main grid. Alternatively, this may be used to provide a visual representation of other forms of MIDI data such as pitchbend, aftertouch, modulation, breath or foot control.

Editing on screen is broadly similar to that on the Arrange page: notes can be inserted, deleted, lengthened or shortened, but calling up the toolbox reveals a few changes to the tools you have at your disposal. The pencil, eraser and magnifying glass are still there but joining them are a paint brush (for writing multiple notes on screen) and two "feet" for kicking the notes (in either direction) along the grid. The size of each kick is directly related to the current quantise level.

Editing in the Key edit page is very intuitive, and Cubeat assists you at every step with a huge array of features designed to keep it as musical an exercise as possible. For example, clicking the mouse over any of the keyboard notes on screen sends that note >

"In day-to-day use, I frequently found myself forgetting that it wasn't Cubase I was working with but Cubeat - the programs are so similar."

➤ via MIDI to your keyboard. If you want to change or insert a note, then, you can "play" the on-screen keyboard to determine which note you require. Also, though most recording will probably take place on the Arrange page, there's nothing to stop you recording in Key edit (or Grid edit for that matter), and here you can watch your notes appear, in real time.

Grid edit is in many ways similar to Key edit, but instead of identifying notes by placing them alongside a piano keyboard, it does so by displaying an event list containing position, length and pitch. You can, if you wish, include other types of event in the list - polyphonic key pressure, aftertouch, pitchbend, program changes - and it's for this reason that three of the parameter columns are labelled, simply, Val(ue) 1, 2 and 3; the information they include being dependent on the type of event listed.

Graphically, events are plotted on the grid itself in sequential order; this means they run diagonally across the grid from top left to bottom right. As the grid is plotted against time along its horizontal axis, two events may appear one above the other (when two notes are played simultaneously, for example), but it isn't possible for a note lower down the grid to be plotted further to the left of one higher up.

It takes a bit of getting used to at first, particularly when you're manipulating events on the grid itself (which you can do using the toolbox), but you soon get used to it. And for many editing operations (increasing the length of a note by a precise amount, for example) it's actually much quicker.

I wish I could be as positive about the third editing page - Logical Edit. Despite Karl Steinberg's personal assurance that this was a laudable enough inclusion on Cubase, I've never really got to grips with it, and was less than elated by its appearance on Cubase. Simply, it offers a method of editing based not on musical criteria but on mathematical and logical functions. There isn't room here to explain its full operation, but a couple of examples might shed a little light.

You could, by entering the necessary data, double the duration of a series of G#2 notes which occur on the third beat of each bar within a given section of music. Thus, if you had recorded a repeating bass riff, and decided one of the notes cut off too sharply, you could use Logical Edit to lengthen it throughout a Track. Similarly, if you decided you'd been heavy on the pitchbend during a particular section of a song, you could, after identifying the notes, use Logical Edit to lessen the pitch shift for all of them by a predetermined amount.

These examples are simplistic, but they put you in the general area of what Logical edit is about. Personally, I find it the kind of feature which leaves me thinking "is this what music is all about?" after a heavy night's editing.

IN DEEP

LET'S GET EXOTIC. Cubase, like its big brother, is multitasking. In other words, it can do a number of ➤

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that Cubeat is
being marketed as a
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➤ things at once. With enough memory in your ST, it will allow you to run two or more programs simultaneously. The key to it all is Steinberg's M.ROS operating system, developed originally for Cubase and making another dramatic appearance here. How else would you describe a multitasking sequencer for well under three hundred pounds?

We're talking mucho memory for even the most modest attempt at running two programs together (not to mention a key expander such as the MIDEX or MIDEX+ - reviewed MT, December 89), but M.ROS does earn its keep at a more fundamental level on Cubeat by allowing you to instigate most operations (say, changing editing pages and adjusting part parameters) whilst the sequencer is still running - in fact, without it even breaking step. Understandably, this makes working with Cubeat immeasurably less tedious than most sequencers (soft or hard).

If you have the wherewithal to make Cubeat the centre of a multitasking system, you'll find the Switcher program needed to get the system up and running included on your program disk. With it there's an Installation program which selects the driver files required for various hardware devices (SMP24, Timelock, MIDEX), at least one of which you'll require in this expanded setup. There's also a program called Satellite which allows you to edit the basic parameters of any one of a dozen or so of the most popular synths, as well as load, send or save banks of sounds compiled using one of Steinberg's Synthworks programs. And, under M.ROS, you can do it all in real time with Cubeat still loaded.

Cubeat has an extensive range of synchronisation options built around M.ROS. Full compatibility with SMPTE and MIDI clock sources is offered, as is MIDI Time Code - this makes Cubeat only the second software sequencer (after Cubase) to include this method of synchronisation. Human sync is also possible: you can tap in a tempo using some kind of MIDI key whilst syncing to time code in any format. For example, Cubeat may be synced to existing recordings which have not been striped with sync code in order to change the instruments and add other parts - or to salvage a favourite synth or bass line.

On the subject of righting wrongs, if your playing tends to wander when set against the unerring pulse of the machine, you'll be relieved to hear that Cubeat comes equipped with a variety of quantisation options. Besides quantising to dotted and triplet values down to 1/64 notes, there are no less than five different types of quantise available. In addition, a quantise freeze function may be used to freeze a part corrected in Over Quantise mode, for example, before attempting an Iterative Quantise to create, say, a shuffle feel.

Match Quantise, as its name suggests, allows you to match the feel and dynamics of one part with those of another. Thus, if you've recorded a drum track with a happenin' groove, you can use Match quantise to impose this on a synth bassline. Results sometimes don't turn out as you planned, so unless a part has been deliberately frozen, all quantising can be undone with the ST's Undo key.

VERDICT

IN DECIDING WHAT to include on Cubeat from the features in Cubase, Steinberg have not gone in for a lot of nit-picking. Rather, they've taken a large pair of scissors (or the software equivalent) and cut four major features in a calculated guess that what's left will be enough to make it a success in the mid-priced sequencer market. The features of which I speak are the Score and Drum edit pages, the MIDI Manager and the MIDI Effects processor - in many ways, the four most advanced/innovative areas of Cubase.

Has the gamble paid off? With one exception, I think the answer is yes. As far as the MIDI Manager and the Effects processor are concerned, you could say if you haven't got them, you won't miss them. And to a lesser degree, the same is true of the Score Edit page. As sophisticated and easy to use as the system is - there isn't really anything that cannot be accomplished in Key edit and in certain circumstances, Grid edit.

The real problem as I see it, lies in Steinberg's decision not to include a Drum edit page. This isn't a reflection of my preoccupation with things rhythmic, but a genuine note of concern about the absence of what has to be regarded as one of the pillars on which software sequencers are built. Put simply: programming rhythm tracks on a conventional sequencer is a pain in the butt and is one of the reasons why people buy software sequencers. It is, therefore, likely to be the reason why some people, who might otherwise be tempted, will not buy Cubeat.

The assumption may be that these people will opt for Cubase instead, but with so many other challengers in the market place, I wouldn't feel happy about making such an assumption. Surely there were other features which could have been omitted? I accept that a differential has to be maintained between Cubase and Cubeat in terms of facilities, but is it not equally important to preserve a sense of wholeness about a program? And without Drum Edit (which even Pro24 boasts), Cubeat does not, to me, feel whole.

In every other respect, the program is difficult, if not impossible, to fault. In day-to-day use, I frequently found myself forgetting that it wasn't Cubase I was working with but Cubeat - the programs are so similar. And that, I suspect, is likely to be a very powerful argument for those still weighing up the pros and cons. In a nutshell, those not involved (or likely to be) in the creation of rhythm tracks need have no second thoughts about Cubeat. It's not a sequencer you'll quickly outgrow, and you're likely to find it a tremendous spur to your creativity. Those who do write rhythm tracks will either have to work with Grid or Key edit, save up the extra for Cubase - or pray that, upon reading this, someone at Steinberg will include Drum edit in version 2. ■

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XD5

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Why buy a drum machine with a built-in sequencer if you're happy with the sequencer you're using? No reason at all, say Kawai, as they unveil their new percussion synthesiser module.

Review by
Vic Lennard.

WITH COMPUTER SEQUENCERS reaching a stage of development where their facilities far exceed those of the average drum machine, there's a definite need for percussion expanders. After all, why pay for the sequencer side of a drum machine if you're never going to use it? Admittedly some up-market models, like Roland's R8, have performance functions aimed at the realistic reproduction of a drummer's feel, but Roland have been able to offer even the R8 as a module. However, manufacturers in general seem to be coming round to the idea of a beat box with less emphasis on sequencing and more on sound capabilities.

Kawai have often been innovative in their approach to synthesis, and the XD5 is continuing along this path. The unit is based on the K4, but uses a higher sampling rate for better quality - we're not dealing with a run-of-the-mill drum sample player but a dedicated drum synthesiser. It's an interesting idea...

OVERVIEW

THE XD5 OFFERS a selection of 215, 16-bit, 44.1kHz PCM samples, and 41 synthesised waveforms. A maximum of four sources can be combined together to create a Tone, and total polyphony is 32 sources. The internal structure is similar to previous members of the Kawai "K" family in that 64 Single patches - a Tone and its programmed parameters - can be stored internally along with 16 Kit patches. A Kit may have up to 88 tones assigned along a keyboard. The XD5 also incorporates Output patches for assigning Tones to its eight audio outputs.

While many manufacturers incorporate a small number of pushbuttons with multiple uses, the XD5 has a total of 31 dedicated function buttons on its futuristic front panel - made possible by its 2U-high

rackmount format. The only duplication is with the letters and numbers for accessing patches. Two vertical sliders handle volume and value input while the central display is a backlit 2 x 16-character LCD. A pushbutton for power, a card slot and headphone socket complete the front panel lineup.

The rear panel sports eight outputs (L, R, 1-6), MIDI In, Out and Thru sockets and an input for a 12v DC supply. I say this each time, but it's encouraging to see a manufacturer using a separate PSU - no internal heat or hum.

HEARING THINGS

THE XD5'S SINGLE button offers you the instant gratification of hearing the 64 single Tones by selecting a letter and a number - four banks lettered A-D and 16 tones per bank. To hear this current Tone you can either connect a keyboard or, even easier, press the Play key and use a pair of headphones. This means you can work on patches without a MIDI keyboard or sound system. The preset Tones are pretty good although the cymbal Tones are looped and a little too short in some cases. More of that later.

EDITING

IF THE VALUE of a parameter has to be altered on any of the edit screens, this can be achieved by either using the Value slider or the +Yes/-No keys. I tended to use the slider to get near the value and then finish off the job with the keys. Another important button is labelled Previous, this returns you to the parameter before the current one. This is useful because the parameters are scrolled through by repeatedly pressing the relevant edit button - and you can't move backwards. Compare allows you to toggle between the original version and edit. Needless to say, you have to save an edit before changing to a different mode.

As previously mentioned, the XD5 isn't a preset

MUSIC TECHNOLOGY MAY 1991

sample player. Pressing a key on a keyboard plays a note into a Digitally Controlled Oscillator (DCO) which selects the relevant note for the current Tone. There are two choices of waveform; Digital Cyclic (DC) or Pulse Code Modulated (PCM) samples. DC waveforms are basically digitally synthesised sounds which can be used in the creation of a Tone. They are clean, high in harmonic content and are useful for adding specific characteristics to a sample of a "natural". For instance, it's often difficult to bring out the ring from a snare drum rimshot but by combining the relevant harmonics with a snare sample, the task is made that much easier.

Of course, DC waveforms are only going to be useful if you have a good sample to work with in the first place. The XD5 has 215 high quality, PCM drum samples, and the structure of a Tone is such that you can combine together up to four elements. You are effectively creating a drum tone by using up to four building blocks.

After selecting a Single Tone, pressing the Edit button takes you into edit mode. There are nine screens for modifying a Tone; each of these shows which of the four elements are in use, what type they are (P = PCM, C = DC waveform) and a line underneath one of the elements shows which one is being currently edited. The front panel has four buttons each for Source Select and Source Mute - you can choose which element you're editing and ensure that you are also listening to that element as well.

Edit screens are accessed by pressing appropriately-labelled buttons; continued pressing of a button scrolls through the editing possibilities. Edit takes you into the most basic of these screens from which you can alter volume, output patch and submix (see later), and patch name.

Common sets up the mode for a Tone. Apart from the four available sound sources, there are two digital filters - Source mode lets you decide which configuration is going to be used. Normal uses two sources and one filter, Twin uses two such groups while Double mixes all four sources before passing them through the two filters in series. Bearing in mind that the number of sources selected will affect the XDs polyphony, this first step has to be thought through. Further selections for ring modulation follow, but the other important programming feature here is the polyphony setting, which affects how a Tone reacts when played repeatedly. The two Poly modes let you choose whether Tones overlap or not when accessed from the same key - a hi-hat might require consecutive notes to mute previous ones, while a snare drum roll might require Tones to overlap. There is also a third option, called Solo, in which a second note anywhere on the keyboard cuts off the previous one. You might use this with tuned percussion or bass.

Hitting an acoustic tom hard causes its pitch to rise as the skin stretches. The XD5's Auto Bend function imitates and recreates this, giving you control over the Time and Depth of the bend. Velocity Depth changes the degree of pitchbend according to the velocity of the hit.

Source Common sets the delay between the MIDI
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input and the attack phase beginning and then gives a selection of eight velocity curves. The main purpose of these is to cater for different velocity responses from attached MIDI devices.

DCO gives you the selection of waveforms by number. Their names - even shortened versions - would have been of great help here, because the choice of 256 means continuous reference to a table. Tuning (coarse, fine and fixed) is the other important aspect editable here. The DCA edits control the envelope of a Tone. Level sets the initial level of the attack while Attack, Decay, Sustain and Release carry out their normal duties.

DCA Modulation adjusts the envelope response to the velocity of the MIDI note input. It affects the initial and sustain levels, effectively acting as a compressor or expander depending on whether a positive or negative value is set. Decay Modulation carries out a similar job for the decay stage of the envelope - the note velocity will appear to change the overall envelope length of the Tone. Both these edits offer more - or less - natural drum sounds.

The timbral quality of the Tone is edited from the DCF parameters. Filter Cutoff frequency filters out the harmonics within a sound above the value set. This is used in conjunction with Velocity Depth for creating the timbral "shape" of a Tone - again giving potentially more natural sounds. The Resonance parameter is another welcome inclusion - congratulations, Kawai.

DCF Modulation gives you control over the envelope of the filter including Attack, Decay, Sustain and Release and Envelope Depth for actively altering the cutoff frequency according to note velocity. Progressively hitting a snare harder could be duplicated by the relevant setting of this parameter.

But why go to all this trouble? Why not simply use a sample of the real thing? The reason is that a sample only accurately represents an acoustic event at a particular velocity (amongst other things). Had the sample been taken when the drum was hit slightly harder or softer, the sound would have contained a different set of harmonics. By adding synthesis to the basic sample, the illusion of real percussion sounds is more readily created.

KITTED UP

AN XD5 KIT is a selection of Single patches, or Tones, assigned to individual keys. The screen entered by pressing Edit gives you options of a similar nature to those of the Single mode: volume, output patch and name. Edit key selects the current MIDI key, from A1 through to C7. Scrolling through these shows which Tones are assigned to each note (some keys may show the same tone to create a group of keys with a common Tone; this will either change in tune as you move along the keys or present you with a block of notes with the same tuning if Fixed tune has been selected). Single lets you scroll through the available Tones and so select the relevant one for that note.

There are two other edits available here: the first is for the Pitch of a tone, the second concerns output

"The XD5's DC waveforms are mainly used for combining with the PCM samples - what's surprising is that electric pianos, basses and organs also exist within that list."

- assignment. Pitch is important with tuned percussion sounds - a cowbell, for example. Audio output edits cover for Level and sub-mix channel. These provide a degree of mixing between the various Tones.

PATCHING OUT

OUTPUT PATCHES ARE quite a clever idea on Kawai's part. Each Output patch is the equivalent of an 8 x 8 mixer with the inputs to the mixer being called Sub-mixes (A-H) and the outputs from the mixer leading to either a panned position using the L/R outputs or one of the individual outputs (1-6). Each Tone can be assigned to one of the inputs and will then follow the routing for that patch.

Consider how this might work in practice. Take a typical drum kit of bass drum, snare drum, hi-hat, three toms and a crash cymbal. The toms would go to the left and right outputs, suitably panned, while the rest would go to individual outputs. The only restriction is that there are only eight inputs to the mixer so you could have all eight going to panned positions across the stereo outputs, or have some routed to individual outputs and the remainder to positions across the stereo outs. This is not as flexible as, say, Roland's configuration where any tone can be positioned in any position in the stereo spectrum. However, the 16 output patches can be set up for general, rather than specific, purposes. For instance, you could use one patch for a standard drum kit and impose it on any of the kits you create in that style. Also, you can set up the effects routing for the individual outputs and then change single patches which are still being routed through the same output patch. Most manufacturers would have you resetting the output assign each time you change the source Tone. This idea is clever but I'm not certain whether the restriction of eight mixer channels will appeal to everyone.

SOUNDS

THE FIRST 41 of the XD5's sounds are DC waveforms - these are mainly used for combining with the PCM samples, but what's surprising is that various electric pianos, basses and organs also exist within the list. Amongst the PCM samples is the usual selection of bass drums, snares, toms and hi-hats along with latin percussion, various industrial sounds and the obligatory brass hit. All samples are available reversed, and many of them as looped samples. Finally, there are four groups where 11 samples are layered across the keyboard as a kind of preset kit.

On soloing any DC waveform, there appears to be a loud click at the beginning. Taking the attack above 25 gets rid of this and it may be intentional - it certainly adds attack to percussive sounds. But the same click also occurs on many of the PCM samples which may be down to a fault on this particular XD5. The actual quality of the samples is very good, with practically no noise in either the samples or outputs.

The loops on some of the cymbal samples are very short, especially the rides. The only way around this

is to set the decay level low so that the sample is fading away as the loop becomes apparent. Unfortunately this can lead to unnaturally short sounds.

The XD5 really comes into its own when you start layering together waveforms and then individually adjusting their envelopes and velocity sensitivities. It requires effort, but the results are worthwhile especially when you know what particular aspect of a drum sound you want to bring out. A low-level DC waveform underneath a PCM sample can work wonders. One useful facility here copies features set up for one source to the others within a Tone, hence duplicating envelopes.

FEELIN' MIDI

BEARING IN MIND that the XD5 is a drum synthesiser, the MIDI implementation is quite sparse. It will recognise MIDI Volume (controller #7), Patch changes and can have the master fine tune set via Registered Parameter Number 1 but that's about it. As there is no LFO, the absence of MIDI modulation and aftertouch is no surprise, but recognition of pitchbend could have given some interesting percussion sounds and effects. Kawai have also been slow to take up the idea of using MIDI controllers to internally address functions.

There are a variety of System Exclusive dumps available, however, including one patch and all patches for single, kit or output and you can also save all internal data. Similar dumps are available for the external card.

VERDICT

THE IDEA OF allowing you to mould your own drum sounds is an interesting one and there's little doubt that, with a modicum of effort, you can get good results. Using the DC waveforms lets you fatten up percussion instruments or make them sound like something completely different. The likely problem the XD5 must face is that many people will want to turn on a drum machine and have an instant array of brilliant sounds.

The XD5's cost places it in the same market position as Roland's R8M which already has access to an impressive library of sound cards. Admittedly, XD5 owners can expect to have new patches become available - Kawai tend to put these out on Q80 disks - but these will have to be programmed using the existing 256 internal waves, where the R8M can use fresh samples. What's perhaps more relevant to the XD5's market position is the fact that the Alesis SR16 is retailing at £299 with 233 drum sounds on board. With these two factors in mind, Kawai may have difficulties convincing the public of the viability of what is otherwise a ground-breaking approach to MIDI percussion sounds. ■

Price £599 including VAT. Price may be subject to change due to the recent increase in VAT.

More from Kawai (UK), Sun Alliance House, 8-10 Dean Park Crescent, Bournemouth, Dorset BH1 1HL. Tel: (0202) 296629.

“The XD5 really comes into its own when you start layering together waveforms and individually adjusting their envelopes and velocity sensitivities.”

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BASS-NO BULL

**WHEN SIMON HARRIS ASKED
'BASS HOW LOW CAN YOU GO',
HE PROBABLY GOT THE MOST
CONVINCING REPLY FROM
MOOG'S TAURUS BASS PEDALS -
LOOK NO LOWER FOR THE
PRINCE OF BASS.
TEXT BY PAUL WARD.**

AS WE EXPLORE the wealth of famous - and not-so famous - synths of old, it becomes increasingly amazing just how many damn fine synths were either instantly passed over or have been forgotten over recent years. A case in point are the Taurus bass pedals once made by Moog. Not that these were neglected when they first appeared, having graced the stage with artists as diverse as Jean-Michel Jarre, Motley Crue, Genesis and the Police. Still, they never acquired the status of synthesisers like the Minimoog, the Prophet 5 or the DX7. Instead, they spent at least part of their lives being mistaken for wedge monitors.

Today Taurus bass pedals have a relatively familiar place in the secondhand synth market: they're sought after by a small minority of musicians, yet are coveted by that minority in such a way as to make their sale a rarity. I searched for some six years, scouring the small ads, before managing to pick up these elusive beasts.

Part of the reason for their rarity, and hence their subsequent high value on the secondhand market, is the fact that few units were ever sold. The market for a set of dedicated bass pedals was relatively small - they were never as exciting or versatile as a "real" keyboard synthesiser, and were expensive by comparison. Yet for the keyboard player with both hands full (or more usually bass guitarists seeking to broaden their horizons) there was no alternative. And when it came to sound, there was no substitute for Moog circuitry.

There is a problem when talking about the Taurus, in that what would be considered to be *the* Taurus pedals are

the Mk I version. Moog did introduce the Taurus II, but this instrument was little more than a Moog Rogue (one of Moog's budget monosynths) on a vertical pole with pedals underneath. It is generally held to be inferior to the Mk I in terms of its sound, and having met Taurus II personally, I have to confirm its sonic shortcomings. In this article, therefore, we will be concentrating on the "classic" Taurus - the Mk I.

Let's look at the working of the machine and see what the rumble is about.

At first glance Taurus pedals look solid, although they are not unduly heavy. They were first made around 1976 (production ceased in 1982) when most synths looked fair game for *The Antiques Roadshow*. Comparatively, Taurus pedals looked quite futuristic, and were stylised in a way that set them apart from the traditional concept of a home organ "add-on".

The end cheeks sport a wood grain effect - unlike the earlier Minimoog which had solid wooden cheeks. These are edged with a metal band and two metal supports extend from the cheeks forward (beyond the length of pedals themselves). These give the whole structure a reassuring rigidity. When seated on a flat, firm surface the 13 pedals (C to C) are given clearance to move about half an inch. Don't expect to sit the Taurus on your drummer's carpet to play them, however, because the supports sink into the pile and the clearance is lost. (My own solution is to stand them on an old cupboard door scrounged from a furniture store.) Another down side is that there is no protection underneath the pedals and the contacts, consequently, take the brunt of the dust and dirt the world has to throw at them. Regular cleaning is the only answer.

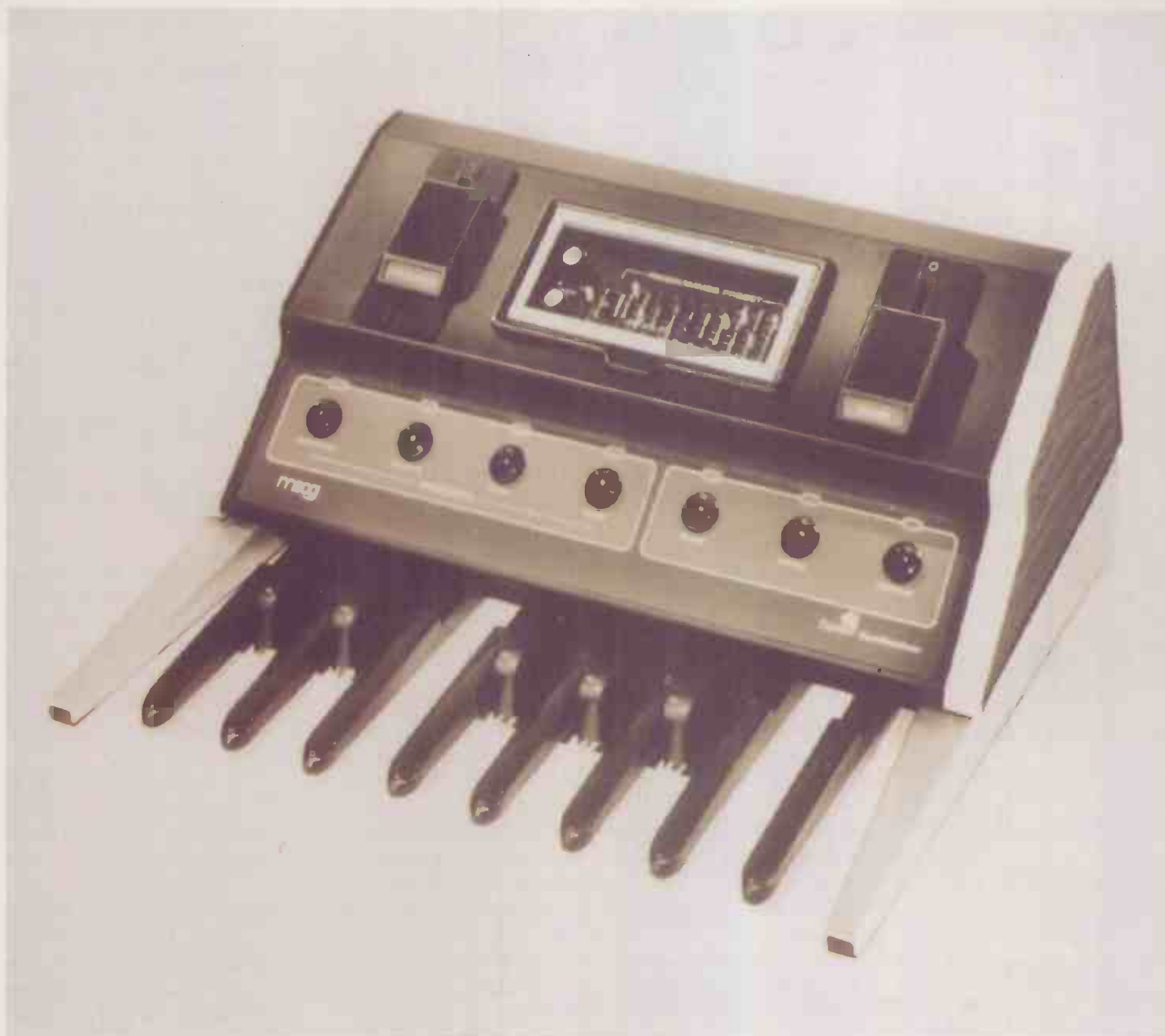
The controls are mounted on the metal fascia and they are big and chunky - obviously intended for use with the feet. To the far left of the front panel is a foot operated volume slider labelled Loudness. Since the output cannot be completely faded down from this control, its prime use is to trim the volume during performance. On the opposite side of the panel is an identical slider whose function is to control filter cutoff. Both these foot sliders are a little clumsy, and in practice it is usually prudent to make any changes by hand if possible. In an emergency they

just about suffice, but you'll need a steady foot.

Just above the pedals themselves are seven large, round footswitches. The four to the left are sound presets and are labelled Taurus, Tuba, Bass and Variable. Taurus is what might be considered the "classic" Taurus bass pedal sound (Genesis, Marillion, Rush...) Tuba and Bass are only vague descriptions of these sounds and should not be taken literally. The Variable switch we'll come back to shortly. The remaining three footswitches are labelled Glide, Decay and Octave. Glide switches on what Moog call glide, and the rest of the synth world calls portamento; Decay is actually a *release* on/off switch similar to the one found on the Minimoog (it allows the sound to die away after a pedal has been released, at a rate governed by the decay setting of the chosen sound); Octave switches the pitch of the sound up an octave (and back with a subsequent press). Each of these switches has a friendly red light above it to let you know when it is selected. It's only a short time until you get used to the order of the buttons, and on a darkened stage the pattern of lights keeps you informed as to how the pedals are going to react to the next touch of your size tens.

The Variable switch brings into play a cute little feature hidden behind a similarly labelled smoked-glass (plastic?) door in the centre of the front panel. This hinged door (which, annoyingly, needs to be held up with one hand while editing with the other) conceals synthesiser controls very similar in design to those found on the early ARP synths (small slider controls). This preset feature is as close to a user memory as Taurus pedals get - it should be remembered that user presets were new ground at the time Taurus pedals were designed. Such delights await us under this section as oscillator detune (or Beat as Moog have labelled it), pitch, filter controls (the wonderful Moog filter - with resonance for juicy filter sweeps) and envelopes to control both amplitude and filter. Here also lies the glide rate control. What we're actually dealing with is a fully-fledged two-oscillator Moog synth - no surprise, then, that Moog christened the Taurus a "bass pedal synthesiser".

The rear panel is spartan even by 1970's standards, and sports nothing more than the captive mains cable, power



switch, master volume control and a single audio output socket. No external triggering via a MIDI/CV converter is possible here.

WHAT SETS TAURUS pedals up as *the* bass to beat the rest, can only be appreciated when you hear them. The thunderous Taurus setting (showcased on Steve Hackett's 'Clocks'), will soon show you if you've got any loose plaster. Alternatively, the smooth Tuba setting can be used to underpin any arrangement without overstating its presence. Bass, meanwhile, is a chunky synth bass sound that cries out to be played more quickly than is actually possible by foot (playing by fist usually becomes the order of the day). The sounds awaiting the unwary traveller in the Variable section are remarkably diverse, ranging from sweet, high-pitched sounds suitable for playing melodies to strange drone effects for more *avant-garde* uses.

The bass sounds from this machine are
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unashamedly analogue. They purr and roar with traditional analogue warmth, and seem to exhibit a very "controlled" bass end. It's almost as if the sound is being compressed slightly, although I am told this is not the case. Taurus sounds sit in a mix very comfortably without undue equalisation or level-riding, and can make even quite a sparse mix sound very full. I have tried to emulate the sound of the Taurus on many synths, including my trusty Minimoog, but have never managed to capture the tight, controlled bass that Taurus effortlessly produces.

If you've never heard (knowingly) the sound of Moog Taurus pedals, there are plenty of recorded examples for you to check out - but given the time of their release, you're going to find yourself deep in rock territory. One place to start is with the aforementioned 'Clocks', but the opening of Genesis' 'Dance on a Volcano' and 'Los Endos' from *A Trick of the Tail* would offer a similar insight. Don't get the idea that the Taurus is for 1970s pomp

rock covers only, though. Given the current popular preoccupation with *bass* (a phenomenon that also marked the mid-'70s), and MIDI control of pre-MIDI gear only a retrofit away, those fat bass sounds can be sequenced to perfection. It's just that nobody's done it yet - have they?

I will soon be getting my own Taurus pedals MIDI'd, and expect a new era of music to open up for me. I can finally get that Bass preset earning its keep without my fists feeling as if they've been loaned out to Mike Tyson.

It's a funny thing, but whenever I play live, the questions I get asked always seem to revolve around the sounds that I get using my Moogs. Nobody ever asks me which D50 sounds I use or what my favourite samples are. Is it just that younger ears have never heard these sounds, or is it that they really are as good as us analogue junkies imagine? Whatever the truth, these things always seem to go in cycles: I was asking the very same questions back in 1977. ■

Second Comings

THE TIME HAS
COME, THE
EDITOR SAID, TO
READ THOSE
MISSED MTS. . .

1989

JANUARY APPRAISAL: Roland U110 expander; Intelligent Music Mididraw (Atari ST); Akai S950 sampler; Dr T's D110 Editor (Atari ST); Dr T's Tunesmith (Atari ST).

MUSIC: Renegade Soundwave; Yello; Steve Reich.

STUDIO: Battery Studios; Tascam 238 8-track multitrack cassette.

TECHNOLOGY: Interactive Music; Memorymoog retrospective; MIDI Files.

FEBRUARY APPRAISAL: Soundbits 3D editor (Atari ST); Steinberg Twelve sequencer (Atari ST); C-Lab Creator/Notator sequencer/scorewriter (Atari ST); Roland R8 drum machine; Dr T's SampleMaker (Atari ST).

MUSIC: Hubert Bognermayr; S'Express; Lizzie Tear.

STUDIO: DACS MIDI Patchbay; Symetrix 511A gate; Toa MR8T 8-track multitrack cassette.

TECHNOLOGY: Roland TB303 retrospective; AES Report; Bring The Noise (microphone survey).

MARCH APPRAISAL: Roland Super-MRC Software; Songwright IV (IBM PC); Oberheim Cyclone arpeggiator; Hollis Trackman sequencer (Atari ST); Turtle Beach SampleVision (Atari ST); Dr T's, Soundbits, Drumware & Steinberg Kawai K1 Visual Editors (Atari ST).

MUSIC: Frazier Chorus; Marshall Jefferson; Shriekback.

STUDIO: Roland R880 reverb; Fostex R8 8-track recorder; Roland RE3 Space Echo.

TECHNOLOGY: The Human Touch (programming "feel" in drum patterns); Frankfurt Show Report; The Secrets of Computer Composition Pt 1 (algorithmic composition); NAMM Show Report.

APRIL APPRAISAL: Microdeal Replay sampler (Atari); Oberheim Systemizer; Hybrid Arts EditTrack sequencer (Atari ST); Philip Rees & Groove MIDI Merge Boxes; MIDI Mouse D50/550 Capture! (Atari ST); Hybrid Arts Ludwig algorithmic composer (Atari ST); Steinberg Synthworks (Atari ST); Akai XE8 drum machine; Intelligent Music Real Time (Atari ST).

MUSIC: Colin Wilson; New Order; Stig Mjølssøn (*April Fool*).

STUDIO: 360 Systems Audio Matrix 16; Alesis Quadraverb reverb.

TECHNOLOGY: Mellotron retrospective; MIDI In Control; Further Secrets of Computer Composition Pt 2.

MAY APPRAISAL: Ensoniq EPS-M (preview); Roland W30 workstation (preview); Studio Electronics MIDImoog expander; AB Software

Midlstudio (Atari ST); Yamaha V50 synth; Elka CR99 MIDI disk recorder; Roland CD5 CD ROM; Akai MX76 MIDI keyboard controller.

MUSIC: Pascal Gabriel; DJ Mark the 45 King; Fon Force.

STUDIO: Akai AR900 reverb; Pete Hammond; Digitech DSP 128 Plus reverb.

TECHNOLOGY: The Small Print Pt 1 (MIDI Implementation charts); Real Time MIDI; Moog Source retrospective.

JUNE APPRAISAL: Yamaha TQ5 expander; Roland A50 & A80 MIDI keyboard controllers; Opcode Vision (Mac); Bit By Bit MIDIDrummer (Atari ST); Ensoniq VFX synth (preview); Technart TUK200 pitch-to-MIDI system; Yamaha RX8 drum machine; Aphex Feel Factory humaniser.

MUSIC: Soul II Soul; Cutmaster Swift; Front 242.

STUDIO: dbx SNRI noise reduction.

TECHNOLOGY: Time Exposure (synchronisation codes); The Small Print Pt 2; Synclavier update Pt 1; Korg MS20 retrospective.

JULY APPRAISAL: Dr T's MRS (Atari ST/Amiga); Roland R5 drum machine; Musicsoft MIDIman MIDI tape recorder interface; Roland D5 synth; CDP MIDIgrid (Atari ST); Roland W30 workstation; Yamaha DD5 MIDI drum controller; HB Engraver scorewriter (Mac); Ensoniq VFX synth.

MUSIC: Mark Mothersbaugh (Devo); Beatmasters; Animal Logic (Stewart Copeland/St Stanley Clarke).

STUDIO: Korg A3 reverb; DigiTech IPS33 pitch shifter.

TECHNOLOGY: Exclusive Performance (applications of SysEx); Synclavier update Pt 2; DAT's Life (explanation of Digital Audio Tape).

AUGUST APPRAISAL: Roland U20 synth; Roland GR50 guitar synth; Steinberg Cubase sequencer Pt 1 (Atari ST); Anatek Pocket FX; Hollis MIDIman (Atari ST); Musicsoft Synman sync unit.

MUSIC: Living Colour (Vernon Reid); KRS One; Ray Lema.

STUDIO: XRI XR400 MIDI patchbay.

TECHNOLOGY: On The Beat (drum machine programming: basic pop and rock patterns); Music By Design Pt 1 (algorithmic composition applications); Synclavier update Pt 3; Microtonal Musings (microtonal tuning).

SEPTEMBER APPRAISAL: Korg M3R/RE1 synth and programmer; Cheetah Master Series 7P MIDI keyboard controller; C-Lab Explorer 1000 (Atari ST); Steinberg Cubase sequencer Pt 2 (Atari ST); Steinberg MusiCal (Atari ST).

MUSIC: A Certain Ratio; Simon Harris; Arthur Baker.

STUDIO: Yamaha FX500 multi-fx processor.

TECHNOLOGY: On The Beat Pt 2 (the importance of the hi-hat); Music By Design Pt 2; BMF Report.

OCTOBER APPRAISAL: Kawai K1 II synth; C-Lab Explorer 32 (Atari ST); TDM Virtuoso (Atari ST); Roland Pad5 MIDI drum controller; Music-X (Amiga); Casio VZ8M expander; Pandora D110 Editor (Atari ST); EMR Studio 24+ (Archimedes).

MUSIC: The Blue Nile; Les Adams; Ed Williams.

STUDIO: JL Cooper FaderMaster.

TECHNOLOGY: On The Beat Pt 3 (embellishing the earlier basic patterns); Using MIDI Controllers; Media Link (the MIDI Local Area Network).

NOVEMBER APPRAISAL: Studiomaster MA36 MIDI Analyser; E-mu Proteus sample reader; Dr T's X-Or (Atari ST); Roland Rhodes electronic piano; TC Music Publisher (Atari ST).

MUSIC: Can; 808 State.

STUDIO: Tascam MM1 mixer; ART Multiverb II multi-fx processor.

TECHNOLOGY: Commodore Amiga Profile; CEDAR (digital restoration of old or damaged recordings); On The Beat Pt 4 (further developments of basic grooves).

DECEMBER APPRAISAL: Yamaha SY77 synth; Atari STacy; Ensoniq VFX-SD workstation; Hollis Trackman II sequencer (Atari ST); Kawai K4 synth; Wai MIDI Bass MIDI controller; Korg T1 workstation; Steinberg Avalon (Atari ST); Keynote Chameleon (Atari ST); FM Melody Maker (Atari ST).

MUSIC: Gary Chang; The Art Of Noise.

STUDIO: ART SGE multi-fx processor.

TECHNOLOGY: The Analogue Sampler; Karl Steinberg; On The Beat Pt 5 (the triplet).

1990

JANUARY APPRAISAL: Waldorf Microwave expander; Roland CM Modules; Yamaha SY77 synth; Alesis Datafiler.

MUSIC: Beloved; Jesus Jones.

STUDIO: Lexicon LXP5 multi-fx processor.

TECHNOLOGY: MIDI Merg'ng (MIDI datastreams); On The Beat Pt 6 (funk); Spatial Awareness (3D sound imagery).

FEBRUARY APPRAISAL: Clares Armadeus (Archimedes); Quinsoft FB01 Librarian (Atari ST); Musitronics MEX (D50/D550 enhancement); E-mu Systems Emax II sampler; Cheetah MQ8 sequencer; SDA TOPAZ (computer-controlled recorder).

MUSIC: WBTM Music; Prince Paul (Stetsasonic).

STUDIO: Sansui WSX1 multitrack recorder.

TECHNOLOGY: On The Beat Pt 7 (reggae); The Performing Art (performance applications of MIDI controllers); The Software Syndrome (viruses and avoiding them); Roland Super Jupiter retrospective; MacWorld '89 Show Report.

MARCH APPRAISAL: Dynaware Ballade (IBM PC); Gajits Sequencer One (Atari ST); Proteus Editors (Dr T's Atari ST & IMS Protezoa); Passport Designs' Encore (Mac); Quinsoft 4-op Editor; Yamaha TG55 expander; Casio FZ20M sampler.

MUSIC: Adamski.

STUDIO: Alesis Midiverb III digital reverb; Yamaha Studio 100 Series Studio modules.

TECHNOLOGY: Adrift On An MTC (MIDI Time Code); On The Beat Pt 8 (South American rhythms); Stakker; The Performing Art Pt 2; Oberheim OBXa retrospective.

APRIL APPRAISAL: Mark of the Unicorn Performer v3.2 sequencer (Mac); Replay Pro (Atari ST sampler); Steinberg Cubase v1.5 sequencer (Atari ST); IBM Prodigy (Atari ST); Roland IBM ROM cards; Yamaha SY22 synth (preview); Yamaha SY55 synth.

MUSIC: A Guy Called Gerald; The Grid.

STUDIO: Eventide H3000 Ultra-harmoniser.

TECHNOLOGY: Music of the Spheres (*April Fool!*); On The Beat Pt 9 (Brazilian rhythms); The Big Picture (cinema sound); The Performing Art Pt 3.

MAY APPRAISAL: Dr T's T-Basic (Atari ST); Rhodes Model 660 & 760 keyboards; Boss DR550 drum machine; DMA Classical Collection (classical music MIDI sequences).

MUSIC: Beats International; Gyorgy Ligeti.

STUDIO: Icon Research APB1 MIDI patchbay.
TECHNOLOGY: Clöcking In (SMPTE guide); On The Beat Pt 10 (Afro-Cuban, Salsa and Latin-jazz rhythms); Frankfurt Show Report.

JUNE APPRAISAL: Dr T's KCS sequencer (Atari ST); Dr T's TIGER (Atari ST); Quinsoft Trax (Atari ST); MIDItemp PMM88 MIDI patchbay; Akai XR10 drum machine; Roland S770 Pt 1 sampler; Korg Wavestation synth (preview); Roland D70 synth (preview).

MUSIC: Fluke; Tears For Fears.

STUDIO: Fostex 454 mixer; Vestax MR200 cassette multitrack.

TECHNOLOGY: Effective Action (MIDI control of fx processors); On The Beat Pt 11 (Go-go).

JULY APPRAISAL: Magnetic Music PRISM (IBM PC); Passport Mastertracks Pro4 sequencer (Mac); Armadillo A616 sampler; Roland S770 sampler (Pt 2); Yamaha SY22 synth.

MUSIC: Propaganda; Martin Rex (Neneh Cherry/Beatmasters).

STUDIO: Alesis 1622 mixer; Tascam 644 Midistudio.

TECHNOLOGY: A New Master (DAT assessment/DAT machine roundup); On The Beat Pt 12 (unusual time signatures).

AUGUST APPRAISAL: Dr T's Copyist Apprentice (Amiga); Hybrid Arts' SMPTETrack II sequencer (Atari ST); Twelve Tone Systems' Sound Globbs (IBM PC); Cheetah SX16 sampler; Roland S770 sampler (Pt 3); Roland D70 synth; MIDITest 5 MIDI lead tester.

MUSIC: Coldcut; Chick Corea.

STUDIO: ART Multiverb III multi-fx processor.

TECHNOLOGY: On The Beat Pt 13 (drum solos); Sequential Prophet 600 retrospective.

SEPTEMBER APPRAISAL: Dr T's Beyond sequencer (Mac); Passport Mastertracks Pro sequencer (Mac); Steinberg Proteus Synthworks (Atari ST); Korg Wavestation synth; Audio Architecture Function Junction MIDI patchbay.

MUSIC: Double Trouble; It's Immaterial.

STUDIO: Fostex MTC1 MIDI Time Code controller.

TECHNOLOGY: Big Blue Music (IBM PC in music); On The Beat Pt 14 (hip hop); Yamaha CS80 retrospective.

OCTOBER APPRAISAL: Ensoniq SQ1 synth; Roland CF10 & CN20 modules; Q-Logic MIDI Metro digital metronome.

MUSIC: Jerry Harrison; Jeff Rona.

STUDIO: JBL Control 1+ monitors/SB1.

TECHNOLOGY: MIDI Moves (MIDI specification); On The Beat Pt 15 (house); Sequential Pro One retrospective; BMF Report.

NOVEMBER APPRAISAL: Dr T's Tiger Cub (Atari ST); E-mu Systems Proformance 1/+ expander; Evolution Synthesis EVS1 expander; Yamaha DD11 drum machine; Anatek Studio Merge MIDI merger; Roland MV30 sequencer, synth and automated mixer.

MUSIC: Bass-o-Matic; Derrick May.

STUDIO: Tascam 688 Midistudio.

TECHNOLOGY: On The Run (MIDI running status); Dave Smith Interview Pt 1; The Sampler & The Soul (an alternative view of sampling).

DECEMBER APPRAISAL: Passport Trax; Steinberg Midex+ (Atari ST); Roland SPD8 drum machine; Celestion SR1/SR3 monitors; MIDItemp MP44 MIDI data recorder; Track Ball Round-up.

MUSIC: Jason Rebello; Stereo MCs;

Roland Kerridge.

TECHNOLOGY: On The Beat Pt 16 (slower rhythms and treatment of voices); Oriental Intrigue (Tascam profile); Dave Smith Pt 2.

1991

JANUARY APPRAISAL: Digigram Proscore (Atari ST); Dr T's Tiger Cub (Commodore Amiga); Geerdes SY77 Softworkstation (Atari ST); Invision Protologic expander; Korg S3 Pt 1 rhythm workstation; Roland MC50 sequencer.

MUSIC: Meat Beat Manifesto; Tangerine Dream.

STUDIO: Studiomaster Pro Line Gold mixing desk.

TECHNOLOGY: Visions of the Future (Brian Johnson/Impro-Visions).

FEBRUARY APPRAISAL: Steinberg SY77 Synthworks (Atari ST); Alesis SR16 drum machine; Korg S3 Pt 2; Ensoniq EPS16 Plus sampling workstation; Seiko MR1000 sequencer; AMPLE software albums.

MUSIC: Steve Coleman; Unique 3.

STUDIO: Casio DA7 DAT recorder.

TECHNOLOGY: On The Beat Pt 17 (jazz); Retroaction (MIDI retrofitting); UKMA (UK MIDI Association); E-mu Emulator I retrospective.

MARCH APPRAISAL: C-Lab Creator/Notator v3 sequencer/scorewriter (Atari ST); Roland MRM500 MIDI File convertor; Yamaha TG33 expander; Cheetah MD16 drum machine; Anatek Pocket Sync; Roland MV30 Studio M music production system.

MUSIC: Starship; Working Week.

STUDIO: Alesis Microverb III reverb.

TECHNOLOGY: On The Beat Pt 18 (more jazz); Performing Musician: Endangered Species? (the role of sequencers in modern music).

APRIL APPRAISAL: Accupower UPS; Audio Fast De-Composer (*April Fool!*); Anatek Pocket Sequencer; Akai DD1000 magneto-optical disk recorder; IVL Steelerider 4000 pedal steel MIDI interface; AVR Pro-Series 12 sampler (Atari ST); Cannon Research Frontal Lobe Korg M1 enhancement.

MUSIC: Jean-Michel Jarre (Live); Dream Warriors; Manu Dibango.

STUDIO: Alesis Quadverb Plus multi-fx processor.

TECHNOLOGY: On The Beat Pt 19 (African rhythms); En Routing (MIDI patchbays); Postcards From The Edge (preliminary Frankfurt report).

Back issues are available from the editorial address for £2 each including p&p. Photocopies from sold out issues cost £1 per article.

MUSIC TECHNOLOGY's readers' classified section is the biggest of its kind in the business. Every month, we carry more ads for synthesisers, samplers, computers, signal processing gear and assorted other goodies than any other monthly magazine. So when musicians and studio engineers are on the lookout for some extra gear to update their line-up, they turn to these pages first.

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If you buy and sell musical equipment as part of a business, you'll have to use the regular classified section on the last page. And we regret we can't answer any queries regarding free classifieds published in MUSIC TECHNOLOGY.

KEYBOARDS

BONTEMPI electric keyboard, cost £300, accept £80. Tel: Bishop Auckland 764242, after 5pm.

CASIO CSM 10P MIDI piano module, good selection of sounds including acoustic and electric pianos, vibes, etc. Perfect cond, £65 ono. Tel: (0353) 665577, ext 162 office hours.

CASIO CT470 MIDI kbd, 4-channel, multitimbral, 110 drum patterns, 220 sounds inc drums, ideal cheap expander or controller kbd, £130/swap for something interesting, Replay-type Atari ST sampler? Tel: (0432) 270178.

CASIO CT470, multitimbral MIDI synth and MIDI studio for Atari ST, (520 or 1040), both excellent cond, £200, will split. Tel: Chester (0244) 311874, before 5.30pm.

CASIO CT6000, 5-octave, touch sensitive, rhythms, layered voices, MIDI, speakers, with Korg SQ8 sequencer, must sell, £180. Tel: (04867) 2249.

CASIO CZ3000, programmable synth, loads of great sounds, complete with stand and £40 worth of cables, excellent cond, £250 ono. Roger, Tel: (0283) 43301.

CASIO CZ3000, 16-note poly, 8-part multitimbral, programmable synth, 5-octave keyboard, boxed with manuals, vgc, £230 ono. Tel: (0353) 699586.

CASIO CZ3000 synth, good cond, with manuals, £250. Brian, Tel: 051-260 4396.

CASIO DH800, digital wind horn, with MIDI, excellent cond, unwanted gift, never used, £80, or swap for SM58 mic with XLR connections on lead. Graham, Tel: 081-802 2021.

CASIO HT700, half-size synth, MIDI compatible, boxed, with stand, £75 ono. Paul, Tel: 071-231 4151.

CASIO VZ1, with manuals and ROM card, 6 months old, £295. John, Tel: 081-871 4191, eves and weekends.

CASIO VZ8M, vgc, £150. Frank Eddy,

Tel: 081-801 8989.

CHEETAH 7P master keyboard, 88-note piano, weighted, vgc, boxed, with manual, £480; Yamaha EMT10, £150. Anthony, Tel: 081-857 5458, until 11pm.

DIGITAL AND ANALOGUE studio setup for sale: Roland JX3P, Casio CZ1000, Yamaha RX21, Alesis Midiverb II and Tascam Porta One portastudio, £900 including all leads, manuals, pedals and stand. Keith, Tel: (0705) 465702.

ENSONIQ ESQ1, expanded sequencer, 2 cartridges, home use only, immac cond, £550. Jason, Tel: (0392) 876675, eves.

ENSONIQ ESQ1 and Roland TR505, offers for both. Tel: Wiltshire (0672) 870473.

ENSONIQ ESQ1, 10,000-note sequencer, immac cond, loads of sounds, £550. Luke, Tel: 061-303 1005.

ENSONIQ ESQ1, great multitimbral synth, with expanded sequencer, 2 keys need attention, hence £350 ono. Dave, Tel: (0203) 637388.

ENSONIQ ESQ1, excellent cond, home use only, £550 ono. Tel: 051-423 3162, days; 051-424 6469, eves.

ENSONIQ SQ1, personal music studio, mint cond, still boxed, offers. Tel: (0851) 870716.

ENSONIQ SQ80, with flightcase, £750 ono. Tel: (0376) 570066.

ENSONIQ VFX-SDII workstation, plus ATA-approved flightcase and extras, excellent cond, 1 month old, 1 yr guarantee, never used, will swap for Emax II keyboard, asking £1750 ono. Alan, Tel: (0224) 483123.

ENSONIQ VFX-SD, 2 months old, mint cond, £1550. Tel: (0606) 42769.

EVOLUTION EVS1, perfect, £200; Cheeta MS6, almost new, £170; EMT10, £90. Martin, Tel: (0533) 701587.

EVOLUTION EVS1, multitimbral 8-part synth module, built-in drums, excellent bass sounds, inc editing software, manuals, only 1 month old, still

boxed. Roger, Tel: (0787) 78106.

EVOLUTION EVS1 multitimbral synth expander, hardly used, ST editor, excellent cond, £230 ono. Chris, Tel: (0621) 891267, after 5pm.

HAMMOND A100, '60s tone wheel classic, with Leslie, professionally split, £895. John, Tel: 071-639 7813.

JENSON 508 for sale, 101 keyboard, 101 polyphonic, built-in sequencer, all trendy dance sounds. Stuart, Tel: 061-945 1769.

KAWAI K1, £350; Korg DW6000, £275; Yamaha TX81Z, £185. Tel: Wakefield (0924) 894408.

KAWAI K1, plus RAM card, Alesis MMT8, both boxed, immac cond, barely used, £525 ono for the pair. Tel: 081-643 4958, after 6pm.

KAWAI K1, MkII, digital keyboard, 16-note polyphonic, wonderful on-board sounds, 32 drum sounds, only few months old, inc sound card and hard case, £440. Tel: 081-952 8377.

KAWAI K1 synth, as new, £285; DX21 synth, £229; Casio CZ230S synth, £75; Kawai R50e drum machine, £225; range of DV-bass bin speakers, mid-range and tweeter speakers, all good prices. Hamish, Tel: 081-960 7548.

KAWAI K1, mint cond, boxed, manual, with stand, £300 ono. Tel: Bournemouth 433886.

KAWAI K1, plus RAM card, manuals, waveforms, psu, boxed, immac cond, £335. Alan, Tel: 051-677 8696.

KAWAI K1, £300; Roland Alpha Juno 2, £300. Paul, Tel: 081-991 9124.

KAWAI K1M, monster sound module, mint cond, £200. Andrew, Tel: (0225) 481487, eves.

KAWAI K1R, multitimbral synth, as new, will post, £250. Phil, Tel: (0793) 614226.

KAWAI K1R, mint cond, £250 or swap for MKS70 and cash. Andy, Tel: (0902) 723606.

KAWAI K5 keyboard, this keyboard can do anything a K1 or K4 can do, asking price £500. Ben, Tel: 071-252

5604.

KAWAI PH50, plus manual. Tel: (0767) 680253.

KORG DELTA analogue polysynth, £150. Alan, Tel: (0757) 705018.

KORG DW8000, £400; Emax SE, £1000; Yamaha TX81Z, £150; Korg Poly800, £100; ARP Odyssey, £200; Roland R5, £300; Roland MC202, £100; Roland SH09, £100; Midiverb II, £100. Paul, Tel: (0703) 444000.

KORG DW8000, boxed, manual, extra sounds, excellent cond, £400 ono. Paul, Tel: 071-231 4151.

KORG M1, excellent cond, £850 ono. Tel: Devon (0803) 864602.

KORG M1, cased, manuals, RAM, immac cond, £950; flightcase, full alloy, would suit D70, T2, PF80 etc, £70. Mark Johnson, Tel: 081-398 9901.

KORG M1, immac cond, boxed, manuals, reluctant sale, £950 ono. Tel: (0892) 33021.

KORG M1, £800; Roland JX10, £450; Carlsbro 150W x 150W stereo PA mixer desk/amp, £450 ono; two Peavey 300W 3-way PA speakers, £295 ono; Yamaha graphic EQ, £35. Paul Gallant, Tel: (0603) 405685 or 891143.

KORG M1, absolutely perfect cond, £1100; Roland D50, £400; Roland Juno 2, £300, all inclusive of lockable semi-flightcases, all equipment only 18 months old, and has been used for professional purposes. Russell, Tel: 081-954 2317.

KORG M1/R, inc 2 Korg ROM sets, immac cond, boxed, manuals etc, £750 ono. Gordon, Tel: (0223) 464117, days; (0638) 720090, eves.

KORG M1R, £650; Casio VZ10M, £150; Yamaha FB01, £95. Fred, Tel: 021-544 4363, after 6.30pm.

KORG MONOPOLY, Roland SH101, all reasonable offers. Gary, Tel: (0277) 218217, after 6pm.

KORG POLYSIX analogue polysynth, with case and manual, home use only, excellent cond, £220. Paul, Tel: Leeds

(0532) 865197.

KORG POLY800, ideal beginner's keyboard, £160; Korg KMS30 synchroniser, sync-to-MIDI, £70. Tel: 071-231 2058.

KORG POLY800, £150; Roland TR727, £130. Darren, Tel: (0375) 374154.

KORG POLY800, £120; Yamaha RX21, £80; Yamaha QX7, £80. Adrian, Tel: (0225) 743268.

KORG T3, home use only, boxed, with manuals, £1650; Alesis Midiverb II, £100. Graham, Tel: (0753) 40000 X3349, work; (0753) 28973, home.

KORG WAVESTATION, will also swap for Yamaha SY77 or Roland D70. Sammy, Tel: 081-503 2895.

MINIMOOG, good cond, £395. Ken, Tel: Leeds (0532) 757579 or Leicester (0455) 239642.

MOOG MICROMOOG, classic monosynth, £100 ono. Andy, Tel: (0223) 412201.

MOOG POLYMOOG, inc foot pedals, offers. Tel: (0203) 635787, days; (0295) 257062, eves.

OBERHEIM OBXa, 1982 model, super MIDI retrofit, £470. Guy, Tel: (0246) 452184.

OSCAR mono keyboard, classic sounds, fair cond, with manuals, £225. Tel: South Humberside (04698) 559.

ROLAND ALPHA JUNO, £210 ono. Carl, Tel: 061-370 4736.

ROLAND ALPHA JUNO 1, excellent cond, £230. John Adams, Tel: Chester (0244) 390021.

ROLAND D5, £350 ono. Urgently wanted: Casio AZ1 or Yamaha KX1 or KX5, cash waiting. John Gardner, Tel: (0225) 423294, 8.30-10pm.

ROLAND D5, £325; EVS1, £240. Chris, Tel: (0483) 714746.

ROLAND D5, £375; Korg Poly61, £140; Akai XE8, £110; Casio VZ8M, £110; Alesis HR16B, £200; Yamaha MT3X, £450; Roland DR220A, £70. Tony, Tel: (0472) 812760.

ROLAND D10 synth, £495; Roland U110 RS-PCM module, £395; Torque amp, built-in reverb, effects send, plus pair Soundtec speakers, £250, all immac cond, never gigged. Phil, Tel: (0702) 510274.

ROLAND D110 multitimbral sound module, with drums, mint cond, boxed, manuals etc, £340. Tel: (0787) 78106.

ROLAND D110 synth module, mint cond, boxed, with manuals, £325. Don, Tel: 031-441 3948, after 6pm.

ROLAND D110, as new, £300; Casio CZ3000, as new, £150 or £400 the pair. Ken, Tel: Coventry 559329.

ROLAND D110, multitimbral synth

module, with drums, good cond, manuals, boxed, 1 RAM card and 1 ROM card included, asking price £325. Ben, Tel: 071-252 5604.

ROLAND D110, boxed, £325. Tel: Warwickshire (0926) 886654.

ROLAND D20 workstation, immac cond, ungigged, flightcase, PM.D10.03, with manuals, £675, will consider Atari 1040 part exchange. Chris, Tel: (0943) 608330.

ROLAND D20, mint cond, boxed, manuals, home use only, disks, 2 ROM cards, £700 ono. Tel: (0276) 31432, eves only.

ROLAND D20, as new, boxed, immac cond, home use only, £750. Richard, Tel: St Albans (0727) 837258.

ROLAND D20, boxed, used for home recording, £640 ono. Paul, Tel: (0923) 229790.

ROLAND D50, boxed, as new, with manuals, 5 ROM cards, only 2 wks old, £699. Don, Tel: 031-441 3948, after 6pm.

ROLAND D50, excellent cond, home use only, manuals, boxed, £550. Tel: (0582) 451260.

ROLAND D50 synth, with flightcase, plus cards, mint cond, £700 ono. Tel: 091-261 9563.

ROLAND D50, £600; Korg DW8000, £200, both with flightcase, vgc. Tel: 081-574 2216, answerphone if out.

ROLAND D50, manuals, card, immac cond, £600 or swap for D550. Tel: (0642) 764463.

ROLAND D70, good cond, £1100. Write: Neil R Clay, Darwin College UKC, Canterbury, Kent.

ROLAND JUNO 1, mint cond, £200 ono. Richard, Tel: (0277) 652931.

ROLAND JUNO 6 synth, excellent cond, pro sounds, plus manual, unlimited possibilities, must sell at £700, no offers. Clive, Tel: (0752) 366549.

ROLAND JUNO 106, custom built flightcase, Roland presets tape, power cable, manual, good cond, amazing sounds, £350 ono. Jollyon, Tel: 071-437 0311, days; 081-458 7380, eves.

ROLAND JUNO 106, immac cond, £300; Yamaha DX100, immac cond, £100. Tel: 061-789 1550.

ROLAND JUNO 106, great analogue synth, perfect cond, manual, £350. James, Tel: South Wales (0495) 751481.

ROLAND JUNO 106, excellent cond, £250. Ian, Tel: 031-665 2688.

ROLAND JUPITER 6, £450; Yamaha YS100, £200; Boss DR550, £120, all excellent cond. Andrew, Tel: (0633) 895922.

ROLAND JUPITER 8, mint cond,

Groove MIDI interface, flightcase, manuals, £750 ono. Nigel, Tel: 071-324 6788, days; (0245) 355194, eves.

ROLAND JX3P synth, excellent cond, £450. Mark, Tel: (0453) 826127.

ROLAND JX3P analogue synth, built-in sequencer, excellent bass and string sounds, built-in MIDI, excellent cond, £400 ono. Roger, Tel: (0787) 78106.

ROLAND JX3P, hard case, vgc, £250; Yamaha TX81Z FM module, with manual, £160. Tel: (0707) 54771, eves.

ROLAND JX10, boxed, manual, £599; JX8P, x2, with cartridges, £350 each. Dave, Tel: (0274) 616107 or 487444.

ROLAND MT32, perfect working cond, £250 ono. Adrian, Tel: (0254) 876500.

ROLAND MT32, £195. Adrian, Tel: (0602) 765963.

ROLAND MT32, mint cond, £190; Alesis HR16, mint cond, £190. Ian, Tel: (0450) 73178.

ROLAND PRO-E keyboard and QM-E card, £350; Roland JX3P and programmer, £200; Roland Juno 1 module, £200. Tel: (0843) 45102.

ROLAND SH09 analogue monosynth, single VCO plus sub-oscillator and modulator, pristine, £100. Alan, Tel: 081-568 9698.

ROLAND SH101, £130. Phil, Tel: (0793) 614226.

ROLAND SH101, inc modulation grip, bargain at £80. Graham, Tel: (0705) 829605.

ROLAND SH101, good cond, £100; 303, good cond, £150; 707, good cond, £150. Mark, Tel: 071-730 8070, 9-5 only.

ROLAND SH101 monosynth, with mod grip etc, good cond, £100. Tel: South Humberside (0469) 8559.

ROLAND SUPER JUPITER MKS80, £1700. Craig, Tel: (0689) 823026.

ROLAND U20, 1 week old, unwanted toy, storage seat is available, £650. Tel: (0262) 604205.

ROLAND U110, plus two cards, £400 ono; Kawai K5, plus Dr T's editor, £600 ono. Paul, Tel: 081-948 1597.

ROLAND U220, boxed, £399. Adrian, Tel: (0602) 765963.

SEQUENTIAL PRO1, £150 ono; Korg Poly800I, £150 ono. Andrew, Tel: (0477) 32208.

SEQUENTIAL PROPHET 600, upgraded MIDI, brilliant sounds, manual, £400 ono, buyer must collect. Dean, Tel: (0742) 443845, eves.

SWAP immac Roland D110 for immac Juno 106 and £50. Robbie, Tel: Maidenhead (0628) 22883, after 6pm.

VOX CONTINENTAL 300 electric organ, £299 ono. Chris Warberton, Tel: (0204) 595069.

WALDORF MICROWAVE synth module, £700 or exchange for Roland MKS70 in good cond. Chris, Tel: (0296) 81379, after 7pm.

WURLITZER 40372, double manual, plus synth, built-in rhythm section and tape recorder, inc stool, £200 ono. Tel: Bristol (0272) 830701.

YAMAHA 802, £620; TX81Z plus Steinberg editor, £230; Akai VX90, £180; Evolution EVS1, £240, all perfect A1, (possible part-swap Roland D550). Tel: (0545) 560164.

YAMAHA B200, 1 yr old workstation, with 20W speakers, £449. Tel: 081-568 3337, eves.

YAMAHA CS60, pressure sensitive synth, Roland TR303 drum machine, both vgc, sell together, bargain at £100. Mr Jevens, Tel: (0384) 253302.

YAMAHA DX5, flightcase, vgc, manuals etc, a rare and wonderful beastie, £750 ono. Gordon, Tel: (0223) 464117, days; (0638) 720090, eves.

YAMAHA DX7, inc flightcase, excellent cond, home use only, £350. Graham, Tel: (0582) 451260.

YAMAHA DX7, mint cond, 3 ROMs, YamRAM, 1000+ voices on disks for Atari ST, other DX software, flightcase included, £525 ono. Pete, Tel: (0706) 877209.

YAMAHA DX7, late MIDI chip, RAMs, ROMs, Atari voice editor, home use only, immac cond, £395. Tel: Portsmouth area (0243) 375619.

YAMAHA DX7S, with manual and additional sound cartridge, excellent cond, £499. Dave, Tel: (0203) 637388.

YAMAHA DX7S, with ROM and RAM, £550; Akai X7000 sampler, with disks, boxed, £550. Andy, Tel: (0554) 890349.

YAMAHA DX7IID, £450; Casio FZ1, £650; Roland U110, D110, £295 each. Tel: (0707) 52124, eves.

YAMAHA DX7IIFD, mint cond, boxed, manual, £850; CX5 keyboard, software, boxed, £80. Tel: Brighton (0273) 685669.

YAMAHA DX9, pristine, all extras, £200, negotiable. Tel: Heathrow 081-759 1543.

YAMAHA DX11, £290; Yamaha TQ5 sequencer/expander, £170. Clive, Tel: (0234) 341864.

YAMAHA DX11, inc RAM cartridge, boxed, £330; Roland Alpha Juno 2, boxed, £320; Roland D70, inc RAM cartridge, boxed, never used, £1200. Clive, Tel: (0705) 673602.

YAMAHA DX21 keyboard, mint cond, manuals, tapes, quick sale needed, £195 ono. Tel: (0243) 786213.

YAMAHA DX27, with foot pedal and manuals, home use only, £200. Simon Winder, Tel: (0268) 522822 X6163, 9-5 weekdays.

YAMAHA DX27 synth, £150 ono; HR16 drum machine, £180 ono; Cadey 100 keyboard amp, £150 ono. £400 the lot. James Allen, Tel: (0225) 466971.

YAMAHA DX100, plus case, £110 ono. Tel: Bournemouth (0202) 512979.

YAMAHA FB01 expander, boxed, manual, £145. Rowland, Tel: 061-491 4341.

YAMAHA KX5 controller, vgc; Allen and Heath 8:4 mixer; M&M 12:2 mixer; Great British Spring MkII, XLRs, stereo; Casio CZ1000/Atari editor; Pioneer tuner amp; 3-head cassette deck, vgc; Casio MIDI horn; Studiomaster Studio 4 cassette multitrack. Offers, swaps, p/x. Tel: (04023) 42415.

YAMAHA KX88 master keyboard, £750 ono; Roland D110 linear synth, £295. Tel: (0324) 612990.

YAMAHA KX88, immac cond, complete with pedals and manual, £750; XRI Systems XR300 SMPTE synchroniser, £120. Bernie, Tel: (0273) 727537, after 8pm.

YAMAHA PF70 electronic piano, inc flightcase, home use only, perfect cond, £550 ono. Tel: 061-434 3626, after 5pm.

YAMAHA PF70 electronic piano, inc stand, ideal master keyboard, home use only, £500 ono, must sell. Tel: 091-529 4788, anytime.

YAMAHA SY77, amazing, £1295; Korg M1, boxed, swap for boxed M1R or sell; Yamaha V50, superb, £695, all mint and boxed. Andy, Tel: (03727) 20323.

YAMAHA SY77 megasynth, 6 months old, never gigged, immac cond, still boxed, with manuals, plus over 900 voices, cash flow forces sale, hence £1300. Tel: (0748) 5386.

YAMAHA TG33 synth, Boss DR550 drum machine, Akai ME35T pad-to-MIDI converter, £600 or swap for Korg or Roland guitar synth. John, Tel: (0309) 76008.

YAMAHA TQ5 synth/sequencer, 8-track sequencer, £150; Roland TR505 drum machine, £100. Tel: Coventry (0203) 451224.

YAMAHA TQ5 synth expander/sequencer, £160; Boss DR550 drum machine, £130; Zoom multi-effects unit, £225, all boxed, as new. Tel: Sussex (0273) 493659.

YAMAHA TX802, £530; Roland CM64, £520; Yamaha G10-G10C guitar synth, as new, £700; MIDItamp 8 x 8 MIDI patchbay, £250; Digitech IPS33 harmoniser, £250; Digitech 256 reverb, £230. Andrew Bishop, Tel: 081-671 9146.

YAMAHA TX81Z, boxed, plus manual, £250 ono; Yamaha QX5, boxed, plus manual, £200 ono. Jollyon, Tel: 071-437 0311, days; 081-458 7380, eves.

YAMAHA TX81Z expander, vgc, £175; £1000 with D50, DW8000 and three-tier stand. Tel: 081-574 2216, answerphone if out.

YAMAHA TX81Z, mint cond, quick sale, £150. Ken, Tel: (04867) 2249.

SAMPLING

AKAI S900, latest software level, large library, £700 ono; Roland TR505, as new, £100; Peavey 8:2 2U rackmount mixer, £130. Tel: (0606) 77823, after 6pm.

AKAI S950, large library, new, £900; Casio VZ1, new, £290; Roland TR505, £90. Martin, Tel: (0582) 832828.

AKAI S950, brand new, boxed, unused, £970. Tel: 071-266 4082.

AKAI S950 sampler, brand new, with complete Akai library, £1000. Jason, Tel: (0705) 325533.

AKAI S1100 digital stereo sampler, 2Meg, brand new, boxed, with manual, £2800. Anton, Tel: 071-403 7134.

AKAI X7000 multi-sampler keyboard, mint cond, ideal for hip-hop and house etc, boxed, complete with disks, manual, £420. Tel: (0703) 220152.

AKAI X7000, pro sampling keyboard, excellent cond, £550 ono, postage possible. Phil, Tel: (0793) 614226.

AKAI X7000, more than 60 disks, with memory expansion, £450. Ian, Tel: (0450) 73178.

AKAI X7000 sampler, with 2000 sounds, boxed, immac cond, £475. Mark, Tel: (0772) 792280.

CASIO FZ1, mint cond, 2Meg memory, expandable to 4Meg, vast library of hundreds of quality samples, manual, tutorial, boxed, excellent sampler - ask Coldcut, £900. Andy, Tel: 021-433 4066.

E-MU EMAX, keyboard version, plus 60 disks, vgc, £950. Nick, Tel: (0705) 375163.

E-MU EMAX II sampler keyboard, as new cond, home use only, with 60 sound disks, plus two sampler CDs, £2250 ono. Tel: South Humberside

(04698) 559.

EMULATOR I, plus library, £350; Roland MC4B analogue synth micro composer, £170; Yamaha CS5 monosynth, £95; Roland SH2 monosynth, £120. Tel: 071-263 7547.

EMULATOR II, with flightcase and loads of disks, £1800. Lee, Tel: (0234) 856073.

ENSONIQ EPS keyboard, 4x memory, excellent library, vgc, £1300 ono. Adrian, Tel: 081-947 9770.

ENSONIQ EPS 4x memory expansion board, £300; SCSI expander, £350, under warranty. Terry, Tel: 071-703 7133.

ENSONIQ EPS keyboard, eight outputs, 4x memory expander, killer guitar sounds, reliable American model, £950. Alex, Tel: 071-266 3033.

ENSONIQ EPS, 2x memory expansion, disk library, stand, mint cond, £950 ono. Robin, Tel: 071-602 7203.

BERHEIM PROMMER, £150. Simon, Tel: 071-379 5650 X235, days.

ROLAND S10 sampler, £360; Yamaha DX27, £200; Casio CZ101, £100; Roland TR626 drum machine, £130. Tel: Lincolnshire (0427) 615865.

ROLAND S10 sampler, home use only, mint cond, with case and disks, £350. Richard, Tel: (0277) 652931.

ROLAND S220, (S10), plus some disks, £190. Chris, Tel: (0483) 714746.

ROLAND S330, complete with monitor, mouse and 40-disk library, immac cond, £850, no offers. Bob, Tel: Oxford (0865) 251366.

ROLAND S330 sampler, with mouse, monitor, library, swap for Akai S900 or Emax sampler. Tel: (0706) 50897.

ROLAND U110, as new, boxed, £350. Tel: (0909) 566695.

ROLAND W30, 60 sample disks, and synth stand, mint cond, only £1250. Andrew, Tel: (0225) 481487, eves.

ROLAND W30, home use only, eight months old, boxed, manuals, 80 disks, looked after, absolutely mint cond, why buy new, £1100; MC202, inc power supply, £90. Paul, Tel: (0977) 511156, 10am-1pm anyday.

ROLAND W30, mint cond, plus library, £1200 ono. Mark, Tel: Sheffield (0742) 768877, days; 474607, eves.

ROLAND W30, plus disks, excellent cond, £900. James, Tel: (0689) 823373, after 6pm.

ROLAND W30 sampling keyboard, software, flightcase, £1050 ono. Tel:

Bristol (0272) 245180.

ROLAND W30, library, boxed, manual, good cond, £1100. F Thompson, Tel: (0268) 281649.

SWAP Emax SE sampling keyboard, flightcased, Steinberg Emax editor, large library, Amiga B2000, with monitor, Music-X software; for Akai S1000, with remote keyboard. Paul, Tel: (0532) 621396.

SEQUENCERS

ALESIS MMT8 sequencer, as new, boxed, manuals, psu, £150 ono. Andy, Tel: (0223) 412201.

ALESIS MMT8, boxed, manual, £150. Simon, Tel: (0778) 393094.

CHEETAH MQ8 MIDI sequencer, boxed, manual, £100. Tel: 021-358 7612.

KORG SQ8, unused, £40. Steve, Tel: (0279) 657123.

ROLAND MC50, £400; Roland P330, £400; Roland M16E rack mixer, £900; SRC/AT SMPTE unit, £300; Drawmer LX20, £200; Tascam MM1, £400, or the lot for £2250. Gordon, Tel: 031-557 5778.

ROLAND MC202, £100; Korg KMS30, £100; Korg DDM220, £80, manuals, boxed, immac cond. Mike, Tel: 081-677 5628, eves.

ROLAND MC500, plus flightcase, manual, £275 or offers. Paul Robinson, Tel: Halifax (0422) 883408.

ROLAND MC500I, £300. Ashley, Tel: (0922) 682038.

ROLAND PR100, plus disks, excellent cond, £280 ono. Jack, Tel: (0371) 820804.

YAMAHA QX1 sequencer, 8-track, eight outputs, massive memory, £300. Alan, Tel: (0323) 767089, eves.

YAMAHA QX5, £160. Tel: Wakefield (0924) 894408.

DRUMS

ALESIS HR16, as new, £190. Tel: (0707) 52124, eves.

ALESIS HR16, boxed, plus manual, psu, £200 ono. Jollyon, Tel: 071-437 0311, days; 081-458 7380, eves.

ALESIS HR16B, 16-bit drum machine, excellent cond, with manual, £200. Darren, Tel: (0375) 679446, after 5pm.

ALESIS SR16, brand new, quick sale, £250. Phil Clarke, Tel: (0203) 382125, days only.

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BOSS DR550, 16-bit drum machine, boxed, as new, still under guarantee, £140 ono. Gwen Brookes, Tel:

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BOSS DR550 drum machine, 16-bit, MIDI, manuals, excellent sounds, £120 ono. Steve, Tel: (0268)

773883. **KAWAI R50**, £150. Tel: Wakefield (0924) 894408.

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KORG DDD1 drum machine, with bass ROM card, boxed, manual, £255. Rowland, Tel: 061-491 4341.

PREMIER 4-piece drum kit, 3 cymbals, good cond, offers. David, Tel: (0925) 824108.

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ROLAND R5 drum machine, as new, £200. Alan, Tel: (0375) 676817.

ROLAND R8, as new, £520. John Adams, Tel: Chester (0244) 390021.

ROLAND R8, electronic and sound effects cards, good cond, £550; Roland TB303, £200; Kawai K4, 16-part multitimbral synth, £550; Centenery DX7, with disk drive, £900; Roland JX3P, great acid sound, £250. Steve, Tel: (0782) 660969.

ROLAND R8, plus TR808 ROM, RAM cards, 4 months old, boxed, manuals, £500; Akai S612 sampler, disk drive, £250. Tel: 021-356 3841.

ROLAND R8, Evolution EVS1, Yamaha SPX90, E-mu Proformance, wishing to part exchange with Korg M1R, must be perfect cond. Sam, Tel: 071-480 5705.

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ROLAND TR505, boxed, as new, £125 ono. Gary, Tel: (0533) 742857.

ROLAND TR505 rhythm composer, as new, £115 ono, must sell. Tel: 091-529 4788, anytime.

ROLAND TR505, Boss 220A, all reasonable offers. Gary, Tel: (0277) 218217, after 6pm.

ROLAND TR505, vgc, £90. Tel: Royston (0763) 261789, eves.

ROLAND TR626, mint cond, £150 ono. Tel: 091-261 9563.

ROLAND TR626 drum machine, boxed, as new, £140; Fostex X30, 4-track, £190. Gavin, Tel: 081-997 0938.

ROLAND TR707, £150 ono. Andy, Tel: (0223) 412201.

ROLAND TR707, £120. Mike Lancaster, Tel: 041-632 3735.

ROLAND TR808, perfect cond, dead sexy, manuals. Dave, Tel: 061-905 1778.

ROLAND TR808, still in original box, £300 ono. Mark Kendriff, Tel: (0584) 875851, office hrs.

SIMMONS SDX, full system, 10-piece kit, 8Meg, hard drive, full library, studio use only, A1 cond, over £11000 new, offers invited around £6500. Tel: (0545) 56064.

YAMAHA RX15, extra sounds, £100 ono. Wanted: S10 disks, CX5M MIDI recorder. Tel: (0292) 79136.

YAMAHA RX17, perfect cond, 26 drum samples, £120; Roland 606 Drumatrix, £50. John, Tel: (0892) 835788.

YAMAHA RX17, excellent cond, user-friendly, will deliver, £150. Phil, Tel: (0793) 614226.

COMPUTING

AMIGA A1500 music computer, 20Meg hard disk, 2Meg RAM, rackmounted, MIDI interface built-in, 2 months old, £1200. Sean, Tel: 071-251 4738.

ATARI 1040STE, SM124 monitor, C-Lab Notator, mint cond, £800 or swap Ensoniq VFX. Tel: Brighton 870560.

ATARI 1040STE, SM124 monitor, plus Cubase, 3 months old, £640. Chris, Tel: (0483) 714746.

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STEINBERG PRO24, v3, Atari ST, £110 ono; Easyscore Plus, £98. Brian, Tel: (0453) 758722.

STEINBERG PRO24 software, £50. Alan, Tel: (0375) 676817.

STEINBERG TIMELOCK, essentially the same as SMP24, only it doesn't have extra MIDI's, asking price £180. Ben, Tel: 071-252 5604.

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YAMAHA CX5M music computer, with keyboard and software, boxed, immac cond, £90 ono. Chris, Tel:

(0732) 451802.

YAMAHA CX5M with SFG01, CX5M with SFG05, large keyboard, tape cassette, FM voicing, FM composer, arranger and MIDI sequencing software modules, 240 voices, Tandy 4:2 mixer, all manuals, £325; MFX CX5 printer, £130, all home use. Michael Ohajuru, Tel: (0494) 483649.

RECORDING

AKAI EX75M noise reduction, noise gate unit, as new, both cost £140 each, will accept £150 for both. Tel: 071-511 1120, 24 hrs answerphone.

AKAI ME35T pad-to-MIDI converter, Boss DR550, £350 ono. John, Tel: (0309) 76008.

AKAI ME35T, for realistic price. Chris, Tel: (0243) 586395, after 9pm.

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FOSTEX X15 multitrack recorder, vgc, boxed, power supply, £120. Tel: Royston (0763) 261789, eves.

FOSTEX X30, 4-track, with power source, good cond, £180. Joe, Tel: (0206) 871141, 9-5.30pm.

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ROLAND M240, 24-channel mixer, vgc, £350. Tel: (0726) 870661.

SIGNEX CP44 Isopatch 19" rackmount patch panel, 22 pairs of jacks, phonos on rear, cost £75, never used, £55 ono, must sell. Tel: 091-529 4788, anytime.

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PERSONNEL

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CHEETAH MS6, must be cheap. Cal, Tel: 061-370 4736.

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CIRCUIT DIAGRAM, info or anybody that can help: my Powertran MPA200, rackmounted 200W amp, needs repair. I can't complete it because some parts are unrecognisable. Tel: (04023) 42415.

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KAWAI K1 keyboard, around £300,

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KORG BX3 in good cond, cash waiting. Peter, Tel: (0702) 207688, after 7pm.

KORG POLY 61MRK MIDI retrofit kit for Korg Poly 61, any price paid, cash waiting. Tel: Torquay 311678.

MT STAFF SEEK Sequential Prophet 2002 manual to photocopy. Postage paid. Tel: (0353) 665577 Ex. 161. Please....

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ROLAND MV30 Studio M. Wilson, Tel: (0909) 566695.

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ROLAND PG800 programmer for MKS70. Chris, Tel: (0296) 81379, after 7pm.

ROLAND TR606 drum machine operating instructions. Nigel, Tel: (0233) 84749, eves.

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ROLAND TR909 rhythm composer wanted for £300. Tel: 071-435 7598.

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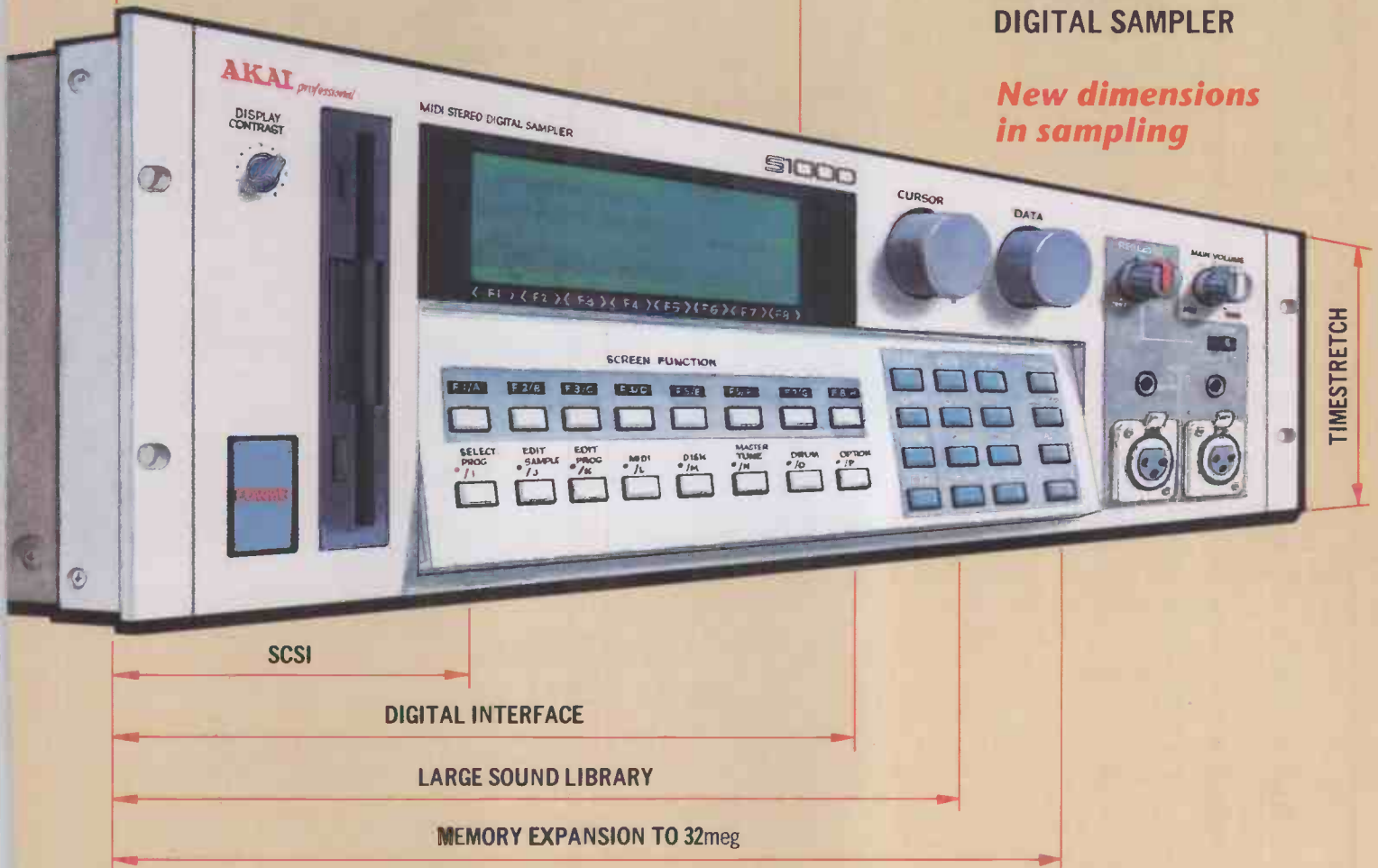


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