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MUSIC

technology

DJ MARK

Hip hop sampling



ON TEST

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MIDI Moog Synthesiser
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Yamaha V50 Synthesiser
Roland CD5 CD ROM Player
Digitech DSP128 Plus Multi-fx
Elka CR99 MIDI Disk Recorder
Midistudio Sequencing Software
Akai MX76 MIDI Controller Keyboard

COMPETITION

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Exclusive preview
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Please send me full details of the
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MT.5.89

CD-quality ('kampaekt disk 'kwaliti) *adj.* a description of the R-8's 120 drum and percussion samples (Including a ROM card facility).

feel (fi:l) *n.* the quality of or an impression from something perceived through feeling [cf. ambience, atmosphere].

flexible ('fleksibel) *adj.* adjustable pattern length (1 to 99 bars) along with programmable Repeat Marks, Tempo Change and Level Change.

friendly ('frendli) *adj.* the ability to record in Step or Real Time, and to modify or edit with features like Reframe, Copy, Instrument Change, Merge and Append.

generous ('dzeneres, 'dzenres) *adj.* a programmable memory of 10 songs (a total of approximately 2600 notes); a built-in library of 32 preset patterns in addition to an internal memory sufficient for 100 programmable patterns.

human ('hju:men) *adj.* having the attributes (esp. a soul) of man as opposed to machines; natural as distinct from contrived.

human feel ('hju:men fi:l) *n.* the subtle variations of dynamics, timing, accents and tone that epitomize the performance of a live drummer.

independent (,indi'pendent) *adj.* 8 individual outputs in addition to Stereo outputs.

individual (,indi'vidjuel) *adj.* characterized by unusual and striking qualities. The Roland R-8 Human Rhythm Composer.



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Tim Goodyer

ASSISTANT EDITOR

Simon Trask

STAFF WRITER

David Bradwell

PRODUCTION EDITOR

Debbie Poyser

ART STUDIO

ART EDITOR

Stuart Catterson

DEPUTY ART EDITOR

Sam Masters

ART ASSISTANTS

Beastie Beeson, Sam Gilbert, Darryl Tooth, Hilary Reid, Emma Parsons

PHOTOGRAPHY

Tim Goodyer, Adam Jones, E. Matthew Vosburgh, James Cumpsty

ADVERTISING

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IN AMERICA

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ALL CHANGE

THIS MONTH, BY way of a change from the usual witty, incisive, thought-provoking Editorial comment, let me tell you about a few changes that have been taking place behind the scenes of the world's longest-established and most popular hi-tech music magazine. There's no scandal, I'm afraid - no hasty resignations brought about by drugs busts, insider dealing or indiscretions regarding call girls (although it was a close thing with Chris Williams' new haircut). But the times are a-changing and there may be something in it for you. Now read on . . .

First of all, the time has come to bid farewell to staff writer David Bradwell. After spending less than a year on the MT staff, young Bradwell has become an agent of Goldstein. There's nothing Orwellian going on here, just ex-Music Technology editor Dan Goldstein moving on from MT's sister magazine *Phaze One*, leaving the editorship of that magazine up for grabs. Needless to say, the travelling Bradwell grabbed it with both hands. So it's time to wave a fond farewell (and we'd only just got him making tea on a regular basis). David, or "Spag" as he is known to his closest friends, was a little disappointed that he didn't receive an official editorial welcome when he arrived, so this is the official editorial *au revoir*. (Happy now, Spag?)

Now, this means MT is in need of a

replacement staff writer - or, put another way, with Bradwell out of the way there's an opportunity for one of you reprobates to take his place. If you have an active interest in music, a working knowledge of hi-tech musical equipment and practices, and can string together a few words, we want to hear from you. A letter outlining your experience and interests - along with a few more mundane facts like your age, current occupation and whether you hold a current driving license - to the editorial address will ensure you of our closest attention.

Also on the subject of staff changes, Production Assistant Chris Williams (now there's a boy who can make tea) is also leaving the MT fold. Having previously divided his time between MT and its American counterpart, Chris is to devote himself fully to co-ordinating production of MT(US) and the American counterpart of another of MT's sister mags, Home & Studio Recording. Chris now finds himself sharing office space with Rose Rounseville, who has come over from the Music Maker offices in the States to join Chris in his chosen task. Having travelled some 6000 miles, Rose has discovered that she and Chris can converse in Swedish or Norwegian or something - I couldn't make any sense of it. Welcome Rose, all the same. ■ Tg

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SC-09	SC-10	SC-11	SC-12
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Comment

2

There are changes afoot in the Music Technology offices; people moving on and moving up means that MT's looking for new staff - could be we're looking for you.

Newsdesk

7

More news of the latest developments and events in the world of hi-tech music - remember: you read it first in Music Technology.

Communique

10

Your chance to have your say - this month readers sound off about interfacing equipment, synth patches, pop music, Tangerine Dream and Lizzie Tear's physique.

Competition

60

Your chance to win a little support for your music - in the form of Company 55's Workstation. Dig out your dictionary for Music Technology's latest exclusive competition.

Free Ads

93

Going, going, gone . . . to the gentleman reading Music Technology's Free Classified ads - the largest Free Classified section carried by any hi-tech music magazine.

APPRAISAL

Ensoniq EPS-M

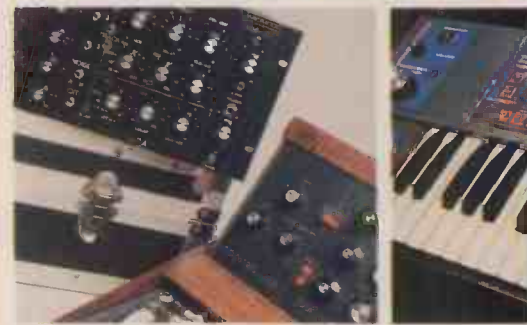
14

Rather than keep the module-addicts happy with a rack version of their EPS sampler, Ensoniq have incorporated some attractive improvements into their EPS-M - like quadrupling its memory. David Bradwell liked it so much he bought it . . .

Roland W30

16

In an exclusive preview of Roland's forthcoming W30 workstation, Bob O'Donnell checks out Roland's idea of the facilities a MIDI music workstation should offer.



Studio Electronics MIDImoog

18

If you're looking for the sound of the Minimoog without the limitations of pre-MIDI gear, the MIDImoog could be for you. Tim Goodyer puts the 1989 version of Moog's classic synth through its paces.

AB Software Midistudio

43

If computer-based sequencing seems too complicated or too expensive for you, AB Software's Midistudio could change your life. Ian Waugh boots up a friendly and inexpensive sequencer for the Atari ST.

Yamaha V50

56

Although Yamaha are reluctant to call it a workstation, the V50 incorporates FM synthesis, drum voices, and sequencing and effects processing facilities. Dan Rue checks out Yamaha's workst . . .

Elka CR99

62

Meanwhile, Elka have called their CR99 a MIDI Disk Recorder rather than a MIDI sequencer. Vic Lennard goes on record with a MIDI sequencer with a few surprises up its sleeve.

Roland CD5

74

Expensive it may be, but CD ROM storage is one way of making a sampler a much more powerful instrument. And if you're using a Roland S550, it may not be as expensive as you think, as Simon Trask discovers.

EVENTS



Akai MX76

82

Akai's new MIDI master keyboard boasts a weighted six-octave keyboard and new terminology for its features. Simon Trask decides MIDI control is more than a simple matter of feel.

MUSIC

Pascal Gabriel

22

After producing artists ranging from Bomb the Bass and S X'press to Bryan Ferry and Wet Wet Wet, Pascal Gabriel is about to begin his own career as a recording artist. Tim Goodyer discovers a Lovechild.

DJ Mark

50

As well as being famous for the size of his record collection, DJ Mark is currently one of the major forces in hip hop sampling. The 45 King tells Simon Trask about the biters and the bitten.

Fon Force

64

From Sheffield's tradition as the home of industrial funk, come the Fon Force. David Bradwell talks to the men behind the cream of modern northern dance music.

OutTakes

68

A look at the 1989 Technics World DJ Mixing Championships opens this month's music reviews. Following up are a selection of current vinyl releases and collection of readers' own demos.

STUDIO

Akai AR900

28

Aimed at the higher end of the market, Akai's latest reverb unit forsakes digital clarity in favour of more realistic sound treatment. Vic Lennard goes au naturel.

Pete Hammond

34

As PWL's in-house mixer, Pete Hammond can claim to have had a hand in even more chart singles than Stock, Aitken & Waterman. David Bradwell finds out what makes a hit record.

Digitech DSP I28 Plus

86

In the multi-effects processor wars, Digitech's DSP I28 Plus distinguishes itself with comprehensive facilities and little sound colouration. Ian Waugh treats himself.

TECHNOLOGY

The Small Print

30

If you regard MIDI Implementation charts as being indecipherable tables of numbers, you could be ignoring an easy way of solving your MIDI problems. Vic Lennard opens a series of articles on how to read the small print.

Patchwork

46

A review of the Desert Island sample collection for the Mirage joins readers' own patches for the Roland D110, Ensoniq ESQ1 and Casio CZ5000 in this month's action-packed edition of Patchwork.

Real Time MIDI

78

MIDI is more than a means of sending note data to couple of synths and changing settings on a reverb unit. Ernie Tello looks into the real-time applications of MIDI.

Moog Source

84

At the time Moog discontinued the Minimoog, they launched the first programmable monosynth to use digital parameter editing. Nick Magnus reflects on a synth that was ahead of its time but overlooked by most players.

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UP, UP AND AWAY

The prices of some of the Acorn Archimedes range of computers are rising as of the 3rd April. According to the company, this is to reflect the greatly improved performance given by the newly-introduced RISC OS enhanced multitasking operating system. All new Archimedes 300 and 400 Series machines are being supplied with the new operating system as of April 3rd, and existing owners of Archimedes machines can get hold of the upgrade for £29 excluding VAT. Bundled with RISC OS will be three multitasking applications worth £100 – a text editor, drawing package and art suite.

The new pricing structure for Archimedes will be as follows: the Archimedes 310 increases in price from £835 to £899; the 310M from £895 to £959. There is no change in the price of the 440 machine, but the

NEWSDESK

BBC Master 128 increases from £399 to £439. All prices exclude VAT.

Also from the 3rd April, Acorn are introducing recommended discounted prices for the education market, and fairly substantial discounts will be on offer.

More from Acorn Computers, Fulbourn Road, Cherry Hinton, Cambridge CB1 4JN. Tel: (0223) 245200. ■ Dp.

A MATTER OF COURSE

Fancy a whole weekend miking drum kits and acoustic instruments? This is one of the new courses on offer from the Gateway School of Recording at Kingston. The course has been written and will be taught by David Kenny, erstwhile chief engineer at Gateway and now the manager of

Ideal Sound Recorder studio (the recording base of major folk label, Topic). The course is held at Ideal Sound Recorder, and it is expected that there will be follow-up courses.

Another new Gateway course is devoted to aspects of working with MIDI, including sequencing, using computers and SMPTE timecode. Written by Graeme White (who has taught at Gateway for the last three years) the course can be taken intensively in one week or spread over three weekends for those accustomed to a more leisurely lifestyle.

Also of interest is the new stream which has been incorporated into the BA Hons. music degree at Kingston Polytechnic; the new stream will be based around music technology. Gets in everywhere, doesn't it?

More from The School of Music, Kingston Hill Centre, Surrey KT2 7LB. Tel: 01-549 0014. ■ Dp

IN COMMAND

Meico Electronics have launched a new MIDI control device called the Patch Commander. The Patch Commander footswitch unit is capable of



controlling up to ten MIDI-compatible devices and can store 3600 program changes in internal user-programmable memory. These memories are arranged into 60 Song banks with six patch buttons per Song. If there are ten MIDI instruments con-

nected to Patch Commander, each button can make ten patch changes simultaneously. A large two-digit LED display shows which Song is currently

selected for ease of use on stage.

Patch Commander recognises all 16 MIDI channels and also has MIDI merge capability.

More from Radius Marketing Ltd, PO Box 3, Basingstoke RG24 9QA. Tel: (0256) 477222. ■ Dp

THE MOUSE GETS A HOME

Protobase Ltd confirm their appointment as the new UK distributor of software and hardware from US company Midimouse Music.

Midimouse have an established range of software including editors for the Roland D0/110/20, D50/550 (see last months MT for review of Midimouse D50 Capture!), MT32,

Ensoniq ESQ1 and SQ80, and Casio CZ series, as well as the composition program Mousterpiece. Protobase also offer Midimouse's ROM and RAM cards for Roland D50, Ensoniq and Casio ranges and Yamaha DX7.

Demo disks are available for most of the Midimouse software. Contact Protobase at 36, Hurricane Way, Airport Industrial Estate, Norwich NR6 6HU. Tel: (0603) 787598. ■ Dp

TO CATCH A THIEF

Kawai UK's offices were broken into on the weekend of 31st March, and a number of demonstration instruments stolen. These include:

- 2 WK50 personal keyboards, s/n 02000621 and 02000624
- 3 R50 drum machines, s/n 020343, 132117 and 146492
- R100 drum machine, s/n 114093
- K5M synth module, s/n 147639.

Kawai request that anyone (especially dealers) offered any of these machines, which were all without packaging or manuals, and all except for the K5M without power supplies, should contact them immediately. Any assistance will be greatly appreciated.

The address to contact with any info is Kawai UK Ltd, Sun Alliance House, 8/10 Dean Park Crescent, Bournemouth, Dorset BH1 1HL. Tel: (0202) 296629. ■ Dp

ALL BOOKED UP

A specialist service has been set up to make available text books, reference works, data books and workshop manuals to the recording industry. Studio Reference Books will be launched at the APRS show in June. All books and publications relating to the studio business will be stocked; of special interest to owners of older gear might be the fact that Studio Reference Books will be building up a comprehensive library of workshop manuals and service data, to cover

both current and obsolete equipment.

A fully-illustrated catalogue is available giving details of the publications stocked, all items are available by mail order and special discounts are offered to students on recognised audio engineering courses.

Further details can be obtained from Studio Reference Books, Warehorne Road, Hamstreet, Kent TN26 2JJ. Tel: (0233) 73 3322. Fax: (0233) 73 2070. ■ Dp

BUY THE BALL

Fed up with your mouse falling off the table? Atari are now selling their own Tracker ball for use with all STs, so you can throw the mouse away if you like. Inventively entitled Trak-Ball, it's much prettier than a mouse, switchable between Tracker ball and

Joystick functions, and can be picked up for just £28.99.

Trak-Ball is available by mail order, and more info can be obtained from Hard Edge Communication, 98 Commside, Walkley, Sheffield S10 1GG. Tel: (0742) 665719. ■ Dp

CASH BACK ON CUBIT

Many Pro24 users out there will have been interested to hear of Steinberg's new sequencing program, Cubit. Well, the good news is that UK Distributors, Evenlode Soundworks, have announced that Pro24 owners are going to be able to claim back almost the full cost of their Pro24 if they want to purchase Cubit, due to be launched on May 31st.

The full retail price of Cubit will not be cheap – £500 including VAT, but this will be considerably easier to

bear given the redemption value of £241.30 of Pro24 (full retail of £285 less £43.70 administration fee), leaving a more manageable £258.70 to pay to obtain Cubit.

Upgrades are available from the outlet where Pro24 was originally purchased, or if this is not possible from Evenlode.

More information from David Crombie at Evenlode Soundworks, The Studio, Church Street, Stonefield, Oxford OX7 2PS. Tel: (099 389) 8484. ■ Dp

NICE TO C1

Software for the Yamaha C1 music computer is emerging from the woodwork at an alarming rate. Many American companies are now supporting the C1, including Bacchus Software, with Editor/Librarians for DX/TX, TX802 and TX81Z; Dr T's with Ed/Libs for Roland MT32, D110, D50/550, Casio CZ synths and Kawai K3, KCS sequencer and Copyist notation software; Dynaware Corporation with their Ballade Sequencer/Tone Editor and Dyna Duet sequencer/notation software; Opcode Systems with the intriguingly-named Incredible Bulk; Snap software with Ed/Libs



for Yamaha MEP4, Lexicon PCM70, Korg M1 and others; Sound Quest Inc, with an extensive list of Editor/Librarians; Voyetra Technologies with editor/librarians for DX/TX, Roland D50 and CZ series and Sequencer Plus software; Coda Music, with Finale sequencer/notation software; Passport with Master Tracks Pro sequencer software; Twelve Tone systems with Cakewalk sequencer; Yamaha with their own program for the C1, simply named Sequence.

The list goes on, but not here. For more info, contact Jim Corbett, Yamaha-Kemble Music, Mount Avenue, Bletchley, Milton Keynes, Bucks. Tel: (0908) 71771. ■ Dp

SOUNDS IN D' LIBRARY

More library sounds for your Roland D110 are now available from Academy Music Labs of Sunny Stoke-on-Trent. LA-UK, 128 sounds for the D110, are available on Atari disk or Roland RAM card for £29.99.

That's about it, really, except to say that Academy Music Labs can be contacted at 8 Dresden Street, Hanley, Staffs. Tel: (0782) 279751. ■ Dp

JAZZIN' AT THE GUILDHALL

The Guildhall School of Music and Drama in London is staging summer schools this July/August for the fifth year in succession. Additional courses will be running, and the school hope to top the good attendance at last year's summer schools.

On offer will be: the one-week

Jazz, Rock and Studio Music summer school (£150), running from Monday 24th July to Friday 4th August (giving instruction in jazz and rock music, along with practical performing in jazz ensembles, rock bands and vocal groups, tuition and classes in theory and harmony and a recording engineers workshop which will run throughout the week); Two-week Intensive Jazz and Studio Music course (£250) from Monday 24th July to Friday 4th August (designed for a small group of intermediate and

advanced students to study jazz improvisation, arranging, history and performance); Introduction to Jazz weekend (£60) for performers and teachers with little experience of jazz; Gospel Music day (£30) on Saturday 29th July.

Educational group discounts are available, and limited bursaries may be given.

More info from Donna Canale or Sandra Bush at JRSM Summer School, PO Box 641, London SW17 9QN. Tel: 01-682 1650. ■ Dp

TSC LATEST

Stop Press . . . Loads of news from The Synthesizer Company this month: first up, TSC are cutting 25% from their Macintosh computer prices, following the introduction of the Macintosh II CX (small footprint version of the Mac IIX). TSC will be offering free selected software (to include a sequencer and editor) with every Mac purchase as well as the 25% discount on most of the Mac range. The offer runs for a limited period only . . . As well as a Mac, you can buy your Emulator III from TSC, as they are now the authorised Central London outlet. The E3 is on permanent demonstration in their showroom . . . Two new models of Armour plastic flightcase are being introduced, the first being a small footprint (there it is again) version of

the standard 6U case, the second being a suspension-mounted 6U case. All units feature stack slots which allow the cases to be built into a multiple system so it's possible to construct an entire mobile studio (if you can afford to). Prices are: Standard, £199; Small Footprint, £225 and Suspension £275 (excluding VAT) . . . Also available from TSC is Dr T's new generic patch editor/librarian, X-OR. The new software will allow you to create instrument profiles for virtually any instrument that supports SysEx . . . Akai S1000 owners who purchase the PLI removable 45Mb hard disk will get a free SCSI board thrown in. Each drive also comes with a 45Mb cartridge full of S1000 sounds.

For more info, contact The Synthesizer Company at 9 Hatton Street, London NW8. Tel: 01-268 3454. ■ Dp

ENSONIQ RETURN FROM DEAD?

At the time of the Frankfurt trade show earlier this year, Ensoniq had no European or British distributor. The rumours were rife (and inaccurate) but all anyone could do was wait for an official announcement about what was to become of one of America's most popular hi-tech manufacturers.

It now looks as though the problems have been sorted out and the first new shipments of Ensoniq equipment should be arriving on British shores as you read this. A new company has been set up, called Ensoniq GB - this time as a subsidiary of Ensoniq America and not an independent distributor.

Ensoniq GB are interested in contacting everybody who owns a piece of Ensoniq equipment, so they can

keep you informed on software upgrades and the like, most of which are free. In addition, the company this month launch the new EPS-M sampler, which is an enhanced version of the EPS in a rack-mount box (see review elsewhere in this issue). Next month we should have news of the company's new flagship synthesiser (not a workstation), called the VFX.

Ensoniq GB apologise to anyone who has been inconvenienced in the interim period, and hopefully will be sorting out all problems in the very near future.

More information from: Ensoniq GB, Ensoniq House, Mirage Estate, Hodgson Way, Wickford, Essex SS11 8YL. Tel: (0268) 561177. Fax (0268) 561184. ■ Db

PLAYING THE BLUES, REDS, GREENS . . .

Here's a new way to get yourself noticed in that huge pile of tapes in the A&R man's office: the Master C series of multicoloured cassettes from RDM UK. Cassettes are available in red, green, blue, yellow, white, transparent and everyone's favourite, standard black. Various tape lengths are also available to reduce tape wastage when sending out a large



quantity of cassettes. All cassettes are high quality and use only Memorex HBXII chrome tape. C15 tapes cost £5.95 per pack of 5, C30s, £6.95, C60s, £7.95. RDM UK are also suppliers of That's audio tape, and floppy disks for Atari and Amiga computers.

Contact RDM UK for more information, at 8, Kenelm House, Shurdington Road, Cheltenham, Gloucester GL53 0JH. Tel: (0242) 227183. ■ Dp

“WHAT’S THE APPLICATION” LECTURE

I’VE noticed that music stores in general are awfully efficient at selling you what is on the market at an unbeatable price; what I also observe is that most are not TOO informative of what each individual’s specs are and what APPLICATION they can be put to. So, for a wee change, I’ve compiled a sort of comparison “list” of what is currently around aimed at the user being in a duo, trio or quartet bunch of musos relying on the keyboard(s) supplying the main sounds of the songs (using sequencers). I have supplied lots of different combinations in the past and it is evident that its a jungle out there to a lot of people! Note that it is unbiased, the prices are from £1,299 – £1,699, and that ALL the items are usually on demo at Dougie’s all the time.

NB the list is random, ie not in ascending or descending preference... generally all SAMPLERS have to get the sounds into RAM BEFORE they can be sequenced whilst SYNTHS usually have the sounds on board thus giving instant access to them.

OTHER MULTITIMBRAL DEVICES CAPABLE OF GOOD RESULTS
 K/BDS – SOB0, ESO-1, D10, D20, K1, 707 etc ESO & Mirage together is a goodie
 MODS – D110, U110, S330, MS-6, MT32, FB01, TX81Z
 SEQS – PR100, SOD-B, SOD-1/MMTB, SOB, OZ series (non disc driven)
 DRUMS – TR505, 626, 707, RB, RX series, HR16, DDDS, DDD1 etc.

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COMMUNIQUÉ

Write to: **Communiqué**, Music Technology, Alexander House, Forehill, Ely, Cambs CB7 4AF, including full address and a day-time phone number. A free year's subscription if yours is the Letter of the Month.

Dear MT

The Lost Sound

Can you please help me. I have a Roland Jupiter 6, but after a mistake with voice data loading, I have no data left on cassette. Can you supply the addresses of any suppliers of Jupiter 6 sounds?

I've made many phone calls but to date I've reached a complete dead end. I've even written to the USA but have had no answer after five weeks. I'm not bothered about the type of patches any more. MT, you are my only hope.

■ Mr P McIntyre
Ulceby
South Humberside

Chris Simpson of Roland informs us that Roland are eager to support their old machines as well as their new ones and will supply whatever patches they have to the needy. In the case of the Jupiter 6 this only extends to the original factory presets, but Erik Meyn who wrote to *Communiqué* with a similar request in May will be pleased to learn that Roland have more patches for the Super Jupiter. Let's hear it for Roland, folks . . . ■ Tg

Dear MT

Interface the Music

Could you possibly tell me if there is any way of triggering a Minimoog from the Trig Out on a Roland TR707? I can manage to trigger a friend's Moog Rogue, but the Minimoog's S-trigger seems to present a problem. I tried a normal jack with two wires, one in each hole of the S-Trig socket, but all I got was a continuous trigger that produced a sustained note.

Could you please tell me if there is a cheap CV-to-MIDI converter that works with the Moog - preferably with MIDI channel assignment and transmission of modulation (though all this is not crucial)?

■ Tony Otyehel
Bradford

The reason you're in trouble with your

triggering, Tony, is that the early Moogs employed an S-trigger instead of a V-trigger - the S-trigger using a negative-going voltage as a trigger pulse and the V-trigger using a positive-going one. Moog were there first, so it's both predictable and ironic that the rest of the industry opted to make Moog's approach non-standard. (And people moan about MIDI compatibility.)

What you're in need of is a trigger inverter. Now, as far as I'm aware, nobody makes one, but all is not lost. A suitable circuit is well within the design capabilities of the average electronics dabbler - if not yourself, perhaps a friend or local electronics shop. The alternative is to use the triggering facilities of a MIDI/CV & Gate interface such as the Cision MCV20 (reviewed *MT*, October '88), Groove Electronics' MIDI-2CV or even an old Roland MPU101 should you be lucky enough to find one secondhand.

When you talk about a CV-to-MIDI converter I presume you actually mean a MIDI-to-CV converter, in which case the answer is above. If not, the answer's not quite as helpful, as I don't know of any such units. Why do you want to control a MIDI instrument from the keyboard of your Moog Rogue? Beats me. ■ Tg

Dear MT

Body Talk

Never mind Lizzie Tear's attitude, dig the bod!

■ Paul Wilson
East Grinstead
Sussex

Funny you should say that, we were talking about starting a "sexist of the month" award only this morning. ■ Tg

Dear MT

Days of Future Past

Would someone please explain to me how Kevin Wood "took the opportunity" to reply to Al Abbot's comments on computer

composition in April's edition of MT?

Al Abbot's letter appeared in April, therefore Kevin's reply should have appeared in May. I couldn't believe my eyes when I got to "The Music Machine 3" - Al had replied to Kevin's letter, which was in April's *MT* but should have been in May's *MT*, thus Al's reply shouldn't have appeared until June. (If you think this is hard to follow, how do you think I feel writing it?) Does this mean that Al travelled back in time so that his letter could be printed in April?

Is it just me, or have two MT readers become clairvoyant, and if so, why are they paying £1.50 for a magazine when they already know what it will tell them? Is it simply because MT is the best thing since 24th August (JM's birthday)?

■ Mark A Price
Walsall
West Midlands

Dear MT

But Seriously...

Re: a letter in April's MT from Mr Shirodkar. Your letters page now seems to be populated by people who are not only ignorant of the true nature of popular music, but seem also to be suffering from taking the whole thing rather too seriously. Do we really need another trite and rather tired comment on the raw deal that "talented" musicians face at the hands of the major record labels?

What Mr Shirodkar obviously fails to understand is that pop music has a function: it is designed to be lightweight and throwaway. Its function is to help teenagers come to terms with growing up and feeling sexy. That's really all it is.

Now, if the frontperson of one of these bands was an ugly bugger, this would be detrimental to the "sexy" nature of the music. At 13 years of age I should think that any healthy child would rather be at the disco bopping to the dulcet tones of Lizzie Tear than musing solemnly over the marvels of new age music or Gregorian chants.

The reason that SAW have cleaned up is

that they have a talent: they understand the environment in which the music is heard and they give young people what they want. Why can't people understand that?

Most of all, what the technolovers all have in common is how very seriously they all take themselves. For God's sake, this is music not microsurgery. At the end of the day it really doesn't matter whether it's genius or whether it's banal - because you're never forced to listen to it.

Learn to laugh at yourself, Mr Shirodkar - there are things worth getting in a tizzy about, but music certainly isn't one of them.

■Keith Gentry
Wallington
Surrey

PS Loved the saga of Mr K Wood, by the way.

Whilst your comments are sure to apply to some of the artists involved in making today's popular music, I can't help but feel you've just written off the efforts of artists who are genuinely concerned about the content and quality of their music with a casual stroke of the word processor. Perhaps someone would like to take up the case for the defence. ■ Tg

Dear MT

A Letter From Philistia

A quick look through your letters pages suggests an increasing intolerance of non-computer orientated music, an assumption that music technologists are the only interesting musicians in this world, and that all music is penned to satisfy the soul not the wallet. Maybe this is understandable in a specialist magazine, but why not go the whole hog and:

1. Ceremonially disembowel any machine that has the misfortune to be born without MIDI...
2. Burn at the stake any acoustic instruments (except those kept for sampling purposes)...
3. Stone to death any person owning an Abba or Simon and Garfunkel record.

Speaking only as a Y-fronted Philistine, I accept that others know better, and that all other non-MT musicians in the world should be written off as irrelevant and boring. I also await the day when I can interact with my CD, let my micro make music and never use the black art of miking drum kits again.

On with the revolution brothers!

■Simon Lewis
Allestree
Derby

Dear MT

Only Foolin'

Congratulations to Tim Goodyer on the best April issue ever.

I was seriously thinking of trying to put that bit of Shostakovich into the Pro24, and



Stig Miölsson - attracted little fan mail this week

he's cured me for good. It's already the best bit of music MT's ever mentioned, even without the TR707. Long live Stig Miölsson.

■Peter Forrest
Devon

Dear MT

Dream On

I read with interest your review of Tangerine Dream's Optical Race. Then I thought about it.

Just what is a magazine like Music Technology - the only magazine paying serious attention to what's actually happening to what you term "hi-tech" music - doing giving space to a bunch of boring old Germans? Maybe their albums had some relevance back in the '70s, but I'm bugged if I can see what they've got to do with anything at all in 1989. I remember seeing the Tangs play Birmingham Town Hall around 1975 - very mysterious (no communication with the audience), very impressive (quad sound system), very futuristic (stage littered with black boxes covered in knobs - actually not too futuristic after all). I was reminded of a line I'd heard Pink Floyd's Roger Waters utter on a live bootleg about "hundreds of thousands of people pretending to enjoy something they didn't understand". I thought I enjoyed it all the same. Now I'm inclined to think I understand, but don't enjoy. Some people might call it getting old, I call it getting smart.

But I'm sure the Tangs are too busy getting old to get smart. I read, then I listened with interest to their latest LP (getting old doesn't necessarily mean getting narrow minded). I listened again for a trace of a new idea, for some indication that TD had something new to

offer. Some reason to continue making records. I might just as well have been listening to Mantovani.

I can't say I'm sold on all the house/hip hop stuff you've been covering (though the techno stuff's pretty neat) but it makes more sense than re-covering ground E&MM covered years ago. (For the uninitiated, E&MM was MT in another life.) Get this junk out of your collective system and get on with covering the innovative music. If MT doesn't, I honestly don't know who will.

■D Wallace
Perry Barr
Birmingham

Dear MT

Dear Doctor

letter of the month

I know you aren't going to be able to do anything about this, but something's been bothering me for some time now, and I'd like to get it off my chest. It's pieces of gear that have external power supplies.

I'm pissed off with having to unplug the little sods every time I've finished with them, and then plug them back in when I next want to use them. I can see their advantages - fewer noise/hum problems, smaller and lighter units (not always such an advantage) and so on - but I'd really appreciate being able to turn my Alesis HR16 off without having to crawl around on the floor.

There I told you, nothing's changed but I do feel a little better. Same time next month, doctor?

■Ian Lear
Edinburgh
Scotland



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Ensoniq EPS-M Sampler Module



Photography James Cumpsty

WHILE ENSONIQ'S EUROPEAN distribution has been changing hands (see *Newsdesk* for the latest developments), their R&D department in Malvern (USA) has been hard at work redeveloping the EPS sampler. The result is the 16-bit EPS-M, a 3U-high 19" rackmount version which boasts considerably more features than its keyboard-equipped counterpart, although all of these are now available to owners of the original EPS.

The first and most obvious improvement is the increase in internal memory space. The EPS-M has a capacity of 1.7Mb (1 MegaWord) as standard – four times as much as the EPS. In terms of sampling time this corresponds to 34.4 seconds at 30kHz, 19.8s at 52.1kHz, or 167s at 6.25kHz. Envious EPS owners can upgrade their machines' memories with a four times expander (of which the only one recognised and endorsed is made by PS Systems).

The increase in memory leads to problems with floppy disk storage, as a double sided 3.5" disk can only store a maximum of 800K, corresponding to 1600 blocks of EPS-M memory. Above this you get involved in multiple disk storage, and all the hassles that entails. When saving data, the EPS-M prompts you to insert a second disk when one can't cope on its own. There is no such prompting when you come to load sounds, so you have to remember on which disk the second half of your sample is saved. To address this problem, Ensoniq have provided a built in SCSI port for access to hard disk, again an extra cost option on the EPS. The maximum hard disk memory is 600MB, but the advantages don't end there. The ratio of load times of floppy to hard disks is around 20:1, so a sample taking a minute to load from the internal drive would take only three seconds via SCSI. Samples can also be called up from SCSI via a MIDI program change command.

Hard drives also allow rapid communication to software programs like Blank Software's *Alchemy*. (In turn *Alchemy* provides the EPS-M with time-stretching capabilities). The SCSI port transfers data 30 times quicker than MIDI, a statistic which speaks for itself.

In keeping with its Performance Sampler tag, the EPS-M allows a sample to be loaded while another is playing. In other words, there are no embarrassing silences while you change sounds mid-song. One intriguing application for this is the sampling and sequencing of vocals, or any other musical performance. Phrases can be sampled individually and then, by loading while the previous one is playing, a whole performance can be recreated.

The original EPS came with stereo audio outputs and an

option for eight separate polyphonic outputs to be fitted at extra cost. The EPS-M comes complete with eight dynamically assignable polyphonic audio outs, offering up to 20-note polyphony. A separate stereo headphone socket is situated on the front panel to assist the setting up of samples without anybody else hearing them. Again this is a significant improvement on the original EPS on which the only headphone socket was the right-hand stereo line output.

The EPS-M manual has been written and designed by Bill McCutcheon (a familiar name to Ensoniq users), and is available free to EPS owners on request. It includes the EPS Musician's Manual, Advanced Applications Guide, and SCSI Manual all in one well-presented volume. The manual is written with the assumption that you won't read it anyway, but nevertheless provides a thorough guide to getting the most from the machine.

Further new and revised features enhance the power of the EPS-M both on stage and in the studio. Direct dialling parameter access saves an enormous amount of button pushing; a dual footswitch doubles for the patch-select buttons for enhanced performance control; the footswitch also gives a note trigger for middle C, to save the need for a keyboard when sampling on location; Dynamic mixing of different samples is possible with the built-in mixer section; digital signal processing commands include six different kinds of crossfade looping, wavesample copy, volume smoothing and others; sample editing is done on a non-destructive basis, which allows you to hear an effect before deciding to keep it.

The EPS-M has been designed as a musical instrument rather than a piece of equipment, with features to make it a direct competitor to Akai's S1000. At the same time, Ensoniq are attempting to look after their previous customers, with free software upgrades to all registered EPS owners. Now the distribution headaches have been sorted out, the first shipments of the EPS-M are working their way through to the music shops. If you're in the market for a 16-bit sampler with lots of memory, hard disk interface and plenty of performance features, you'd be well advised to give the EPS-M a thorough checking out. ■
David Bradwell.

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Roland W30 Music Workstation



WHAT CONSTITUTES A workstation? While opinions differ on the answer to this one, what is generally agreed is that it should include some sort of sound generating unit, a controller (generally a keyboard), a sequencer, drum voices and effects. All these components must be included in and be accessible from a single box, and there ought to be a fair amount of interaction between them.

Roland's W30 Music Workstation fills all these requirements with the exception of effects – there simply won't be any. It offers all the features and functions of the company's 12-bit S330 sampler, most of the features of their new Super-MRC software for the MC500 family of sequencers, and a velocity- and aftertouch-sensitive keyboard. On top of all this, it incorporates a huge backlit LCD capable of displaying graphics (including waveform displays) and a great deal of parameter information at once. Unlike the S330 and other Roland samplers, no external monitor is necessary.

The W30 functions in a similar way to a software-based sampler. Its operating system is stored on disk and all its operations are performed using the display, two alpha dials, a numeric keypad and the software definable buttons beneath the display. At last count, the W30 had over 60 different screens of information, divided between its three modes of operation: Performance, Sequence and Sound. Performance mode includes some keyboard controller functions, Sequence Mode offers a fully-specified 16-track sequencer – complete with extensive editing options – and Sound Mode includes all the sample editing and digital processing functions found on other Roland samplers.

In terms of sound generating circuitry, Roland's approach to the workstation is that it should be based around a sampler because "it's easier to make a sampler sound like a synthesiser than the other way around". While this seems to be a reasonable way to look at it, there could be a few problems with this philosophy – at least with its implementation on the W30. Like the S330, the W30 includes 512K of RAM which, at the maximum 30kHz sampling rate, gives around 14.4 seconds of 12-bit sample time. The W30 also comes with 1Meg of unalterable samples stored in ROM. These ROM samples, which include drum sounds, several different bass samples and other general-purpose sounds, are accessible at the same time as the samples stored in RAM. However, the potential problem I see with this scheme is the same one

that any sampler with limited memory faces – the ability to play numerous sounds at once.

The W30 has a generous 16 notes of polyphony, capable of being divided between eight multitimbral parts (and eight individual polyphonic outputs). However, if you have a sample disk that uses up most (or all) of the 16 available preset locations – the total limit for ROM and RAM sounds – then you may not be able to hear all musical parts at once. A limit of 16 presets is small and may compel you to commit certain musical parts to tape. Unfortunately, the W30's otherwise very impressive sequencer does not have a sync-to-tape function, so you'll have to resort to an external sync box, like JL Cooper's PPSI, for example. If you use the internal sounds and add only a few samples of your own, then of course you won't run into this problem; but it's a limitation you ought to be aware of all the same.

In terms of compatibility with existing instruments, Roland get very high marks. The W30 reads and plays back S50, S550 and S330 sample disks, as well as sequence disks created with the SYS503 and 553 sequencing programs for the S50 and S550, and sequences created with MRC or Super-MRC software for the MC500 family of hardware sequencers. As a result, there will already be a huge base of sounds for the W30 when it is released and owners of current Roland gear will be able to make a transition easily to the W30 without losing any of their work. The W30 also has an optional SCSI port for connecting to the company's HD80 80Meg hard drive as well as the new CD5 CD-ROM player. With either of these options in tow, you'll have almost instant access to hundreds of sound banks.

At present I'm not convinced that the W30 has everything I personally would want to see in a "Workstation", but it certainly does appear to be a great combination keyboard sampler and sequencer.

I think Roland might have put themselves in a bit of a spot by giving the W30 the fashionable workstation tag, but even if it turns out to be less than the perfect workstation, this doesn't mean it won't be a great instrument. ■ *Bob O'Donnell*

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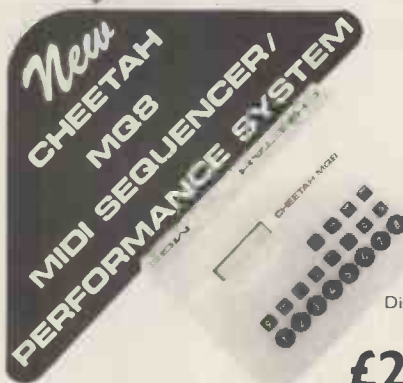
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STUDIO ELECTRONICS MIDIMOOG

The MIDImoog takes original Minimoog electronics, a healthy MIDI spec and few new features besides, and packs them into a 4U rack space. Meet the Minimoog for the '90s. Review by Tim Goodyer.

IT SHOULD HAVE happened sooner. Almost as soon as the Minimoog was withdrawn from production (back in 1981) musicians and producers christened it the classic synthesiser. As such it's continued to play an active part in the making of music as diverse as the pomp rock of Marillion and the DJ's revenge of Bomb the Bass. And there's no sign of it letting up yet. No sign, that is, as long as you consider Studio Electronics' MIDImoog to be a Minimoog.

Looking more closely at the contents of this 4U-high rack-mounting box, you'll find the guts of a genuine Minimoog along with the electronics necessary to bring it comfortably into the wonderful world of MIDI. The sounds of a classic pre-MIDI synth with the convenience of MIDI control – why didn't it happen sooner?

The New Look

THE FIRST THING to realise about the MIDImoog is that the 19 inches of space that exist between the vertical supports of a studio rack are fewer than were available to Bob Moog when he laid out the panel for his Minimoog around 20 years ago – eight fewer, to be precise. Take into account that there are actually more controls to be found on the panel of the MIDImoog than there are on the Minimoog, and we're talking about a fairly crowded – though perfectly useable – front panel layout. That said, space is sufficiently tight for some of the markings to have been adapted from Moog's originals and one of the new knobs carries no explanation at all.

The situation is made worse by the fact that there is no manual supplied with the unit. Not an oversight (we checked), but a vote of confidence in the simplicity of the Minimoog and the clarity of its panel layout. Now, based on the number of calls and letters MT regularly receives requesting assistance with old synths that have become separated from their manuals, I'm not convinced this is such a good move. And then there are those additional controls to deal with...

Basically, the MIDImoog layout follows that of the Minimoog. The knobs are smaller and the distinctive blue and orange rocker switches have been replaced by miniature toggle switches. But there's no mistaking the panel.

Without re-reviewing the Minimoog itself, let's say that it's a monophonic analogue synth with three oscillators, one of which can be used either in the audio range or as an LFO with an unusually wide range of modulation waveshapes. It also has a switchable white/pink noise source which, again, can be used as an audio or modulation source, and will accept an audio input for processing by the instrument's filter. Oh, it also has a phenomenal reputation as the classic monosynth.

All these facilities remain, with the exception of noise modulation, more of which later. In addition the MIDImoog possesses a green MIDI activity indicator, seven toggle switches governing single/multiple triggering, dynamic control of the VCA and VCF, modulation of the VCF, aftertouch control of the VCF, oscillator octave

selection and oscillator syncing. There are also five new knobs assigned to limiting the effects of pitchbend and dynamic control over the filter cutoff, MIDI channel selection, control of oscillator two by the filter transient generator and frequency control for a (new) dedicated LFO.

The rear panel sports the Minimoog's "hi" and "lo" audio outputs, audio input and calibration pots, but instead of sockets for pre-MIDI control of the oscillators and filter are the MIDI In, Out and Thru sockets.

The New Ideology

BEFORE GETTING INTO what the MIDImoog design adds to that of the Minimoog, let's take a quick look at what about the Minimoog has changed. First of all the decay defeat switch that sat alongside the Minimoog's keyboard now lives beneath the oscillator controls. The Glide (or portamento) defeat switch that used to live next to it has gone, leaving control of Glide down to the rotary pot. Then there's that modulation alteration referred to earlier. Where, on the Minimoog, the Mod Mix knob controlled the modulation balance between oscillator three and the noise source, the same control on the MIDImoog governs the balance between oscillator three and the new LFO. The result is that the MIDImoog not only allows you to use all three oscillators as audio sources and have an LFO available, but mix the dedicated LFO's sine wave (or more likely, triangle wave) with one of oscillator three's six waveforms to create more complex modulation waveshapes. At the cost of noise modulation.

The five switches that line the bottom left-hand corner of the panel are pretty self-explanatory: Dyn VCA switches in MIDI velocity control of the MIDImoog's amplifier, Dyn VCF does the same for control of the filter cutoff frequency (subject to the setting of the DVFC knob), Mod VCF allows modulation to be introduced with aftertouch, Aft VCF puts the filter cutoff frequency under aftertouch control, and Osc 2 Sync syncs oscillator two to oscillator one. They're pretty self explanatory in what they do, sure enough, but without a manual to tell you, you have to work out that up is on and down is off for yourself.

Getting the remaining new switches out of the way, Mult Trig ends the MIDImoog with the multiple triggering available on the Minimoog only to special order, while Oct HLM allows you to switch the range of all oscillators up two octaves and down one from the original Minimoog register.

MIDI channel selection is the most self-explanatory aspect of the instrument's face-lift – all channels (1-16) are available via a rotary switch. *Très facile.*

What's not quite so simple is the implementation of the MIDImoog's oscillator syncing. With syncing switched in, the pitch of oscillator two falls under the control of the filter transient generator. The extent to which the pitch is affected is determined by the unmarked knob on the left-hand side of the panel. When oscillator syncing is switched out, the pitch of oscillator two is still dependent on the filter envelope, giving rise to another family of sounds.



Photography Adam Jones

The New Sound

STUDIO ELECTRONICS' MIDIMOOG doesn't sound like a Minimoog – unless a Minimoog sounds exactly like a MIDImoog. That is to say, I put the MIDImoog up against the genuine article and was suitably (and seriously) impressed. Identical panel settings on both instruments gave virtually identical sounds. Given the blindfold test, nine out of ten housewives couldn't tell the difference...

In use the only problem arising was one of compatibility. Though happy to work under the control of instruments as (MIDI) primitive as the OSCar and as comprehensive as Akai's MX76 controller (reviewed elsewhere in this issue), it was not eager to talk to a Roland D20. It wasn't so much a language barrier as a complete communications breakdown.

Studio Electronics acknowledge the problem with the Roland MIDI spec, and have released V3.2 software to rectify it. Unfortunately, this was not available at the time of review.

What Studio Electronics have given the Minimoog begins with the dedicated LFO. The power available from a Minimoog's three oscillators – for bass or lead work – has always left its players uncertain whether to sacrifice expression for balls or vice versa. Now you can have both.

The performance facilities of the MIDImoog make a synthesiser that already has a daunting reputation for its expression doubly playable. There is really no comparison between what can be achieved using a MIDI/CV converter and what can be achieved by digging deeper into the instrument's circuitry and making MIDI a more integral part of its operation. To play it is to appreciate it.

Verdict

WHAT IT IS, my man, is a classic instrument tucked neatly away in a rack with (as near as dammit) all the facilities of the original and a generous helping of well-considered and MUSIC TECHNOLOGY MAY 1989

thoroughly useable improvements. The sound of the MIDImoog is every bit as impressive to hear and to use as you might have feared.

What it ain't is cheap, well documented or programmable. I appreciate that many potential MIDImoog owners will already be familiar with the workings of the Minimoog. I also appreciate that Studio

"I put the MIDImoog up against the genuine article and was suitably impressed – identical panel settings gave virtually identical sounds."

Electronics haven't done anything to the original design that qualifies as "unfathomable". But the fact remains that it'll take even seasoned Minimoog players a short while to sort things out – a manual would have made it all clear in a very small number of minutes.

Technically, the only fault I can find with the Minimoog for the '90s is its lack of programmability. I'm sure it can be done (Sequential's Dave Smith performed just such a mod to Minimoogs before designing the Prophet 5), but the MIDImoog remains adamantly non-programmable. Shame.

The MIDImoog is certain to appeal to anybody who's ever been attracted by the sound of the Minimoog. As the MIDImoog costs some six hundred quid more than the Minimoog when it was released, you'd be forgiven for wondering how many potential takers are going to be able to afford to buy one. But the word is that it's selling well to top producers and studios – probably for its exclusivity as well as its sound. I can also see it going to gigging musicians, for whom it will be well worth the cash and rack space. I'm still wondering why somebody didn't come up with the idea before now. ■

Thanks to The Synthesizer Company for loan of review model.

Price £1595 plus VAT.

More from The Synthesizer Company, 9 Hatton Street, London NW8 8PR. Tel: 01-258 3454.

Sycos Systems, Kimberley Road, London NW6 7SF. Tel: 01-625 6070.

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The MPC-60 MIDI Production Centre has all the powerful features of the ASQ-10, but with the addition of a superb, dedicated sampling digital drum machine, complete with touch sensitive pads. The enhanced 12 bit format, with a 40kHz sampling rate and 18kHz bandwidth, produces results of a startling clarity and extremely low noise.

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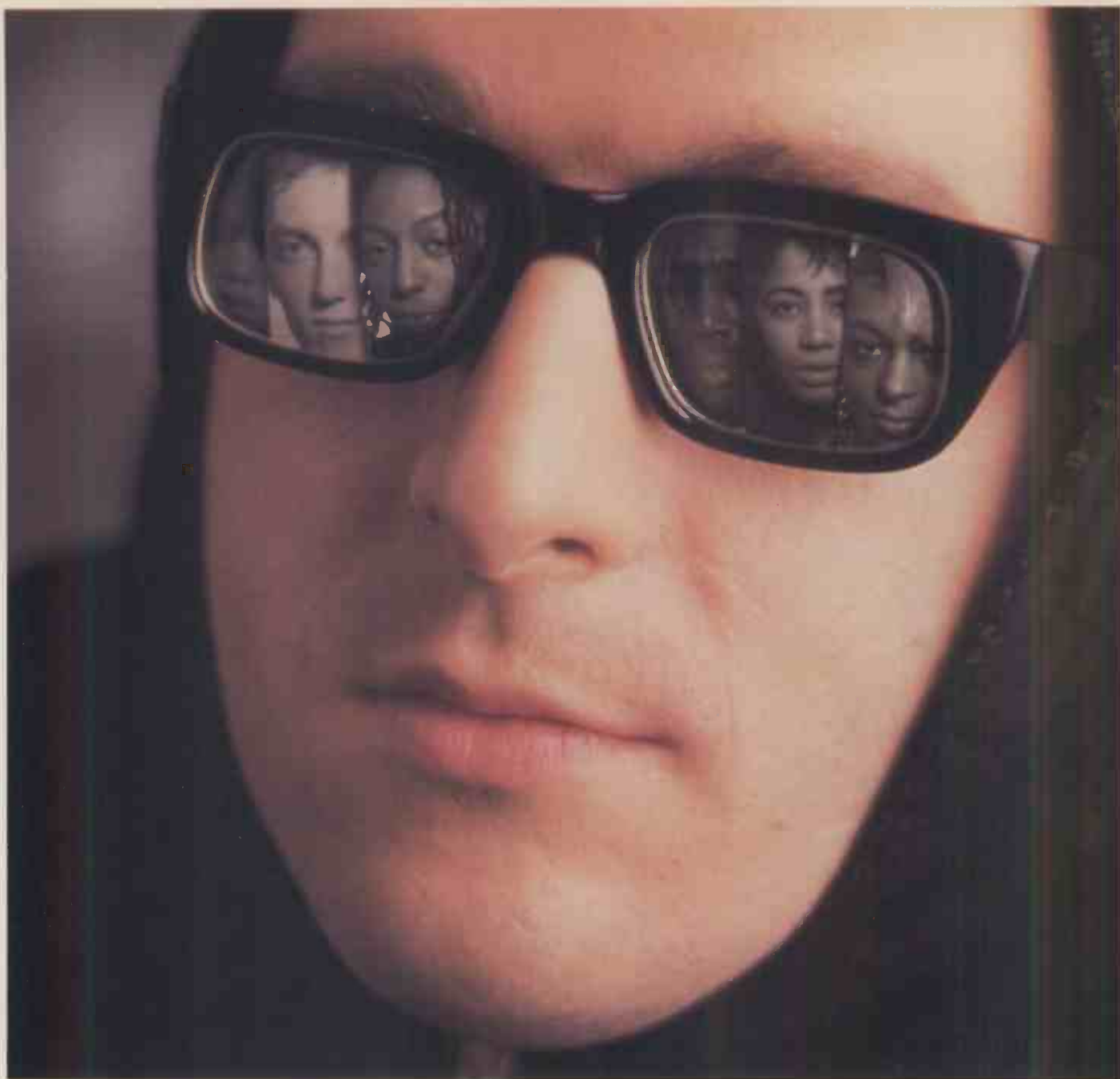
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made in heaven

The most modern music doesn't necessarily rely on the most modern equipment - ask the ex-S' Xpress and Bomb the Bass producer who won himself a recording contract. Interview by Tim Goodyer.

WHEN YOU GO to Heaven, what do you expect to find there? Tricky one eh? Well, I'll tell you what I found . . . I found an EMS VCS3, an ARP Axxe, a Korg Mono/Poly, a Roland TR909, a Yamaha CS5 and CS30, A Moog Rogue, a Casio CZ101, a Roland MKS80, a Sequential Circuits Pro One, A Roland Juno 106S, a Korg DVP1 vocoder, a DX7 Mk 1, a Simmons Portakit and an Akai S1000 sampler. I can even tell you where you can find Heaven - on the top floor of The Madness' Liquidator studio

complex somewhere down London's Caledonian Road. No, I'm not claiming to have had an "out of body" experience on a hospital operating table, rather Heaven is the name Pascal Gabriel has given to his programming suite.

You may recognise the name Pascal Gabriel from his production work with S' Xpress and Bomb the Bass. You might even have noticed it on the sleeve of Erasure's 'River Deep Mountain High', Ofra Haza's 'Galbi', Bryan Ferry's 'Limbo' or Boy George's 'Clause 22 Space 4 Your Face Emilio Mix'. You can even find it on Wet Wet Wet's 'Sweet Little Mystery' if you're inclined to look. And you can expect to see Pascal Gabriel's name in the charts again shortly as he's about to release a cover of the Led Zeppelin classic 'Whole Lotta Love' under the name The Lovechild Orchestra.

Gabriel's rework of 'Whole Lotta Love' sees Robert Plant's role taken by Lorita Grahame and the dirty-sounding '70s rock instrumentation

MUSIC TECHNOLOGY MAY 1989

replaced with synthesisers, samplers and drum machines. But don't get the impression that Gabriel's version is a piece of synth-pop pap - the spirit remains (more or less) the same. Seventies song, '80s tech.

"Obviously, when you do a cover there's not much point in doing a cover that's the same as the original", observes an enthusiastic Gabriel. "When we did 'Say a Little Prayer' with Bomb the Bass there was no point in doing an acoustic version, we were going to go for an electro version or a lovers' hip hop version of it, which is pretty much what I've aimed 'Whole Lotta Love' at - that kind of lovers' hip hop/reggae type of feel but with analogue sounds. I've always loved the late '70s, R&B and soul music generally. And Led Zeppelin are the band I remember as being the most R&B rock band, because they had congas and percussion on their tracks that other bands in that category wouldn't. They were a real soul rock band.

"I chose 'Whole Lotta Love' because it's a really good song, the same reason we chose 'Say a Little Prayer' - it's a classic song. It's got a lot of emotional content that you can get a singer to bring out. Also, I could hear a different version, a more modern version of it in my head. I was listening to a lot of songs and that's the one I thought I could hear a really good treatment of."

"Led Zeppelin's version was really trashy and, in fact, I don't think their version respected the song that well. The vocal was great but the instrumentation was trashy. I like things to be really precise and have everything happening in the right place as opposed to having it average out all the way through.

"I'm definitely very soul-orientated but my roots are in bands like Kraftwerk and Can, those mid-'70s German bands. I think any record can be a good record, I always tend to think there's a lot of good in a lot of things, but certainly the bands I've kept on listening to are bands like Kraftwerk, Yello, Faust even, because they're imaginative. They might not have made successful pop records but you can listen to their stuff and take ideas from it and put them in a pop context."

Gabriel is obviously satisfied with the way his version of 'Whole Lotta Love' turned out, but it met with a mixed reception at MCA, to whom he has recently signed. There were two stumbling blocks; the first was the tempo - at a leisurely 89bpm the cover sounds slower than the original but Gabriel maintains the pace, too, remains the same. The other was the choice of material itself.

"I had a meeting at the start of the week and my product manager was saying 'everybody really liked it apart from the rockists of MCA and they were saying it's sacrilegious!'. He was expecting me to be upset about it but I think that's what I want. It would be really great if Metal Hammer decides to put a ban on it - I could be the Salman Rushdie of dance music. I don't think anything's sacred. Once it's art I think it's there to be covered and played around with."

ALTHOUGH NOW A London resident, Pascal Gabriel is not a native of Britain. He was born in Belgium and, at the tender age of 14, witnessed the Belgian punk uprising. It inspired him to form a band called the Razors in which he played bass guitar. From bass he progressed to playing six-string ("tuned to a major chord so I could do

everything with one finger") with another punk band. Then his conscription papers for the Belgian army arrived . . .

"I thought 'I don't want to do this: a year in the army? No, no!' So I tried everything to be declared unfit - like I went into the military examination and said I'd really like to have a gun, and could I take the gun home, hoping they'd think I was some kind of mass murderer. But it didn't work, and two weeks later they were saying they thought I was ideal for a special battalion they have nutcases in . . . So I decided I had to go.

"I'd been to London a couple of times because of the punk thing - that was late '79 - so I came over here with a ghetto blaster, a bass, a load of tapes and I've been here ever since."

Gabriel's first involvement in the London music and nightclub scene was with a band called The Church of the Friendly Valley.

"The idea of the band was to be entirely anti-fashion", he recalls with amusement, "so we dressed in lurid apple green nylon shirts. You know the kind of thing you never want to buy at a jumble sale? We bought it all. The sound of it was pop groupish, white funk and we were using tapes of ethnic singers."

Around 1983/'84 an altogether more bizarre project followed: "I started a synthesiser-based project called Music For All with another guy. We decided we were going to form this company to do background music specifically for certain areas - we'd do music specifically for the Mayfair hotel lobby or for Heathrow. It didn't work because we had no money, but we did do one performance in a supermarket on a Sunday afternoon. We composed this backing track, which was about 45 minutes of electronic music, piped it all around the system and emptied a freezer and covered it with fake turf and put our synths there. And then we improvised live on top of the backing track. It was quite exciting. It didn't work as a band or as a project because we didn't have the backing, but the idea was good.

"I was very much into *avant garde* stuff then - I was listening to John Cage and Messiaen and I always try to retain a bit of that in the pop stuff I do. I try to keep a little bit of . . . I wouldn't call it whackiness, but intelligence about what's happening. I never go for the obvious. With MCA I could stick to the formula of cut-up records or Latin hip hop, but I want to do something I haven't done before.

Gabriel's stint as a successful engineer, then producer and co-writer earned him the offer of a recording contract with MCA Records and The Lovechild Orchestra was born. His plans for the band follow the pattern layed down by US DJ/producer Jellybean and followed by Tim Simenon's Bomb the Bass and, more recently, Jazzie B's Soul II Soul projects.

"It's not really a band as such", he says by way of explanation. "When I was approached about a solo deal I didn't want to see myself as the artist. I thought if a record company is prepared to spend money on a new act I know enough singers that deserve a bit of limelight. The singers I've used have done loads of backing for people like Boy George but the same label that would pay them a great amount in session fees would never give them a singles deal. I thought that was a bit unfair, so the way I want to use The Lovechild Orchestra is as a springboard for my songs and production, and as a springboard for those people I thought deserved a bit of credit. This year there'll be four different singers featured on ▶

"You can do collages of drum beats and pieces of music, but you can also do collages with a tin banging or pinball machines."



Photography Tim-Goodyer

► The Lovechild Orchestra album, next year there may be a different four singers. It's very interchangeable; someone who's sung lead on one song will sing backing on another track. It's all keep it in the family . . ."

Alongside Lorita Grahame (whom Gabriel approached after hearing her sing on Colourbox' 'Baby I Love You So'), The Lovechild Orchestra consists of ex-Afrodiziak Claudia Fontaine, Beverley Skeet and a Japanese rapper called Fuji. Running through pre-cut recordings of some of The Orchestra's songs in Heaven we're treated to material ranging from the hard dance grooves of 'System Addiction' (Lorita Graham singing) and 'Move' (Beverley Skeet) to the threatened experimentalism of 'The Art of Picasso'.

"In 'The Art of Picasso' a girl called Yoko is reading a poem that I wrote which was inspired by a poem that Salvador Dali wrote slagging Picasso off", comes Gabriel's account of the track. "Really it's a tribute to Dali and the surrealist movement.

When Dali died I saw this *Arena* program on him, and I cried at the end because it was so sad to see such a genius wheeled out of hospital in a wheelchair. He probably enjoyed the media attention, but I found it so sad. The song is this surrealist poem being rapped over a backing track where I've got this computer speaking the names of drum voices where the drum should be. So the voice will go 'snare-kick-snare-kick...'

"I suppose it's a bit surreal itself - you can do collages like we did with Bomb the Bass and S' Xpress, where it's a straight collage of drum

beats and pieces of music, but you can also do collages with a tin banging or pinball machines. I like to introduce things like that because it's exciting. It's so much more exciting to have a hairspray doing a hi-hat than to do a normal hi-hat. I suppose the 'The Art of Picasso' is a lot about not using conventional sounds.

"It kind of works. I wish I hadn't used any drums in it now, but there's a stage at which you have to let things go. You can keep on working on something until you think it's perfect and they end up sounding terrible. You have not to keep things too close to your chest. If I were to really be honest about it, I could re-do the whole album now and do it better. But it's done now and I have to move on to new things. That's what keeps me going: thinking that the last thing I did was OK, but that I can do the next one better. There's no point in looking back."

STRANGELY ENOUGH, "LOOKING back" would be a good way of describing the collection of antiques and curios that constitute a large part of Pascal Gabriel's collection of musical equipment.

"I'm not a new synth person, I really love old synths, as you can see", he pleads in his defence. "I don't think anything I bought was new, it was all secondhand, because I never had enough money until now. The Mono/Poly was current when I bought it, and the Yamaha CS30 and the CS5. I got the CS5 first and then the CS30 because it was 'the step up', that's what I was playing the supermarket with. The Juno 106 I ►

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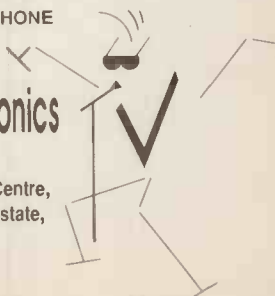
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►use as a master keyboard because it's got all the facilities of a MIDI synth apart from local off. The sounds are brilliant and it's really easy to program.

"The Axxe is my favourite synth now because it's got such weird sounds on it. It's got Tangerine Dream/Edgar Froese-type sounds, really, really gritty sounds. The CS30 is quite good as well because of the onboard sequencer - I'm going to get it modified so that I can trigger it from outside - but you can set it in between notes so you can get weird variations of tone.

"I link everything up with a couple of Roland MPU101s but unfortunately, I can't use the same MPU101 for the Yamaha gear and the Rogue because they're not the same polarity. When I started programming the album I started some tracks that I never actually finished off, where everything was completely analogue synths - the bass drum would be the Yamaha, the snare would be the other Yamaha, the hi-hat would be the Rogue and the melody would be the Axxe. If you use the dynamic output of the MPU101 you can actually alter the filter of the Pro One and the Mono/Poly. I do a lot of knob-twiddling live as I go to tape as well. I write a basic part and then play around with the filter up and down and play with the resonance."

For sequencing, Gabriel still uses a Commodore 64 and Steinberg's Pro16 software. The advance that usually accompanies a record deal saw two Akai S900s replaced by an S1000 and a Macintosh and Passport Mastertracks software move in on Pro16's territory.

"I used it for a couple of months and came back to Pro16 because it's quicker" he recalls. "The edit page in Pro16 is so much better . . . I've not seen any sequencer that's better except maybe Steinberg's new Cubit program.

"All the S' Xpress and Bomb the Bass stuff was done on Pro16. When I first got it, it used to crash all the time, then I got to know it and it never crashed again. I had to change the Commodore about a year-and-a-half ago when I was doing the Taffy sessions because it just went dead, but I got a new computer and it's been running ever since. I don't think it's what you use, it's how you use it and how well you know it. It doesn't matter if it's 20 years old, if it does a good job it's irrelevant."

Heaven is where Gabriel does most of his songwriting, sequencing and arranging. The recording proper takes place either downstairs in Liquidator's 24-track studio or at another London 24-track studio. The arrangement gives Gabriel full control over the song without the pressure of the clock counting off expensive studio hours. It also gives him an opportunity to rework tracks that aren't going so well.

"With a couple of the tracks I've decided the backing track is boring and I've transferred the code and lead vocal to DAT or two-track, brought it back here and rewritten the backing track. Then I've been back into the studio and recorded the new backing over the old one. Technology allows you to do it.

"Daniel Miller used to tell me that recording never stops, even in the middle of the mix, if you think something's missing, nothing's stopping you fixing it. Before, if you were mixing with a live band and you needed something happening in the middle eight you'd have to get the players back in to do it, now all you need is a sequencer and a few sounds and you're away.

"I write with sounds generally. Everything I've

written I've started with the sounds and then I've thought of a bassline that would fit with those sounds. On 'System Addiction' I started with a sample of a pinball machine and a big metal drawer closing, and they formed the backbeat. Then I had a typewriter sample that I put in to make an interesting rhythm. Then I wrote a drum rhythm to go with it - all those samples were in one S900 and I put one of my drum kits in the other.

"There's no formula, I just decide 'today I'll play with the vocoder' and tomorrow I'll play with the analogue sounds and get something from that. I never go in thinking 'the bass will be this and the drums will be that . . .'. I never set myself targets, and do it as I feel it. For the album I had a DAT tape of about 20 rough ideas out of which I picked about four. On 'Whole Lotta Love' the sound on the riff in the choruses was an accident, I had all the notes of the bass lines on the Portakit and it just fell into place. Playing around and having fun with the toys, that's what it's all about.

"I suppose the style I am trying to get is modern tightness and technology but I also like the looseness of live playing. That's why sampling breaks is so handy because you get the feel of a drummer and the accuracy of sequencing. I don't think I'd go as far as having live drums on a track yet, although people like Stetsasonic have started doing that - and very successfully too - what I tend to do is instead of having a tambourine part doing 16ths, I'll play a bar or two bars myself and sample that. It's a question of getting the best of both worlds: the looseness of live players and the tightness of sequencing."

IN COMMON WITH many of today's producers, Pascal Gabriel also remixes other artists' work. Also in common with other producers he claims to have satisfied those artists with his treatment of their songs. Less usual is his eagerness to have other producers remix his own work.

"I've been thinking that I'd like the people from Soul II Soul to do some of my stuff, and Tim Simenon, if he's not too busy. And I think people like Smith and Mighty would be good as well. I like people with a lot of emotional content in their music and I think Soul II Soul and Smith and Mighty would be good. One thing I hate is the remixes you get from Holland where they're just '70s tracks tarted up with a bit of scratching here and there. It's like the disco remix. I think people like Soul II Soul and Smith and Mighty would do it tastefully.

"There are very few good remixers around, it's too easy to do a remix that's tasteless. It's easy these days to get a big bass drum sound and a big snare sound and a pattern that's reasonably danceable. Any moron can do that. Remixing is an art form, that's why I never want to stop doing it. People tell me it's a better career move to do production, but I want to keep both going."

Perhaps it's his enthusiasm for music that makes Pascal Gabriel an easy man to like. Perhaps it's his love of technology and disregard for fashions in equipment. Or perhaps it's the fact that the traces of his Belgian accent make an interview with him resemble an encounter with a character from a children's television program. Perhaps they're all like that in Heaven.

"Recording never stops: even in the middle of the mix, if you think something's missing, nothing's stopping you fixing it."

AKAI AR900

Digital Reverb



While the multi-effects processor competition continues, Akai have opted to produce a dedicated reverb whose strength is in its natural sound character – but is it what people want? Review by Vic Lennard.

WITH THE LIKES of Alesis, ART and Digitech vying for the title of "King MultiFX", it should come as no surprise to find Akai entering the field of battle. After all, while their EX90R has existed since mid-1987, it can hardly be regarded as a serious piece of pro studio gear. But Akai have never been inclined to rest on their laurels, and as their range of gear has been rather light on the reverb front, the introduction of the new AR900 16-bit digital reverb does not come as much of a surprise.

What is more interesting is Akai's active decision not to make it a multi-effects unit, and to price it at £799, so bringing it into the higher price range, somewhere in between Yamaha's new SPXs – the SPX900 and SPX1000.

Description

ENCASED IN A 1U-high Akai-grey rackmount, the AR900 has a fairly busy front panel: a two-row X16-character backlit screen, surrounded on either side by four bargraphs of six segments each for left and right input/output, and a two-digit counter to show which of the 99 possible programs is currently selected. The rest of the panel is made up of three rotaries for input, output and parameter value, and eight push-buttons for accessing all programming facilities, each of which has a small red LED to the top left-hand corner.

The rear panel has inputs and outputs for channels 1 and 2 as well as an effects loop (of which more later). MIDI In, Thru and Out sockets and footswitch jacks for Bypass and Program change Down/Up (stereo jack) complete the socket arrangement. The only other rear-panel feature is a battery back-up switch.

Reverb Settings

THERE ARE EIGHT basic reverbs, as follows:

Name	Reverb Times (secs)	Max. Pre Delay (ms)
Large Hall	3.1 – 16.0	210
Small Hall	1.5 – 9.5	210
Large Room	1.2 – 13.0	210
Small Room	0.28 – 4.4	210
Plate	0.15 – 6.2	210
Loft	0.83 – 7.8	210
Gated	0.13 – 0.73	225
Reverse	0.4 – 1.2	220

As well as the above parameters, each reverb also has a high-frequency damping switch, which acts as a low-pass filter with a shallow gradient (and so synthesises soft, absorbent surfaces which soak up the top end), and a low-frequency cut switch which pretty well eliminates all frequencies below 100Hz. Movement around the various screens is achieved by use of the parameter value rotary and the Support button, which comes into use when a screen requires both movement and parameter value changing. This is indicated by the LED above the Support button flashing.

The above standard settings take up the first eight memory places and are followed by 12 more, which are called "Maker's Programmes" and are non-editable, existing in ROM. There are then 79 user slots which will hold all parameter changes (including Bypass). These can be named, but you then lose the identity of the original preset they are derived from, because the name overwrites the reverb type.

Equalisation

ALTHOUGH OTHER REVERB units often have built-in EQ of some description, the EQ found on the AR900 is particularly interesting as it is comprised of a stereo seven-band graphic EQ with frequencies centred at 100, 300, 600, 1500, 3000, 6000 and 10000Hz, with a boost/cut of +/-12dB. Channels can be set separately or together, by visually altering bar graphs on the screen. The equaliser can be situated either pre- or post-reverb and has an effects send/return loop which can be activated from the parameter button. This breaks the connection between the reverb and the graphic when the latter is set to pre-reverb.

Using the graphic output and reverb input sockets on the rear panel, it is possible to divorce the equaliser from the reverb and so use it as an independent process, although it must be said that this is not the principal idea behind this feature, as the graphic is not necessary when tailoring the reverb for individual requirements. Using the loop to send the signal to an external processor opens the door for a variety of interesting effects while keeping the noise level down by removing any awkward frequencies via the graphic.

Another departure from the norm is the inclusion of a stereo spectrum analyser operating at the same frequency bands as the EQ. The idea behind this is to enable you to see which frequencies are dominant in the input signal and to tailor the graphic in such a way as to remove any resonant peaks. This game plan is difficult to implement for two reasons; firstly, the analyser has no freeze or peak hold facility, so making it difficult to use visually, and secondly, the levels shown are inordinately low and have to be boosted via the input rotary, so rather defeating the object.

In Use

ALL THE INNOVATIVE ideas in the world matter little if the basic sonic quality of a unit is poor, but with a sampling rate of 41kHz it would be fair to expect the AR900 to return a high performance.

Having said that, the worst possible start to a review of a piece of audio equipment is when the first preset sounds, to put it kindly, very ordinary. 'Large Hall' has a somewhat dull metallic ring to it and sounds far too 'springy', with a clearly audible shimmering in the decay. Further investigation reveals that the graphic has been set with a 12dB cut at 6kHz and the reverb time is a measly 3.1 seconds – the minimum possible at that setting. Boosting it to about five seconds and adding a little more judicious use of the graphic led to an altogether more satisfactory result. Of course, this shouldn't really be necessary because the standard settings should either be dead flat or as good as they can be. First impressions are important and many of the presets here appear to be far too "middy".

The 'Large Room' preset suffered from the same type of problem with an oddly tailored equaliser and, again, the minimum reverb time setting. I realise that the frequency response of naturally-occurring reverb rarely exceeds 7kHz, but when the top end response of a unit is good – as this one is – surely it would be sensible to show it off.

The quality of the AR900 is generally pretty grain-free with the 'Loft' reverb being worthy of a special mention in this respect – rather smooth and cavernous. Similarly, 'Gated' has a crispness which is due in no small part to the fact that the 300Hz band has been cut by 12dB.

Working with the AR900 it quickly becomes clear that the graphic has far more significance than would appear likely at first sight. It allows the reverb to be adapted to any situation and can generate quite dynamic results. As always, there is a rub. Boosting frequencies, especially in

pure reverb mode, causes an unwelcome increase in the noise level, which is otherwise very good – certainly quieter than a Multiverb or Quadverv, and at least on a par with the SPX900. This would tend to infer that better-quality components could have been used in this section. However, the cutting of the lower band frequencies and use in post-reverb mode restricts the noise to a minimum and gives quite acceptable results.

Direct comparison with other units is difficult. Both the Quadverv and the Multiverv have an immediacy about them, a presence which the AR900 cannot match. The reason for this is the over-bright results obtainable from the Alesis and ART machines which hide the lack of warmth, but certainly accentuate the grainy nature of their sound, which while being highly desirable from a commercial music point of view, hardly passes for true reverb. To my ears, they sound as though they are being permanently passed through an aural exciter. The SPX900 also has a slightly unnatural smoothness, albeit a very desirable one. No, the strength of the AR900 lies in how natural it sounds, which may sound odd when taken in the context of its need for an internal graphic – but if the raw quality were poor, an equaliser wouldn't really hide this shortcoming.

Other Facilities

ONE EXCELLENT FEATURE of the AR900 that has, as yet, remained unmentioned is the infra-red remote control unit. Seventeen buttons take a lot of the hassle out of the multi-access front panel knobs and allow the AR900 to be racked away out of reach, if not out of sight.

The MIDI side of the AR900, however, is more disappointing. It only supports program changes and a parameter dump. With today's technology it would be reasonable to expect MIDI control of reverb time at least. This omission is made all the more strange when you consider the comprehensive MIDI facilities of Akai's own S950 and S1000 samplers.

The parameter dump is a welcome facility, especially when a battery change is needed, and at least there is a MIDI Out to allow this. (Ever tried extracting the data from an SPX90 without internally converting the MIDI Thru to an Out?) On the other hand, I wonder just how many AR900 users will ever fill up the 79 user slots. It would also have been nice if Akai had included the System Exclusive information for a single patch dump, which would then allow the necessary bytes to be stored in a computer, along with note data on a sequencer song file.

Verdict

THE DAYS OF judging a piece of equipment's quality by its performance seem to have disappeared; the criterion now is the price. In this respect, the AR900 will be seen by many as being overpriced for the facilities it offers – or rather those it lacks: no multiple effects or separate channel capabilities.

But perhaps we're being unfair to Akai. The AR900 is a classic reverb unit which certainly puts most of the current batch of processors to shame when viewed from the point of view of purity and natural quality of its reverb. If you're working in a pop-oriented studio, then I doubt whether you will give this unit a second glance, but the more discerning amongst you will certainly do yourselves no harm by having a listen. ■

Price £799 including VAT.

More from Akai UK, Haslemere Heathrow Estate, Silver Jubilee Way, Parkway, Hounslow, Middlesex. Tel: 01-897 6388.

THE small PRINT



Illustration Clive Goodyer

The ordeal of persuading two pieces of MIDI equipment to talk to each other can be overcome with MIDI implementation charts. This short series will help you understand and use MIDI charts. Text by Vic Lennard.

DEPENDING ON HOW adventurous you like to be, using a new piece of equipment can take one of two courses; reading the manual thoroughly, getting totally confused and then turning the unit on and sussing it out practically, or turning the unit on to suss it out practically, getting totally confused and *then* reading the manual. Either way, the chart that can usually be found at the back of an equipment manual is hardly ever given more than a cursory glance, which is a pity because it offers the solutions to a variety of MIDI problems you're likely to encounter.

In an effort to improve the situation – and your ability to quickly come to terms with MIDI gear – we'll take a look at MIDI implementation charts, how to read them

and how to get the most out of them. The best way to treat this series of articles is to actually have a chart in front of you. Whether it be from a Casio CZ101 or a Korg M1 is irrelevant, they all look the same, don't they?

The Chart

A MIDI IMPLEMENTATION Chart is a table showing all the MIDI aspects of a particular piece of equipment. The header at the top of the page should have the name of the model, the date the table was registered and the version number. This last piece of information is important

because MIDI specifications are often altered from one version to another. The foot of the page should show the Mode definitions (which we'll look at in more detail later) and a key showing what signs are used to show Yes and No throughout the table. Standard procedure tends to be to use 0=Yes and X=No.

The table is divided up into four columns. The first of these is Function, which categorises all the possible MIDI applications and is followed by Transmitted and Recognised, showing the MIDI data which can be sent and received respectively by a MIDI device. In some cases, one or another of these will be of little relevance – for example, the "Transmitted" information for a synth module or the "Received" information for

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► a mother keyboard. Consequently, certain of the entries may have N/A against them to signify their redundancy. The final column is for Remarks, which may be necessary to expand on the comments in the table, such as the ability to alter certain settings from the unit.

Before we delve into each section's meaning, it is worth looking at the Notes area at the bottom of the table. This enlarges on any details which will not fit into the allocated space in the chart, and will often be used as a key for a number of asterisks shown throughout.

Channels and Notes

"BASIC CHANNEL" STATES which MIDI channels can be used, with the Default figure being that which is set when the device is first turned on. Most modern units will memorise the last setting and will allow access to all 16 MIDI channels, shown under Changed, though notable exceptions are the Yamaha DX7, which can only transmit on channel 1, and the Roland MT32, which, being multitimbral, will recognise channels 2-10 as standard or 1-8 and 10 if set accordingly.

"Pitchbend is a relatively straightforward function except that it can take any value between 0 and 32,639."

There are four MIDI modes which specify how a device behaves when either generating or receiving MIDI note information and these are listed at the foot of the page. "Omni On" means that data will be sent/received on all 16 channels. This is generally not required, and so Modes 1 and 2 are rarely used. Mode 3, "Omni Off, Poly", signifies that more than one note can travel along a set MIDI channel and will be the default setting for most units. Mode 4 is relatively new in its implementation, being used mainly with guitar synths to allow each string to control a different MIDI channel and so permit the equivalent of polyphonic string bending. "Default" will again show the active mode when powered up, while "Messages" will indicate which Modes are applicable to the device (some of which can be manually set from the instrument). "Altered" only applies to the Recognised column and shows what will happen if the device is asked, by an external command, to change to a Mode that it cannot understand. I suppose you could analogise this to asking a kettle to toast a piece of bread.

Note Information

THE FULL RANGE of MIDI notes stretches from C2 (note number 0) to G8 (127), which is ten-and-a-half octaves, and to my knowledge, a commercial keyboard encompassing the complete span has not yet been built. For a keyboard, the Transmitted note range will include the use of any MIDI transpose

features. Take, for example, the Roland MKB 200 five-octave synth controller whose keys range from C1 (36) to C6 (96), but has the ability to transpose by +/-12 semitones. The range of notes the controller covers is actually C0 (24) to C7 (108). The note numbers that can be recognised by the module will be shown on the chart, as will the True voice - the notes that the module can actually play. If this seems to be confusing, try sending a note from another keyboard to the Korg M1 outside of the range C0 to C7 and the following will happen - the note will be received and recognised, but then transposed down in octaves until it is within the True voice range at which point it will sound. This is true for most synths.

Some controller devices will have a recognised note range included in the chart even though they have no internal sounds, because they can merge incoming data with that which is being generated internally, and transmit the resultant data via the MIDI Out port. Roland's Octapad and MPD4 are two such devices, although the former doesn't actually list this in the Implementation table.

A MIDI note consists of two parts: a note On (the data that accompanies the act of actually pressing the key) followed by a note Off (marking the release of the key). The former consists of three bytes, namely 9n NN VV, where "9" indicates a note On, "n" is the MIDI channel, "NN" is the note number and "VV" is the note velocity. All values are given in hexadecimal. A note Off can either be the same as a note On except with VV=0 or can commence with 8n to signify a note Off if velocity is going to be included - the faster you release the key, the higher the note Off velocity value. In the chart of a Roland GM70 guitar synth controller, a note On is written as; 0 9n, v=127, where "0" signifies that note On velocity can be sent, "9n" shows the method used (Note on is always 9n), and "v" shows the available velocity range. Some keyboards cannot send velocity, like the Casio CZ101, which then shows v=64, or some other constant value. Similarly, other keyboards can have the possible range adjusted manually, such as the Roland MKB300, which has a small rotary switch on the rear panel, or only send part of the complete range - the Korg M1 transmits velocities between 10 and 127. Generally speaking, a velocity of less than 30 is practically inaudible.

Going back to the GM70, the note Off is shown as;

X 9n, v=0

meaning that release velocity is not sent and that 9n, v=0 is the method used for note Off.

From the point of view of the MIDI module receiving this note information, the table will show whether it responds to note On and Off velocity and to what extent, if not all values are accepted. Few synths respond to note Off velocity, although notable exceptions are the Oberheim Matrix 12, Prophet t8 and the Akai S950 (which uses it to control the release time of a sample). The only

problem here is that even fewer keyboards actually send note Off velocity, the new Akai MX76 being one (see review elsewhere in this issue).

Some modules have quite interesting details with regard to note On velocity, especially drum machines - Casio's RZ1 has three dynamic levels; mute (velocity 1-48), normal (49-96) and accent (97-127).

Response

AFTERTOUCH DESCRIBES THE ability of a keyboard to send additional MIDI data by an increase of pressure on the keys of the keyboard after they have been initially pressed. Aftertouch takes two forms; Key Pressure - commonly called polyphonic aftertouch, which sends data for individual keys, so enabling notes in a chord to send different values - and Channel Pressure - normally just called aftertouch, which sends the highest value of pressure being exhibited on a particular MIDI channel.

Channel Pressure is by far the most common type of aftertouch and is implemented on most modern keyboards with the notable exception of the Roland MKB1000. It used to be a method for triggering the LFO (for modulation), but since the advent of the Roland D50, this practice has changed and many MIDI parameters can now be controlled on MIDI modules. These may include detuning, filtering and Breath control (TX8Z), although the specific uses are not always shown in the table.

Key Pressure has rather limited applications, which might account for the fact that few keyboards send it and hardly any modules can respond to it. In this respect, the Prophet VS is an oddity as it will handle Channel Pressure in the normal manner by having a particular function assigned to it, but will read Key Pressure as being modulation and ignore the note number that sends the information, so allowing one note to act as the equivalent of a modulation wheel - curious but certainly in keeping with the design of the VS.

Pitchbend appears to be a relatively straightforward function except that, being a 14-bit controller, it can technically take any value between 0 and 32,639. However, most pitchbend wheels generate fewer positions than this; a wheel with 9-bit resolution will move in steps of 32, which may seem to be large, but is sufficient to give the impression of a smooth pitchbend. Also, as pitchbend data is sent as two bytes, each carrying seven bits of resolution, some devices will only accept the second of these, called the Most Significant Byte (MSB). The Akai S900 is an case in point.

The range of the bend must be set on the receiving device and should be shown in the chart under Remarks, as should the resolution of the controller. Of course, certain modules will completely ignore pitchbend, like the Roland MKS20 digital piano. After all, the only way to bend a real piano would be with a crowbar.

Well, six functions covered and six to go. See you next month. ■

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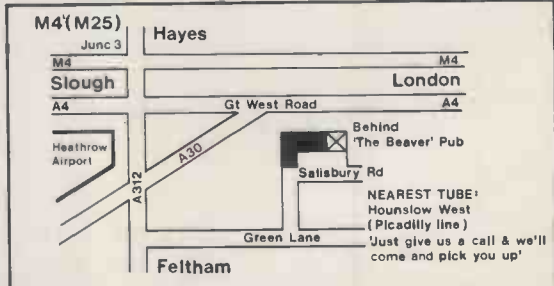
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Photography David Bradwell

MASTER OF THE MIX

As the Stock, Aitken & Waterman stranglehold on the charts becomes ever tighter, only one man can claim to have mixed more charting singles – “Mixmaster” Pete Hammond. Interview by David Bradwell.

NOT CONTENT WITH heading the most successful British production team of the late 80's, Pete Waterman has been expanding his influence of late. PWL the studio has become PWL the record company, and the Hitman has become a TV star. Viewers of Granada's cult Saturday night pop show *The Hitman And Her* used to write in to ask why only Stock, Aitken & Waterman records received airplay. Although nowadays there seems

to be less of a bias, a large proportion of the music on every edition of the programme is still PWL produced and has been mixed by Pete Hammond. Hammond is probably the only person this decade to have had more records in the Top 40 than SAW, having mixed the majority of their hits since late '86, remixed a few other peoples' and produced some of his own. He works through the night at PWL to maximise studio efficiency, and deliberately tries to avoid the media spotlight shining on his colleagues.

The first Hammond records to be released on an unsuspecting public were 'Living By Numbers' and 'Straight Lines' by New Musik, closely followed by The Nick Straker Band's 'Walk In The Park'. These were heard and liked by Peter Collins who had just started Loose Ends Productions in partnership with Pete Waterman. After working with Collins on projects with the Lambrettas, Piranhas and Belle Stars, Hammond engineered Hazel Dean's

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'Whatever I Do (Wherever I Go)' for the fledgeling SAW.

A year or two later, a prolonged lull in his production schedule prompted Hammond to call Waterman, who told him to come down to PWL and mix himself a hit.

"The first thing I did was 'Heartache' by Pepsi and Shirlie, which went to number two", Hammond recalls. "From then on I started to mix the boys' tracks and the rest is history."

One of Hammond's chief talents is converting failed singles into hits - with a bit of judicious remixing. One example of this was last year's 'Voyage Voyage' by Desireless, which reached No. 5 - 48 places higher than on its original 1987 chart placing. Hammond seems well placed to point out where other people are going wrong.

"The way I see it is quite simple", he begins. "If you look at the Top 10 and you get all the people who have bought the No. 1 record to stand in a corner, all the people who've bought the No. 2 record to stand in another, I guarantee that very few people who are standing in the No. 1 corner will go and stand in the No. 2. There's almost a different market for every record, and if you want to get a record high into the charts you've got to appeal to as many of those markets as you can. Where 'Voyage Voyage' fell down was that high-fidelity wise it didn't sound good and you couldn't dance to it, although it had a nice tune. The minute you grab the dancers plus the hi-fi people you've got enough sales to get it in the charts.

"Another thing with remixes is that the Americans particularly tend to record everything in stereo. I get tapes sent over that sound very clogged up. They record all the stereo outputs from all the keyboards because they don't realise that what is actually left on most keyboards is just a slightly delayed version of what is on the right to get a stereo effect. Because the delay isn't very much you can get a lot of phase cancellation in the bottom end, and in chords particularly. To me, to keep it simple is better if I'm going to build up a sound. If you get a massive sound that's covering the whole frequency spectrum and put it in a track you can't hear anything else at any level, so by the time you get it in the track at a level that's helping the track it sounds weedy."

Song structure is another area in which many artists fall down. SAW songs may appear to be all chorus but, for Hammond, the bridge is nearly as important. It's all a matter of timing . . .

"A lot of people don't understand what a bridge is for, but to me it's the most important part of a song next to the chorus", he explains. "If you go straight from the verse to the chorus it throws your timing out because then either the verse has to be too long and becomes boring, or the chorus comes in too early. To me the ideally-paced song is one which has a chorus-type intro for about eight bars, which at 120bpm lasts for about 16 seconds, then an eight bar verse and an eight bar bridge, which means you're up to about a minute for your first chorus. If the chorus happens any later than that the radio stations will take it off because they're fed up, but if you've got a good bridge leading up to something they feel drawn into it.

"Melodies are also vitally important, and I think what makes our records so acceptable to the public, no matter whatever anybody says, is that they've always got lots of things you can

hang your hat on in the mix. The LA and Babyface record that Sheena Easton made only has big drum sounds, and very little melody. Once you've heard that, that's it. I'm not knocking the record because it was popular, but there's not much interest in there. It's alright for two or three listens but then it's done. When I mix, I always try to get as much interest in every part of the song as possible. In between each line there'll be a nice little melody phrase as well as a nice string arrangement.

"Things like key lifts into choruses are very useful and are one of the tricks the boys use here

"There's a different market for every record, and if you want to get a record high into the charts you've got to appeal to as many of those markets as you can."

all the time in songwriting. Key movements between verse, bridge and chorus are crucial. If you go into a bridge and you build towards a crescendo and then nothing happens, you're sunk. I see a record as rather like a James Bond film. It starts with a guy skiing down a mountain with guns shooting - that's the intro - the verse is where the storyline starts to unfold, then there's a bit of action - which is the first chorus. Then it settles down a bit, then there's another bit of action, with a car chase, then suddenly there's a love scene - that's the middle eight - and that all builds up to the finale and the explosions. And the fade out is where he sails off in his boat knocking the bird. When you think about it, a film is made in exactly the same way as a song - you've got to maintain the public's interest at all levels. So if you're going to have an exciting bit it's got to stand out. It's difficult getting down again, but it can be done.

WHEN HE IS first assigned a remix project, Hammond listens to the original master tape and discards anything he thinks doesn't work. Generally speaking the bassline, rhythm section and percussion are the first to go. From there it's a case of reconstructing the track - adding top lines where they're needed and pads where they're missing. Despite PWL's reputation for being superbly equipped in terms of the latest technology, Hammond believes in keeping his instrumentation as minimal as possible, as he explains:

"I tend to only use a DX7 and a D110 most of the time. Occasionally I use the Korg M1, because I like the piano sound on it. The problem I find with new synths is that they've all got reverb on them, some have even got repeats. When you take the reverb off they're quite ordinary sounds, it's just the reverb that makes it sound good. I'd personally rather get my own sounds and then put the reverb on.

"The D110 is great, it's like eight D50s in a box, but if you start using lots of partials at once you start getting delays, and if you layer sounds you find that it gets very flabby and it doesn't come out as a nice clean chord. Even MIDI itself causes problems - if you play a big chord which is all supposed to happen at once, it doesn't because it can't deliver all of the messages simultaneously. And the bigger the chord, the longer it takes to read through."

Hammond's drum programming is done on an ►

► old LinnDrum rather than his Pro24 sequencer. The sounds from the Linn get replaced by samples from an AMS. He doesn't trust MIDI clocks for his rhythmic overdubs, because he doesn't find it accurate enough.

"If you've got a sequencer that's reading MIDI clock and trying to read MIDI information, sounds start coming in late", he explains. "With a Linn, because it uses FSK it's

"Melodies are vitally important – what makes our records so acceptable to the public is that they've got lots of things you can hang your hat on in the mix."

reading nothing but code, and therefore it comes out exactly in time.

"At home I find that if I write a song with lots of parts using Pro24, a DX7 and the D110, when it's all playing together it sounds a pile of shit – it's all over the place, with delays everywhere. You can't bring it all in time by advancing and delaying individual tracks, because it still can't read everything at once, so you then end up with a delay on something else. When I'm recording I only ever record one instrument at a time and I block out all other MIDI information, so it's not looking for any other parts, or pitchbends, or modulations.

"Don't get me wrong though, I'm not a real stickler for tightness; I'm a firm believer that not everything should be tight, I just like to choose my own delays. I actually did an experiment one day when I was working on a track with Dizzy Heights. There was one clap in the song that sounded particularly natural so we analysed it

"What you listen to on the CD was mastered on analogue, cut on a record, taken from a stylus back onto DAT, from DAT back onto a multitrack, then back onto CD."

and discovered it was ahead of the beat by about 15ms. I always see sound in my head, and a clap is a kind of arch. For the main body of the sound to be on the beat the start of it should be slightly before it. A snare drum to me looks like a triangle."

It's an old notion that music made with electronic instruments is inherently cold and mechanical. While it's fairly easy to dismiss these arguments, recently there has been a new twist. It's been suggested that rather than sounding mechanical, electronic records merely sound like collections of equipment. At the time, the remark was made specifically about PWL productions. Hammond doesn't recognise the problem.

"I think it's the natural way to go", he counters. "When a man made a guitar or a violin it was his attempt at making noise and musical sounds, it's just that we've got better ways of making these sounds now, and if they'd had them in those days I'm sure they would have used them just the same. They never had the technology and the ability to create these sounds in other ways."

Nevertheless, Hammond always looks for musicality in his sounds – something he considers lacking in many American productions.

"I'm not just knocking LA and Babyface, but I don't like a lot of American records that have got great big bass drums. I love the bass, I'm a bass player, but if you put a huge bass drum in there with lots of ambience on it it's really difficult to distinguish what's going on in the bottom end of

the track. The long reverb on the bass drum is all in the 50-100kHz band, which completely muddies up the bottom of the track. Like Pete Waterman says, you can never sing a bass drum. You can sing a bassline and people do, but you can never sing a bass drum.

"Having said that, with drum sounds on the stuff we do, the emphasis is always on the bass drum, the snare doesn't play a particularly big part. A lot of people, again particularly the Americans, put a lot of emphasis on the snare drum. I always find that you paint yourself into a corner immediately if you use a huge snare, because it's all in the mid range and it can last between 200ms and half a second. In effect you get half a second of noise then a little gap before the next one, and to get musicality in there is really difficult. People dance much more to the bass end of a track than they do to the clacky end, so the snare drum is not really of that much importance to me."

Equally as significant as the sounds chosen are the ways in which they're treated. Hammond employs a lot of pre-delayed reverbs and pre-delayed short echoes.

"To me, echoes are something that are totally unnatural in everyday life", he comments, explaining his approach. "Ambience is here, you can hear it on my voice in this room, but echo is something that's quite different – you've got to have a cliff a hundred yards away to get an echo, and that's not something you come across in everyday life. Consequently, echoes are a lot more magical to me than reverbs. Pre-delayed reverb is also one of my favourites because again it's unnatural. You've got a sound, then a gap, then a reverb. If you use delays right they give the feeling that somebody is somewhere rather than in your loudspeaker, and that's the big difference for me between making a mix sound good at low and high volumes.

"I always vary the texture of the track as well. Very often I find I need to change the vocal echo effects on choruses if the rhythm of the singing is different. I never use the echo sends on the desk as such, I send the vocal tracks up to maybe three or four groups and then return the groups back up to four channels, and each channel will be sending to a different echo unit. If I mute them all I've got no echo on the voice, but I have four different echoes instantly available, all at the same time."

WHEN ASKED WHETHER artists get the opportunity to approve his mixes, Hammond responds with a definite "no", although he qualifies it by saying that if they don't like the finished results they don't have to use them.

"I very rarely get involved with artists", he explains. "It's not a good idea because they taint what I would do. I'm very easily swayed, and if they come along and suggest things they're giving me things to think about that are extra, and then I don't do what I would have done. We've always had a policy about keeping the artists out of the mixes, in fact on the back of the Donna Summer album it's got thanks to everybody except me because she never met me and she doesn't even know me. I don't want to be a star, I'm too old for that."

One of his biggest single projects in recent times is the Boney M *Reunion* remix album. ►

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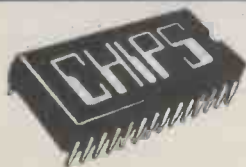


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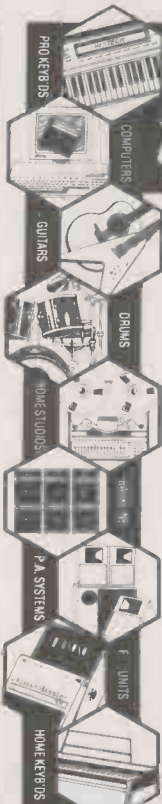
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► While Boney M may never have been the most credible of artists, *Reunion* is possibly the ultimate party album, and its making is a valuable lesson in giving old music an up-to-date feel. Hammond is keen to discuss his approach to the project.

"There was limited studio time, so I had to work as quickly as I could. I had to make it sound modern without making a mockery of the original songs, because they were all classics. The first thing to do was to get the computer to run in time. That involved generating an EBU



sync code on one track and syncing that to the original music. 'Sunny' was one of the worst ones to do because the drums were all over the place, and eventually I had to lay a completely new drum track at the same bpm, and then laboriously sample off all the orchestral parts in 20 second sections and fly them in - a process which took me two days. The Publison will unfortunately only sample for 20 seconds, but you just about get a verse or a chorus in, and because it's stereo I could sample strings into the left and bass drum into the right. Then I programmed a part into the Steinberg that would play the orchestral parts wherever they were required. The only way to make sure it was in time was to monitor my bass drum against their original. I didn't listen to the strings when I was

"The problem with new synths is that they've all got reverb on them . . . when you take it off they're quite ordinary - I'd rather get my own sounds and then put the reverb on."

doing it, and if there was a section where their bass drum raced ahead, I had to take it up to that point then alter some delays or the Publison output time and slow it down slightly so it came in by the time I was going to drop in.

"On all the tracks I kept the string and brass parts and anything I felt was really important to the track, like steel drums. All the rhythm sections were re-recorded, in fact some of the songs were re-recorded from scratch because they'd lost the tapes. On a couple of them I actually had to sample bits off a record because they'd lost bits of the song. 'Mary's Boy Child' had the intro on one reel, the middle bit on another and the outro on another, recorded at different times. The acapella intro to 'Mary's

Boy Child' was sampled off the original record, so what you listen to when you buy the album on CD is something that was mastered on analogue, cut on a record, then taken from a stylus back onto DAT, from DAT back onto a multitrack, then back onto CD."

Getting an up to date vocal sound to match the rest of the tracks from tapes recorded in the '70s posed another big problem.

"I found it difficult to get the edge that you get these days. The vocals were done on analogue, and there weren't the high frequencies then that you can get these days. You can only top boost to a certain degree before you get too much noise.

"I've also tried to make the bass parts more modern, because they never were big on bass parts. Most of the emphasis was on melody and drums. The songs always had good themes - more often than not they were about a person and they were never love songs. I think that's one of the reasons why the album is suffering at the moment, because that's not in vogue at the moment, these days they're either much deeper and heavier or they're about love."

Hammond admits that Pete Waterman is wary of changing a successful formula, and, like it or not, the formulae devised at PWL seem to be the most successful in the business at the moment. But for Hammond there is no big secret to success.

"There's no reason why anybody can't mix a bloody record. Everybody who mixes it is going to make it sound a little bit different, and if the song's there anyway it's going to come through. Pete knows if the song's there, the artist's there and the package is there. If it is, the mix can be a pile of shit and you'll still get away with it."

SAW have come in for a lot of criticism from every area of the music industry, yet have remained at the top of their profession for the last three years. Hammond feels he understands why they attract so much criticism.

"I don't think there's a harder working team anywhere than down here, but my theory is that the minute you go out and buy a SAW record you are in effect becoming one of the masses, and people don't want to be the masses. But you've got to realise that if you sell a gold record in this country it ain't many when you consider the population is near 60 million. I went into the pub the other day with the boys after we'd finished work, and we were sitting there and I said 'have a look round the pub, how many people do you reckon would buy a SAW record?' They looked round and said no-one. Then I sat there and said 'they're all buying food, perhaps we're in the wrong business.' Everybody eats every day, but they don't buy records."

Whether or not this train of thought means PWL will open a chain of fast food shops to further their quest for world domination will only be seen in time. For the moment they seem quite happy with pop music, and the McDonalds of this world need lose no sleep. Granada have said *The Hitman and Her* will run indefinitely, and while it does, the work of Pete Hammond will still dominate the airwaves late on Saturday night. Hammond sums up the PWL approach when the discussion comes round to the drum break that introduces so many of their productions.

"That's because we've got a bit of a Motown thing going", he explains. "It's like instantly recognisable - 'Here they go again'."

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The P-330 receives information from the MC-300's first MIDI Out socket via the MIDI Thru port of the D-10. Meanwhile the MC-300's second MIDI Out jack is connected to the S-330 Sampler Module.

All Trademarks recognised.

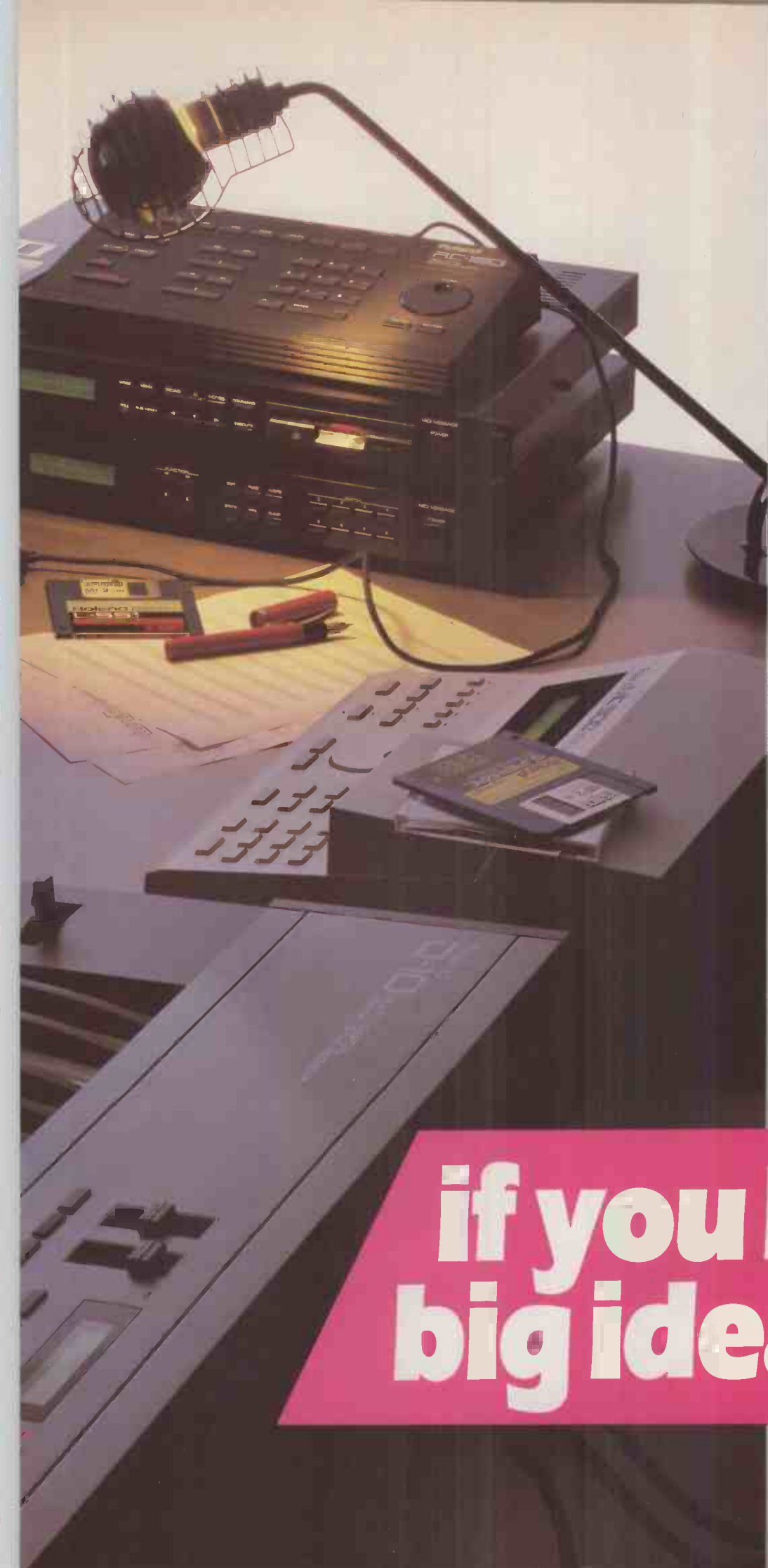




Type Select
1st Tone Info
2nd Tone T11 T2-1
Key Mode T11 T2-1
T1 Normal T3
T4

Roland 5250

Roland P-550



In the bad old days . . .
... a big sound could only
come from a big studio . . .
... big ideas were the
prerogative of big names . . .
... big productions
meant big money . . .
**Modern technology
has changed all that . . .**

For about half the price of
a reasonable studio's grand
piano Roland can offer a pre-
production facility including:

MC-300

> 16 track MIDI recorder
with full editing features

D-10

> 8-part multi-timbral LA
synthesis plus 63-voice drum
and percussion track as
standard

S-330

> superb sampler for custom
samples, plus full library
including orchestral, rock,
ethnic, percussion and effect
sounds

P-330

> two electric pianos, clavi,
vibes, and harpsichord **In
addition to a choice of
grand piano voices**, all of
which can be EQ'd
separately and saved into 64
patch memories.

**Not only that but
you're also your own
producer and you don't
have to book time in
advance — after all, this
studio is in your own
house. Because it's MIDI
it's also modular. Which
means you can piece it
together bit by bit.**

Here's how it works . . .

**if you have
big ideas...**

Roland
WE DESIGN THE FUTURE

how to produce BIG results

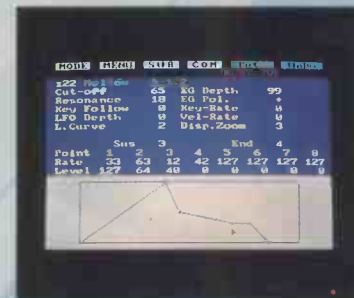


RC-100

User-friendly operation of the S-330 is enhanced by the optional RC-100 Remote Controller enabling the main unit to be rack-mounted for more efficient use of desk space.

S-330

Roland's Differential Interpolation (DI) system and Fixed Sample Rate ensure superb quality. The S-330 features 16-note dynamically assignable polyphony, with all 32 internal tones accessible across the controlling keyboard over 8 MIDI channels. For maximum flexibility 8 separate outputs are provided. Auto/Manual Looping plus a smoothing function make it very easy to develop custom samples while digital Time Variant Filters allow creative processing/synthesis without loss of quality. Naturally TVAs and a Wave-Drawing feature are also included. A comprehensive library of Instrument and Special Effect sounds is available to anyone purchasing the S-330 from participating Roland dealers. In addition to its high quality sampling the S-330 supports SYS-333, a pattern-based sequencer package with an internal memory of 15,000 events. During operation of SYS-333 most S-330 editing functions are still available. And when you expand your MIDI system extra channels can be freed by slaving SYS-333 to the MC-300's clock signal.



... We could go on for another two pages explaining what this system can do for you. Instead, why not visit your local Roland Dealer for your personal hands-on demonstration. And if you'd like to know more about these or any other Roland products, clip this coupon and mail it to: Roland (UK) Ltd., Amalgamated Drive, West Cross Centre, Brentford, Middlesex TW8 9EZ, or call 01-568 1247

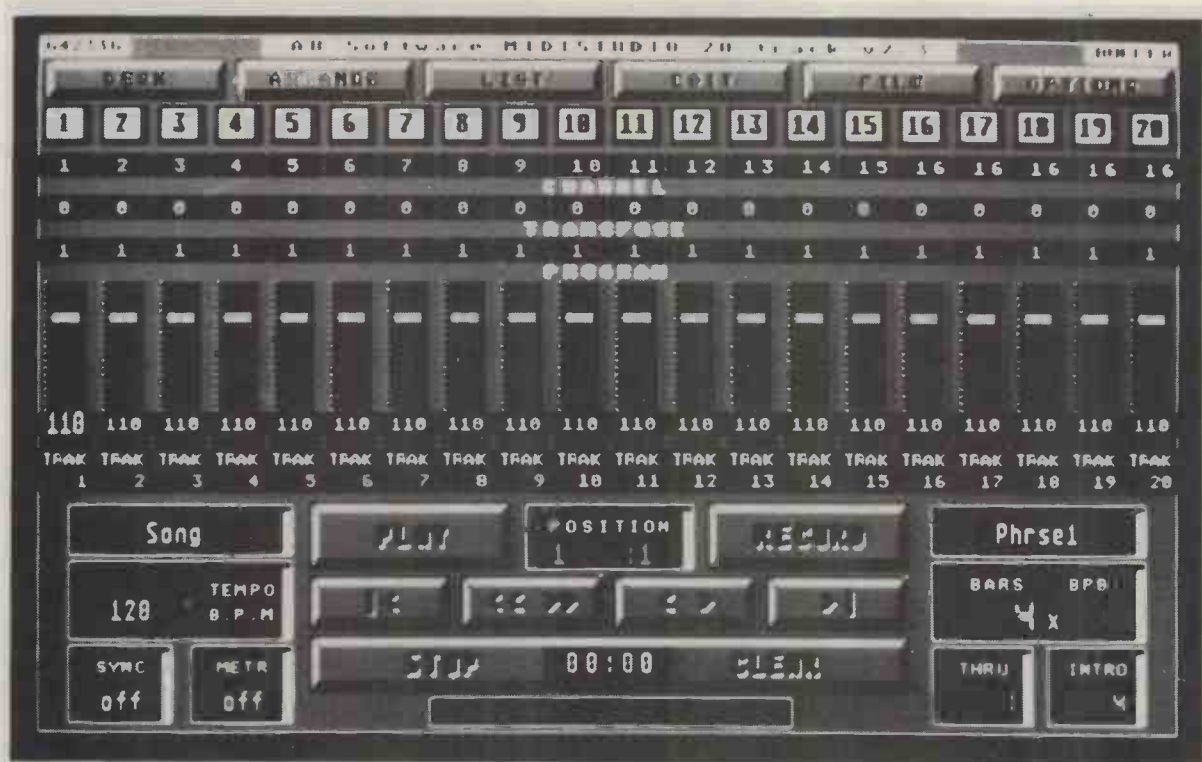


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Name _____
Address _____

AB SOFTWARE MIDISTUDIO

Software for the Atari ST



Main Screen

*Attracted by the potential of software sequencing but intimidated by its complexity? Midistudio could have been written just for you.
Review by Ian Waugh.*

WHAT WITTY LINE, what attention-grabbing introduction can I think of to introduce you to yet another ST sequencer? Let's try quoting from the advert (which you can see in most computer magazines) - "Out performs Pro24 v2.1 in almost every way". Says who, you may ask. Says "Atari ST User Jan '89" says the ad. Who actually said it in Atari ST User Jan '89, you may go on to enquire? Well, if you dig out the issue in question you'll find Midistudio mentioned in the news section. Read on and you'll find the quote is attributed to Richard Blunt, spokesman for Ladbroke, the distributors of Midistudio.

Either Ladbroke's ad department doesn't know what Ladbroke's promotions department is up to or... Well, I'll leave you to draw your own conclusion. However, we'll not let a little thing like hype stand in the way of an MT review. Let's plug in, turn on and see what Midistudio is about.

It's supplied in a small cardboard box with a bonny sleeve which contains a dongle, a disk and a slim 32-page manual. The review version was v2.3 and although the manual was written for v2.1 (there is a three-page Read-Me file on the disk) this version will probably be around for at least a year before another update.

The program doesn't use GEM (except for the standard

GEM file selector box). The "menu" buttons at the top of the screen draw new sections onto the top and bottom areas of the screen to handle different tasks. There's a lot of information packed onto these screens but after a read through the manual it's not too difficult to remember what everything does.

Midistudio is a pattern-based sequencer. It has 20 Tracks and recording is tape-recorder based with Play, Record, Fast Forward and Rewind buttons and so on. But you don't record on a specific track: you record Phrases (patterns) and then arrange them on the Tracks by dragging them from place to place.

Recording

THE FIRST THING to do when recording is set the number of bars in the Phrase you are about to record and the number of beats per bar. A bar can be anything from 1-16 beats long. You can create a very long phrase (up to 682 bars at four beats per bar) if you want to work in a linear fashion. You can select a count in (1-16 beats) or choose to start recording as soon as you press a note. ▶

- ▶ Click on Record and play your phrase then click on the List button and the phrase will appear in a Phrase List at the bottom of the screen. One hundred phrases can be stored here. Click on Arrange and the Tracks appear horizontally in the upper part of the screen.

Any Phrase can be placed on any Track by clicking and dragging, and can be copied, inserted and deleted just as easily. Tracks can be soloed and muted and Phrases and Tracks can be named. A MIDI Thru option can be toggled on and off and you can select the channel the data is transmitted on.

And so you construct your Song. Simple.

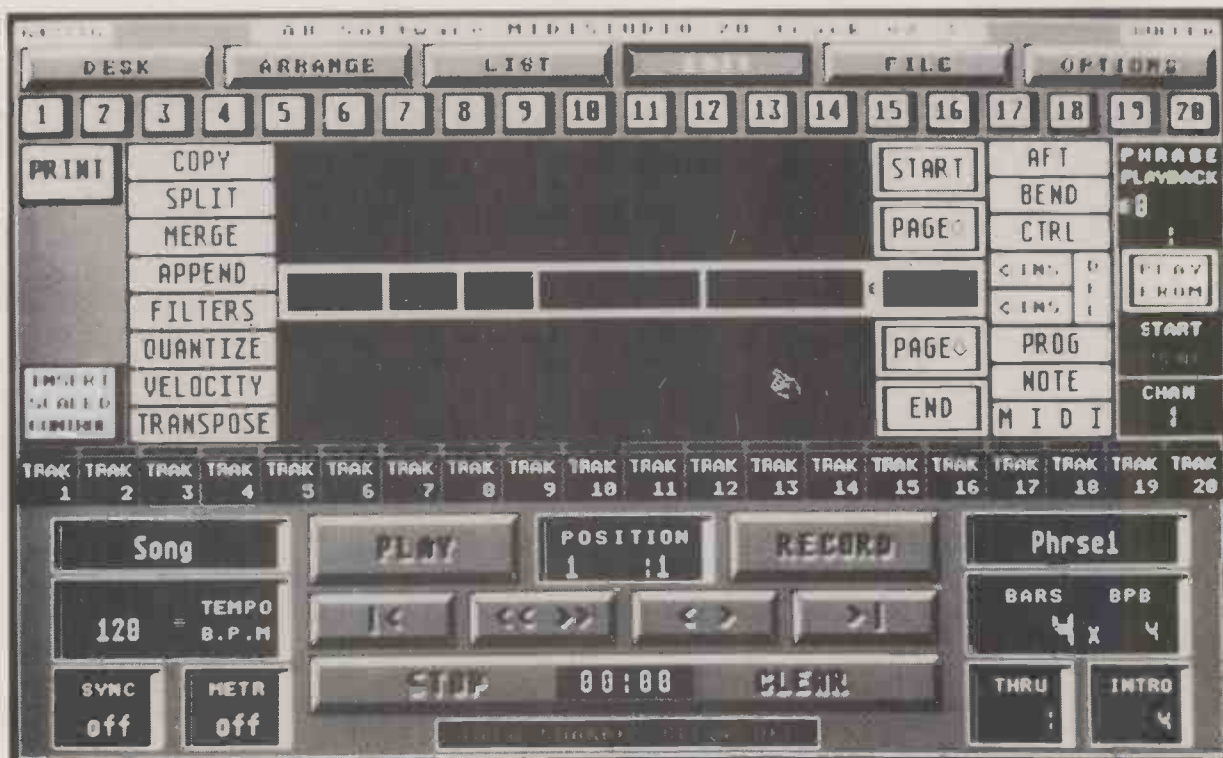
Mixing

ON THE DESK screen you assign MIDI channels to the Tracks, set transpose if required, and select program

Editing

BEFORE WE GET down to editing, I'd like to mention one strange aspect of the program - its internal clock resolution, which is 24ppqn (pulses per quarter note). The manual says "On consultation with professional musicians, the general consensus was that a greater resolution led to 'greater confusion and no real improvement in timing or recording convenience'", and that anyone who was over-concerned with ppqn resolution had "either been misguided or misinformed on the subject matter". I wonder who said that.

The fact is that a fine musical ear can detect a difference in the length of two notes as small as 10ms (Ref: Psychology of Music by Carl E. Seashore). But being able to judge whether or not a note is on the beat or a few clicks late is not the only consideration. A fine resolution can help with quantisation, and how does the program handle hemi-demi-semiquavers (the things with four tails



Edit Screen

numbers. A nice touch here is the ability to decide how program numbers are displayed. They can run from 0-127, 1-128 or they can be shown in banks running from a11-b88 or a01-b64. I haven't seen this feature in a sequencer before. Hands up everyone who keeps a bank-to-program-number conversion table by their keyboard or expander.

The Desk features sliders to let you set the relative volumes of each Track. This uses MIDI controller number 7. You can do a mix on the fly (like Trackman - reviewed MT, March '89) using the cursor keys but this cannot be stored and reproduced on subsequent playbacks (unlike C-Lab's Notator). This is under consideration for a future update.

A clock on the Stop bar tells you how long the last playback lasted - every sequencer should have one - although it doesn't increment as the piece plays.

There's an option at the bottom of the screen to send automatically Program Change and Volume Control data at the start and end of playback. It also sends Omni Off and Poly On commands which can be a nuisance. A toggle here would be helpful.

which give you 16 notes to the beat - Bach used them), glissandos, quintuplets, septuplets and so on?

Perhaps we're getting a little academic here, but I reckon an increase in resolution is definitely called for. The resolution of Pro24 is 96ppqn, and that of many other pro sequencers is much higher. The manual does say, however, that an increase in resolution will be considered for the next version if enough people request it. Can't say fairer than that.

The Edit screen uses an event window to display notes and MIDI messages in numeric format: note number, octave, velocity, note-on time and note-off time. The time is expressed in bars, beats and clicks. Altering the "on time" sufficiently will move the event through the event list. The phrase can be set to loop during editing although there is no automatic scrolling display.

Editing facilities include phrase Copy, Split (neat), Merge, Append and Transpose. Filtering can be done during recording or afterwards.

Velocity can be incremented or decremented by a specific amount, it can be set to the same level or it can be

randomised (within predefined limits). Before you dismiss this option as useless, let me point out how helpful it is when it comes to humanising a drum track, for instance. You can also scale velocity to produce fade ins and fade outs – luvverly.

More than that, there is a Scaled Controller facility which lets you insert any controller number (and its range) at intervals throughout the phrase. This can be used to insert volume controller (7) information which will move the faders on playback. It could also be used to produce a stereo pan effect or alter a modulation wheel.

Midistudio has adopted MIDI controller 120 and uses it as a tempo control so you can insert ralls and accels throughout a Phrase. It's a global function, so you could use it to create a master tempo track.

The Quantisation values are sub-divisions of the program's resolution of 24ppqn – 1/1, 1/2, 1/3, 1/4, 1/6, 1/8 and 1/12. For example, 1/4 will quantise to 1/16th notes. It would be more helpful, I think, if they could be specified as actual note values.

Events can be inserted and deleted by selecting an event and clicking it into the event list. You can insert notes into the list this way. It's fine for short sequences but it's not really a satisfactory method of step-time input.

There's a Buffer tucked away in the top right of the screen. If you perform a destructive edit, a copy of the Phrase is automatically stored in the buffer and can be retrieved. Useful. The amount of free memory is shown in the top left of the screen.

Options

THE OPTIONS SECTION includes a System Exclusive File Loader and Transmitter. A routine to actually put the data there in the first place is being considered for a MIDI Utilities disk.

You can turn Song Position Pointer and Song Select transmission on and off and there's a Fine Tune Tempo control here, too, although I wonder how useful it will actually prove to be.

There is a Text area for storing notes about the piece and a Continuous Load and Play facility which will play through all the Songs it finds on the top-level directory.

The disk contains some excellent demos which include volume changes and patch changes. The Tracks are named with the instrument sounds but the demos don't take advantage of the Text area to advise you of the notes.

The manual is rather dry (as the author admits) and it really needs to be better laid-out with more explanatory sections and some illustrations – especially if the program is intended to appeal to the relative novice. Many users could well miss some of the more exciting features (such as the insertion of scaled controller data).

My major niggles with Midistudio were not being able to access most of the program during playback – perhaps I'm just an inveterate fiddler – and lack of good step-time input facilities. The file handling really needs to be tidied up too. The only error report you get is Disk Error, which covers a multitude of sins, and it's quite easy to lock up the program if you don't follow protocol.

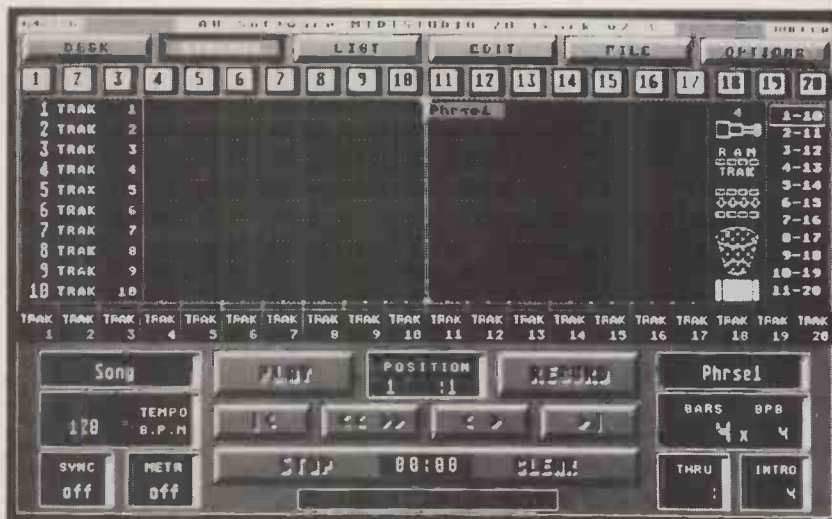
One of Midistudio's design and programming criteria was that it should run on a 520 ST and the colour alterations, mouse pointer shape and mouse response options mentioned in the manual have been removed to make room for the mix-down facilities. Most music software developers, however, have found 512K just does not give them room for much expansion.

Future Midistudio updates under consideration are a scorewriter and a drum machine matrix. The program

doesn't support the MIDI File Format although this, too, is being considered for an update and will probably be included on the MIDI Utilities disk. This should also include the missing colour and mouse management options plus a MIDI data scanner, the System Exclusive dumper and a sound to pretty lights routine (which requires a second ST). All files created with the current program will be compatible with new versions and updates.

I wonder how long it will be before Midistudio requires 1Meg of RAM. I also wonder if the routines are going to be accessible from within the program. I don't relish the thought of powering up and down to access more features.

The updates sound fine but they will increase the cost of the overall package. As it is, Ladbroke has to persuade prospective buyers that Midistudio is worth more than the £50-60 programs such as Hybrid's EZ-Track Plus, Dr T's MRS and Microdeal's Super Conductor and better than similarly-priced budget programs such as Passport's



Arrange Screen

MasterTracks Junior and Steinberg Twelve. If you're asking me for my opinion – go on, ask me – I can only say it's better in some areas but not as good in others. Sorry if that sounds like a cop-out but it happens to be true.

One point in its favour – the programmer, John Blackledge of AB Software, offers users a customisation service and there's a helpline available between 8pm and 9pm.

Verdict

MIDISTUDIO CONTAINS MANY good ideas and it's obvious that a lot of thought has gone into the design. Its aspirations as a Pro24 basher, however, are best left to the imagination of the ad department. As Pro24 has now reached version 3, the comparison is, perhaps, somewhat academic anyway.

Yes, it does lack many of the frills of some other programs but it does have something a little different – and a little new – to offer the prospective sequencer buyer.

Midistudio is quite a powerful and friendly little program, and it's certainly easy to use. If you've previously been put off sequencing software by its apparent complexity and the size of the manual, Midistudio will come as a pleasant surprise. ■

Price £99.99 including VAT
More from Ladbroke Computing Ltd. 33 Ormskirk Road, Preston, Lancs PR1 2QP. Tel: (0772) 21474/203166.

patchW·O·R·K

If you're still waiting to see your particular synth featured in these pages, then why not be the first to submit some sounds?

Don't forget that if your patch gets published, you'll receive a **free year's subscription** to MUSIC TECHNOLOGY with our compliments. So send us your favourite sounds on a photocopy of an owner's manual chart (coupled with a blank one for artwork purposes) accompanied by a short demo-tape (don't worry too much about classic performances and impeccable recording quality; just present your sounds simply and concisely - and convince us you're the best of the bunch). Include a decent-length description of your sound and its musical purpose in life, and write your full name and address on each chart. And remember, edited presets are all very well, but an original masterpiece is *always* preferable. OK?

The address to send sounds to: Patchwork, MUSIC TECHNOLOGY, Alexander House, Forehill, Ely, Cambs CB7 4AF. ■

ROLAND D110

Filterise

E. Macarthur, Glasgow

These are possibly the pick of the 11 sounds sent in by "E" for the D110 and Casio CZ5000. 'Filterise' is a beautifully smooth pad sound, ideal for slow chordal work, that builds up slowly as it sweeps across the stereo image. It also possesses a very natural phasing quality which lends itself very well to the old "atmospheric" intro.

'Mellow Bell', on the other hand has a harsh, almost sinister tone, which makes it much more suitable for use in a film soundtrack than a commercial pop song. If soundtracks are not your forté, "E" informs us that adding a chorus will give the sound a more dramatic, spacey effect. ■

[Common Parameters]									
Tone No.	1&2	3&4	Paral. Mode	1	2	3	4	ENV Mode	
Structure	08	08		1	1	1	0		NORMAL

[Partial Parameters]										
		Paral.				Paral.				
		1	2	3	4	1	2	3	4	
WG	Phas. Coar.	C5	C4	C4						
	Phas. Fne.	+10	-10	+04						
	Phas. KF	1	1	1						
	Blender SW	0n	0n	0n						
	Waveform	SPLW	SQU	SPLW						
	PCM Bank	/	/	/						
	PCM No.	/	/	/						
	Pulse Width	054	100	100						
	PW Velocity	-7	-7	-7						
	Phas. Env	Depth	000	000	000					
Velocity		0	0	0						
KF (Time)		0	0	0						
T1		/	/	/						
T2		/	/	/						
T3		/	/	/						
T4		/	/	/						
L0		/	/	/						
L1		/	/	/						
L2		/	/	/						
LFO	Phase	064	064	064						
	Depth	000	000	000						
	Modulation	035	035	035						
	TVF	Frequency	065	047	047					
		Resonance	02	30	30					
		KF (Time)	5/8	5/8	5/8					
	Base P	<A1	<A1	<A1						
	Base L	0	0	0						

		TVF ENV			TVL ENV		
		1	2	3	1	2	3
TVF ENV	Depth	070	070	070			
	Velocity	000	000	000			
	KF (Depth)	0	0	0			
	KF (Time)	4	4	4			
	T1	000	000	000			
TVL ENV	Level	100	100	100			
	Velocity	+28	+28	+28			
	Base P1	>C4	>C4	>C4			
	Base L1	00	00	00			
	Base P2	<C4	<C4	<C4			
	Base L2	00	00	00			
	KF (Time)	0	0	0			
	Velocity Follow (T1)	4	4	4			
	T1	000	000	000			
	T2	000	000	000			

□ are the parameters units for PCM Sound Generator.

CASIO CZ5000

Mellow Bell

E. Macarthur, Glasgow



PARAMETER	1	2	3	4
DCO 1				

LINE SELECT	MODULATION		DETUNE			VIBRATO				OCTAVE RANGE		
	RING	NOISE	+/-	OCTAVE	NOTE	FINE	WAVE	DELAY	RATE	DEPTH	+/-	RANGE
1+1	0n	OFF	+	0	C4	C7	1	67	53	00	+	1

1

DCO 1

WAVE FORM	
FIRST	SECOND
4	4

E N V (PITCH)								
STEP	1	2	3	4	5	6	7	8
RATE	93							
LEVEL	00							
SUS/END	(17)							

DCW 1

KEY FOLLOW
C

E N V (WAVE)								
STEP	1	2	3	4	5	6	7	8
RATE	99	00						
LEVEL	29	00						
SUS/END	(17)							

DCA 1

KEY FOLLOW
C

E N V (AMP)								
STEP	1	2	3	4	5	6	7	8
RATE	99	27						
LEVEL	99	00						
SUS/END	(17)	(17)						

ENSONIQ ESQ1

Wind

Jason Creasey, Andover.



	OCT	SEMI	FINE	WAVE	MOD1	DEPTH	MOD2	DEPTH
OSC1	-3	00	10	noise1	LFO 3	+18	OFF	00
OSC2	-3	00	00	noise1	LFO 3	+03	ENV2	+10
OSC3								

	LEVEL	OUTPUT	MOD1	DEPTH	MOD2	DEPTH
DCA1	44	ON	OFF	00	OFF	00
DCA2	37	ON	OFF	00	OFF	00
DCA3		OFF				

	FREQ	Q	KEYBD	MOD1	DEPTH	MOD2	DEPTH
FILTER	041	06	37	OFF	00	OFF	00

	FINAL VOL (ENV4)	PAN	PANMODULATOR	DEPTH
DCA4	63	08	LFO 3	+21

	FREQ	RESET	HUMAN	WAVE	L1	DELAY	L2	MOD
LFO1								
LFO2								
LFO3	01	OFF	ON	noise	63	63	63	VEL2

	L1	L2	L3	LV	TIV	T1	T2	T3	T4	TK
ENV1										
ENV2	-63	00	00	00	00	00	19	00	00	00
ENV3										
ENV4	+63	+63	+63	00	31	49	00	00	56	00

	SYNC	AM	MONO	GLIDE	YC	ENV	OSC	CYC
MODES	OFF	OFF	OFF	00	OFF	ON	ON	OFF

	SPL/L	S/LPROG	LAYER	L.PROG	SPLIT	S.PROG	S.KEY
SPL/L							

While the ESQ1 regularly breezes (sorry) onto these pages, sound effects for it have been in short supply. 'Wind' provides an atmospheric background effect, much higher on the Beaufort Scale than your average synthesised hurricane. Careful programming of LFO3 and ENV2 means that as the keys are struck harder the attack delay decreases and the ferocity of the wind gets greater. Real gale-force stuff. ■

Desert Island

Mirage Library

Desert Island are a new company producing disks for Ensoniq's tried and tested Mirage and EPS samplers. The Mirage library currently comprises 50 disks full of sounds from state of the art systems, the majority transferred to the Mirage via Sound Designer software.

The 14 disks sent for review concentrate on ethnic instruments, drums and percussion, and sampled synthesisers, although the library as a whole also includes choirs, Fairlight classics, industrial sound effects, pianos, and others too numerous to mention here.

Generally speaking, the ethnic sounds (disks 001, 003, 008, 023) are an inspiration. The sounds

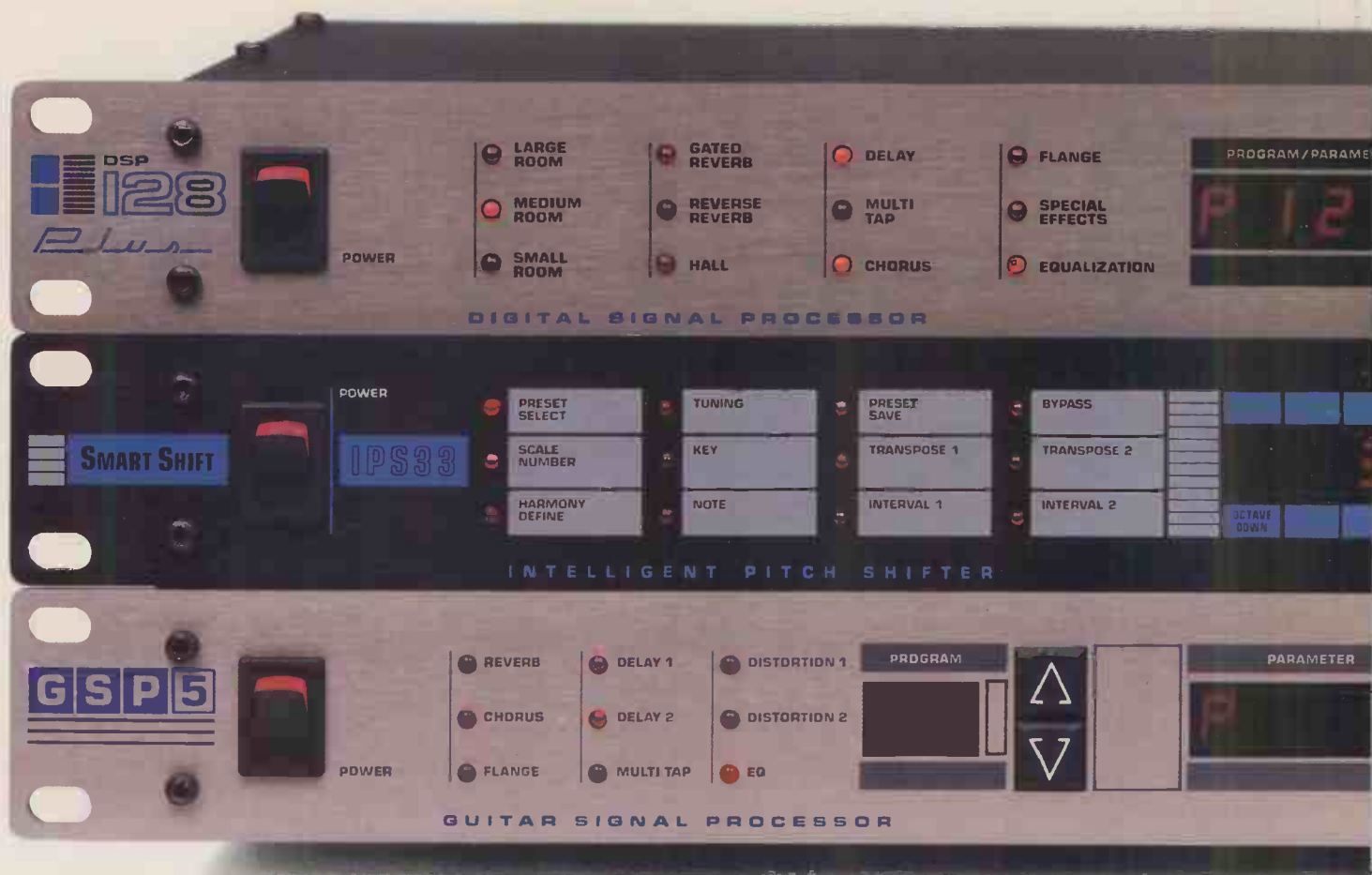
manage to combine warmth with an unusual silky cleanness, which is hard (although obviously not impossible) to achieve on the Mirage. Disk 004, called *Hip-Hop 1* contains some useful percussion sounds whose applications extend beyond the confines of rap. There's a rather marvellous electronic zap, uniquely useful for 12" remixes, and a gunshot which owes more to John Wayne than Dirty Den. Disk 029 (*Environments*) is strongly recommended if setting up location atmospheres is your idea of fun. The environments offered include a swamp, a stream, and the seaside, complete with waves and seagulls. Seagulls are becoming increasingly popular within sample libraries, but these stand out as particularly realistic.

To get an idea of the types of sounds available, Desert Island produce a demo tape at a very reasonable cost of 80p. Considering the disks cost

£8.50 each, the tape is really an essential aid to getting the most for your money.

So, if you're stranded with your sampler on a desert island which ten disks should you take? The choice is up to you, but you shouldn't have too much trouble finding at least ten out of this selection if the review disks are anything to go by. The company are currently developing sample libraries for the Akai S900/950 and Casio FZ1. If these are up to the standard of the Mirage library it looks like they're in for a very busy summer. ■
David Bradwell

Price £8.50 per disk, including p&p. Demo tape featuring a selection of sounds available on request for 80p, or send a C60 cassette and SAE. More from Desert Island, 25 Monkham's Drive, Woodford Green, Essex IG8 0LG. Tel: 01-504 0812.



The next generation effects processor

Just shows you what can happen when you leave the guys in R&D to their own designs.

Now DigiTech introduces three new digital effects processors that will blow you away with their innovation and flexibility:

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The remarkable new DSP-128 Plus offers the capability of producing up to four digital effects at the same time along with an enhanced 20 Hz to 20 kHz bandwidth.

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The DSP-128 Plus can enhance the creative power of any serious musician.

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play or sing. Without overdubs, and with any instrument.

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Choose from six killer reverb effects, plus chorusing, flanging, delays up to 1.5 sec., infi-

nite repeat, distortion and parametric EQ. And you can produce up to *five* effects at the same time.

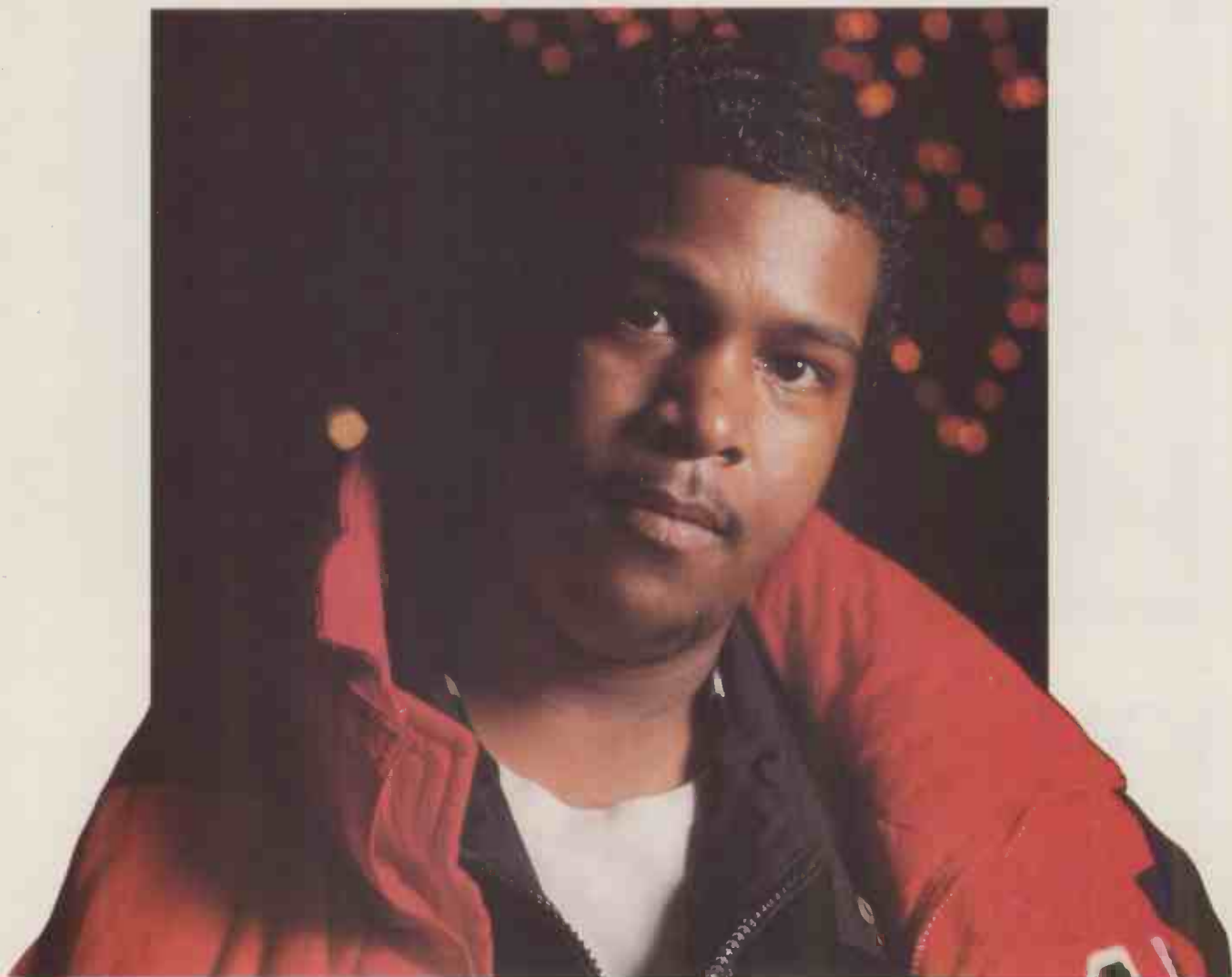
The GSP-5 is fully programmable, with 99 user-defined memory slots. And MIDI continuous control allows you to instantly change operating parameters for virtually unlimited, real-time programming power.

The versatile GSP-5, with its combination of effects, including distortion plus programmability, is one of the hottest guitar signal processing tools you can buy.

Check out all three at your DigiTech dealer. For more information send large S.A.E. to:

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Salem House, Garforth, Leeds LS25 1PX.

DigiTech
Start at the top.



Photography Matthew Vosburgh

While house music's samplers have attracted attention and lawsuits to their music, much of the serious sampling has been in the hands of the hip hop DJs. Interview by Simon Trask.

MARK JAMES, AKA DJ Mark the 45 King, peers across his London hotel room and out of the window.

"Looks like it's going to rain, right?" he says hopefully.

It is already, I reply, with rather less enthusiasm.

"Yo! I love the rain."

You love the rain?

"Oh, do I!"

Perhaps it rains a lot in New Jersey, I muse. The 27-year old American DJ and producer is homesick - and he's only been in the UK for a few days. Or perhaps it's The Flavor Unit, the collection of New Jersey rappers he produces which includes Latifah, Lakim Shabazz, Latee, Chill Rob G and Double J, who are responsible for his homeward leanings. Referring to them affectionately as his children, he tells me: "I love 'em all, and I miss 'em now."

In person the 45 King (so called because of his large collection of 7" 45rpm records) is affable and relaxed - and intrigued by my line of questioning. More used to fielding questions

about his rappers and his best-known track 'The 900 Number', talking on musical and technical terms appears to be a new experience for him. Fortunately the novelty translates into enthusiasm.

'The 900 Number' was the most popular break-beat of last year, and that, together with albums like his own *Master of the Game* and Lakim Shabazz's *Pure Righteousness*, and 12" singles such as Latee's 'This Cut's Got Flavor', Chill Rob G's 'Let the Words Flow' and Latifah's 'Wrath of My Madness' have established DJ Mark as a producer with his finger on the pulse of hip hop. He has also remixed tracks by Eric B and Rakim, Antoinette, Doug E Fresh and Sugar Ray, and now female rapper Latifah's 45 King-produced debut album is one of the most eagerly-anticipated hip hop albums of the year.

DJ Mark's in-depth knowledge and understanding of the breaks and the beats goes back to the days in '78/'79, when he served his apprenticeship as record boy for DJ Breakout of The Funky Four Plus One, one of the classic Old School groups.

"I used to pass him records, get into parties free, get cassettes of the shows - and of course I got to know the names of all his records, I think I got one dollar out of the whole thing, but I was happy. He had a lot of good MCs: Raheim, Sha Rock, KK Rockwell and Keith Keith. I've got to mention them all, 'cos they really got me into it."

In fact, The 45 King began DJing a couple of years earlier, in '76, when at the age of 14 he DJ'd at his ninth-grade graduation party. He got started when his sister bought two turntables and a mixer, and a friend across the street, Jerome Miller, showed him how to mix; it was Miller who subsequently introduced him to DJ Breakout.

In the early days there were no super-slick Technics SL1200 direct drive turntables; DJs had to do the best they could with decks which weren't designed for what they wanted to do with them. DJ Mark started out with what he refers to as "two house turntables, like when the record drops, you put another record on top and it drops", and eventually graduated to using three Sanyo turntables.

"They were real smart: square turntables, 12" each way", he recalls. "I would still have them, but about eight months ago a friend of Eric B's came over to my house and said 'Look at those turntables, they're cheap'. So then I bought the Technics SL1200s, 'cos I couldn't stand that."

Of course, every DJ needs a mixer; DJ Mark rates the compact Clubman One-on-One as the best, and laments the fact that they're not made any more. Nowadays he uses a Yamaha MX100 disco mixer ("It looks like a drum machine but it performs pretty good"), but his real desire is to make and market a 45 King mixer.

"I know what a mixer should be. I've got all my ideas on paper, no bullshit, and I'm looking for a sponsor to make it for me."

The 45 King reveals that the Flashformer, a dedicated "transformer scratching" box credited to Grandmaster Flash, was in fact mostly his idea.

"Flash told me we could call it 'The 45 Flashformer', but he didn't do it like that, he went out for himself. But that's OK, 'cos what goes around comes around."

DJ Red Alert, long-time hip hop DJ on New York radio station KISS FM, proved to be an important figure in DJ Mark's early career as a maker, as opposed to a player, of records.

"I probably wouldn't be here if it wasn't for Red Alert. A friend of mine gave him some of my music, and he played it and played it on the radio. He's a good man, he hooked me up."

"Also, I owe a lot to Vaughan Mason, the guy who made Raze's 'Break 4 Love'. He had a studio in his basement, and he did a lot of his private work in there. He was nice enough to show me a lot about MIDI, about how tracks are laid down, about drum machines . . . This was in '87. I actually moved to where he lived; I was on the top floor, so all I had to do was go downstairs and make up music."

DJ Mark's first record *Just Beats*, which came out on his own 45 King label back in '87, was just that: a collection of beats. Only eight or nine hundred copies were sold, and today it's a collector's item. As he reveals, the reason why the record was "just beats" was not so much down to technical limitations as human failings.

"The MCs I had back then didn't take me seriously enough to practice and get the shit right to do in the studio. So I did it without them,

and I did good. If I'm going to have to work hard, then they're going to have to work hard."

It's a theme which DJ Mark reiterates several times during the interview: that you must be prepared to work hard if you want to achieve anything for yourself in life.

DJ MARK'S OWN equipment setup began modestly back in '87 with a Casio RZ1 drum machine, which he put to good use on one of his earliest tracks, Latee's "This Put's Got Flavor" from late '87.

"I only used the RZ1 for Latee's track", he recalls, "but it put me out there."

Soon tiring of the RZ1's limited sampling capabilities, he went out and bought himself an Akai S900 sampler (hence "The 900 Number").

"Then I stuck a bad disk in my 900 and fucked it up," he recalls. "That cost me \$80 to get fixed, but while that was out getting fixed I went out and bought another S900. So I'm kind of glad it got broke, 'cos if it hadn't got broke I wouldn't have two. Now I've got 16 sample outputs. Most of my work is samples."

The producer reveals that limited sample memory was perhaps not the only reason he discarded the RZ1.

"You get a lot of pressure from studio people, who say 'You've got an RZ1?'. But they can't do what I did with it. Now they're talking about my S900s, they're saying 'You need to get a Publison, a Publison I have you sounding real good', or 'You need an S1000'. Are you crazy? You know how much an S1000 costs?"

Synthesizers don't figure too much in DJ Mark's work, but if you hear a bouncy, funky bass sound on his tracks it comes from a Yamaha DX100. To this day the DX100 is his only synth.

"You wanna know why? 'Cos I love the 'Solid Bass' preset. I can tell you now, 'cos I've used it so much that I don't care if somebody else uses it. I don't really need sounds in a keyboard, I just need a trigger mechanism for the samples. I don't use many synth sounds, 'cos to me they sound fake and they sound too clear. 'Solid Bass' is kind of dirty."

The DJ acquired his first sequencer courtesy of some family support.

"My mother got me a Yamaha QX21", he recalls. "That allowed me to make a lot of music at my house to get other work. When I got tired of that I bought an Alesis MMT8, and when I got tired of that I bought a Macintosh Plus with Passport's Master Tracks Pro sequencing software. I'm happy now."

At home in his basement, DJ Mark's equipment setup allows him to work out and sequence his backing tracks, including presetting any part-muting in the sequencer, but not to record finished tracks complete with vocals. For instance, although he has a Tascam 16-channel desk he has no multitrack recorder, though he's planning to get an eight-track for vocal work, together with an \$800 mic which has been recommended to him.

"It's hard to have a proper studio in your house, because to do it properly you need a whole lot of outboard equipment that you don't even realise you need. Also, I need a bigger mixer, now, 'cos my two S900s can take up all the inputs. I could use a lot more if I wanted to, though for some beats I only need one sampler, eight outputs."

► To record, then, he has to go outside - but costly 24-track studios with all the latest equipment are not necessary.

"I work at an eight-track studio called Airwaves, which is on 42nd Street in New York", he reveals. "Considering that all my stuff is sequenced using MIDI, we only use the eight-track for vocals, and that's enough. I can have a whole backing track done in my house, but it won't kick like it will in a studio, so I'll take it to the studio, EQ it up, record the vocals and I'm out of there.

"When I go to Airwaves, all I have to bring is my MIDI Transport card for the Macintosh, my Master Tracks disk, sequence disk and sample disks; they have the same equipment that I have. I'm working on getting a modem so I can transfer stuff down to them. They have a Macintosh Plus, but we use different software; they have Southworth's MIDIpaint sequencing software and a Jambox. They're telling me 'Mark, your software sucks, get something else', but other people tell me that their software sucks.

"When I'm just making beats up I don't even need the eight-track. See, people don't like that studio; once they hear it's eight-track, they're not interested. Bigger record companies don't want me working at Airwaves; obviously I can't do a 24-track remix there. But they've got a 24-input board, and I don't even use all the inputs."

The major record companies often just go for studios that have the biggest and best equipment, I suggest.

"I can make a record in my house and do it better, and get more sales, than somebody in a 24-track studio. 'Cos I know the kick to use, the snare to use, the hi-hat to use, the loop to use . . .

"It's not what you've got, it's what you can do with what you've got". Quote me on that. There's a lot of people who say 'I want this, I want that', but they don't know what the fuck to do with this and that, right?"

WHEN WE INEVITABLY turn to discussing the rights and wrongs of sampling, the DJ-cum-producer responds with disarming honesty.

"I think it's wrong, but I have to keep on doing it to get a name to compete with these other kids that are doing it. Like, if I stop sampling, I don't think people are going to say 'Well, Mark's stopped sampling so I'm going to stop sampling'. No, they're gonna still be looping them old-school beats. So I'm gonna keep on sampling.

"If you use too much of a record, that's real fucked up, and if the record just came out and I'm already sampling it, that's fucked up, too. And if the record's old and it was a real big hit, that's kind of fucked up, too. All of it's fucked up, but you've got to do it to stay in there.

"There should be some type of law where everybody's happy, where you can use the record and get the permission. I've seen people use a whole lot of somebody's record and nothing's happened to them, mainly because it was too much money for people to get the lawyers in. If the record didn't go gold, why sue 'em? It don't make no sense; you lose money. OK you get your percentage, but the lawyer costs more than that.

"I try to get the old, old records, where the guy's died, doesn't care, or doesn't have enough money to sue. I hate to say it, but . . . They're

probably not getting royalties off the record any more, anyway. They might be shocked to hear it again, but they're also proud to hear it again.

"Hip hop *did* bring James Brown back again, OK? When Full Force was doing that record with James Brown saying 'Don't bite my stuff', they was using samples, like a horn hit from Funk Incorporated. So they was biting, too. Now they're using the 'Funky Drummer' snare in their records. I'm not putting them down, I use 'Funky Drummer' too, but a lot of people use the big snare hit; I use the small one that nobody else thought of getting in between to pull out. So I got a James Brown sound, but it don't sound like 'Funky Drummer'."

So much for sampling from older records. More recently, Ice T used samples from DJ Mark's *Just Beats* album on his *Power* LP. The DJ is convinced nobody else realises where the lifts have come from but is flattered all the same. He aims to sample a large enough piece of someone else's work to flatter them, but not enough to upset them. Is he happy for other people to treat him the same way?

"You gonna quote me? I wouldn't sample off any other person doing the same thing that I'm doing. I wouldn't take their shit, so I don't expect for them to take my shit. It's kind of like a rapper saying somebody else's rhymes; nobody wants to be known as a biter. If you use shit from somebody else who's trying to do the same thing as you are, people don't look up to that.

"It's a matter of respect. People look up to me because I'm looping up records that don't get used much - if at all. It's like, I have to buy the breakbeats albums so as to know what *not* to use. I might use a kick or a snare, or something that I don't think anybody else will think of using, but I don't want to use nothin' that everybody else can use. I want to find something that hasn't been used before."

Secrecy about breaks has been part of hip hop culture since the days when DJs would soak the labels off their records so nobody could see what they were playing at parties. Nowadays, with the audience for hip hop being somewhat larger than a block party, soaked-off labels are not enough.

DJ Mark agrees that sooner or later the identity of a sample will be discovered, no matter how obscure it is. Nonetheless, he's taken aback when I tell him that the source of the baritone sax riff on 'The 900 Number' has been revealed in print (in the NME) as Marva Whitney's 'Unwind Yourself' (a 60s soul record).

"I guess I'm gonna leave the country now!", he jokes after regaining his composure. "That's OK; you know why? 'Cos they know that one, but they won't know the next shit I come up with, know what I'm saying?"

Then there's the all-important question of what to sample.

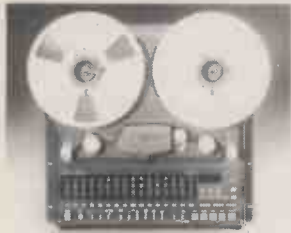
"Every now and then I find a record in one of my crates and I keep on checking it, like it wouldn't work last year but this year it'll work. I have about 400 45s; they don't all have breaks on them, but what is a break? I could have a 45 and just take a horn blast off it, put it under something else. Maybe a record just has a nice bassline on it; I can recreate that bassline.

"There's always something I can find in my crates, so I don't have to go out searching for records. I might sample a part of a record for one rapper's record, another part for another rapper's record. I've done that a lot of times. Put it all together and maybe I've used the whole record." ►

"I know I don't do things the right way, but it works - if it sounds good, keep it. A lot of time my mistakes'll be selling records!"

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"I can make a record in my house and do it better than somebody in a 24-track studio 'cos I know the kick to use, the snare to use, the hi-hat to use..."

DJ MARK HAS plenty to say about his own musical approach to using samples.

"If I loop a sampled drum beat, I put a kick, a snare, a hi-hat and a tambourine over that beat, but only high enough that you can hear them but you can't really hear them. The kick and snare are a bit lower than the loop, and that's how I get my sound. A lot of other people bring the kick and snare high, then they take out the loop and play the kick and snare by themselves. Sometimes I'll take out the loop, like if the MC requests me to, but most of the time I keep it in 'cos to me a kick, snare, hi-hat and tambourine by themselves is naked, no matter how def the beat is.

"Another thing, I'm not into something sounding monotonous. Like, I would never have used that Lyn Collins 'yeah, ah' sample from 'Think'. I might've used it if it hadn't had the vocal. But 'This Cut's Got Flavor' uses 'Think'. It's slow, but it uses samples of the kick, the small snare and the large snare.

"See, I think I was one of the first people to sample the small snare that you can barely hear, as well as the big one. I use it quite a lot. 'Gettin' Fair' off Lakim's album has got two snare samples in it. Sometimes I'll also use two kick drum samples, a heavy one to bring out a kick rhythm and a lighter one to work with the snare."

DJ Mark-produced records invariably have an indefinable quality which turns a rhythm into a living groove, so it's not surprising that he has strong ideas about what does and what doesn't go into the making of a good rhythm.

"I don't usually quantise when I make a record. Sometimes you can quantise, sometimes you can't. You ever heard somebody make a beat and it seems like they've forced two records together? It's because some records just can't go together, and there's nothing you can do about it, 'cos there's two live drummers and they're not playing in the same rhythm.

"Some people'll force things together, they don't care. It sells, sometimes, but I won't buy it. Me, I don't force things, I usually move onto the next song if I'm stumped, or I just leave it like it is."

DJ Mark generally plays his sampled kicks, hi-hats and snares live off the keyboard.

"Let's say the loop I'm playing to is two bars long. I'll listen to the loop, and then play the hi-hat to the sampled beat; if it slows up, I'll slow up. Now, you can quantise what you play and it'll be perfect, but it won't go with the beat.

Sometimes I'll take the computer and I'll move match with the beats in the loop exactly."

The producer goes on to reveal his own working method once the rhythm track is down: "Usually I get the horn to go with the drum track, and then the bassline to be on key with the horn. After that, the record's finished, if you ask me. A beat, a horn, a bassline and a good rapper, that's all you need."

The feel and the sound that he gets into his records are of particular concern to DJ Mark - and this brings us back to the musical value of sampling old records.

"Sometimes the musician in the studio just doesn't have his drum set tuned up like James Brown's drummer had his - maybe he doesn't have the same pillow in the kick. Nowadays, sounds are much cleaner, but I don't want that, I want the old sound. To get that, you either have to get somebody that's been doing it, and don't EQ it up... See, that's why I don't put too

many effects on my records, and that's why they sound old. I can put a kick, a snare and a hi-hat to an old drum beat, and unless you make records you won't know that I put them there. I have to use mostly dirty sounds, with maybe a clear hi-hat to clean it up a little. Nowadays, if you use a drum-machine snare and a snare sampled from a record, you get very clean and very dirty and they don't match up. If you sample off a record, it's not going to come out as clear as if you sample off a 16-bit drum machine."

This doesn't only apply to drum beats, of course. The sax and guitar samples DJ Mark uses often have a similar gritty quality.

"I take out some of the highs to make them dirty", he reveals. "You know how to make the horns sound dirty? Have them play fast and then slow them down."

Which brings us nicely to the fact that records usually have to be sped up or slowed down to bring the samples into time.

"Sometimes they sound better slow", comments DJ Mark. "Usually I like to slow records down, 'cos the sounds get deeper; 'The 900 Number' was slowed down. If you speed records up, the highs come up."

Chill Rob G's 12" 'Let The Words Flow/The Court is Now in Session' features live sax and flute played by Jack Bashkow. What was the reasoning behind using a live musician?

"He could play what I wanted in key", comes the explanation. "The saxophone part I find on an old record won't always pitch up with the other parts I'm using, so I can get Jack to play it in key. I'll tell him to play something, or get him to come up with something himself. That kid's bad! He's gonna be my personal sax player, but he doesn't know it yet!"

The producer has a refreshingly open-minded approach to his work. When I ask him about EQ'ing out unwanted sounds from sampled sax or guitar parts, he replies; "Well, if it sounds good, I keep it on. Sometimes you can combine different samples which are offkey, and it may be wrong but it'll work and it'll sell. I don't know why.

"I go in the studio looking for something, I've got my ideas. If it doesn't come out like I expected but it sounds good, I'll keep it. I'm not a person who'll say 'No, I want it the way I wanted it'. I know I don't do it the right way, but it works. If it sounds good, keep it. A lot of time my mistakes'll be selling records!"

Who's to say there's a right way?

"Oh, God bless you! God bless you!" Mark replies, reaching forward to shake my hand. "That's what I always say: who's to say there's a right way? It's different strokes for different folks."

People who go their own way rather than follow the crowd will always stand out - but it seems that DJ Mark is not trying to stand out from the rest.

"I just do what I like to do, and if it's like somebody else's music then it's like somebody else's music, if it's not then it's not.

"You know, people tell me 'Mark, you don't put enough stuff in your records, you need this and you need that'. But it's selling, so why change just because they want me to change? I'm over here for 'The 900 Number', which is simple, right?"

"I am going to take advice, though, 'cos you've got to change with the flow, but you've got to do it gradually and in your own way."

Believe me, Mark James has his own way. ■



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YAMAHA V50

Digital Synthesiser



Photography Melodie Gimple

Although Yamaha aren't too keen to call it a workstation, the V50 has all the workstation trappings – but is the balance right? Review by Dan Rue.

A NEW SYNTHESISER from Yamaha ought to be big news. Until now the only entries into the workstation market to emerge from Yamaha have been aimed at the home market, but now Yamaha have unveiled the V50, their first fully-fledged professional music workstation. Refinement is the key word here – Yamaha are not offering us new technology, but rather a well-considered refinement of their existing technologies. Basically, the V50 embodies two TX81Z four-operator synths, an RX-style drum machine, a QX-style sequencer, a single effects processor and a disk drive.

The V50 comes with six demonstration songs (three permanently stored in ROM, three on a demo disk) and a single-voice editing demo. The voice-editing demo races through the steps involved in creating a voice from scratch – a great idea, except that the demo hardly pauses for breath, rendering it far less effective than if it had given you time to consider its content. You're better off with the Operating Manual, which, by the way, is extremely well written.

Voices

BECAUSE THE V50's basic voice architecture is built around two four-operator, multi-waveform FM tone generators, the editing parameters are much the same as Yamaha's other four-op synths. However, polyphony is expanded to 16 notes, with up to eight-voice multitimbral capabilities. The V50 includes 100 Preset (ROM) Single voices and enough RAM for 100 user-programmable or "Internal" Single voices. Also included are 100 Preset and 100 Internal "Performances", in which up to eight multitimbral voices can be layered or split across the 61-note keyboard. To augment the V50's RAM memory, an additional 100 Single voices and 100 Performances can be stored in an external RAM card. In addition, voices,

Performances, and setup data can be saved to floppy disk.

The V50's four operators can be arranged in any one of eight algorithms, with any one of eight waveforms assignable to each operator. Further modifications to each operator include pitch and amplitude modulation; EG Bias and Key Velocity sensitivity settings; individual detune; a five-parameter Envelope Generator; rate and level Keyboard Scaling; and Output levels. On top of this, the overall sound can be modified by an LFO with saw, square, triangle and random waveforms; a six-parameter Pitch Envelope Generator; Transpose; Portamento; controller and aftertouch settings; and digital effects processing. All functions are quite clearly laid out across the front panel and accessed via 11 buttons that are large enough and positioned far enough apart to let you comfortably flick through parameter pages. If any of this sounds involved, don't worry – the manual explains everything.

Voice editing on the V50 is virtually identical to voice editing on the TX81Z and DX11. There is, however, one welcome difference: the Quick Edit function. With this, you can adjust the Attack, Release, Volume (output level for carrier operators), and Brilliance (output level for modulator operators) of all four operators simultaneously. For example, you want to adjust the attack of a patch: press the Quick Edit button once to call up the Attack page (repeated pressing reveals the other three functions) where the display shows the current levels of Attack Rate. By moving the data slider or using the plus and minus keys, the levels of the Attack Rate (actually, Attack Rate and Decay | Rate) for all four operators shift in proportion to each other. It's almost as good as ol' analogue programming.

Another function designed to simplify editing is revealed when you press the Store/Copy button in the Utility section. This allows you to copy specific parameter values from one operator to another. Useful.

Last in the chain is the digital effects processor. Thirty-

two different effects are available, including hall and plate reverbs, delays and echoes, several gated reverbs, distortions, early reflections and EQ. You can save a different effects setting with every Single Voice and, similarly, one effect for each Performance setup. After selecting the effect you're going to use, you can set the output level for the effect, and the effect/signal balance. By pressing the Effect button a second time, three additional parameters are revealed. These vary, depending on which effect you're using. For example, Reverb Hall (along with several of the other reverb effects), allows you to adjust the reverb time (0.3-10.0sec), the low-pass filter setting (1.25-12.0kHz or bypass), and the first reflection delay time (0.1-50msec). Once again, the manual offers detailed explanations of each parameter for each effect.

Because the V50 has only one effects processor, the effect you choose will affect not only the Single voice you're working on, but all the voices used in Performance mode, as well as the drum kit sounds in the rhythm machine. This setup is similar to that of Roland's D20, and is generally quite useable. However, it does present certain problems when dealing with the rhythm machine. More on that later.

Performance

IN PERFORMANCE MODE you can combine up to eight Single voices at once by layering them together or assigning various splits across the keyboard. This allows you to store your basic multitimbral setups, and several parameters are available.

Since the V50 is 16-note polyphonic, the first thing you must specify is the note allocation. You can reserve a maximum number of notes for each voice (Normal mode), assign notes to alternate between two voices assigned to the same MIDI receive channel (Alternate mode) or set the V50 to Dynamic Voice Allocation (DVA). From there you can set the MIDI receive channels for each voice, high and low note limits (to define the splits and layers), individual Detune, transpose (Note Shift), Volume, left, right or stereo Output Assign, LFO on or off, Performance Effect data, and Microtune on or off.

The Performance Effect data is worth a closer look. The effects are not a part of the digital signal processing and only apply to the Performance mode. This feature allows you to pan the Performance patch from left to right at various speeds, produce an echo or delayed repeat of the sound at various speeds and pitches, or produce a three-note chord from a single note. An example of chord-generation is found in the preset Performance patch called 'Big Band' (pP42), giving an instant Glenn Miller effect. The parameters of all three effects can be tweaked to your liking in the Utility section under the Setup button.

The Performance can be assigned any one of 11 preset microtunings, or one of two user-programmable microtunings that allow you to define the tuning within one octave or for every note on the keyboard. The editing pages for the user-programmable settings are held in the Utility functions and additional personalised temperaments can be stored on external RAM cards or on disk. Most of the alternate preset tunings are rather subtle, but can be very effective and are definitely worth exploring. This is an excellent feature of the V50, and one that sets it apart from other workstations currently on the market.

As in Single mode, you can set and adjust the digital signal processing while in Performance mode. Once again, this has a global effect.

Yamaha define a Performance as a combination of voices and a "Setup" of the other various parameters. As a result,

you have the option to save entire Performances or Performance Setups to disk or RAM cards. Similarly, the Performance Effect data can be saved separately onto RAM cards. As with Single voice editing, you can copy and paste Performance setups or specific parameters within a Performance to other Performances with the Store/Copy button in the Utility section.

Rhythm

ANYONE FAMILIAR WITH Yamaha's RX line of drum machines (particularly the RX21), will have no trouble finding their way around the V50's Rhythm mode. As with the voice editing parameters, the setup of buttons and displays is intuitive and a number of editing options are available.

On the right-hand side of the front panel, all the rhythm machine's editing functions are listed by page. This provides a quick and very useful reference - I found myself referring to it constantly. Writing Rhythm Songs entails writing Patterns of one to four measures in length and then assembling them on the Song edit page. The V50 has room for 100 Patterns and eight Songs. However, none of this data is permanently stored in RAM, so you must save it to disk or card. This is a bit of a pain, but not uncommon (the Roland D20 works this way as well). Just pray that you don't encounter a power surge after hours of programming...

When you enter Rhythm mode, the drum kit is automatically called up onto the keyboard. The kit consists of 61 PCM sampled sounds (one on each of the 61 keys) including six kick drums, seven snares, rimshots, toms, hi-hats, a crash cymbal, and an assortment of percussion. The arrangement of the sounds across the keyboard can be set to one of three preset Rhythm Assignments, or you can

"Basically, the V50 embodies two TX81Z four-operator synths, an RX-style drum machine, a QX-style sequencer, a single effects processor and a disk drive."

position the kit yourself in two user-programmable settings, stored in RAM.

You have the option of recording Patterns in real time or step time, with time signatures ranging from 1/4 to 32/16 (so you could conceivably arrange to have eight-bar patterns in 32/16). Quantisation can be set from 1/4 to 1/32 notes, or turned off. I should mention that "real time" recording provides 1/192 note resolution. This allows you to capture most of the subtleties of human error.

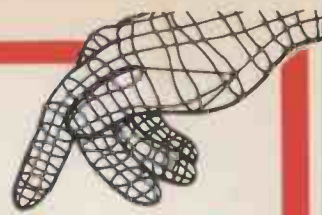
In Step recording, a single-line 32-segment bar graph representing one measure appears in the display. Moving the data slider reveals the pattern played by each of the 61 instruments one by one. A little diamond appears on the beats where data has been recorded. As the cursor is scrolled forward, the notes you've entered sound when you reach their respective steps. However, the notes do not sound when you scroll backwards. From this page you can mark accents on specific notes by striking the keys hard, or by adjusting a parameter (0-7).

Editing functions within Pattern mode include copying one pattern to another, linking two patterns together to create a third, Pattern clear, MIDI receive and transmit channel settings, MIDI note number assignment for each instrument, and effects setting (on, off, or stereo mix) for the rhythm machine as a whole.

In Rhythm Song mode, you assemble Patterns into Parts. In addition, you can place repeats, song markers, and ▶

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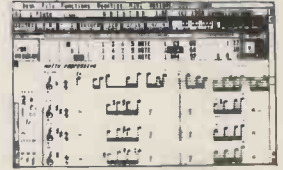


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IN TOUCH WITH TIME

► volume and tempo changes. Once you have put a Song together, various editing jobs can be performed: jumping from one Part to another, inserting Parts, deleting Parts, copying Parts, and searching for the markers mentioned above.

Sequencer

THE V50'S SEQUENCER records around 16,000 notes in up to eight Song positions with time signatures from 1/4 to 16/16. You have up to eight tracks, in addition to the Rhythm track, on which to record, each with assignable MIDI transmit channels, program change maps, and playback muting. Like the rhythm machine, sequencer data is not stored permanently in RAM, so you must save it to disk or card.

Real-time and step-time recording are available, logically controlled by a tape recorder-like arrangement of buttons in conjunction with eight Track buttons (also used for voice and Performance editing). These buttons have LEDs beside them to indicate which Tracks are playing. Unfortunately, "punching in" is a bit more of a hassle – while punch-in facilities exist, you cannot do it in real time. Your start and end punch-in points must be preset before you begin recording. Like some of my other gripes, I'm not too concerned about this; it's just a bit inconvenient.

A little more disconcerting is the fact that the aftertouch and velocity enable/disable cannot be set for individual tracks; these settings affect the entire song. True, you can exit the sequencer and call up the appropriate Performance edit page to accomplish this for each voice – that's only a small hassle. The real problem arises when you are driving external sound sources, like other synths and samplers (which the V50 is quite capable of doing). In these situations, you would have to address each machine separately – not very conducive to creative spontaneity.

On the positive side, however, the sequencer does offer several editing functions once a Song is recorded. As with the rhythm machine, all of the sequencer's editing functions are printed on the right-hand side of the front panel. Tracks can be "bounced," measures can be inserted or deleted in all Tracks as well as in individual Tracks, quantisation for individual Tracks can be set from 1/4 to 1/48, and measures can be copied within individual Tracks.

As with the rhythm machine, what you have here is all the necessities. You can write your songs with the V50, but because it lacks some of the more subtle editing functions of other sequencers, you probably won't be able to perfect them.

Sounds

SO HOW DOES the V50 sound? Well, as far as the Single voices go, it sounds like a DXII/TX81Z with effects slapped on it. Obviously, what you really want to know is how the Performances, effects, and drum kit sound. Pretty good, actually.

Performance mode produces some rich, sounds, often much more so than the DXII because of the V50's 16-note polyphony. While you *could* layer eight sounds on the older synths, the added polyphony of the V50 makes this more practical. Additionally, dynamic voice allocation takes this further. Excellent examples within the preset Performances include: 'V Brass' (PFP57), a huge fanfare blast; 'W-limba' (PFP51), a cross between a marimba and a nylon string, and 'V Bass 4' (PFP67), a thick, driving synth bass. In general, the V50's strongest points are brass and bass-type sounds, since those are the ones that tend to capitalise on the sharp, biting character of FM synthesis.

The digital effects on the V50 sound are well implemented. Reverbs are clean, the distortions are dirty – you won't be dissatisfied. The impact of the effects on the voices is noticeable, especially on the string, brass and "atmospheric" timbres. This, of course, has advantages and disadvantages...

The drum sounds are a compromise: yes, the drum kit consists of PCM samples; yes, the samples are superior to a synthesised kit. But the samples are just too short. The timbres are fine, the samples are clean, but they're so short that when used unprocessed, they simply don't pull their weight. That's what the effects processor is for, right? Well, yes and no. Because the samples are short, they tend to get swallowed up when using a heavy effect. This is where the compromise comes in. Some of the



Performance sounds really need heavy processing; take 'V Brass 1' for example. This is a huge, grainy, biting brass patch. The preset effect attached to it is Rev. Hall (the longest reverb setting). Without this reverb, the patch is much too up-front to be readily useable. So you compromise. The V50 is powerful, flexible and friendly, but you can kiss those atmospheric timbres goodbye.

Verdict

ASIDE FROM THE balance between the synth and drums, and their relationship to the effects processor, the V50 still offers an improvement sound-wise on Yamaha's previous four-op synths. The expanded polyphony and the implementation of dynamic voice allocation really make a difference in the Performance patches. As I said at the beginning of this review, the V50's strongest points lie in its refinement.

Yamaha should get an award for the V50 manual. We're talking a table of contents, full index, dozens of cross-references, easy-to-read detailed instructions on how to edit FM synthesis (why did it ever seem so complicated?). Couple this with the Quick Edit functions, and programming FM voices from scratch has never been simpler.

The sequencer and rhythm machine functions, and arrangement of the front panel are fairly intuitive – you know where to go without checking first. The massive storage capacity of RAM voice presets, along with the disk drive and RAM card port, add all the more power. As a complete instrument, a true workstation, the V50 scores high marks.

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Thanks to Stuart Sawney of Company 55 for providing this month's competition prize. Company 55 can be contacted at 43 Priory Avenue, High Wycombe, Bucks HP13 6SN. Tel (0494) 29075.



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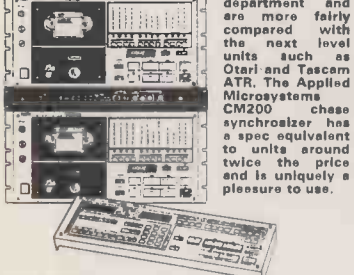
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CR99 MIDI Disk
Recorder has a few
tricks up its sleeve.
Review by Vic
Lennard.*

IF I HAD a penny for each musician who has told me that he doesn't want to get involved with computers, I wouldn't need to write this review. Most hardware sequencers have serious failings in terms of user-friendliness – especially when all you want to do is to treat it like a tape recorder. Some people can still play accurately without having to “doctor” the data with modern techniques like quantisation.

Another situation confronting performers is that of having to take their computer, monitor and sequencing software or hardware to gigs, and run the risk of damaging or losing it. Then there are the time delays involved in loading from disk (let's forget cassette, shall we?) and the ever-present danger of the machinery crashing mid-song.

Recently a new item of equipment has appeared which may well go a long way towards resolving some of the above problems – the Elka CR99 MIDI disk recorder.

Basics

BREAKING DOWN THE 19 horizontal inches of a rack space to accommodate not one, but three units is not a new idea – the Alesis Micro series processors, to name but one, already adopt this format. As a slight variation on this, the CR99 is two-thirds of a rack wide, 1U-high and comes complete with a pair of extended ears to allow fixing to a full-width rack if your GCSE in metalwork doesn't extend to welding it to your Microverb.

The CR99's front panel incorporates all the necessary operational buttons, a three-digit display reminiscent of that on a Matrix 1000 and a double-sided, double-density 3.5" disk drive. The rear has a MIDI In, Thru and two parallel MIDI Outs. Power is provided via a 7.7 volt adaptor.

All in all, this looks like yet another anonymous black box, so what does it do to earn the title of MIDI Disk Recorder as opposed to sequencer? Well, instead of recording MIDI data into RAM memory and then permitting transfer to a floppy disk by a save routine, this writes data straight to the disk and plays back in a similar fashion, with an absolute minimum of delay due to buffering of the read/write interface. Consequently, recording capacity is down to disk space and not to internal memory – which is usually the case with small hardware sequencers.

The CR99 is quite simple to operate – format a disk, select a song number to record to and press Record followed by Start. Input the necessary MIDI data (by whatever means) and then press Stop to end the recording. Play and Start will play back the data with Tempo adjustable between 50% and 200%. The recorder has a very forgiving nature by virtue of a key marked “Escape”, which allows you to get out of any incorrect situation and back to the point that you started from.

Attempting to overwrite an existing song, indicated by an F in front of the song number to indicate that the song is Full, will automatically bring up the option to clear the song memory and any concern over the space left on a disk can be dispelled by using the Free function, which will flash up the percentage of unused space on the disk in the drive. Consequently, inserting a different disk will cause the

CR99 to firstly read the disk directory to see which song memories have been recorded in and then to calculate the amount of free disk space.

Whilst this unit is in no way comparable to a full-blown software sequencer, it does have a rather neat facility for overdubbing tracks. Let's say that a real-time piano track has been recorded onto Song 1 and that the bassline is to be recorded next. Put Song 1 into Play mode and then press Record; the next free song memory is now automatically selected for the overdub. Start will begin playback of Song 1, while merging this with whatever data is currently being input and saving the mix onto the new Song location. To allow existing data to be monitored, a Merge facility exists which combines incoming information with that currently playing back. This means that up to 99 Songs – equivalent to 99 parallel tracks in this case – can be recorded with each overdub. Previous recordings can be erased once the overdub is satisfactorily completed, so leaving more space on the disk.

Internal Affairs

FOR THOSE OF you who, like me, are naturally inquisitive as to how devices work, (I enjoyed a long childhood career with clocks) the following is a short, somewhat simplified explanation of the CR99.

The unit has an internal clock which causes the MIDI In port to be checked every five milliseconds and writes the incoming data, along with timing information, onto a record buffer of 1Kbyte. Once this buffer is full, the data is written onto the disk into a file named SONGn.DAT where “n” is the number of the Song, and the process continues until the incoming data ceases. Pressing Stop then writes an “End of Song” command to the disk which updates the disk directory, allowing you to see which Song numbers have been used. Replay is the reverse of the above with a small playback buffer filling up before sending MIDI data into the outside world via the MIDI Out port.

The manual states that the capacity of a disk is approximately 80,000 events – which would equate to between 25,000 and 35,000 notes, allowing for the fact that two events are required per note (note on, note off) and that aftertouch, pitchbend and the like use up far more events than notes – but I have a distinct feeling that this is incorrect. As the format is compatible with that of an Atari ST, it is possible to check precisely what is being recorded by using a disk reader – it would appear that a disk can hold approximately 185,000 events, which equates to around 80,000 notes plus performance data.

One drawback of the CR99's ability to record all MIDI data is that there is no facility to filter unwanted information, especially active sensing and All Notes Off. The former is only a small problem, because the Recorder incorporates it with its timing data, so minimising extraneous bytes, while the latter wastes three bytes each time both hands are released from the keyboard. Obviously the data here builds up with overdubs as All Notes Off is MIDI-channel orientated. The net result of this is that the capacity for notes will be decreased unless this specific function can be switched out on the keyboard or filtered out prior to reaching the CR99.



Photography: James Cumpsty

MIDI input every five milliseconds roughly equates to 96ppqn at a tempo of 120bpm. However, an interesting aside to this is that this resolution increases if material is recorded at a slower tempo, which is not the case with a normal sequencer. Without more information, it is impossible to ascertain whether the resolution will then decrease again if the tempo is increased on playback.

One trick I tried was to format the disk in the Atari to ten sectors per track instead of the usual nine with the intention of squeezing an extra 11% capacity out of the disk. Unfortunately, this was ignored by the CR99.

Applications

AS ALREADY MENTIONED, the mobility factor of the average computer-based sequencing setup is rather low. With this in mind the CR99 could be useful in live applications. Each song can be transferred from another sequencer, having filtered out any irrelevant data, and saved to one of the CR99's 99 Song locations. The time between accessing the directory, selecting the Song and starting to play it is less than ten seconds. By using the overdub feature, it's possible to create a complete live set of songs, including patch changes for each synth with any required gap between songs being allowed for.

Another use of the CR99 is as a System Exclusive librarian, using the MIDI dump facility that now exists within many synths. Simply put the CR99 into Record mode and initiate the dump. The data will be recorded and can then be played back and transmitted into the synth. This could consist of patch, timbre or system data and, in this way, up to 99 different banks of sounds can be saved onto a single disk (subject to memory space). Single sounds can often be sent from synths by pressing the button for a patch which transmits the relevant bytes for that sound via its MIDI Out port. It is conceivable that the

CR99 could hold all the songs for a set interspersed with the SysEx data for each synth, where changing sounds would otherwise entail hunting around for RAM cards and cartridges. Do remember, though, that SysEx data must not be mixed in with that for MIDI note and performance.

Drum machine patterns can also be recorded by the CR99 but in real time, because the average beat box lacks a dedicated MIDI dump. Alternatively, use it in the same manner as you would a multitrack tape recorder without the hassle of worrying about routing, group outputs and tape returns – an ideal ideas machine with only a minimum of equipment needed.

Verdict

THE ADVANTAGES IN terms of ease of use, immediacy of playback from disk and portability are overshadowed by the price of the Elka CR99: £420. This is equivalent to the cost of an Atari 520ST and a choice of sequencing software incorporating visual editing – which will certainly be a more powerful option. Similarly there is an excellent System Exclusive librarian in Hybrid Arts' Genpatch, which will run on the same computer. In terms of hardware sequencers, the price is also rather close to that of a second-hand Roland MC500 and substantially more expensive than the Alesis MMT8 or Korg SQD8.

In its defence, the CR99 caters for specific needs extremely well – I, for one, would be very happy to use it for live performances. It could well be the answer for many non-technical but highly musical persons who want a digital multitrack arrangement for recording with a multitimbral synth like the Roland D110. ■

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FORCE

Majeure



Photography David Bradwell

The industrial funk that put Sheffield on the dance map gave rise to two important forces – British house music and Fon. Interview by David Bradwell.

AS DETROIT IS the home of the motor car, so Sheffield is the city of steel. While the industrial centres of Detroit and Chicago have given rise to techno and house music respectively, so Sheffield is home to Britain's industrial white funk movement. As we move towards the next decade, the barriers between different types of dance

music are being torn down. In '89 the best innovators on both sides of the Atlantic are starting to work together, trading influences and sharing the fruits of their respective innovations.

Sheffield has had a strong musical purpose since the early '80s, when synthesisers were a novelty and samplers a misunderstood myth. Bands like Heaven 17, the Human League and ABC were the popular face of Sheffield's new music - a sound conceived around cheap multitrack recorders. As the scene evolved, bands like Cabaret Voltaire, Chakk, Hula and Clock DVA experimented in their bedrooms with drum machines and tape loops - and onstage with sequencers and slide shows. Meanwhile on the other side of the Atlantic, black American dance music began to make its mark in the city's clubs. While ever-so-cool London ignored house in favour of hip hop, the North embraced it.

The current Northern scene revolves around such figures as Graham Park and Mike Pickering in Nottingham, T-Coy Mob in Manchester and Fon in Sheffield, artists who have made their names from the warehouse parties that put the danger back into dancing. Of these, the name most familiar will be that of Fon, whose work began to cross over into the national charts last year.

The Fon studio was originally set up as a rehearsal studio by Chakk. When they split, it expanded into a production unit for the Fon Force, otherwise known as Mark Brydon and Robert Gordon. The Fon organisation now includes a specialist music shop and record label, mysteriously called Fon Records. Fon artists include Krush, The Funky Worm and Mink, while the Fon Force have also worked with artists as diverse as Ten City and Pop Will Eat Itself.

While both the producers now have reputations as musicians, Gordon originally came to Fon as a tape op, with a background in electronics.

"I used to sit in my bedroom and build little projects and fix people's radios. I was a drummer when I was at school, then drum machines came out so I got one of those, and everything fell into place. There were people who owned recording gear who didn't know how to use it but I did, and it just grew from there."

By contrast, Brydon was already a name on the Sheffield scene. As the bassist in Chakk he had been at the forefront of the city's music circuit. For him, leaving behind bass guitar to concentrate on working in a keyboard-based studio was purely a means to an end.

"I'm not in love with technology at all. I like music that's made by machines, but quite honestly I find them quite annoying some of the time. You know what you want to do, you've just got to get the little bastards to do it."

The two producers have well-defined roles within the studio, although there's a large overlap where their talents coincide. Gordon concentrates on engineering and drum programming; Brydon specialises in programming basslines and musical parts. Typically, a project will begin with sounds rather than a melody - specifically drum and bass sounds. As Brydon points out "if it sounds good on drums and bass then you're not going to go wrong."

"Sometimes we start a track from the mix perspective", Gordon elaborates. "For example,

we may decide on a particular drum sound because we want a particular echo as part of the music. If we decide we want a big bass we start with a big sound, which has nothing to do with melody. If one bass note resonates the room more than any other I base the bassline around that note - which has got nothing to do with music."

"Even at a late stage there's an element of trying until you've got the result you want", Brydon adds. "You can predict to some extent the direction you want to take a track in, but at the end you'll still be pulling and pushing a bit, just to get it finished."

"What often happens is that you complete the track and then you go back and completely re-record the drums in a different way. There are no set rules. We've got our guidelines, but they only work half of the time."

When part of a song has been programmed on the favoured C-Lab Creator sequencer, the sounds are chosen and, where necessary, edited to create the desired mood.

"We're not scared of programming", explains

"If you've got a massive sound you have to make everything else massive, then when you try to listen to it on a big system, it just sounds like a mess."

Gordon. "If we've got a sound that would be right with a little bit of fiddling, then certainly on the M1 or the Juno 106 we'd go and change it. I used to do a bit of DX7 programming, but it's just so much of a pain and the sounds aren't even that good anyway. One thing we never do now which we used to do a lot, is stack sounds. You can only hear so much and if you've got a massive sound you have to make everything else massive to make it sound in context. Then, when you try to listen to it on a big system, it just sounds like a mess. I like to use a good simple sound that fits."

THE JUNO 106 is the duo's favourite synthesiser, chosen from their armoury which includes a Roland SH101, Sequential Prophet 5, Korg M1 and Casio FZ1. They are proud to be exclusively using what they describe as "really cheap, readily available equipment".

Gordon explains: "Basically we don't use anything expensive, it's what we do with it that makes the difference. You can't beat the Juno for bass. There's nothing that puts out as much bass as that, no matter how hard you try. A lot of it's to do with the kind of stuff we're doing, it really doesn't lend itself to digital sounds. Analogue sounds suit it best, and there's no real substitute."

The duo's only real complaint about equipment is the expense of fitting out a decent studio. While their keyboards may be cheap, multitrack tape machines can cost a fortune. Furthermore, to keep up with the latest in studio technology you have to replace equipment on a frighteningly regular basis. Brydon can see both sides of the problem.

"I think there's a general problem of too many ideas too quick. Somebody comes along with a CD, and before you know it there's DAT, then recordable CD. Everything gets outdated too quickly.

"There's a difficult choice, whereby you either ►

► buy the latest thing or you wait a little bit longer and get the next one. It's a real gamble all the time. We don't really keep up that quickly with equipment. To an extent, if equipment doesn't do exactly what you want it to do you have to find a way of getting as near to that as possible, which means you have to improvise, and it's usually then that you come up with the interesting ideas and oddities."

"We could sit here all night and bullshit you about a load of gear, but it's really down to what we're doing. It's nothing more than that. There's no mystique about the way we produce things."

"We don't respect gear at all", adds Gordon. "House Arrest' was done on a QX5 which we used to use for everything, and which I still think is the tightest sequencer I've ever heard. At times we've even dumped what we've done on Creator back into the QX5 and played it from there just because it sounds and feels better. We use anything, no matter how cheap or how shitty it is. I think that's a mistake a lot of producers make. We even hire MIDIverbs because of their unique sound."

"A lot of what we're about is distorting the technology that's available. Nobody knows how to work the Prophet - we just plug it in and twist it until it sounds good."

Brydon: "I think you have to create the right environment for things to happen. You come across things all the time, but if you sit there and say you want a 10K bias on this room sound, it's possible, but you're not going to find out anything on the way. If you just pull and twist things, you discover things. My approach is that you should explore every avenue and you'll soon find new ways of doing things. A lot of producers sit and listen to those American snare sounds and they know exactly how the sound's

"The TR808 has the best snare available - people who are dancing to it can relate more to that than a £300 an hour snare."

configured and how it's been done and what AMS setting is on it, but it's completely boring."

Gordon: "What beats a dry TR808 snare? Nothing. An 808 snare with no reverb and maybe just a bit too much mid in it loud in a nightclub will poke out of speakers better than anything else. People used to laugh at the 808 because they could produce massive sounds with their digital equipment, but all the time the 808 has been the best available. People who are dancing to it can relate more to that than a £300 an hour snare."

THE MOST IMPORTANT aspect of any Fon production is the groove, with choruses trailing a very poor second. Gordon even goes so far as to say the chorus is only there to make the groove sound stronger.

"If we could find the same drum pattern and bass pattern to run all the way through a track non-stop we'd do it. Everything is only there to make the groove feel better. It's true that for pop you can't beat a strong chorus. If you're in a car listening to Radio 1 and a strong chorus comes on you can't beat it. But if a groove like one of ours was pumping out of Radio 1 you probably wouldn't hear it anyway because the bass was too deep."

Brydon: "I've sometimes listened to Stock, Aitken & Waterman records - which are all chorus - and thought 'what a brilliant pop song!', it's just perfect pop but it doesn't do anything for me. It's a technical exercise - fantastic, very neatly done, very boring."

The market for dance music is constantly changing, and with inevitable delays between recording a song and the record hitting the streets (and the clubs), it can be hard to stay ahead of new trends. The Fon Force missed out on the acid boom of 1988 by being busy elsewhere, but now feel regret missing the opportunity to make some cash. Equally as hard as staying ahead is adding the vital ingredient of commerciality, as Gordon explains.

"We could write a really good dance record, but to try to make it sound palatable next to something like Kylie Minogue is hard to do. Getting a good dance track to play in a nightclub is dead easy - it only takes a couple of hours, and you've got enough for any nightclub."

Brydon takes up the theme: "The dance market is the pop market in the sense that if you've got a really big dance record it becomes a pop record simply because of its strength. It's really hard to know whether to try to calculate commerciality, or just go out for a really good dance record and hope that it's so good it crosses over. Our natural inclination is to just do what we think is good, and that might not necessarily be radio material."

"Nowadays we tend to do at least two, maybe three versions of everything", adds the engineer. "We do the straight version, then a remix. Often the remix is softened, so we put the original mix out as the dance version and the soft version as the radio mix."

"Our considerations are: is the bass drum loud enough? Is there enough bass? Is there enough clicking? Parrott, who's the DJ in the Funky Worm, says that dance music is down to bass and clicking and he's right, that's all you really need, a good bass and lots of clicky percussion."

"A good intro is also one of the most important things. You've got to have something at the start of the record that DJs can use if they're cutting in from a previous record. There's got to be something powerful about it, whether it's a drum break, a sample or whatever. The record has to announce itself as soon as it's cut in."

"Obviously the music we do has some emotional content, it's not just whether it will kick in a nightclub. You can do the same track in two different keys, and they each sound different. You have to mess about until it feels right. Emotional content is very important, that's what it's all about. The first ten seconds have got to be exciting, it's got to seem like it's forever going upwards."

KEYBOARD PLAYING TECHNIQUE has never troubled either member of the Fon Force - they both freely admit that you don't need to be a virtuoso to play the parts they write. Brydon claims his experience as a bass guitarist has proved much more valuable to him in recent years.

"Sometimes the naive approach is good, it helps you to write very earthy parts", he says.

"Some of the best basslines have only got two

notes", continues Gordon. "You can sit down and do an eight bar cycle of a complex bassline that goes up and down or whatever but people don't want to hear that. Especially when you're out at night you want a pounding sound that's going to push through the rest of the music. It's just a gut feeling, and that's the same for the whole of the music. Often you can't justify logically what you do in terms of keyboard sounds, it's just whatever feels right."

Playing techniques were much more important during the making of 'U+Me = Love', the new Fon-produced Funky Worm single. The song needed to sound human but rather than program a simulated human feel into a sequencer, the producers hired in a group of musicians to take care of everything but the bassline.

"It was basically programmed, but with a lot of live playing over the top", Brydon explains. "It was a struggle to get the two to work together and sound compatible. In the end, the only way to get round it is by doing a lot of takes. If it's a band playing then it's a band playing together, but if it's somebody playing against a sequenced bassline they're thinking about the tempo so much that they can't play particularly inspirationally."

While they're in so much demand as producers both at home and in America, it's hard to envisage the day when the Fon Force will release a record under their own name. They've already written some tracks which they're keeping to themselves, but they want to have the freedom to avoid the pressures and limitations of a major record company.

"In our jobs as producers", Gordon begins,

"we're commissioned to make hit records. A&R guys don't care whether they're good records or bad records as long as they're hit records - that's their prime consideration. I'd like to make good music as a prime consideration and leave the selling of it up to somebody else."

In a year's time they hope the dance music scene will still be as healthy as it is today, and if so they'll be proud to be part of it. Brydon has the last word:

"The great thing about it is that it changes all of the time, and it's always exciting. I can't really see it going away, frankly. At the moment people say rock 'n' roll will never die, but in 20 years people will be saying house music will never die."



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1989 Technics World DJ Mixing Championships

Royal Albert Hall

NOW IN ITS sixth year, the Technics World DJ Mixing Championships, organised as always by the Disco Mix Club and its numerous branches around the world, has grown steadily in both popularity and stature. Quite simply, nobody else organises an equivalent event on such a grand scale. This year, for the first time, the BBC filmed the World Final (now in its third year at the Royal Albert Hall) to be broadcast as a one-hour TV special. (The transmission date was unconfirmed at time of going to press, but will be announced shortly.)

The World Final ties in with the annual DMC Convention to make a three-day event which covers more than the Final itself. This year saw a Producers and Remixers debate on such issues as when does a remix become a re-production, and what does the original producer think of the remixer. With a 12-strong panel which included the likes of Frankie Knuckles, Arthur Baker, Gail "Sky" King, David Morales, Bruce Forrester, Derrick May and PWL's Phil Harding, the debate provided a unique opportunity to discover the varied experiences and attitudes of some of the major figures in 80s dance music.

DMC itself has grown steadily, and now has over 7,000 DJ members in 25 countries as culturally and geographically diverse as Brazil, Hong Kong, Israel and Finland. Nineteen of those countries (including, for the first time, Brazil, Israel and Switzerland) provided national winners for the World Elimination heat, which took place at the London Empire the day before the World Final. Here the standard was consistently high, even from the first-time entrants, and the originally-intended eight finalists became nine. These nine went on to the RAH to meet last year's runner-up, Mick Hansen of Denmark, who was defending the title in place of last year's winner, American DJ Ca\$h Money, who has since gone on to fame, fortune and a recording career.

The DMC competition is about what a DJ can achieve in six minutes with two Technics SL1200 turntables, a mixer and a selection of records. Each DJ can (and does) arrange the turntables and mixer to their own preference, and can use either a GLL, Numark or Gemini mixer. This doesn't show off every facet of the DJ's art. For instance there's an art to controlling the dancefloor for a whole evening, there's an art to creating running mixes (but the need to create an impact within the time limit means that DJs have

discarded this technique in competition), while it's nothing new for DJs to haul samplers and drum machines into their booths, or for them to use three turntables. The DMC competition is about what could be called "show mixing", a demonstration of virtuoso technique allied to musical creativity and a flair for performance - abilities you might expect from a musician. Virtuoso artists transcend the limitations of their instrument, and this applies to DJs as much as to musicians. But many musicians understand neither mixing nor the skill and musical judgement required of a good mixing DJ.

The ten-strong judging panel for the World Final included the likes of legendary New York hip hop DJ Red Alert, last year's winner Ca\$h Money, DJ Mark the 45 King, Derek B, Tim Simenon and Les Adams, who were marking on such aspects as speed, accuracy, beat synchronisation, choice of material and, of course, inventiveness. Rather than consider each competitor in turn, it's perhaps more interesting and informative to look at overall mixing trends demonstrated by the competitors. For one thing, mixing without headphones, which was a novelty two years ago is now commonplace, even essential; instead, the DJs mark up their records with tape. Another popular technique is to stack several records on the turntable; in this way it's much easier to discard one record and cue up the next one. Last year, Ca\$h Money surprised everyone when he used a compact, simple Gemini mixer while everyone else was using the sophisticated but bulky GLL; this year the Gemini has become favoured mixer.

Two years ago the UK's Chad Jackson won the title with a set which included scratching with a billiard cue and a rugby ball (though not at the same time), while one of the UK finalists last year topped everyone else by scratching with a bicycle (!); this year the gimmicks were mercifully more restrained, mostly being limited to some fancy hand and footwork.

The award for most-used break goes to Lyn Collins' 'Think', mostly in its Rob Base and DJ EZ-Rock 'It Takes Two' incarnation. In fact, hip hop and hip hop cutting and scratching techniques ruled the decks, with a concentration on scratching and - most of all - on quick-cutting between two records. It also seemed to me that many of the DJs were trying to extract a greater variety of effects from a smaller number of records, with one DJ (Denmark's Soul Shock) even using Run DMC's 'Run's House' as a sort of motif running through his mix.

The consensus appeared to be that, while the overall standard was impressive, too many DJs were copying the style of last year's winner Ca\$h Money rather than developing their own styles. This year's US entrant, Aladdin, was particularly guilty, as his quick-cuts of LL Cool J's 'Rock the Bells' and Herbie Hancock's 'Rockit' proved, and this was perhaps why, despite the fact that Aladdin performed what many (including myself) thought was the most blinding set of the night, the Championship went to our very own Cutmaster Swift, who showed more ori-

ginality than most of the contestants - even though, to my mind, he wasn't as consistent as Aladdin, and his best mix this year as well as last was at the UK Final. Subsequently it emerged that just four points separated the World Champion from the runner-up. Tight or what?

Bedroom (closet?) mixers everywhere can take heart, as Finland's DJ Eliot Ness, a self-confessed bedroom mixer, took the third prize with a very assured set. Performing without headphones and without a record feeder, he cut up Stetsasonic's 'All That Jazz', Sugar Bear's 'Don't Scandalize Mine' (the record which has started a trend for using Talking Heads' 'Once in a Lifetime' off the *Remain in Light* album as a break) and Chic's 'Good Times'. The latter could so easily have sounded dated and cliched, but Ness worked new magic on it.

As usual there were the annual music awards based on the votes of DMC's DJ members worldwide, and as usual the prestige of the event was confirmed by the large number of winners who were at the Albert Hall to pick up their awards in person and, in some cases, perform a PA spot. Fortunately this was no Brit Awards fiasco; DMC are too professional for that.

As you all love to take issue with the DJ's choices, here's a selection of them. Best UK Dance Record went to S' Xpress for 'Theme from S' Express'; Best UK Producer went to Coldcut; Best UK Remixer went to Les Adams; Best Pop Group in the World went to the Pet Shop Boys (yes, they were there); Best Female Vocalist in the World went to Whitney Houston (no, she wasn't); Kevin Saunderson scored twice with Best Remix in the World (Wee Papa Girl's 'Heat It Up') and Best Dance Record in the World (Inner City's 'Big Fun'); the Best Producers in the World were LA & Babyface (and yes, they were there); Best Male and Female Rappers in the World went to Big Daddy Kane and Roxanne Shante respectively; the curious category of Best Speciality Single was won by D-Mob's 'We Call it Acieeed'; Label of the Year (World) went to FFRR; and, last but not least, the Album of the Year (World) went to Prince's *Lovesexy* (no, he wasn't there). Make of that lot what you will, but obviously we're talking dance music all the way - New Age Album of the Year was not one of the categories. But there again, nor was there any recognition of African or Caribbean dance music in all its splendour and diversity, a reminder that US/UK cultural imperialism flourishes. Quite ironic given the fact that DMC have branches situated around the world.

Interspersed throughout the proceedings were PAs from the likes of Inner City, Will Downing, Mica Paris, Big Daddy Kane, Roxanne Shante, Sheena Easton (complete with new LA image) and Chaka Khan. If there was one pity about the choice of artists, it was that more of the emerging UK talent wasn't showcased at what is, after all, a major dance-music industry event. In particular, Soul II Soul deserved to be up there, instead of being relegated to the preceding night's World

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► Elimination heat (where, incidentally, they performed a supercharged PA to massive response).

There are many aspects of the World Final (and indeed of the UK Final and World Elimination heat) which stick in my mind, but among them I'd single out the enthusiasm and warmth of the audience towards the contestants; their willingness to support any DJ, regardless of race or nationality, who comes out with something good; the young age and yet the self-assurance of some of the competitors (Aladdin is only 17, while Cutmaster Swift is 20); and the ability of the audience to listen to and accept mixes which are sometimes out-and-out avant garde, as long as there's a recognisable beat underlying the whole thing.

Elsewhere in this issue, DJ Mark the 45 King makes a case for respect and originality in the use of samples. DJ Mark's roots lie in the early days of hip hop, when the art and science of "sampling" was being forged by DJs using two record decks and a mixer. Digital samplers had only just been invented, and the financial difference between the low technology of the streets and the high technology of the research labs was astronomical. Now, some ten years on, you can buy a second-hand sampler for less than the price of two SLI200s and a mixer.

Back in the November '88 issue of MT, Coldcut stated that the mix record would be killed off if people treated it as a formula. Sadly, but perhaps inevitably in these days when commercial exploitation twists out of natural proportion everything it touches, this is exactly what has happened. Through their very recognisability, samples are ripe for the formula treatment, and thus the digital sampler has become an unwitting accomplice in the commercial exploitation of sample-based dance music. Samples have been elevated to an unwarranted degree of prominence, and the ability to be derivative has been prized more than the ability to be original. It's no wonder that, in the face of such crassness, sampling has gained a bad name for itself and the call for a return to "real" singers and "real" songs has been so loud.

The DJ using two turntables and a mixer is faced with many practical limitations. But it is precisely the limitations of an instrument, and the performers' attempts to "blur the edges" of those limitations, which make it interesting (you only need look at the saxophone and the trumpet in jazz to understand this).

Fortunately, the grass roots art of making music with two turntables and a mixer is alive and well, and if anything more popular than ever. It's one place in which you find the raw energy and the rough edges which are so essential to the development of a healthy music scene, and DMC are to be congratulated for nurturing the talent, treating it with the respect it deserves, and pushing it into the face of the music industry.

This year DMC trashed the Brit Awards. Long may their commitment and their organisational skills reign. And long may the DJs remain on the edge of panic. ■ S/
MUSIC TECHNOLOGY MAY 1989

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Inner City Paradise

10 Records LP

In the space of some six months, Inner City have attained a degree of commercial success which Kevin Saunderson and singer Paris Grey could only have dreamed of a year ago. The bubbly, infectious Inner City sound developed on the first two singles 'Big Fun' and 'Good Life' has not only conquered the nation's dancefloors but the national charts, too.

Both singles are included on the debut album from the duo, as is the new single 'Ain't Nobody Better', which is about to be released at the time of writing. 'Ain't nobody better' doesn't have the immediate impact of the first two singles, but after a few plays its catchy melodic hooks and Paris Grey's soaring vocals work their magic.

Listening to 'Big Fun' and 'Good Life' within the context of the other eight tracks on this album, they sound as fresh and vital as ever, which suggests that the Inner City sound has real staying power - because Saunderson is able to come up with songs which are catchy without becoming irritating, and because he is able to create depth in what can be a shallow medium. With Inner City he has forged a style based around simple "turnaround" chord progressions, short, catchy melodic hooks and a bouncy rhythmic feel (created by clever use of digital delay) which act as a perfect accompaniment for Grey's smooth but strident vocals.

'Inner City Theme' makes an intriguing opener, with Saunderson, minus Grey, intoning "We as people in the world today/ should come together to help one another/ We should build our nation/free from inner city decay" over a sombre synthesised string backing which is only occasionally underpinned by a beat. Saunderson's home city of Detroit has suffered inner city decay and its horrible consequences as much as anywhere else, yet, aside from this one track, both lyrically and musically Inner City's music



represents a flight from rather than a confrontation with, or even a reminder of, the stark realities of inner city life. It's no accident that this album is called *Paradise*.

The title track is a little too similar to 'Good Life' for my liking (for one thing, it uses the same chord sequence, transposed up a tone), but doesn't quite have the same impact or energy level. Of the new cuts, the standouts are undoubtedly the dreamy ballad 'Power of Passion', which gives Grey a chance to show a different aspect to her voice, and side two's joyous opener 'Do You Love What You Feel', the sort of anthemic dance track which gets people onto a dancefloor quicker than you can say Stock, Aitken & Waterman.

Unfortunately, the closing three tracks - 'Set Your Body Free', 'And I do' and 'Secrets of the Mind' - don't maintain the high

standard set by the rest of the album. Grey's vocal performance is consistently good, though her voice has more surface sheen than depth, but the songs and Saunderson's arrangements of them are unimaginative and lacklustre. Quite why this should be, I'm not sure, though the usual commercial pressures to get an album out to support the single might have something to do with it. Saunderson is capable of producing something more considered than a collection of singles and potential singles, and the Inner City concept could definitely have been stretched more, both lyrically and musically, as hinted at by 'Inner City Theme' and 'Power of Passion'. As it is, an opportunity has been missed to come up with an album of broader significance, with a great album as opposed to a good album. ■ Sr

Soul II Soul Club Classics Volume 1

10 Records LP

There's no doubt that the explosion in British dance music over the past couple of years, which has been rooted in the underground club scene, has been a healthy thing for music as a whole. Necessarily, perhaps, such an explosion has resulted in an emphasis on the

ephemeral, on surface flash and energy rather than real depth and long-term vision, but there needs to be a balance.

Unfortunately it's not easy in the current political and social climate to sit back and take the longer view, but it can be done, as for instance in Bristol where Smith & Mighty are nurturing their local scene without concern for making a quick buck by playing the commercial system.

Soul II Soul have their roots in London's underground club scene, from the heady days of the warehouse jams through the fondly-remembered Africa Centre gigs, and the



talent which head man Jazzie B has assembled for *Club Classics*, including three impressive singers, has all come from this scene. More than a group, Soul II Soul is an organisation with a philosophy of life that's summed up by their motto "A happy face, a thumpin' bass for a lovin' race". This album fuses elements of soul, African, hip hop and Caribbean music in a natural way, and lyrically deals with real, everyday life in a down-to-earth way which is far removed from the formula lyrics which

plague much contemporary soul music, not to mention pop music.

But more than this, *Club Classics* is suffused with a mellow groove and an uplifting spirit born of commitment to a positive philosophy, and it's really this spirit which makes this album so special. "It's all about expression" sings Rose Windross on 'Fairplay', the second track on side one, and she's right: music is about people expressing themselves. This doesn't mean throwing

technology out of the window; that's bullshit. It's all about how you use technology, your attitude towards it. For instance, co-producer Nellee Hooper's drum programming on this album gives the music much of its modern feel without being obtrusively 'technological'.

Club Classics is not only a landmark for, and a cause for pride in, British dance music, it also puts to shame a lot of the formulaic American dance music which passes for soul nowadays. ■ S

Various *This is Acid New Beat*

KAOS CD

With a title like *This is Acid New Beat* you could be forgiven for thinking this was just one of many blatant attempts to cash in on several current dancefloor trends. And, of course, it is.

KAOS is a Belgian record company, supposedly at the forefront of the thriving European new beat movement. New beat, for the uninitiated, usually involves records playing at something less than their intended speed. This is fine when you're talking about

playing any old single at 33rpm and calling it "new beat", but how should you play a single released as new beat? Without a varispeed facility on my CD player I can't vouch for the effectiveness of any changes in playing speed, but the lyrics are certainly ripe for comment. Titles like 'Acid Sex', 'Taste My Acid Fruit', and 'I Sit On Acid' by Nasty Thoughts, Miss Nude and Lords Of Acid respectively, give the game away. The lyrics are reminiscent of a 13 year-old who has just learned to swear. When a sinister male voice emerges from the dirge-like 'Acid Queen' with the witty one liner 'Show me your pussy', I don't think he's referring to a fur covered pet with whiskers. Yes, it really is that bad.

The songs are a painful mix of acid house clichés. They aren't songs as such, just looped drum patterns, squeaky keyboard riffs and cheap TB303 simulations by the bucket-load. The sampled sound effects border on the ridiculous. Although every track is apparently by a different artist, they all sound exactly the same - unforgiving four on the floor rhythms at a brain numbing tempo that never changes.

The music itself is abysmal, the lyrics banal and childish, and the songwriting non-existent. The trouble is, it's funny in the same way that *Viz* is funny. In its own way *This is Acid New Beat* is really quite brilliant, but if the person who financed it would like to give me a call... ■ Db

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DemoTake rule number one: never make excuses for your music. If it's that bad, why let others suffer?

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DemoTake rule number three: never express both the above sentiments in the same letter. The only conclusions anyone can draw is that you're an extremely mixed up kid or just plain naff.

And so to our first contestant, Peter Green, aka Azimuth, who breaks all three rules with consummate panache. Hence, I'm told to tread lightly where the vocal performance is concerned - it's his first try at singing 'cos he couldn't get anyone else, see, and it was just intended to back up an instrumental part of the track anyway but on the other hand it's not too bad and the synths really are programmed rather nicely and aren't the songs themselves rather spiffingly commercial and... well, you get the idea.

I'm tempted, but I'll keep the pans in the cupboard since the two tracks speak volumes more sense than their creator. 'Distant Dream' is an upbeat Sylvianesque ballad (if that's not a contradiction in terms) with a catchy hook, while 'Break The Strain' is a furiously energetic piece of pomp and circumstance which wouldn't sound out of place backing a *Miami Vice* skateboard chase.

The gear is minimal - a Kawai R50 drum machine and just one Yamaha DX21 synth, the DX21 having been programmed via a Yamaha CX5M which also plays back the real-time MIDI recorded bassline. The whole lot made the MUSIC TECHNOLOGY MAY 1989

transition to analogue via a Yamaha MT44 four-track. But to his credit, friend Azimuth has managed to create full-bodied arrangements and some pretty good sounds out of it, including some searing "laser stabs" and a credible attempt at a chorussed acoustic guitar (in the opening section of 'Distant Dream'). I also liked the ping-pong panning of the cowbells and toms - enough to make women scream and strong men turn pale.

Jason Creasey makes no apologies for his four track demo, *Total*. He doesn't need to, these instrumentals are some of the most mature pieces of work I've heard since... oh, since DemoTakers stopped sending in mature pieces of work.

It comes as no surprise to learn that Creasey has already turned a ambition to write for film and TV into a promising connection with the BBC Radiophonic Workshop. Indeed, of the tracks here 'In Other Words' would be a dead cert for a wistful Sunday night soap opera about millionaire owners of a racing stable trying to come to terms with the inevitability of an empty gin bottle. I particularly liked the Alesis HRI6 drum programming which, as with all the other tracks, manages to be extremely busy and ethereal at the same time.

At first glance, Mr Creasey seems happily blessed with an abundance of other gear too - E-mu Emax and Emulator III, Akai S1000 and Kurzweil K100, Lexicon PCM, all sequenced up on the ubiquitous Pro24 and mastered direct to a Sony TCK-700ES cassette deck. But then I noticed that he happens to work at a well-known London hi-tech instrument retail outlet, so he's probably busy programming everything up when the boss is in the back making the tea.

This fact could answer one of my minor criticisms of his work - which is that many of the synth patches are rather bland, being merely

adequate where in fact they should take the composition into a higher realm. For example, the bass sample on 'Stop The World! (I Want to Get Off)' is pitched too low, while the brass stabs are extremely blunt - even more curious considering that he boasts grade eight trumpet.

Otherwise, a listening pleasure.

Curiosity of the month sticker goes to Farnborough's **Eight to Thirteen**, a band whose instrumental line-up may seem a little anachronistic, not to say incongruous, to all we slaves of the *via hi-technologica et musica ultra modernissima*: two Moeck descant recorders, a Dolmetsch tenor recorder and a pair of Early Music Shop nakers (stop sniggering, you Malmesbury roistered coxcomb! - they're drums)... I mean we're talking pre-analogue, for Wakemansakes!

"What's the technology angle on this?", I hear you ejaculate. Well, I struggle to reply, it seems that at root of the folksy medieval air on tape here is a travesty generator computer package called Quarterback (which uses a similar technique to the Jam Factory software) written by band leader Andy Anderson. This will work out appropriate points for time signature changes by fitting anacrusis point and "other obscure things" round the basic melodic structure of the dance. At least that's how I understood it, though it still sounds dangerously like people with birds nests stuck to their faces having a real ale of a time to me.

But never mind the nakers, I'm sure there's a moral in there somewhere. ■ Nicholas Rowland
Send your demo-tape, along with some biography/equipment details and a recent photo if you have one, to: DemoTakes, Music Technology, Alexander House, Forehill, Ely, Cambs CB7 4AF. Contact addresses or numbers will be printed on request.

ROLAND CD5

CD ROM Player

The massive storage capacity of a CD ROM disk makes it ideal for storing large amounts of sample data; Roland's CD5 unit is the latest sample CD ROM. Review by Simon Trask.

PROBABLY THE MOST data-intensive aspect of a modern hi-tech setup has to be that of samples. They eat into memory, they gobble up the humble 3.5" floppy disk. For instance, it takes two 3.5" floppies of sample data to fill up the memory of Roland's S550 rack-mount sampler. As you start to build up your sample library over time, so the disks start to pile up.

Instead of having those samples spread across countless 3.5" floppy disks, wouldn't it be so much more convenient to have them all on one 5" disk? Well, if your sampler happens to be a Roland S550, or if you're considering buying Roland's new W30 Workstation sampler/sequencer, you can – courtesy of the company's CD5 CD ROM player.

During the next few years, optical storage media such as CD ROM and WORM (write once/read many) disks will take over from the current magnetic storage media of floppy and hard disks. Why? Well, optical disks can store far greater amounts of data in far less space than their magnetic cousins. To put this in the context of the S550, the CD5 comes complete with one CD ROM disk the size of a compact disc which contains the equivalent of 165 (yes, 165) 3.5" floppy disks-worth of S50/S550 samples. I kid you not. These include the complete Roland Japan S50/S550 sample library, plus a sample library compiled by Roland USA; in practice, 15-20 of the US disks duplicate the Japanese ones. At current prices, the Roland Japan sample library alone comes to £1,045; add in the US disks and you're talking about over £3000-worth of samples – and you get them all for free. Looked at in this way, you could almost say that you're getting the CD5 for free.

Now imagine the physical storage space you'd need, not to mention the number of disk boxes, to accommodate 165 floppies. And imagine the sheer hassle of thumbing through so many floppies for that one shakuhachi sample you desperately needed three minutes ago – wouldn't it be so much easier to scroll through an ordered list of samples on a monitor screen?

Before you start getting too excited, let me emphasise one word: ROM (or, if you prefer, three words: Read-Only Memory). Until read/write optical disk systems reach the mass market, hard disks remain the best means of bulk read/write storage. The purpose of the CD5 is to allow you to load in samples off library disks provided by Roland and by third-party developers. At the time of writing, only the one CD ROM disk which comes with the CD5 is available, but US company Optical Media are putting together a disk of their own samples (presumably drawing on their existing CD ROM library for E-mu's EIII and Emax samplers). According to Roland UK, this will be available sometime during May at a price of £299 including VAT. Roland won't just be leaving it up to third-party developers, though – the company are planning to produce more sample disks of their own.

But the CD5 isn't "just" a CD ROM player – you can also use it as a regular CD player. So whenever you're tired of making your own music you can listen to somebody else's – or sample it.

The Sampler

EXISTING S550 OWNERS can skip this section, because for anyone who's considering buying an S550 I'll sketch in

some details on it (a full S550 review can be found in the June '88 issue of MT).

The S550 is a 12-bit, 16-voice monophonic sampler which provides you with up to 28.8 seconds of sample time at its maximum sample rate of 30kHz (you can also sample at 15kHz). The sample memory is divided into two Blocks and two Banks per Block, which means that the longest time you can sample for is 7.2 seconds. Fortunately, samples in all four Banks can be played at the same time.

Each Bank provides you with up to 32 Tone locations (a Tone being a combination of a sample – or Wave – and associated parameters such as loop points and envelopes). You can spread up to 32 Tones across the keyboard in each of 32 Patches, while up to eight Patches at a time can be assigned to an eight-part multitimbral configuration, each Patch within the configuration being assigned its own MIDI channel, audio output and volume level.

The rear panel of the S550 sports eight polyphonic individual audio outs and a mix output; MIDI In, Out and Thru sockets; a footswitch input for initiating sampling; a SCSI port labelled Hard Disk; and monochrome and RGB colour monitor outputs. The S550 manual tells you that a monitor is necessary for operating the sampler, and it isn't kidding. A monochrome monitor has the advantage of being inexpensive (you can pick one up for under £100), but the colour-coded screen areas revealed by a colour monitor bring greater clarity into your life.

The Ext Control socket on the front panel of the S550 allows you to use either a mouse or Roland's RC100 remote control unit as an alternative to the sampler's front-panel cursor buttons. The mouse moves a cursor around the parameter fields on each screen "page" rather than allowing you to point directly at each field; if you're schooled in the Mac/ST type of rodent operation, you'll probably find this cursor-based approach quite clumsy in comparison.

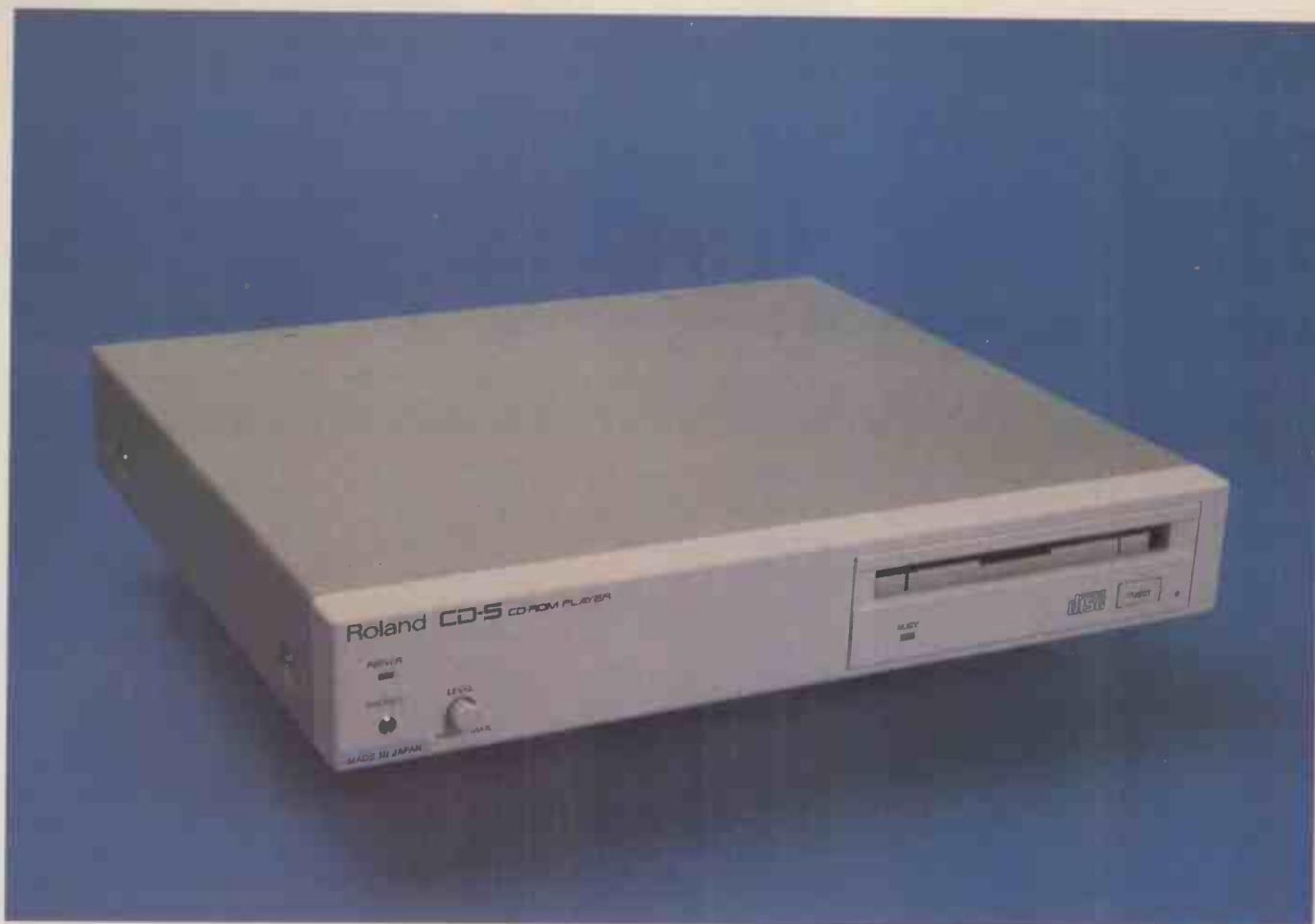
The Player

MAKING THE CONNECTION between S550 and CD5 is as simple as plugging one end of a lead into the S550's SCSI port and the other end into either one of the CD5's SCSI ports. The necessary lead is included with the CD5, so you don't have to worry about hunting one down yourself. However, if you want to chain a hard disk off the CD ROM player (this is the reason for the second port; up to four SCSI devices can be addressed independently from the S550) you'll obviously require another lead. Why might you want to use a hard disk? We'll come to that later.

The CD5 itself, with its light-grey colouring, sleek dimensions (14" X 13" X 2") and uncluttered fascia should fit fairly unobtrusively into any setup. Good news for anyone thinking of taking the unit out on a gig is that it's built like a tank; this means it's quite heavy for its size, but fortunately it's still fairly portable. Less encouraging is the noise which emanates from within that rugged casing, apparently produced by a fan which runs continuously while the unit is on. However, it's not too obtrusive, and after a while you automatically screen it out.

The CD5's front panel sports only the power LED, a mini-jack phones socket and volume level knob, and the CD disk-drive slot with eject button and Busy LED. Tucked away on the rear panel you'll find the power on/off

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Photography James Cumpsy

switch, L/R phono audio outputs, two SCSI ports, DIP switches for setting such features as SCSI on/off, parity and ID, and a multi-pin port about which the manual says mysteriously "This connector is not used". Er, come again? Even Roland UK weren't able to enlighten me on this one, so for the moment let's just put it down to Japanese creative forward planning.

At this point it's worth describing how the disk-loading system works. The CD5 doesn't adopt the familiar CD-player "tray" system, instead requiring you to place your CD or CD ROM disk face down into a container, or "caddy", which is much like a larger version of a CD "jewel box" case. You then insert the caddy into the drive as you would a floppy disk, and like a 3.5" disk a metal shutter on the underside of the caddy is automatically slid open to give access to the disk's playing surface. To eject the caddy you either press the Eject button or select an onscreen Eject function using the mouse. But as long as you're using the one CD ROM disk you might as well leave it in the drive, as, apparently, no harm will come to either it or the drive.

Playing

OK, SO YOU'VE got your CD5 and S550 hooked up, your monitor and mouse are plugged into the S550, and you're raring to go. First of all switch on the CD5, then after its Busy LED has gone off you can switch on the S550. The CD5 System disk must be in the sampler's disk drive on power-up, as without this you haven't got a system. You must leave the System disk in the drive, as the S550 frequently refers to it to load in a software routine – a fact of life with the S550 which can be irritating, especially when, as in one case, every option on a menu requires its own routine to be loaded whenever you select it.

As part of the auto initialisation process, messages appear on the monitor telling you the System software version number and informing you whether or not the MUSIC TECHNOLOGY MAY 1989

SCSI connection to the CD5 is present and correct. The system then powers up on the Play screen, which gives you information on the S550's multitimbral configuration – or doesn't, in this case, as the sampler's memory is empty. To load in Tone and Patch data off the CD5, select Util on the Mode menu, then CD Load on the Menu menu. Within moments, a list of samples contained on the CD ROM disk appears on the monitor.

At this point, S550 owners will have to learn a few new bits of terminology. To start with, Sets I and II refer to exactly the same physical data on the CD ROM disk, but samples selected from the Set I list are automatically loaded into Bank one of the S550's memory, and samples from Set II into Bank two. Thus when you load a Set you're loading the equivalent of one floppy disk worth of Tone and associated Patch, Function and MIDI data. Using the two mouse buttons to scroll in either direction through the lists, you can quickly select any combination of "disks" to be loaded into the sampler – far, far easier than physically hunting through a pile of floppies.

There are two options for listing the CD ROM disk's

"The S550/CD5 is not really a closed system – even if you rely on the samples provided, you'll want to combine them in ways other than those on the CD ROM disks."

contents: Area and Group. When Area is selected, each item in the list is equivalent to one floppies' worth of data; as I mentioned earlier, the CD ROM disk which comes with the CD5 contains 165 disks' worth of data, so there are 165 Areas in the list. To make life easier, select the Group option; Roland have listed families of sounds as consecutive Areas, and Group provides a single entry for each family (all the acoustic piano Areas, or disks, appear under the Group name of Piano, for example).

There are a variety of options for loading data into the S550 from the CD5. Load Chain loads in the currently-selected Area in Set I, automatically followed by the currently-selected Area in Set II – a full S550 memory load. ▶

► In contrast, Load Set I and Load Set II each load up half of the S550's memory. Load Block I and Load Block II each load Patch and Tone data but not associated Function and MIDI data; in this way you can load new sets of sounds into an existing multitimbral configuration. At this point I must say something about load times. Having been under the impression that data could be loaded many times faster from a CD ROM player via SCSI than from a floppy disk, I was disappointed to find that using the CD5 roughly halves the S550's floppy loading time; this means that a floppy disks' worth of data takes around 16 seconds to load. Apparently this same figure applies to hard-disk loading also. Maybe I'm just expecting too much.

When you're loading an Area or a Block, you're loading a combination of sounds which has been predetermined by

"You can also use the CD5 as a regular CD player, so whenever you're tired of making your own music you can listen to somebody else's - or sample it."

Roland. If you want to make up your own combinations of sounds from different Areas or Blocks, you can load Patches and Tones individually. Obviously once you've made up your own multitimbral configuration you can't save it back onto the CD ROM disk; instead, you must save it to either floppy or hard disk. This is where the two SCSI ports on the CD5 come in, as they allow you to chain a hard disk off the CD ROM player so that you can address either the CD5 or the hard disk from the S550.

The CD Player

AS MENTIONED EARLIER, the CD5 doesn't only function as a CD ROM player. If you select CD Player in Util mode, a "transport control" page appears on the monitor. If you have a CD ROM disk in the CD5's drive, it will be ejected automatically and a message telling you to insert an audio CD appears on the monitor; if you revert to CD ROM mode with a music CD in the drive, you'll get a similar response. Clever stuff. What it means is that you can't accidentally load the contents of your favourite Dire Straits album as sample data into the S550, or, more importantly, play your S50/S550 samples back as "music" over your speakers - in which case you really could be in dire straits, as you run the risk of speaker damage.

The CD Player page offers you a selection of onscreen "buttons" for controlling the CD5, plus displays of track and index numbers together with elapsed-time counters

(from the start of track one and the start of the current track).

In addition to the familiar start, stop, fast forward and rewind, you get track select increment/decrement, CD eject and Cue-point set. When you select the latter, a display of the cue-point time appears, plus extra "buttons" which allow you to increment and decrement the cue point in 0.1-second intervals and select a "pre-cue" start time. The latter operation appears to be plagued by a software bug, as I was getting some very inconsistent onscreen responses; if there is a bug, it will be in the System disk software (which can be updated easily), not the CD5.

The purpose of the cue point, which can be selected either when the CD isn't playing or "on the fly" during play, is to indicate to the S550 where you want to start sampling from on the CD. Once you've set the appropriate cue point, select the Sample page and turn on the CD Cue Switch function; now when you start sampling, the CD5 will automatically start playing from the cue point (or from the "pre-cue" start time if you selected one). It's a nicely integrated approach, though if you need to keep swapping between the Sample and CD Play pages, it can get a bit tedious.

Verdict

IF THERE'S ONE word which sums up the advantages of owning a CD5, it would have to be: convenience. The CD ROM system combines the floppy disk's virtue of hardware independence with the hard disk's virtue of high storage capacity. There are definite advantages to having the entire Roland S50/S550 sample library on one small disk, but there are dangers also. Edwina Currie might agree that putting all your eggs in one basket is not always advisable, and so might you if you get to a gig or a recording session only to find that you've left your entire library of sounds at home stuffed down the back of the sofa. Still, if you're using the one disk you can leave it in the drive.

The CD5 may not appear all that cheap, but there again, when you realise what you're getting in terms of free samples, it might not seem that expensive after all. Of course, the value of the CD ROM disk depends on how many of its samples you might actually use. Personally, I was impressed by both the scope and the quality of the samples contained in Roland's sample library. If the idea of a large array and variety of instrumental sounds Western, African and Asian, plus a great (but by no means comprehensive) selection of sound effects appeals to you, you'll probably consider the CD5 very good value for money. The prospects for a growing library of CD ROM sample disks seem encouraging. A disk containing a comprehensive selection of sound effects would no doubt help the S550 to go down a storm with anyone working in video, radio and theatre production; and perhaps Roland could consider a "best of" disk compiled from samples submitted by S550 users worldwide.

However, it's not really possible to regard the S550/CD5 pairing as a closed system. Even if you're happy to rely solely on the samples provided by Roland and third-party developers, the chances are that you'll want to combine those samples in ways other than those preset on the CD ROM disks. Ultimately, to get the most out of your S550/CD5, it makes sense to add on a hard disk. Once you've done that, you'll have yourself an extremely impressive system - but it doesn't come cheap. ■

Prices CD5, £1299; S550, £2300. Both prices include VAT

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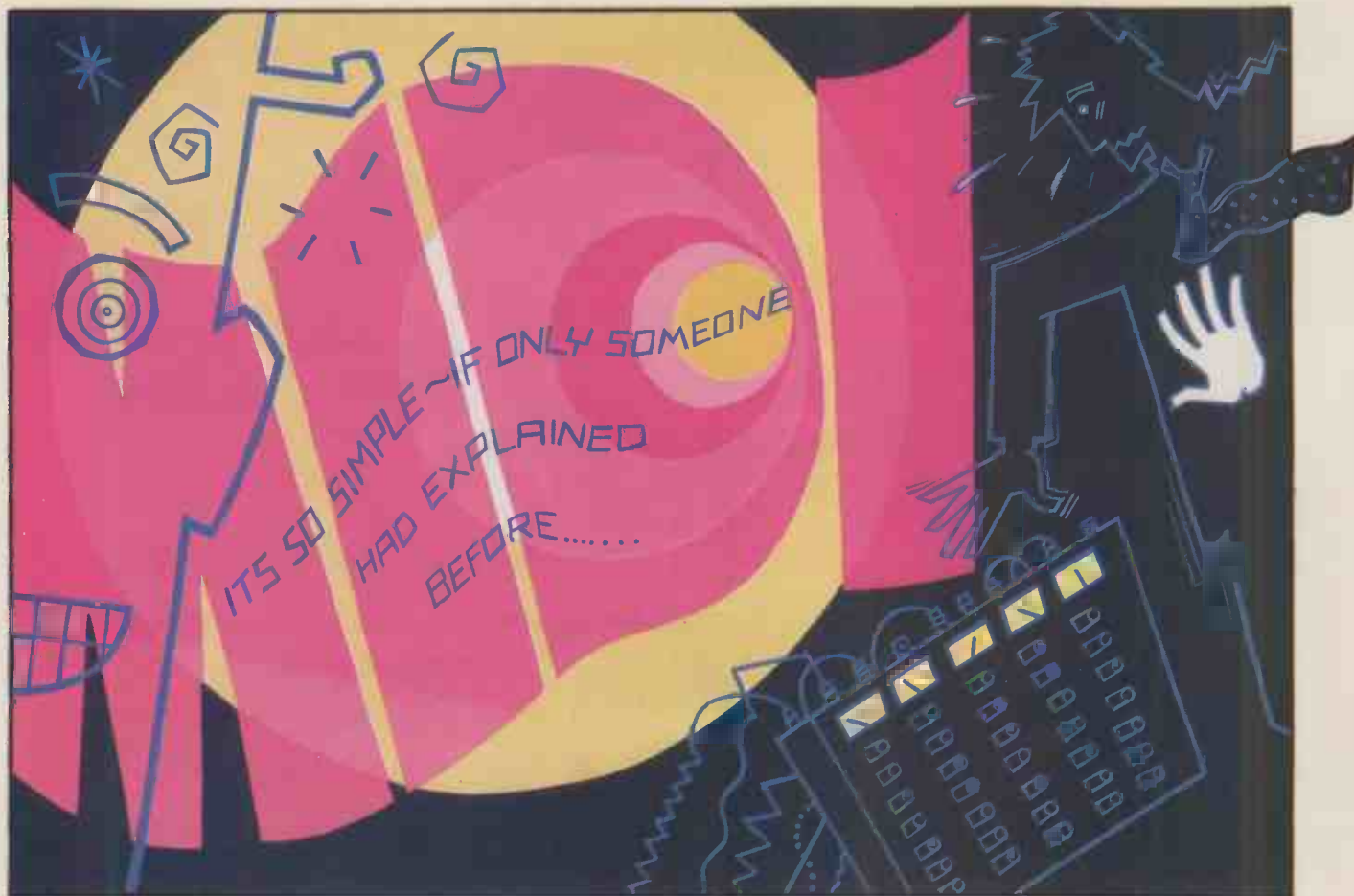


Illustration Clive Goodyer

Although often accused of removing the expression from music, MIDI can actually be used to make your music more expressive. Text by Ernie Tello.

CERTAIN PEOPLE ARE still having trouble coming to terms with just how far MIDI has progressed – others can't wait for it to progress much further. Not long ago, I suggested a MIDI application to a developer and received the reply "MIDI wasn't designed for that!". No doubt MIDI will always mean different things to different people . . .

Those potentially affected the most by MIDI control are probably composers and drummers/percussionists. As Bill Bruford is busy proving, drummers today can participate in the melodic and harmonic aspects of music as other players always have. And the composer's job need not end when all the musical parts are written and assigned to instruments.

Real-time MIDI control actually covers a number of different, but related, areas. The basic concept is that of making

changes to various aspects of the musical performance while the music is being played live or while a sequence is running. Ideally, manual real-time control would be an extension of how you play your chosen instrument, but this takes us into the area of personal preferences, as performance parameters such as aftertouch are not attractive to all players. There is, however, already an impressive number of things you can do just with the fingers you're using to play the music. And the fact that both the notes and their articulation are translated into data that can control a studio full of devices has awesome connotations. On the other hand, there are limitations to MIDI, some well known, others not so well known.

One limitation you may have encountered is that volume is determined by note velocity on many or most

instruments. We've come to take this for granted, but it can present a problem in performance where you want to play fast without getting louder as you do so. Realistically the only way to achieve this is to use a sequencer. In the future, all keyboard controllers will probably replace or complement velocity with real pressure sensitivity to determine loudness.

Effects Processing

DEVELOPMENTS IN THE area of digital sound processing units have led to increased sophistication in the MIDI implementation of many digital reverb and effects units. Devices such as the ART MultiVerb II, Korg DRV2000, Lexicon

LXPI, Yamaha SPX1000 and Alesis QuadraVerb offer real-time control to pro and budget MIDI studios alike.

The MultiVerb II has the usual complement of signal processing functions as well as a selection of dynamic MIDI functions (similar to those introduced by ART on their DRI digital reverb). The DRV2000 allows up to two parameters of any sound processing program to be modulated in real time. When the LXPI is used with Lexicon's MRC (MIDI Remote Controller) unit, up to eight parameters can be remotely controlled in real time. The Yamaha SPX1000 offers similar features to those of the DRV2000, but can also make complete data dumps via MIDI SysEx, so that program setups can be saved to disk on other MIDI devices. The Alesis QuadraVerb allows up to eight effects parameters to be controlled by practically any MIDI messages you like. Hopefully you begin to get the picture . . .

The real-time MIDI control of sound processing units like these are of two basic types: those that allow outside controllers to manually change parameters at will, and those that allow external sequencers or the music itself to control them.

Making the pedals or sliders on a DX7II control reverberation parameters on a unit (Korg's DRV2000, for example) is pretty straightforward. But, far more importantly, we're beginning to see effects devices that are sensitive to the notes that they see in the MIDI data stream as they're being played. Now that's something to wave a flag about, because it means that an important new type of MIDI device with sensitivity to musical context has quietly been making its appearance. It's worth taking a look at the MIDI implementation of a device like the Korg DRV2000 that operates in this way.

MIDI Control

MULTI-MODULATION IS what Korg call it. Other manufacturers have different names, but what we're talking about is placing certain parameters of the sound processing programs under the control of a variety of MIDI sources. This can take place in real time as you or your sequencer play. On the DRV2000, external footpedals, keyboard sliders or aftertouch, MIDI note information, and even audio input level can be used to make these changes. There are basically two different types of MIDI control - on/off and continuous - and these correspond to the two basic types of MIDI controllers.

On the whole, the way in which the DRV2000 can be made sensitive to MIDI note and velocity information is rather rudimentary. You set the "Sense" scaling number in the same way as you would any other controller. However, the control of effects parameters by MIDI note data is such an important operation that a far more sophisticated implementation is

highly desirable. The fact that a MIDI keyboard is programmable, and allows many different sounds to be assigned to different keys, is reason enough to provide a fine degree of control over how such note information influences effects parameters. Even when only one instrument is assigned to the whole keyboard, there are occasions when you might want to simulate special reverberation environments such as a piano sound board, the resonator of a guitar or violin, or even a human voice. Such acoustic instruments are sensitive to musical contexts in ways that synthesizers and effects boxes are not (so far).

Also, it ought to be possible to apply more than one controller to the same effects parameter. In that way you could use a footswitch to emulate a piano's damper pedal and, at the same time, have the reverb or echo be sensitive to what notes are played.

Afterverb

ONE TYPE OF control that is seldom used involves specifying when certain things will *not* occur. This has some fairly important uses. There are some effects that just don't sound good with a particular piece of music because of the way they react to a few notes in certain parts. At other times, the whole piece may be too up-tempo for the effects to react properly. In such cases it is useful to turn the effect off or diminish it for certain sections of the piece. Footpedal control is one standard way of coping with this, but there are times when you really want the control to be automatic. There are even times when you want an effect parameter to increase considerably, but only after the music has actually stopped. This is very easy to do with a device like the DRV2000, since it can use the negative sense of the input level from its audio jack as a controller. The result can be a very convenient way of making specific effects fade at the end of a song.

Program Changes

PROGRAM CHANGE IS a form of automatic control that is more than just a convenient time-saving feature. It tends to make the effects program a more or less permanent part of your sound. Of course, synths like the Korg M1 and Roland D50 provide a built-in solution to this problem. However, when outside effects are used, program changes give the result of combining various programs on different devices into one sound. The act of setting up an effects program for each patch or sample you use forces you to decide which of the existing programs is the best, and sometimes may even lead you to create a new program. In any case, the result is the same: the sound improves dramatically.

For this type of automatic program change control to work, your main MIDI instrument must transmit program change data. It is certainly desirable for program changes to be "sendable" while the music is playing. However, on many instruments this capability is designed for use with only one synthesizer at a time. The Yamaha SPX90 has a provision for use with more instruments. It has four different banks for program change assignments, each of which can be set to a different MIDI channel. If you're alternating lead voices between different synthesizers and sharing the same effects device, the appropriate effect for each lead can be easily selected.

Sending program change messages to effects processors is typically used to force programs in the processor to mirror patch changes on a synth or drum machine. If you're careful, you can use it in powerful ways during an arrangement as well. This generally works well in sparse arrangements where there is enough open space to cover the changes. With some units,

"The concept of real-time MIDI is that of making changes to various aspects of the musical performance while the music is being played."

there is a brief interruption of the output before the new effect takes over when a program is changed. In arrangements where there's a lot going on, a lot of instrument and effects switching in the background is possible. But if you intend to make changes in the treatment of upfront sounds, it is important to select equipment whose program changes are instantaneous and free from any extraneous noises or interruptions of the audio program.

Sending a program change by embedding program change numbers in a sequence sometimes only allows you to change voices, not performances. Other instruments only change their performance setup in response to a program change message. However, if you make the change you want manually on such an instrument while the sequencer is recording, you can usually get the sequencer to perform the change when the sequence is played back. The disadvantage of this method is that your manual change cannot be timed as precisely as an embedded program change number.

Some synths, like the Yamaha DX7II, allow you to specify what the instrument will transmit when a program change is invoked. This is useful if you are stacking voices and the slaved synth does not have a program change table, like the Roland D50. In that case, you program the DX7II to transmit the data that the slave needs to receive for each program change. The DX7II also has the ability to transmit a program change number selected manually even when no changes are called for in the instrument itself. This is handy when the instrument is being used as a master controller and you want it to keep its ▶



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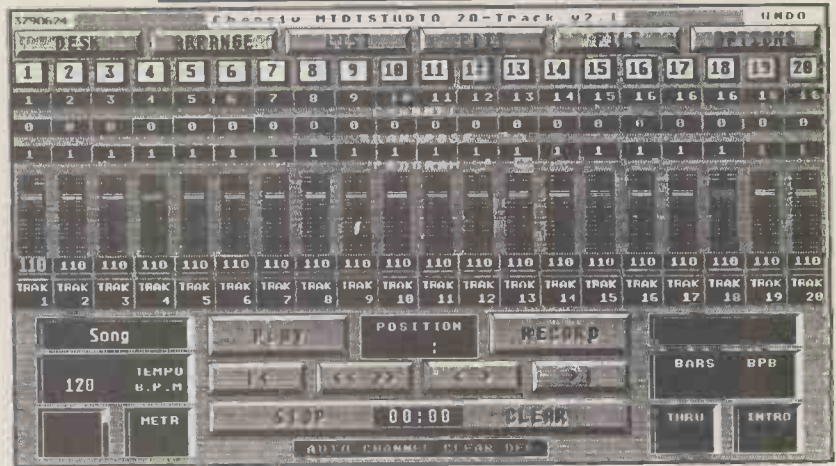


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▶ current program, but change the program of a slave synth.

With a device like the MIDI Mitigator RFCI (from American company Lake Butler Sound), stored MIDI messages can be sent by pressing various footpedal combinations. The stored messages can be up to 255 bytes in length and include anything in the MIDI specification. One obvious use for the RFCI is to call up all the setups for a live show just by pressing a footswitch. However, there are many other uses for such a versatile MIDI foot controller.

Advanced Processing

IF YOU HAVE a MIDI processor such as the Forte Mentor, Axxess Mapper or Yamaha MEP4, really advanced (and often esoteric) types of real-time MIDI processing are available to you. One important development in MIDI processing is the appearance of "send an example" programming on devices like the Mapper. This means that you don't have to be familiar with the intricacies of hexadecimal MIDI SysEx codes to get the device to send them. By having the synth send its SysEx messages while you are programming it, the MIDI processor can be taught the messages that are involved by example, even if you have no idea what the message is. A general technique is at work here that has wide areas of application for simplifying MIDI programming.

The MRC controller (from Lexicon) is an interesting device that taps some of the potential for real-time MIDI control. In addition to being a controller for the LXPI and PCM70 effects processors, the MRC has the ability to act as a patch editor and controller for six-operator FM synths. This brings the old analogue hands-on style of programming to the world of FM synthesis. In addition, the MRC's four soft buttons and four soft sliders can be assigned to send any MIDI controller message.

Since there are two sets of MIDI Ins and Outs on the MRC, one set can be connected to a Lexicon effects processor and the other set to a synthesiser or drum machine. This setup works particularly well when you want to take advantage of the FM control or MIDI controller features.

With a computer, the opportunities for real-time MIDI processing are theoretically enormous, but in practice are limited by the specific software and hardware you use. The Yamaha CI computer, with its eight MIDI Outs, offers great opportunities here, providing that software makes full use of its built-in features.

Another computer that has special facilities for real-time control is the Apple Macintosh. With the new MIDI Manager from Apple, more than one MIDI program can be running simultaneously under MultiFinder. The output from each one can be merged into a single stream that is sent to the MIDI Out port. The

MIDI Manager also supports other mapping functions such as splitting and routing MIDI data among different applications. A graphic interface called the Patchbay will allow users to take advantage of these capabilities, but these tools must be specifically supported by the programs you use. Most of the Mac developers are enthusiastic about this new capability and intend to provide support for it in upcoming releases of their programs.

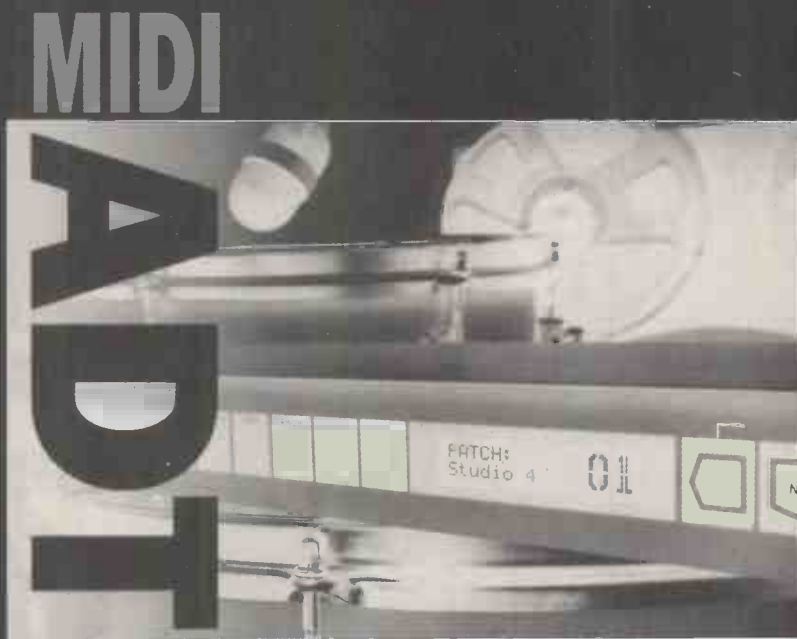
Real-time MIDI control can make the process of projecting music to an audience subject to minute control specified by the composer. Some compositions in recent years have taken specific advantage of this. The most publicised example of this technique is probably the composition *Repons* by Pierre Boulez of IRCAM. However, groups like Pink Floyd have been working in this area for many years. What has changed since their initial attempts is the connection of complex sound projection

systems to sequencers and other, more sophisticated controllers.

Traditionally, musicians have used two hands, two feet and their breath to perform music (with occasional recourse to the knees and elbows in the cases of

"Real-time MIDI control can make the process of projecting music to an audience subject to minute control specified by the composer."

pedal steel guitars and bagpipes). So far, MIDI has only changed the way you can express your music with your body, but eventually it will do much more. It also will extend the distances over which music can be made. I haven't heard of anybody having a MIDI jam by telephone yet, but that's probably on the cards. The full potential of transmitting and manipulating music as digital data streams is still evolving. ■



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AKAI MX76

MIDI Master Keyboard



Photography James Cumpsty

As your synth expanders and sampling modules pile up, a comprehensive controller keyboard becomes a necessity rather than a luxury. One of the latest is Akai's MX76.
Review by Simon Trask.

THERE'S NO DOUBT about it, the master keyboard refuses to lie down. Most recent entries onto the market are Roland's A50 and A80, Cheetah's Master Series 7P and Akai's MX76.

Akai's keyboard is a sort of "big brother" to their earlier MX73. It's a solidly-constructed instrument, finished in Akai's familiar light grey, with a 76-note "piano-touch" keyboard (E-G) which can transmit attack and release velocity and channel aftertouch (but not poly aftertouch). It's a bouncy keyboard, but at the same time the keys have a deep travel and seem to bottom out quite suddenly, which can be a bit hard on the fingertips.

The front panel offers four assignable MIDI slide controllers and four assignable MIDI switches, MIDI Start and Stop/Cont buttons together with a tempo control slider for remote control of a sequencer or drum machine, an Edit button and a numeric keypad. The display "centrepiece" of the MX76's front panel is a generous 40-character, 8-line backlit LCD window with adjustable contrast, underneath which are four "softkeys" for selecting functions which differ with each page display. It's good to see these "new generation" LCD windows becoming increasingly common on MIDI keyboard instruments and expanders, as they allow a much more intelligently-structured and accessible user interface.

When you switch in the MX76's Edit button, pressing any one of the bottom 18 white notes on the keyboard will select its associated Edit page in the LCD window (no note value will be sent over MIDI, of course). The page associated with each key is clearly labelled on the front panel immediately next to that key. As soon as you press one of these 18 white notes, the page select function is cancelled and the keyboard reverts to its normal play status. It's a clever system because it's so simple, and because it gets you doing what you feel most comfortable with: playing notes on a keyboard. Additionally, the MX76's black keys can be used as a means of entering alphanumeric characters for names, which again proves to be a quick method of entry.

On the MX76's rear panel you'll find one MIDI In and two MIDI Outs, four footswitch and four footpedal inputs, a dedicated sustain pedal input, Library inc/dec footswitch input (you'll be discovering plenty about libraries soon) and a slot for an Akai BR16 RAM card. A MIDI In on a keyboard instrument which makes no noises of its own might seem odd at first glance, but it has two uses: one is to receive SysEx data dumps of its memories which you have previously dumped to, say, a sequencer; the other is to receive MIDI data from, say, another MIDI instrument, merge it with notes played on the MX76's keyboard and send the result via the MIDI Outs. In a live situation you could have a shoulder-slung remote keyboard plugged in on a long MIDI lead and make occasional forays to the front of the stage. Or in the studio, say, you could have another MIDI musician (guitarist/wind player/percussionist) plugged in and record duets into a sequencer.

The two MIDI Outs are independently addressable. This allows you to route a merged signal and to send start/stop/continue and tempo information (for remote sequencer control) via one or the other or both MIDI Outs. A neat practical feature is the inclusion of back-panel clips for each MIDI socket, allowing you to secure your MIDI cables and not worry about them being pulled loose.

Library Memos

TO USE THE MX76 is to enter into a world of Libraries, Packets, Memos, Shuffle Boards and - would I lie to you? - Bullets. If MT ran a Ridiculous Parameter Name of the Month competition, Bullet would shoot off with the prize for May. What I want to know is this: why do manufacturers feel the urge to reinvent the wheel where parameter names are concerned?

I'll leave you to ponder on the mysteries of Akai's terminology for a moment, and instead turn to what is probably the most important point to remember about the MX76, namely that it has four Keygroups (zones) which

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can be spread across the 76-note keyboard in any configuration. Each of these Keygroups can have a large number of parameters assigned to it, and it is these which you program when you select the 18 Edit pages. The page display in each case lists the four Keygroups and the associated parameters relevant to that page, while the four softkeys take on functions specific to the current page. Each page clearly tells you, in the bottom two lines of the LCD window, what the current function of each softkey is.

Now back to the reading room. Having fought my way through the wearily familiar Japanese obfuscations of the MX76's manual and tried the old trial-and-error method, I came to the following simple conclusions. A Library is a memory which stores a "snapshot" of all the parameter settings for each of the MX76's four Keygroups. You can store up to 50 Libraries onboard the MX76, and a further 100 (as two Banks of 50) on an Akai BR16 16K RAM card.

A Packet is simply a chain of Libraries (stop sniggering in the back row); there are four Packets onboard the MX76, while a further eight (two Banks of four) can be stored on the BR16 RAM card together with the Libraries. Another storage option is a bulk SysEx transfer via MIDI of the complete internal memory of the MX76; this can be initiated from the front panel, and takes about 70 seconds. As we've come to expect from Akai, there is no information in the manual on the master keyboard's SysEx data format.

Each Packet consists of up to 20 steps (confusingly called Sequences), with each step consisting of one Library. You can step through a Packet using the front-panel Up/Down buttons, or a footswitch, or footswitch pair, plugged into the Lib Up/Down socket on the master keyboard's rear panel. The Shuffle Board is the Edit page in which you chain Libraries together within each of the four Packets. Additionally, the MX76 allows you to write a Memo of up to five lines of 40 characters to go with each Packet; it's a thoughtful touch.

The Bullet (of which you can program up to 50 in all) allows you to program combinations of a MIDI patch change, a pitchbend pattern and a chord of up to four notes to be triggered off the four front-panel switches and the four footswitches. Each one of these can be assigned to any MIDI channel, so for instance by hitting one of the four front-panel switches you could send a patch change to a reverb unit on one channel and trigger a sound effect on your sampler on another channel. Then you could hit another switch and pitchbend one instrument up a fraction so that it played slightly out of tune with another sound, while playing a snare rhythm on your drum machine from a third switch. OK, so I'm getting carried away here.

Keygroup Programming

EACH KEYGROUP WITHIN a Library can be given its own MIDI note range, which can be any area of the keyboard and can be set completely independently of the other three Keygroups. Therefore you can have any texture from a single Keygroup spread across the whole keyboard to a four-way split or a four-way layer. Each Keygroup can transmit on its own MIDI channel, of course, and can send out its own MIDI patch change when the Library is selected. You can also set a transposition value (up to +/-36 semitones) for each Keygroup, which can be much more convenient than trying to transpose patches on your slave instruments.

Individual Keygroups can also be assigned one of eight velocity response curves as well as a sensitivity value, while aftertouch sensitivity is merely turned on or off per Keygroup. Other functions allow you to selectively enable and disable pitchbend, modulation and sustain for each Keygroup - so that, for instance, where you have two

sounds layered across the keyboard you could apply sustain to one but not to the other.

A particularly positive feature of the MX76 is the way it allows you to assign names to so many features. For instance, you can assign a name to each MIDI channel within a Library, which allows you to indicate, say, which of your MIDI instruments are assigned to each channel. Libraries and Packets can also be assigned names, so for instance you could name a Library after its intended position in a Packet, say, *versel*, *chorus* (you can have up to seven characters, so nothing too elaborate).

Then there are the front-panel switches and sliders, and the footswitches and footpedals, all of which are programmable per Library to transmit whatever MIDI controller codes suit your purpose, on whatever MIDI channels are appropriate. One of the most obvious uses for the four sliders, for instance, is to send out MIDI volume data (controller seven) to each of the four instruments you're controlling over MIDI - if you were layering up to four sounds, for instance, you could balance them dynamically from the sliders. You needn't just send controller data on your instrument channels, though; if you were routing one or more instruments through, say, a digital reverb which could lengthen its reverb time in response to volume data, you could experiment with all sorts of interesting effects.

Verdict

THE MX76 STRIKES me as being a solid, sober instrument which performs well in what it sets out to achieve. In getting to grips with it operationally I felt that it was a bit too awkward for what it actually allows you to do, though once (if) you get beyond the stumbling-block stage into a degree of familiarity, Akai's new master keyboard is quite a pleasing controller to use. The front panel is economical yet well-designed for its purpose; the keyboard-based selection of Edit pages is a successful touch; the LCD window is clear, informative and easy on the eyes; but the front-panel sliders are a bit tacky, and don't travel very smoothly.

Of course, you can have the most sophisticated control facilities in the world but if you hate the keyboard, what's the point? That's one area where Oberheim's Systemizer scores: you can use its sophisticated control facilities with whatever keyboard you want. I wasn't over-enamoured of the MX76's piano-style keyboard when I first tried it (I've certainly played what I would consider better), and though I've grown more accustomed to it I'm still not sure that I'd want to make it my main keyboard. Still, touch is a personal thing (if you feel what I mean), and so is control - and I'm going to stop right here before I get into trouble. ■

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SOURCE of INSPIRATION

**With all the attention
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the classic Minimoog,
the Moog Source has
been forgotten by
many of us – but not all.**

Text by Nick Magnus.

AS THE BIRO is to the ball-point pen and Hoover are to the vacuum cleaner, so Moog are to the synthesiser. Or were, as the company sadly folded some years back. The infamous Minimoog was an instrument that could increase the heartbeat of many a knobist to such an extent that we're feeling the backlash of safe synthesis even now. Three oscillators,

a sexy, slinky sound, searing aggressiveness, power . . . Please excuse me.

Many a musician has wondered if Moog would still be around now if only the Minimoog had been polyphonic and programmable. In fact, the Memorymoog was designed with this in mind but, despite the efforts of Moog's designers to recreate the distinctive tone of the Minimoog it failed to deliver the goods. (For a detailed look at the Minimoog and Memorymoog see MT, August '85 and January '89 respectively.)

However, the Memorymoog was still two years away from completion when the Source appeared to the world in 1981 – at the time Minimoog production ceased. Around that time, a glance at the current Moog catalogue would have revealed the Source, the Rogue, the Prodigy, the Polymoog (and Polymoog keyboard), and the revamped (and slightly disappointing compared with the earlier models) Taurus Bass pedals. It was apparently intended that the Polymoog, Source and Taurus pedals should form a triumvirate – accompaniment, solo and bass instruments – and to this end a multipin connector allowed the Polymoog access to the Taurus pedals. There is scant evidence that this setup ever caught on.

Turning our attention to the Source, we find a monophonic, 16-memory, programmable analogue synth. Its most notable competition was Oberheim's OBI, based on their massive OB4 polyphonic modular synth. So what won the Source its many admirers? Well, for me, it was because it was the only other machine to share some of the sonic qualities of the Minimoog. Now this, of course, is a subjective opinion, but the Source seemed to be to all intents a pared-down Minimoog – although Moog themselves insisted that it was not a replacement for the Minimoog.

The Source represented Moog's first encounter with programmable memories, of which there were 16. Aside from the Source's approach to editing (which we'll look at in due course), the instrument's features were pretty standard fare for the time: analogue oscillators offered a choice of waveforms, which were harmonically reduced by a voltage controlled filter, then shaped by a voltage controlled amplifier, then sent to the audio output. You've got it, good old subtractive synthesis.

Performance

COMPARISONS WITH THE Minimoog are inevitable, for it provided the standard by which synths past and present are frequently judged. Possibly the most significant omission from the Source was a third VCO. On the Minimoog, this could be used either as a third audio source for fat unisons or three-way intervals, or for modulation effects such as vibrato and tremolo. But, being an audio oscillator, the frequency of the Minimoog's third VCO allowed ring modulation effects to be created. Each Source oscillator had sawtooth, triangle, and variable pulse waveforms, compared to the Mini's six fixed waves. Pitches of 32', 16' and 8'

were available. The Minimoog, however, also gave us 4' and 2' as well as LO (LFO frequencies). The Source's white noise generator was a bit of a sad affair – it sounded like a poor quality sample with an irritating loop every half-second. This noise was not available for use as a modulation source – viz, no thunder effects. Interestingly, the Source did provide us with oscillator sync – not to be found on the Minimoog unless modified. The Sweep was accessed only via the pitch wheel (sweeping VCO 2's pitch against VCO 1), alas disabling simultaneous pitchbend – shame.

The VCF and VCA envelopes were an improvement on those found on the Minimoog, giving ADSR envelopes as opposed to ADS with a swichable release. There were three options for the filter's key follow: off, half and full tracking. A further improvement over the Minimoog existed in the shape of single or multiple triggering options on the ADSRs; the Minimoog was single only. Both keyboards employ low-note priority key assignment.

The Source's modulation (LFO) section was, at first sight, a paltry affair, having only triangle and square

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Photography Adam Jones

waveforms; but the rate could be pushed up into the low end of the audio spectrum, thus providing ring modulation of sorts. This was routable to pitch or filter, but not both.

Editing

WE SHOULD GO no further without mentioning one aspect of this synth which surely was a Big First. The Source was the first synth to have parameter access editing. Unlike the Minimoog's traditional knobs 'n' switches panel, the Source had a printed panel with membrane switches labelled with the appropriate function. There was a large, continuous rotation knob on the left which changed the values (with varying resolution depending on the parameter). The value of the parameter being edited was shown on the panel display. This pre-dated Roland's now sadly-discarded Alpha dial by almost five years. It operated via an optical sensor beneath the panel. Although many players and programmers will disagree, I always found this quick and easy to use – that is if we must have parameter access at all.

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Level Access

OK, SO THAT'S the Source as compared to the Minimoog, but there's more. The 16 memory pads also had a second layer (or page) of functions. Some of them might not cut much ice these days, but at the time they were a quaint, if not useful, addition. You could store two 88-event sequences (44 notes, actually – one event for note on, one for note off), which were recorded and played back in real time at the original input speed. The LFO rate also varied playback speed. There was a 24-note fixed gate time arpeggiator which played back notes in the order in which they were played. Oddly, no clock input was provided for external speed control – so use was limited to spontaneous (sic) applications rather than today's premeditated sequencer events. You were also able to include patch changes as part of the two sequences. Filter Sample and Hold and Auto Trig (repetition of one held key at current LFO rate) were also included.

Cassette Save, Load and Verify complete the Level 2 lineup. Sequences could also be saved for future retrieval

but, as usual with cassette saving, success rate was only about 30% – now diminished to 0% on my own Source.

As with the Minimoog, S-trigger and CV In/Outs were provided, although a friend of mine also added a VCF CV input on his machine for tonal control as well as pitch and gate control. Thus a MIDI/CV converter would enable the Source to take its place in today's MIDI studio environment.

Life before MIDI

THERE WILL ALWAYS be a place for the Moog Source in my life. For my occasional forays onto the stage, there is a place reserved at my left hand especially for it. Even MIDI-less, and if only as the Source (pun shamelessly inserted) of 16 extremely "Moogy" (well, what else can you call them?) bass sounds.

Going back to the comparison with the Minimoog, the Source is good, it's just not *that* good. It's an oscillator short and its filters don't overload with quite the same sexiness, but for my money no other machine ever got quite as close to the Minimoog – not even the Memorymoog.



DIGITECH

DSP128 PLUS

Digital Multi-effects Processor

Photography James Cummins

Continuing the search for the ideal digital multi-effects processor brings us to Digitech's DSP128 Plus – how does it measure up?
Review by Ian Waugh.

THE DSP128 PLUS is a digital, multiple effects signal processor. Its predecessor, the DSP128 (without the Plus), is capable of producing three effects simultaneously. The Plus is capable of producing four. The effects are applied in series and their parameters can be assigned to any MIDI continuous controller. Both the DSP128 and the Plus will store 128 programs – so no prizes for guessing the derivation of their names.

One thing to be said about all multi-effects processors is that even a couple of years ago, finding such processing power in one unit and at such a price was all but unthinkable. Long live progress, I say.

Yamaha's SPX90 was the first affordable multi-effects processor (closely followed by Roland's DEP5). Since then, musicians have realised that being able to apply reverb and delay and EQ –and something else – to a sound is a good thing. Consequently we've seen quite a spate of multi-effects units appearing in recent months. The Plus is currently vying for your money with the ART MultiVerb II and the Alesis QuadraVerb (reviewed MT, April '89).

In the light of these rapid advances in technology, what have the boys at DigiTech come up with? Like other units in this price bracket, the Plus has a 16-bit analogue-to-digital converter. Its quoted frequency response is 20Hz to 20kHz with a signal-to-noise ratio of around 85dB.

The 128 Plus has both balanced and unbalanced audio inputs and outputs, and a switch at the back of the unit lets

you choose between +4dB (line) and –20dB (instrument) input levels. It will take quite a hefty signal before peaking. At +4dB, however, you can hear the effects swirling away in the background, enough to be a nuisance and a hindrance during recording, but at –20dB the noise level is extremely low – certainly low enough for studio recording. If that was the greatest noise source in my setup, I'd be a very happy man.

With the unit patched into a mixer and instruments DI'd into it, there were no problems operating the 128 Plus at the –20dB level. However, the +4dB option is sure to be invaluable in a live situation where a little noise is unlikely to worry anyone.

Rack 'Em Up

THE DSP128 PLUS is a 1U-high rackmount unit which will stand out from the matt back finish which seems to be standard on most rack units. The power supply is built in.

It has three rotary dials on the front to set input and output levels and the mix between the dry signal and the processed signal. An Effect button kills the processed signal but the volume of dry signal it allows through is dependent upon the setting of the Output Mix knob (the QuadraVerb Bypass button works in a similar way). If it is set to Wet you won't hear a thing. What's your objection ▶

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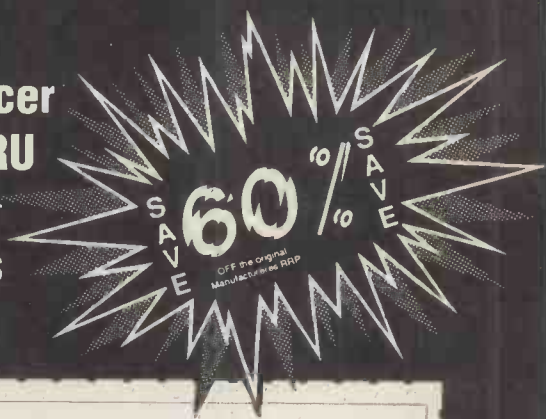
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► to letting through the full dry signal, guys? In practice, to kill the effect I found it far easier to turn the Mix control to Dry.

In the centre of the unit is a four-digit LED display and I've got to say that this is just not as friendly as an LCD. The programs are displayed as numbers, not names, and the parameters are shown as cryptic two-letter combinations. LEDs may be cheaper than LCDs and use of



the unit does breed familiarity with it, but I'd rather pay the extra and get some info up front.

The LED display can be varied so that as you change parameters they scroll into the display area or pop into it. Scrolling is neat but it takes time and after the novelty wears off you'll probably plumb for pop up display. The display will also show changes made to a parameter's values from a MIDI controller – a useful function.

Next door to the display are four cursor keys which are used to access the programs and change the parameters. The up/down keys select the programs, the left/right keys scroll through the parameters and, when in this mode, the up/down keys alter the parameter values. After holding down a key for a few seconds the speed at which the parameters scroll increases, minimising sore-pinky time.

Further left along the panel is a four by three grid which shows the range of effects allowed by the current algorithm (coming up). In the absence of program names, this is really useful.

Got Algorithms

THE UNIT'S EFFECTS are created from 14 algorithms, each of which has between nine and 11 parameters. As the range of effects is dependant entirely upon the algorithms, I'll list them here:

1. Large room, Delay, Chorus, Filter
2. Large room, Delay, Flange, Filter
3. Medium room, Delay, Chorus, Filter
4. Medium room, Delay, Flange Filter
5. Small room, Delay, Chorus, Filter
6. Small room, Delay, Flange, Filter
7. Filter, Chorus, Multi-tap Delay
8. Flange, Multi-tap Delay
9. Gated Reverb, Delay, Filter
10. Reverse Reverb, Delay, Filter
11. Parametric EQ, Chorus, Delay
12. Parametric EQ, Flange, Delay
13. The Ultimate Reverb
14. Nine-band Graphic EQ

The parameters are represented by one- and two-character abbreviations. Some are fairly obvious – LP (Low Pass), rL (reverb level) and FF (Flange Feedback) – but others are rather more obscure. Take SP; this controls speed and is applicable to both Chorus and Flanging, and rF (Normalised Reflectivity), which is used with the Ultimate Reverb algorithm. In true LED style, "v"s look

like "u"s, and "t" looks like a capital "E" with the top line missing. Not particularly friendly, to my way of thinking.

The manual claims the abbreviations are printed on the top of the unit – but they weren't on the review model. I suspect the casing was manufactured before the list of parameters had been finalised – but then what if you wanted to place the unit directly below another in a rack? Perhaps a pull-out card similar to the Operation Guide on the Yamaha TX8IZ is the answer.

But don't get the idea that all this makes the 128 Plus' parameters difficult to manage; it's a simple matter to recall the factory presets either individually or for all the programs. I do, however, wish there had been a Store function (and perhaps a Compare function, too) to allow you to make an alteration to a program without committing it to memory. As it is, any edit you make takes effect immediately. With all those abbreviations floating around it's quite easy to alter a parameter and move on without intending to (or perhaps I'm just clumsy).

As there are so many parameters it helps if you know what they all do. The manual gives some details, although a few more pages and a little tutorial section would not go amiss. Many parameters will be self-explanatory to most musicians but some, particularly those used with reverb, may not be so obvious.

Reverb

THERE ARE 15 parameters which are used throughout the range of reverb effects (including reverse and gated reverb). These include Decay Time (the amount of time it takes for the reverb to disappear), Pre-Delay Time (the length of time between the original sound and the beginning of the reverb), Reverb Level (intensity), Early Reflection Diffusion (controls the amount of diffusion of the early reflections), Early Reflection Delay (the amount of Pre-Delay for the early reflections) and Envelopment (determines the width of the stereo image).

As you can see, reverb isn't just a question of bouncing the sound around a large tiled bathroom. By carefully choosing the parameters you can determine the size and absorbency of the reverb environment as well as the position of the listener in relation to the sound.

The modestly-named Ultimate Reverb algorithm uses ten parameters to produce some extremely effective and impressive reverb effects. A smattering of acoustics (and psychoacoustics!) would not go amiss when designing environments but you should be able to pick up enough from the manual to get started.

Delays On Tap

THE MULTI-TAP ALGORITHMS allow you to set different delay times for left, centre and right repeats. These are under control of an overall feedback rate and amount. Put the lot together – in any one of a number of permutations – and you can produce some very clever effects indeed. You can make the sounds do more than just bounce from left to right – they can circulate around the stereo image. If you use a high feedback rate you can build up little pieces of music, à la Terry Riley, for example.

The maximum delay time varies according to the algorithm used, as this determines how much processing power is available for each effect. The first six algorithms (the only ones to allow four effects at once) have a maximum delay time of 0.75 seconds. Each delay in the Multi-tap effects may run to 1.25 seconds, which is the maximum offered by the other algorithms, too.

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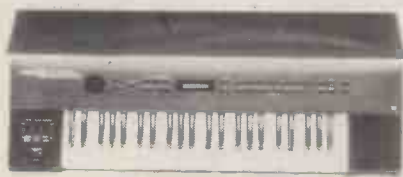
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► to the ridiculous. At maximum settings you get out of tune instruments. Tone them down a little for a honky tonk piano and use just a touch for a warm chorus or a subtle flange. For fattening sounds, add some reverb and a little delay. I found the first six algorithms ideal for thickening sounds.

Most of the EQ functions on the DSP are simple low-pass filters although two of the algorithms have two-band parametric EQ. One algorithm is dedicated to a nine-band graphic but with no effects. Well, EQ is handy to have around but the DSP is primarily an effects unit and I personally wouldn't worry too much about EQ facilities (feel free to worry if you wish). I'd go so far as to say that

"The multi-tap algorithms allow you to produce some clever effects - at a high feedback rate you can build up music, à la Terry Riley."

I'd rather have another effect than EQ on a multi-effects unit, but EQ seems to go with the territory.

All 128 programs contain factory presets which use the above algorithms. They are an assorted bunch, although many are simply variations on a theme and I don't think they show off the unit to the best of its ability; odd, but then some synths come with poor factory presets. However, it's quite easy to create your own effects once you get the hang of the parameter abbreviations.

If the perfect signal processor should do its job without adding any colouration to the sound, the DSP comes pretty close to perfection. You can obviously colour a sound with chorusing, flanging and so on, but the quality of the output vis-a-vis the input is pretty pure.

The inevitable consequence of this cleanness is that the output lacks character. Some effects units sound thin, others warm. Is one better or more desirable than the other? Time to dust your ears off and put them to work.

MIDI

THE DSP CAN be set to receive on any MIDI channel, on all of them (Omni) or none at all.

Any of the algorithm parameters can be assigned to MIDI continuous controllers. These are global assignments allowing you to control pre-delay, reverb time or any of the other parameters - there are 44 in all - in real time from a master keyboard or from a sequencer, for example, by recording the controller data onto a spare track. You may need to exercise a some caution here, as running through a range of values on the fly can produce glitching, but this is not unique to the DSP. This control is limited to continuous controllers so note velocity, aftertouch and the like are not catered for.

The 128 Plus responds to incoming patch-change messages by selecting the corresponding program number. What is lacking, however, is a table to let you assign a program number to any incoming patch change message. This is a sad omission as it means you have to configure your other equipment to the DSP and not the other way around, as it should surely be.

As the programs aren't named you'll need to keep careful track of the numbers when organising the programs. The Program Copy function transfers the contents of a program to a new location and that will help.

You can dump the programs to a MIDI storage device (many sequencers can now handle this) so if you create more than 128 programs you can save them to make room for some more. You can't save or load just one program, however, so if you wanted to combine programs from two separate banks you'll have to note the values of the parameters of one set and enter them manually, but that

shouldn't take long. The manual even contains blank sheets on which to write the parameters of new programs you create.

Fiddling around with my MIDI switching unit caused a MIDI error on the 128 Plus - and on other equipment, too - but the only way to escape from the error was to switch off and on again. I found this rather odd as my other equipment can be reset by changing patch. Some even simply flag the error and continue working. In a live situation, it's possible that the DSP would hang up. When you switch on you go back to program one, not the last program used, so you'd have to reselect the desired program again.

The 128 Plus boasts two footswitch jacks on its rear panel. The default configurations for these are bypass and to switch in infinite repeat, but they can be reconfigured to step backwards and forwards through the programs and they can be used with DigiTech's three-button footswitches (FS3000 and FS303) to step through assignable program numbers. Extremely useful for live work.

Other software features include a self-test mode (what happens when self-test procedures go wrong?) and a scrolling "Hi, I'm the DigiTech DSP128 Plus". You can also see the software version number (the review unit contained version v2.00). Perhaps software upgrades are in DigiTech's corporate mind - a software upgrade has got to be a better prospect than realising your unit has depreciated to less than half its cost and shelling out all over again.

The manual supplied with the review unit was a temporary manual. It admits as much in the introduction and says that the DSP software was still being developed while the manual was being written. Many of the parameters on the unit were new and not listed in the manual which resulted in most of the "Programming the DSP" section being inaccurate.

Also, the pages which should have contained details of the factory presets were totally blank so the uses to which some of the presets could be put were not always obvious. Even the algorithm section was not completely correct, although the meaning of the parameters could be gleaned from the algorithm list. The operating procedures, however, were basically correct. Hopefully, by the time you read this, a current manual will be available.

Verdict

I WAS IMPRESSED with the clarity of the DSP's output and the low noise level when using the -20dB input (I wouldn't consider using +4dB unless the situation demanded it). I do feel that a few areas of the 128 Plus' implementation could be tidied up, however - although what you lose on the swings you gain on the roundabouts (I hate that expression). Other, perhaps, than the lack of a MIDI program reference table, the pros and cons balance each other reasonably well.

How does the DSP stack up against the QuadraVerb and the MultiVerb? I knew you were going to ask that - go back and read the rest of the review. The DSP has a different sound - it's clean, it has an excellent range of effects - some are superb, others are, perhaps, average - and programming is relatively easy taking the LED display into account.

Now, I'm afraid, it's down to you and yer ears. But if you want to know whether it's worth looking at and listening to, the answer is a definite yes. ■

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Yamaha P2150 (2X150W)	£299
Hill 16:4:2 Rack Mounted Multimix	£999
Simmons 8:2 Automated Mixer	£199
Seck 6:2	£299
Seck 12:2	£399
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Hill 500W P-CH Amp	£499

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SPECIAL OFFERS

Yamaha PMC1 Drum to MIDI Converter, 8 inputs, inc. mic inputs was £500 now amazing exclusive offer of £199, + VAT - Yamaha WX7 Wind to MIDI Converter, amazing deal £249 + VAT
Yamaha RX5 Voice Cartridges £15 + VAT - AKG CK1 Capsule Sily price £35 + VAT
Casio Rack Kits £25 VAT Casio TV £75 + VAT Casio FZ10M Sampler £750 + VAT
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COMPUTER NEWS!

Ever fancied a computer based sequencer but couldn't afford it? For a limited period, we are giving away a Steinberg Pro 12 (the 1/2 size version) with every Atari 1040 absolutely free! At only £499 + VAT this has to be worth looking at. We also have some demonstration 1040 + mons at £425 + VAT (new computer + mon + pro24/C-Lab is £675 + VAT)

THATCHED COTTAGE AUDIO SERVICE

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

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

HOT NEWS!

Yamaha SPX900 (successor to SPX901) In Stock
We still have some Yamaha MT2X 6 channel, double speed, super porta studios available - great value £360 + VAT
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Keyboards

ABSOLUTE BARGAIN, Casio CZ3000 multitimbral synth, as new, £220 ono or swap for analogue synth module. Anything considered. Tel: (0454) 772237.

ABSOLUTE BARGAINS: CZ101, £99; Korg KMS30 sync, £75; Korg DDM220, £35. Tel: 01-993 1224.

AKAI AX73, 6-oct velocity kbd, backlit LCD, 10mths use, immac and boxed, £450 ono. Or swap Roland JX3P. Tel: (0384) 410853.

AKAI AX73, still boxed, unwanted gift, £400 ono (6-oct); MMT8 seq, still boxed, £200. Tel: (0909) 566695.

AKAI AX73, 6-oct MIDI master keyboard, velocity, built-in VX90 synth, loads of extra sounds, £370 ono. Mark, Tel: Wearside (091) 528806.

AKAI MX73 master keyboard, Roland MT32, £500. Tel: 021-459 7109.

AKAI MX73 master keyboard, 6-oct, velocity, MIDI split, backlit LCD, immac & boxed, £450 ono. Tel: (0384) 410853.

AKAI MX73, 6-oct MIDI mother, £299; OSCar £230; Slapback Scintillator £100. Peter, Tel: (0272) 636385.

AKAI S900, 40 disks, immac, £895; 175 Emulator II disks, £5 each. Tel: 061-928 5037.

ANALOGUE CLASSIC SYNTH, Yamaha CS70M, £370; Exc cond + unique ARP electronic piano, £250. Tel: (0895) 677634.

ARP OMNI 2 string/polsynth, string output needs attention (noisy), hence giveaway £100 ono. Mark, Tel: (0663) 43388.

CASIO AZI, remote keyboard, mint, boxed, manuals, £175 ono. Tel: Andy (0582) 607265.

CASIO CZ1, as new, home use only, £495 ono. Tel: (0245) 460180.

CASIO CZ1, immac cond, £400; KX5, all black, immac cond, £125. Tel: Leics (0533) 606038.

CASIO CZ1, f/case, manuals, good cond, upgrading. Simon, Tel: (06633) 2827.

CASIO CZ101 £110; Casio CZ230S £100; manuals, psu. Mark, Tel: 01-428 0863.

CASIO CZ101, boxed, 3 cartridges, £175; Yamaha CX5M, large kbd, extras, £190. Tel: Nottingham (0602) 848132.

CASIO CZ101, Immac cond, manuals, psu, boxed, case, £140. Paul, Tel: (0732) 356612 eves.

CASIO CZ5000, £300; Juno 6, £150; Korg MS20, £100, excellent. Tel: Herts (0707) 58051.

CASIO HT6000 5-oct, touch-sens, built-in speakers, exc cond, £375 ono. Tel: (089) 687301.

CASIO HT6000, 5mths old, cost £620, sell £480 ono. Sharon, Tel: (0925) 572891 after 5.30pm.

CASIO HZ600 programmable synth, 5-oct splittable kbd, MIDI, perfect cond, £200 ono. Chris, Tel: (0756) 61323.

CASIO MT68, 4-oct keyboard, mint, £60. Selling to upgrade. Craig, Tel: 021-358 2581.

CHASE BIT ONE analogue polysynth, upgraded MIDI, £250; TR505 £150. home use only. Tel: 01-764 4583.

BIT 99, £300; Yamaha TX81Z, boxed, £275; Pro One £90; RS09 £75. All ono. Tel: 021-355 5009.

ENSONIQ ESQ1 + RAM, £600; Roland D110, £400; Yamaha DX100, £100; 4-track recorder, £120. Kenny, Tel: 041-336 8461.

ENSONIQ ESQ1, voice/expansion cartridges, hard case, £685; Yamaha TX81Z, £235; AHB system 8 16/16, £735. Tel: (0424) 218711.

ENSONIQ ESQ1, £595; Ensoniq SQ80, £875; Yamaha TX802, £825; Roland MC500 (+ super MBC), £495. Tel: 01-462 6261.

ENSONIQ ESQ1 plus library, £675 ono; Mirage plus library, £675 ono; Atari 1040 STFM, new, £420. Steve, Tel: (024 027) 310 anytime.

FENDER RHODES SUITCASE, vgc, plays extremely well, £225. Tel: 01-471 9159.

HAMMOND SOUND, WLM portable, 2 manuals, pedals, rotary cabinet included. Great sound, £450. Mike, Tel: (0926) 495039.

HAMMOND B200 portable organ, home use, £850. Swap D50? Robin, Tel: Lincoln 752458.

KAWAI KI module, mint cond. Swap (+ cash?) for synth with keyboard. Tel: Simon 061-224 7151.

KAWAI KI, boxed, as new, £320; Casio CT6000, MIDI, touch-sens keyboard, £220. Tel: (0602) 482085.

KAWAI KI, immac cond, 2 mths old, £270 ono. Tel: Worthing (0903) 504 930.

KAWAI KSM £480 ono; Frontline 8:2 rack mixer: wanted Atari 1040 and D550. Tel: Marlborough 870373.

KAWAI K5, £800, Mirage rack, £500, Yamaha RX15, £120, Roland TR727, £150. All vgc, offers. Tel: 01-421 1970.

KEYTEK CTS2000, 333 wavetables, 3 LFOs, brilliant MIDI spec, multitimbral, £590; EMT10, brand new, £185. Tel: Ade 051-722 2165.

KORG DP80 electronic piano, 6-oct, touch-sens, MIDI, £299. Tel: 061-980 6140.

KORG M1, as new, sounds intact, boxed, manuals, pedal, stand, 1300. Need cash. Geoff, Tel: (0202) 517342.

KORG POLY 61, exc cond, £249 ono. P/ X + cash for Bit 99. Steve, Tel: (0782) 262286.

KORG POLY 61, incl f/case, £300 ono; ARP Axxe, £75 ono. Tel: Oxford (0865) 776828.

KORG POLY 61, mint cond, hard case, manuals, £300 ono. Steve, Tel: 021-230 2068, days.

KORG POLY 61 analogue synth, £250; Yamaha VSSI sampler, £75; cases, manuals, samples, vgc. Tel: (0204) 693365.

KORG POLY 800 II with DDL, sequencer, f/cased, manuals, exc cond, £220. Mike, Tel: 01-946 4490.

KORG POLY 800 II, superb cond, manual, f/case, MIDI, adaptor, £260. Tel: Coventry (0203) 315122.

KORG POLY 800, s/case, X-stand, leads, manual, perfect cond, £240 ono. Tel: 051-928 4954.

KORG POLY 800II and large f/case, as new, £360. Tel: Bridgend (0656) 63683.

KORG P3 piano module, immac; Alesis HR16 drums, immac, £300 each. Rob, Tel: (0272) 73221 X2202 (work) or (0272) 249891 (home).

KORG TRIDENT, warm analogue sounds, multitimbral, manual, £350. Tel: (0327 33) 378.

MELLOTRON, any reasonable offer accepted. Tel: 01-361 0421.

MULTIMOOG £170; Korg Poly 800 £200; Crumar piano £50. Tel: (0324) 25531.

OVERHEIM MATRIX 12 £2700; Akai S900 £875; Yamaha RX5 drums. Wesley, Tel: (0424) 715761.

OSCAR programmable MIDI monosynth, analogue & additive synthesis, manual, data tape, good cond. Reza, Tel: 01-997 4535.

OSCAR, MIDI, manual, flightcase, mint, £250 ono. Mark, Tel: Stevenage (0438) 815059.

PROPHET 2000 with crossfade loop s/w, flightcase, sound library, £700. Gordon, Tel: 091-271 6403.

ROLAND JUNO 106, 128 programmable sounds, chorus, MIDI, good cond, boxed, manuals, £300. Tel: (0928) 711006, Cheshire.

ROLAND JX3P synth, boxed, including leads, £200. Tel: 01-751 1603.

QUICK CASH SALE! Roland Juno 2, Kawai K1r, ungigged. The lot £855. Tel: (0708) 857061.

ROLAND ALPHA JUNO 1, mint cond, boxed, will sell for £320 ono. Tel: (0443) 203887 eves, (0222) 398216, days.

ROLAND ALPHA JUNO 1, exc cond,

£300; Alesis MMT8, mint cond, £150. Tel: (0376) 552484 or 83407 (pm).

ROLAND D50, swap for S900, FZ1, Emax plus cash difference; RX17, swap for HR16 plus cash difference. Tel: (0787) 78106.

ROLAND D50, Immac cond, box and manuals, under guarantee plus extras, £875. Tel: 01-751 1603.

ROLAND D50, £950; D110, £450; Simmons SPM8 MIDI mixer, £200; Korg P3, £300; Atari 1040ST, monitor, Pro24, other software. Tel: Preston (0772) 24591.

ROLAND D110, £450 ono; Yamaha TX81Z, £255 ono; Drawmer DS201 Gates (X3) each, £250 ono. Andy, Tel: (0642) 479164.

ROLAND D110, £470 ono, boxed and under guarantee. Adrian, Tel: 01-960 4501.

ROLAND D110, immac cond, £425; Casio CZ101, £130; Cheetah MK5, £60. Allan, Tel: (0740) 20734.

ROLAND D110, £450; Roland D50, £950; Yamaha RX5, £495; Yamaha TX7, £215. John, Tel: (0709) 815644.

ROLAND D110 plus Atari editor with 600 sounds, £495 or swap U110. Tel: 061-928 5946.

ROLAND E20 synth, intelligent keyboard, mint, boxed, as new, 6mths home use only, £900 ono. Tel: 01-755 2720.

ROLAND HP4500 piano, £1200; Roland S10, £500 ono; Tascam 244, £400. Tel: (0889) 881614.

ROLAND JUNO 6, SH2, CSQ100, all flightcased and Korg MS20, all good cond, must go, £350. Alan, Tel: (0292) 316608.

ROLAND JUNO 60, JSQ60 plus MIDI interface, £320; Roland DR110, £40, all exc cond. Rob, Tel: (0920) 821106.

ROLAND JUNO 106, £350; Roland Alpha Juno 2, £525, both with cases, £825 for both. Tel: (0482) 801104 (eves).

ROLAND JUNO 106, MIDI, mint cond, Marshall amp, X-stand, manuals, must sell, £375 ono. Mark, Tel: (0663) 43388.

ROLAND JUPITER 6, £500; Chase Bit 99, £450; MT32, £300; Tascam Porta I, £300; Casio CZ230S, £175. Andy, Tel: (06333) 67215.

ROLAND JX8P, ungigged, £600. Steve, Tel: (0462) 895261, or (0836) 779748.

ROLAND MKS7 Super Quartet - Juno 2 and TR707 in rack, £235. Tel: Walsall 643255.

ROLAND MKS20 piano module, £400 ono; Roland DSP2000 stereo presence processor, £275 ono. Jonathan, Tel: 01-603 4907.

ROLAND MT32, boxed plus Dr T's MT32 editor for Atari, £300. Martin, Tel: (0204) 795577.

ROLAND MT32 with Cheetah MIDI keyboard, plus software from C-Lab, Stein-

► berg, Dr T's. Tel: (029 383) 534.

ROLAND MT32, £299; TR505, £149; SH3A monosynth, £99, all vgc. Tel: (0933) 50821 (Rushden, Northants).

ROLAND MT32 and Atari ST editor £350 ono; Casio CZ3000, £300. Tel: (0305) 65558.

ROLAND RD200 piano, superb sound, quick sale, £700. Tel: Bedford (0234) 45920.

ROLAND RD300S digital piano, exc cond, (only 8 hrs use), £1200. Tel: (0689) 57588.

ROLAND SH101, £100 ono; Yamaha DD10 drums, £60; Casio SK10 sampler, £50. Tel: Macclesfield (0625) 613284.

ROLAND SH101 synth, psu, soft case, good cond, £100 ono. John, Tel: (0747) 870686.

ROLAND SUPER JUPITER module plus programmer unit, boxed, as new, £980. Steve Taison, Tel: 091-261 5878.

SIEL DK80 touch-sens polysynth, exc cond, £190 ono. Tel: (0462) 51142.

TECHNICS SXK 350 MIDI kbd, seq, chord computer, immac, £420. Tel: (0902) 56615.

TECHNICS SX PV10, bargain price, £100, 10 sounds, digital PCM, effects, chorus, phaser and celeste. Kev, Tel: (0276) 34466.

YAMAHA CS10 monosynth, exc, £85; CS01, £35; 3-tier stand, £40. Dec, Tel: (0254) 885723.

YAMAHA DX7, 2 ROMs, as new, £700. Tel: 01-485 2972.

YAMAHA DX7 plus ROMs, exc cond, home use only, might deliver, £595. Tel: (0332) 558728.

YAMAHA DX7 plus RAM, breath controller, £600; Poly 800, £220. Lenis, Tel: (0222) 224770, after 6pm.

YAMAHA DX7, boxed, 2 ROMs, vgc, £550; Roland MSQ700 8-track MIDI seq, £180. Tel: 01-658 3570.

YAMAHA DX7II, brand new, boxed, £150; TX81Z, never used, boxed, £300. Barkass, Tel: 01-286 9532, office hours.

YAMAHA DX7S, immac, 6 months old, flightcase, £695; Technics multi-kbd SXK700, programmable, accessories, £695. Tel: (0772) 323303.

YAMAHA DX9, home use only, £300 ono. James, Tel: (0609) 2631.

YAMAHA DX21, £300; DX27, £270. Both boxed, exc cond, manuals. Tel: (0376) 552484 or 83407.

YAMAHA DX21, exc cond, voice cassette, case, manuals, £350 ono. Tel: (0388) 730512, after 4pm.

YAMAHA DX21, exc cond with manual, offers around £350. Tim, Tel: (0564) 776484.

YAMAHA DX21, boxed, perfect, £300; Yamaha CX5 MkII plus software, voices, £200 quick sale. Daniel, Tel: (0325) 357104, eves.

YAMAHA DX21, mint, £350; Korg MS10, £50; aluminium stands, 3-tier, £75, 2-tier, £45. Tel: (0625) 33687.

YAMAHA DX21 with hard case, vgc, £290. Tel: (0245) 72572.

YAMAHA DX100 synth, vgc, with hard case, hardly used, boxed and with manuals, £235. Tel: (029 671) 2411.

YAMAHA DX100, exc cond with manuals, £180, will swap for Alesis MIDIverb II. Tel: Stafford 46059.

YAMAHA DX100, immac cond, boxed, manuals, £200 or offers. Jamie, Tel: (0685) 871849 (S. Wales).

YAMAHA ELECTONE C605 portable organ with 100W PA system, £1275 ono. Tel: (0344) 484034.

YAMAHA PF2000 piano, 88-note, weighted action, plus FM LX711 FD synth, £1950 for both. Sarah, Tel: 01-482 4868.

YAMAHA PSR70, programmable, accompaniment, PCM, drums, MIDI, boxed, exc cond, £300. Jim, Tel: (0582) 664946.

YAMAHA PSR70, still boxed, manuals, all accessories, very little use, bargain, £375. Tel: (0538) 266660.

YAMAHA PSR70 programmable kbd, MIDI/FM voices, £395 or swap Atari 1040ST and monitor plus cash. Tel: (0405) 768391.

YAMAHA TX216, (2 DX7s racked), £695; Yamaha MT44 4-track, as new, £150 ono. Steve, Tel: 061-336 0366.

YAMAHA TX802, £750; Yamaha RX5,

£595; Yamaha/QX5, £175; Artiste full-range cabs, £250. Tel: (0246) 204291.

Sampling

AKAI 5612 MIDI sampler/disk drive, swap for MT32, Amiga or cash offers. Mark, Tel: (0663) 43388.

AKAI 5700 with separate output conversion and 20 disks, guaranteed, £430 ono. Adrian, Tel: 01-960 4501.

AKAI X7000, exc cond, plus disks, £600. Tom, Tel: 01-959 0620, after 6pm.

CAN YOU AFFORD a Fairlight? No? Then buy my Yamaha V55100 sampler, £75. Tel: (0204) 693365.

CASIO FZ1, perfect, home use only, boxed, plus disks, £800. Tel: Bedford (0234) 45920.

CASIO SKI sampling keyboard, boxed, with manuals, as new, £40. Tel: 01-855 5973.

ENSONIQ MIRAGE RACK complete with Hybrid Arts Oasis editing software, disk library and access to even bigger one! £550 Tel: (0353) 666149, Cambridgeshire.

ROLAND S10 sampling keyboard with 30 disks, £485. Tel: Oxford 723829.

SAMPLER CDS and tapes, £100; wanted, Korg DVPI voice processor. Tel: 061-998 3494.

SIMMONS SDX with everything, 8Meg, 10 pads, hard disk, unused, mint cond, must sell, offers. Tel: 01-392 1135.

Sequencers

KORG SQ8 8-track MIDI sequencer, £90, will swap for Micon interface. Dave, Tel: Rayleigh 745234.

ROLAND MC202 plus case, Boss DR10 drums, both immac cond. Tel: 01-573 0433, eves.

ROLAND MC500 sequencer, perfect cond inc manuals, £550. Paul, Tel: 01-751 0280, eves.

ROLAND MC500 and Super MRC software, £500; Alice 10:4 mixing desk, £250. Jon, Tel: 01-365 0105.

ROLAND MC500 sequencer, perfect cond, including manuals, home use only, £399. Tel: (0202) 512981.

ROLAND MC300, absolutely as new, £485; Seiko MRI000, new, £35. Tel: (0440) 707610.

ROLAND TB303 bassline, Acl'd House favourite, best offer or trade. Canada, Tel: 1-(416) 862-0056.

ROLAND TB303 bassline, £95. Tel: (06284) 75105.

ROLAND BASSLINE TB303, acid machine plus manuals, exc cond, offers. Tel: 041-649 8683.

SWAP SZ1 plus £50 cash for any CZ or DX100 or MIDI module. Anything considered. Tel: 01-301 5384.

YAMAHA QX21 MIDI sequencer, mint cond, boxed, manual, used very little. Andy, Tel: (0582) 607265.

Drums

ALESIS HRI6 drum machine, 16-bit, stereo, 49 sounds, exc cond, £300. Tel: (0935) 31523, after 7pm.

BOSS DR220E drum machine, programmable, 8 songs, manuals, £65. Martin, Tel: (07292) 2415, daytime only (N. Yorks).

CASIO RZ1 sampling drum machine, as new, £175 ono. Russell, Tel: Leamington Spa (0926) 882447.

E-MU DRUMULATOR, as used by Cocteau, Howard Jones, Thomas Dolby, £150. Steve, Tel: 091-281 6269.

KORG DDD5, boxed, perfect cond, complete with additional ROM card, £225. Tel: (0604) 494471.

OVERHEIM DX MIDI drum machine, extra sound chips, mint cond, boxed, £225. Khalid, Tel: 01-867 6745, days.

ROLAND OCTAPAD Pad 80, boxed, manual, demo use only, genuine sale, £400 ono. Dave, Tel: (0225) 767908 (Wilts).

ROLAND TR505, exc cond, £150; MM 16-track mixer, hardly used, £240. Tel: (0458) 50594.

ROLAND TR505, perfect, psu and bag, £175; Casio HT700 synth and RAM, £140; MN15, £25. Tel: (0440) 706829.

ROLAND TR606, exc cond, separate outs, home use, £80. Tel: (0342) 313360, daytime (0293) 820700, X4347.

ROLAND TR606 Drumatix, £90; TB303 Bassline, £110, both perfect cond. Tel: (0738) 24491.

ROLAND TR727 latin drum machine, with psu, MIDI In/Out, DIN and tape sync sockets, great sound, flexible machine, exc cond, £185. Tel: (03543) 5239, eves or weekends.

SOUND CHIPS for Linn, DrumTraks, Oberheim, Simmons, £8 each; disks for Roland S10. Tel: (0342) 323094.

YAMAHA RX5 immac, all four RAMs, manual, cassette recorder and leads, £600. Andy, Tel: 01-421 1735.

YAMAHA RX7 rhythm, 100 samples, superb machine, boxed, immac, £450. Andrew, Tel: Selby 705646 (office).

YAMAHA RX11, good cond, £220 ono. Tel: 01-802 7906.

YAMAHA RX11 pro quality drum machine, separate outs, boxed, £290; RX21L, £100. Kevin, Tel: (0268) 743894.

YAMAHA RX17, £150; Roland SH101, £60; Brazilian congas, £150. Swaps considered. Dave, Tel: 01-940 5423.

YAMAHA RX21 drum machine, £120; Arion stereo delay pedal, £70, both perfect. Tel: (0252) 330408, eves.

Computing

AMIGA 500, hardly used, accessories value £300, total £700, sell £325 ono. Tel: (0703) 431356.

ATARI 5205TM plus sequencing software, £250; Korg Poly 800, unrigged, £200. Steve, Tel: 051-526 0235.

ATARI 5205TFM, 1 year old, hardly used plus Steinberg Pro24 software version 2 with manual, £270. Tel: 01-444 2718.

ATARI SOFTWARE, Dr T's Copyist, Super Conductor, Music Construction, all boxed, exc cond. Tel: (0488) 82957.

BBC COMPUTER INTERFACE/Yamaha DX7, complete software for loading 600 voices, £20. Robin, Tel: Lincoln 752458.

BBC B, £100+ software, Plotter Droid disk drive, fifth best music computer 1988, hence £250. Tel: Eastergate (54) 2285, eves.

C64 OWNERS! Joreth sequencer, CZ editor inc voices, Siel interface, manuals, etc, £35. Mark, Tel: (0663) 43388.

COMMODORE 64, disk drive, software, £200; Digidrum for C64, £50; Mixer, £35. Tel: Oxted 714940.

COMMODORE C64C and FM sound module, plus full-size 5-oc keys plus software, £200 ono. Phil, Tel: (0784) 243474.

DR T'S KCS sequencer 1.5 with manual for Atari ST, £80. Tel: (0562) 824484.

KORG M1 and DX7II/TX802 ST editors, £30 each. Write Doriano Novasconi, v. Vergani, 9-20092 Cinisello B, Milano, Italy.

MASTERTRACKS JUNIOR, Hybrid Arts 64-track Atari sequencer program, manual, complete, bargain, £59. Tel: (0742) 349838.

ICONIX PROFESSIONAL MIDI sequencer for Atari computer, 96 tracks, graphic editing, multi-quantise, £130. Tel: 01-743 7523.

SPECTRUM 48K as new, boxed with manuals etc, £45. Paul, Tel: Guildford (0483) 67882 after 6pm.

STEINBERG PRO24 VIII, £175; SMP24, £580; Dr T's D10 editor, £65, manuals included. Tel: 01-727 7574.

TANDY 102 portable computer, word processor, database, modem, software, manuals, psu, mint cond, £210. Tel: 01-743 7523.

UMI 2B version 6.01 16-track sequencer and BBC model B, disk drive, full micro-editing, DX7 librarian, patches, £340. Tel: 01-736 1036.

UMI 2B ver 6, 52K BBC and Jay Chapman DX7 editor plus 60 banks DX7 library, £300 ono. Tel: 01-556 7888.

XRI MICON INTERFACE, step-time sequencer, multitracker, Casio editor, £40. Graham, Tel: (0533) 884123.

YAMAHA CX5 plus SFG05, disk drive, Composer and editor, £300 or swap for MT32/TX81Z/MS6/Cheetah. Tel: (0283) 42956.

YAMAHA CX5M, SFG05, FD03 disk drive, YK20, Composer 2 voicing, FB01 editor, £375. Tel: Merseyside, 051-653 4546.

Recording

ACES HS 24-track, serviced, auto-locate, £5000 ono; Aces ML 32-channel console, £2000. Tel: (0359) 31800.

ACES B18/16 console, manual psu, hardly used, £1200 ono. Mark, Tel: (02216) 2450 (Bat: area).

AKAI MG64 £820 ono; Porta One £300 ono; Midiverb 2 £175 ono; Quad 5201 amp £350 ono. Andy, Tel: (0642) 479164.

AKAI MG1212 12-track recorder/mixer, still under manufacturers guarantee plus tapes, £2300. Tel: (0303) 57714.

ALESIS MIDIVERB perfect cond, home use, box, manual, £120. Tel: 01-833 4609

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FOSTEX B16; Seck 18:8:2, looms, £3500. Wesley, Tel: (0424) 715761.

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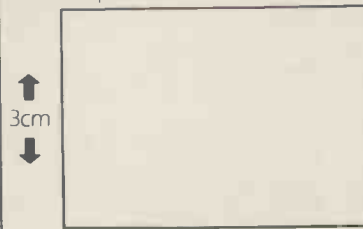
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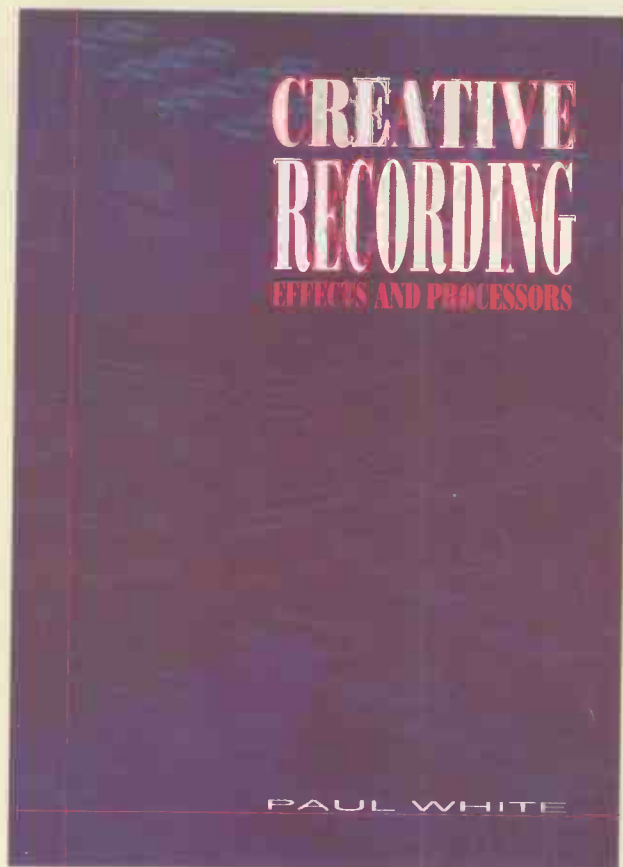
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