

17 DWS

JULY 1988
£1.50

MUSIC

technology

SCRITTI POLITTI

*"This enigmatic,
meaningless thing"*

ON TEST: *Clavia Ddrums,
Steinberg Pro24 III, Korg M1
Workstation, SDA Promidi Software,
Soundbits 4x4 Software, Drumware
GenWave Software, Dr T's 4-Op
Deluxe Software*



Roland

D-50

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LEGEND -
TODAY!**



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Tim Goodyer

ASSISTANT EDITOR
Simon Trask

STAFF WRITER
David Bradwell

PRODUCTION EDITOR
Debbie Poyser

PRODUCTION ASST
Bros Williams

ART STUDIO
ART EDITOR
Stuart Catterson

DÉPUTY ART EDITOR
Sam Masters

ART ASSISTANTS
Lynn Cooper, Alan Beeson, Sam
Gilbert, Darryl Tooth

PHOTOGRAPHY
Tim Goodyer, Adam Jones, E

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THE SHAPE OF THINGS TO COME?

"THIS IS A really creative time in terms of music and the equipment that's available. It's very unusual that so much has occurred in so short a span of time - the last thirty years."

David Torn
Music Technology, July 1988.

"Where will it end, this craze for things mechanical in music?" is a question that many are asking at the present moment. Every day, almost, sees some fresh 'piano-player' or 'orchestron', or other automatic noise-maker offered to the public, and apparently a market is found for them all, and a new development is now to be noticed in the concerts given by the 'piano-players', at which vocalists and solo instrumentalists are accompanied by these automata. The more pessimistic might be inclined to say that the professional pianist is doomed, and that the function of a critic will be reduced to that of an engineering expert. True, in the case of a 'piano-player', one is still the 'operator', but he need not be a very profound musician to do his work, especially now that recent developments make it possible for the particular 'readings' by famous players of certain expositions to be exactly reproduced by following given instructions.

"And from automatic piano-players it will be

but a step to the mechanical playing of other instruments, and even to the perfection of the automatic orchestra. But the craze, even if it should ever reach such lengths, will perhaps bring its own cure with it. Absolute correctness in art often becomes irritating, and it may well be that the public, sated with a brilliant perfection in the rendering of all the music they hear, would long for a mistake. And, after all, is there not a charm in the occasional slight hesitancy over a note, or the missing of one or two altogether in a difficult passage? And then, of course, there is the indefinable something in all art, that a mechanical process, however perfect, can never reproduce. But these will be the benefits resulting from an era of automatic music. The public will be saved from much atrocious playing, both professional and amateur, and, on the other hand, a player who has only a brilliant *technique* will fare badly. People will want something more than they can get from the machines in their own homes."

HJC
The Bystander, 23 December 1903.

"Plus ça change, plus c'est la même chose."
Alphonse Karr
Les Guepes, January 1849.

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S330 New Sampler with FREE Monitor	£1299
D110 Multi Timbral Expander In Stock	£550
MC300 Microcomposer In Stock	£820
Turbo Software for MC Series	Phone For Details
MC500 MK11 100K note capacity	£978
R880 Professional Studio Dig Reverb	£2370
E660 Digital Parametric EQ	£1288

Jones & Crossland have recently been appointed the Midland's Roland "SYSTEMS HOUSE." Phone for details of all professional products.

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Yamaha RX17	£299
Yamaha RX7 New Model	£649
Yamaha RX15	£199

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Fostex Model 80	£1399
S/H Fostex B16	£299
Fostex E16 New	£4500
SMPTe Synchronisers from XRI, Fostex	Phone for details
The New Tascam MTS30 is out of this world if you can't afford a SMPTe unit you must have one of these at only	£149

THIS MONTH'S SPECIALS

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New Roland S550, The Ultimate Sampler	£POA
New Akai S900 ex demo	£1050
New Akai S1000 New	£2699
New Casio FZ1, New Library Includes Disks From Denmark	£1299
New Casio VZ1 New	£POA
New Casio FZ10M New	£POA
Akai S700 Ex Demo	£699
Akai X7000	£899
Emax SE - Plus all other models available. Updates to SE & Hard Disk. Phone today for full info on the latest EMU products	
Akai MPC16 by Roger Linn Digital Sampling	
Drum Machine with 99 track sequencer	
c/w Library	£POA

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Dynacord DRP16 dig reverb One Only	£189
Akai ME20 Arpeggiator	£65
Akai ME15F Attenuator	£65
Akai PE06 Programmable Parametric EQ	£POA
Akai MB76 Programmable Mix Bag	£POA
Roland MPU 104 Midi Input	£50
Boss RRV10 dig reverb New Low Price	£149
Alesis Midiverb 11 New Low Price	£299
Alesis Microverb II, In Stock Now	£199
Alesis Micro Stereo Enhancer	£119
Alesis Micro Limiter Stereo	£119
Alesis Micro Gate Stereo	£119
Yamaha Rev 5	£999
Yamaha D1500, Ex-Demo, One Only @	£275
Yamaha SPX90 MK 11	£589
Audio Logic ADM 7.6 Sampler Delay	£339
DBX SNR1 Stereo Noise Reducer	£279
Art Multiverb Multiple Effects Unit inc 4 at 1 Time	£399
Art proverb 2000, remarkable new reverb/multieffects unit	£299
Art Proverb, One Only	£250
Roland SRV2000 dig reverb	£653
Roland DEP3	£345
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Yamaha GQ1031 Graphic	£215
Yamaha GC2020B Comp/Limiter	£285
Vesta Fire Rack Includes two parametric and one compressor CW	
PSU	£125
Jack 32 way patchbay	£33
DI Boxes, from	£29

MONITORS

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JBL 4401	£299
JBL 4411 ex demo	£999
Yamaha NS10M	£265
Yamaha NS40M	£690
Visonik David 6001 S/H	£88
JBL Control 1	£130
Fostex 6301B	£125

SEQUENCERS

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One Only - Shop Stock Yamaha QX3	£925
New Roland PR100	£350
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Yamaha PF85 Sampled Piano, One only	£999
Yamaha CP80 Electric Grand Ex Hire	£1599
Yamaha DX7s	£875
Yamaha DX7 11D New, In stock	£POA
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Yamaha P22200	£789

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Soundtracks T Series	£1899
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Seck 12:2 New	New Low Price £Phone
Seck 12:8:2 New	New Low Price £Phone
Yamaha DMP7 Second User	£2099
Yamaha DMP7 Ex Demo	£2699
Tascam M106 New	£349
Yamaha KM802	£245
Yamaha MVB02	£329
Tascam 216 16:4:2	£849
Tascam 308 8:4:2	£1095
Akai MPX820 Programmable Midi Mixer 8/2, Call For Demo	£899

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Comment

2

The pace is hot; no sooner than there's a new technical development it's old hat. How do you keep up with the world that is modern music technology?

Newsdesk

7

More informative than News of the World; more up-to-date than Ceefax; more exciting than the toilet wall . . . It's the Music Technology news page.

Interface

10

From building a Theremin to tracking down a band to syncing a drum machine – the answers are all to be found in MT's problem corner.

Communique

14

There's a long queue for the soapbox in this month's speaker's corner: new music and old music, good music and bad music. Even MT's in season . . .

Free Ads

93

The next act needs no introduction. Ladies and gentlemen put your reading glasses on for the free ads.

APPRAISAL

Clavia Ddrum 2

18

First there were Ddrums . . . Nicholas "animal" Rowland returns to his skin-bashing roots to test a Swedish electronic kit that aims to replace its acoustic relative.

Drumware GenWave/12

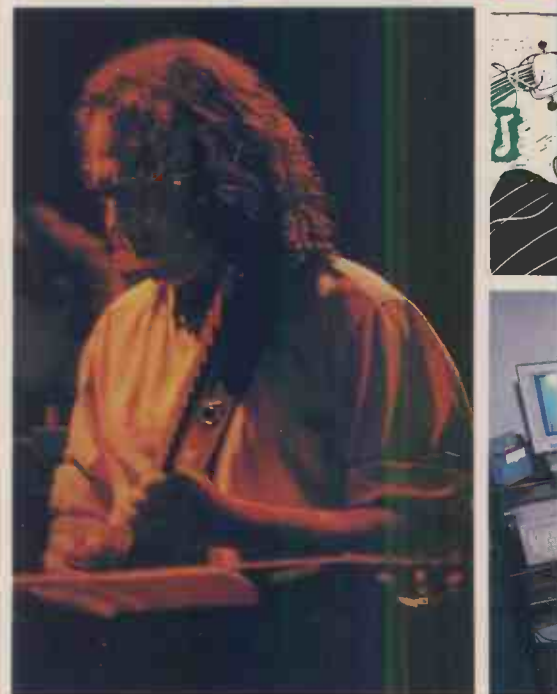
24

The first generation of generic sample editors for the Atari ST is led by Drumware's GenWave. Lorenz Rychner breaks the language barrier.

Korg M1

62

This synth/sequencer/drum machine with digital effects is the first instrument in Korg's new workstation series. Simon "Mansell" Trask takes it for a test drive.



Steinberg Pro24 III

72

The latest version of the industry-standard Atari ST sequencing package. Simon Trask finds out if software is fulfilling its promise to keep abreast of the times.

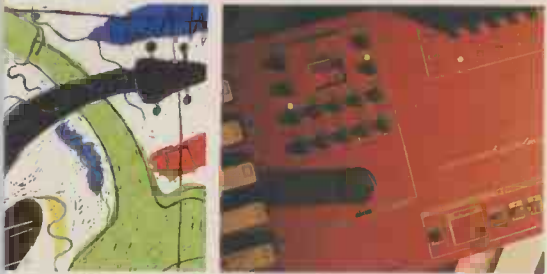
SDA Promidi Studio System

82

System Design Associates' Promidi Studio System is a powerful sequencing package for IBM and compatible computers that records straight to disk. Ian Waugh checks it out.

EVENTS

SEP 9 JULY 1988



FM 4-Operator Editors

87

Two software packages that offer a generic approach to sound creation on Yamaha's four-operator FM synths. Ian Waugh boots up Dr T's 4-Op Deluxe and the Soundbits 4x4.

MUSIC

Blue Mercedes

28

Pop hopefuls or Stock, Aitken and Waterman puppets? The men in Blue give David "newboy" Bradwell the inside story on the SAW production stable.

OutTakes

36

From the commercial world there's vinyl from Act, Claire Hammill, Anne Clark and Jane Siberry; from readers' bedrooms there are demos galore and onstage George Michael is strutting his stuff.

David Torn

40

Q: When is a guitar not a guitar? A: When it's part of David Sylvian's music. Taking time out from a hectic schedule David Torn talks guitar textures and musical crossovers with Tim "pretentious, moi?" Goodyer.

Scritti Politti

56

After three years out of the public eye, Scritti are straight back in the charts with a new LP and single. Green Gartside explains to Tim Goodyer why technology has replaced live performance.

STUDIO

Workshop Boys

46

A pro studio that's offering its facilities to new bands for free? Mike Myers tells Nicholas Rowland what's wrong with the record biz and how he's trying to put it right.

Secrets of Timbre

76

Don't touch those Level and Pan controls - you may be able to solve your mixing problems more easily than you think. Robert Rich explains how the timbre of a sound affects its performance in the mix.

TECHNOLOGY

Bass, How Low Can You Go?

32

It may be at the bottom of the mix, but it's often the heart of the song: the bass. Tom McLaughlin offers some sound advice on sampling the electric bass guitar.

Patchwork

52

A kit setup for the Alesis HR16 joins the more usual selection of readers DX and D50 patches in this month's Patchwork.

Lure of the Jingle

68

There's more than one way to a living out of music. Nicholas Rowland talks to the Pync Brothers about writing and recording music specifically for use in TV and radio advertising jingles.

RELAX



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SECK 18-8-2.....	£1,095
ENSONIQ ESQ 1.....	£652
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KORG DDD1.....	£347
SOUNDTRACS 12-8-2.....	£750
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YAMAHA QX21.....	£130
YAMAHA QX5.....	£240
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PHILIPS D6550 KARAOKE.....	£50
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ATARI 1040 + MON + DISKS.....	£465
TEAC V200 CASSETTE DECK.....	£69



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SYCO WAVE HELLO

WaveFrame Corporation of Colorado have teamed up with Syco in the UK, who will be distributing the WaveFrame AudioFrame digital workstation.

The AudioFrame will be on display publicly for the first time in the UK, at this year's APRS at Olympia. Many new features will be demonstrated, including SoundStore, a high-speed storage sub-system for the AudioFrame capable of storing up to 900Meg of data and loading 1.25Meg per second, and the Digital Sound Processor Module, a signal processing engine running DSPProcessor software, which configures the module as a "virtual" 16:4:2 digital mixer with stereo effects. Reverb facilities include stereo inputs and outputs, algorithms for Hall, Chamber, Plate and Reverse, and include pre-delay, decay, size, gate

SON OF SMPTE

Friendship, the German manufacturers of SMPTE reading clocks including the popular SRC, have introduced the SRC AT, first of a new breed of SMPTE reading clocks offering a very simple user interface, combined with a one ten-thousandth of a BPM tempo resolution; this is designed to detect minor changes in SMPTE rates from other manufacturers, and also to give the user

EMAXIMUM CONTROL

Following an item in last month's Newsdesk, Advanced Recording Concepts are announcing the first of their Professional User Network groups, the Emax Sound Control group.

Officially endorsed by E-mu Systems UK, the group will offer access to a library of over 100 Emax

WRONG NUMBER

Your mother always told you: don't believe everything you read. Especially if it's the address of Simms Computer Music as it recently appeared in their advertisements.

ARS UP

The 6th annual UK Electronica has been fixed up for Saturday September 3rd, and will be held at the 600-seater St John's, Smith Square, Westminster SW1.

The day-long festival will feature music, light shows, videos, lasers and computer graphics, and this year will concentrate mainly on the wealth of

NEWSDESK

time, HF and LF decay and effects mix. DSPProcessor provides full dynamic automation of all mixer and reverb functions via MIDI and the AudioFrame's Event Processor software.

Now stop drooling, and don't even think about the price.

More from Stephen Paine, Syco, 20 Conduit Place, London W2. Tel: 01-724 2451. ■ Dp

infinite tempo control.

The new unit also features a learn-from-MIDI clock mode, and is designed to work with computer-based systems, where the user can make all tempo changes within the sequence, transfer them into the SRC AT and reference it to SMPTE.

The price of the SRC AT is £608 plus VAT.

More from MCMXCIX Distribution, 9 Hatton Street, London NW8 8PR. ■ Dp

sound disks, 2 newsletters per year and special offers to members on Emax peripherals.

Annual subscription is just £5 and disks are available for as little as £3 each; more info can be obtained by sending an SAE to Emax Sound Control, PO Box 107, Farnam, Surrey GU9 8EF. ■ Dp

Both the people at the shop and the residents of 387 Southampton Road would be happy to see mail for Simms correctly directed to 87 Southampton Road, Park Gate, Southampton SO3 7AF. ■ Tg

talented musicians working in the UK.

A provisional list of performers includes leading UK synthesist Ian Boddy (now on his fourth album release), Kevin O'Neill, popular ambient music composer from Cardiff, Steve Hillman, who has performed at the UK Electronica in previous years, and Quiet Point, the high-tech rock duo from Sheffield. Also on the list are Mark Jenkins and Ashok Premá, founders of UK synthesiser label, AMP Records, and

CMC HEIST

The music department of Central Manchester College (CMC) has been burgled. As Shaw Taylor would say; sometime during the weekend of 3rd June 1988, person or persons unknown broke into the East Manchester Studio and made off with most of the equipment installed there.

The list of stolen equipment is lengthy and worth a considerable amount of money - around £25,502 - so here goes: Fostex El6 (s/n 0700256), 4030 Synchroniser (0700 124), 4035 Sync/controller (0900 234), Yamaha SPX90 processor (42300), SPX90 MkII (8922), DX7 synth (141355), CX5 computer (001 545), PSR70 synth (036042), RX2IL

MONKEY AROUND

Now you can really hear what you're buying. Monkey Business of Romford have opened a 32-track studio/demo facility to head their new pro-audio sales division.

The air-conditioned facility is equipped with an impressive array of gear, including two synchronised Fostex El6s, two rackmount Akai 12-tracks, Atari ST systems and a

CRYPTIC COMPETITION

What can only be described as a cryptic communication arrived on MT's Newsdesk at the time of going to press. It read "Official Order Form. For July edition. The CDP/Keele Competition. Winner receives

Steve Palmer with The Land of YRX, a guitar-led experimental rock band. New faces include Daniel Biry, better known for his film soundtrack work in France. The list is subject to change, as it is expected that at least one more major performer will be announced before the show goes on.

Specially created videos, slides and live computer graphics will accompany a spectacular laser show from Golden Light, and most of the leading new age and synthesiser music

drum machine (716242), MIDI Station (2884), PSR21 keyboard (164222), Q2031 31-Band graphic equaliser (11403), Roland Alpha Juno 2 synth (678286), MT32 (865045), PG300 programmer (716242), Akai S900 sampler (20355-00938), ME30P MIDI patchbay (20250-00239), 3 Atari computers (A183K3012660/A18 3K3012661/A161A1000981), 3 Atari mice (PI565027289/PI575083303), Simmons SDS9 electronic drums (05 901), MTX9 expander (00479), Denon cassette recorder (7332037), Drawmer DS201 gate (4214), DL221 comp/limiter (2471), Dual Noise Gate (4738), Revox B77 open reel recorder (161169), Tascam Porta 2 multitracker (30461), Bell BD80 sampler/delay (3089), ADAP sampler (370074), Clarissa acoustic guitar, Korg DS8 synth (007193), Sanyo stereo amp (18244664), 5 MTR 40-hole patchbays.

As well as suffering the distressing loss of the equipment, some of the students' work was "damaged", further adding to the unpleasantness of the incident. The college and the police are anxious to hear from anyone who can help recover the missing equipment or assist in the enquiries. CMC can be contacted at East Manchester Centre, Taylor Street, Gorton, Manchester M18 8DF, or call Vince Wilkinson on 061-223 1628. ■ Tg

complete range of effects and outboard gear, plus a helpful and understanding manager who is prepared to spend as long as necessary ironing out your particular hassles (and helping you to spend your money). More info on Coconut Grove from Monkey Business at 66 Victoria Road, Romford, Essex RM1 2LA, or call Alan Pollard, the studio manager on the studio hotline, (0708) 33306. ■ Dp

£400 commission. For further details write to Tom Williams, CDP/Keele Prize, Music Dept, The University of Keele, Staffs ST5 5BG. Closing date 16 July 1988. We were going to write but there wasn't time... ■ Tg

retailers will be on hand with a wide range of special offers. The entire show will be videotaped for possible broadcast. Sounds like a cosmic day out.

Tickets will cost £5 for daytime performances, £7 for evening performances, £10 for both, and are available from the box office at St John's or by post. For further information, call Mark Jenkins on 01-885 5665. ■ Dp

PERSONAL SERVICES

An extremely affordable MIDI interface for your PC is being launched by a small company called PC Services.

The PCS MIDI interface is priced at just £89 inclusive of VAT, and consists of a half-length expansion card that takes up one slot in the PC, and a case to house the MIDI In sockets (how considerate). A cable is supplied to connect the card to the case housing the sockets. You get one MIDI in, one Thru and two Outs with the interface, and that's not all . . .

You will also get a MIDI control program which gives complete technical info on programming the interface on the PC, and software for downloading and editing DX7 and DX21 voices. In addition, sequences from the QX21 can be stored to disk,

and basic real-time play and record routines are included. PC Services hope that the inclusion of these handy facilities will demonstrate to the user what can be achieved fairly easily and quickly, and provide incentive for people who would like to develop their own software. All necessary information to this end is provided, and a simple sample program in basic and Turbo Pascal is provided on floppy disk to illustrate how to program the interface.

Other MIDI devices are being added to the list, and PC Services are currently developing a step-time sequencing program. An information sheet with technical details is available on request from PC Services, 40 Rowden Road, Beckenham, Kent BR3 4NA. ■ Dp

ALL SYSTEMS GO

The strangely-named Poke Limited of St Albans have cottoned on to the fact that lots of people out there would like to have their work done for them. With this in mind, they've come up with a Portable Professional Sequencing System, consisting of a 640K IBM PC/XT compatible with a 25x80 LCD, one or two disk drives, a Voyetra OP-4001 MIDI interface, and Voyetra Sequencer Plus MkII or MkIII software (reviewed in the May issue of MT). The package comes complete with a soft carrying case.

The LCD screen is backlit, and has adjustable viewing angle and contrast control; the video adapter can

emulate either a Monochrome Display Adapter or a Colour Graphics Adapter, and it can drive a standard IBM-compatible monitor; the active display (either the supplied LCD or external monitor) is software-selectable. MS-DOS 3.3 comes supplied with the system.

Prices for the PPSS start at around £1500, not including VAT, for the system supplied with a single disk drive; other options include a 20Meg hard disk, internal modem and external CRT monitor.

More from *Poke Limited*, 54 Cambridge Road, St Albans, Herts AL1 5LD. Tel: (0727) 51962. ■ Dp

ALL CHANGE

The closing date of the International Performance Competition, part of the Second Electro-acoustic Music Festival in Newcastle, has been changed from Friday 10th June (as stated in last month's *Newsdesk*) to Friday, 24th June. This is the correct deadline for the submission of tapes for consideration.

More information on the details of the competition (which is offering the Northern Arts award of up to £1000 as first prize, and a lunch-time concert with a fee of £125 as second prize) can be obtained from Douglas Doherty, Department of Music, The University, Newcastle-upon-Tyne NE1 7RU. Or you can call Douglas on 091-232 8511, extension 2733. ■ Dp

MIDI BASSICS

Owners of the 360 Systems Promidi Bass might be interested in Argents' library of alternative sound chips for their little black bassbox.

The 15 "Standard Series" sounds include familiar samples from the original MidiBass: Arcò Bass, Tympani, Mini sawtooth and pedals, and DX-Nifty at £29.99. The 34 "Studio Series" range from soprano, tenor and baritone saxes, Pipe organ, Long

gong, Kawai grand piano and more exotica, through to the conventional picked and fingered Jazz, Ricky and P-bass sounds. You can get your greasy paws on the Studio Series for £37.99. The nine "Sound Sets" at £47.99 each feature pairs of Minimoog, Ripper, DX and other popular bass sounds with more to follow in the coming months.

Further details from Argent's, 20 Denmark Street, London WC2H 8NA. Tel: 01-379 6690. ■ Dp



HEADCASE

HW International, distributors of Shure Products in the UK have put their heads together with a UK manufacturer of radio systems, to produce a range of lower-priced DTI-approved radio mics incorporating Shure components. The range includes a headset mic, the HW10, of the kind so beloved of busy and image-conscious keyboard players. Two other systems will also be

available; the handheld HW58 (incorporating the Shure SM58 head), and the HW839 lapel mic.

Strutting your stuff without strings will cost you £425 retail for mic, transmitter and headset systems, or £225 for mic and transmitter only. Five different frequencies, colour-coded for ease of recognition, are available.

More from *HW International*, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-607 2717. ■ Dp

EXILES RETURN

A veritable plethora of useful MIDI functions will soon be available in the form of the Digital Music Corp MX8 MIDI Patchbay/Processor. Exile Music Distributions are now handling distribution for Digital Music Corp of California, and the MX8 is the first new toy available.

The MX8's functions include Route/Merge (six inputs to any eight outputs, or merge 2 inputs to any MIDI output, Patch Chain (send up to eight program change commands with each setup to any output on any MIDI channel), MIDI filters, Transpose and Mapping (four zones).

The price of all this MIDI magic? A mere £395.95.

Exile also announce the launch of the Prosonus Code Disc, a CD which can turn your CD player into a Time Code generator; the disc has audio cues, corresponding with the digital display on your CD player on one track, and guaranteed drop-out free time code on the other. It's available in NTSC standard 30 frames per second or EBU standard 25 frames per second, and will be selling for £45.95 including VAT.

More from *Exile Music Distributions*, 232 Battersea Park Road, London SW11. Tel: 01-720 4062. ■ Dp

DAT'S COMPETITION

The trickle is becoming a flood . . .

Both HHB and the Synthesizer Company are now directly importing DAT machines: HHB are extending their range in response to customer demand, to offer a complete "family" of DAT recording equipment. New from HHB are the portable Sony PCM2000, with built-in time code facilities and AES/EBU interface, and the TCD-D10, a compact, lower-priced unit. More information on these from HHB Hire and Sales, 73-75 Scrubs Lane, London NW10 6QU.

Tel: 01-960 2144.

On the Casio front, The Synthesizer Company are importing the DAI portable DAT machine, which is very compact (about the size of the average person's hand), yet still full-featured, allowing you, for example, to name tracks and search for them by name. The DAI is priced at £799 plus VAT, and more information can be obtained from The Synthesizer Company, 9 Hatton Street, London NW8. Tel: 01-258 3454. ■ Dp

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(MT Review, June, 1988)

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KORG DS-8 (New).....	£299
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YAMAHA DX21, S/H.....	£399
YAMAHA DX7 Mkl, S/H.....	£575
YAMAHA CS80, S/H.....	£199
YAMAHA PF10 Piano, S/H.....	£399
ROLAND SH101, S/H.....	£99
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ROLAND TR606, S/H.....	£69
ROLAND TB303, S/H.....	£89
ROLAND MKS7, S/H.....	£399
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ROLAND S10 (with case).....	£699
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ROLAND D10.....	£785
ROLAND D20.....	£1,150
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ROLAND MKS70 Anal Rack.....	£699
ROLAND JX10(2).....	£1,280
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ROLAND D50/D550.....	£POA
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ROLAND RD250S/300S.....	£POA
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1000 Series Specifications

Note Channels:	1000 PX, K1000: 24 Channels. 1000 GX, 1000 HX, 1000 SX: 20 Channels
CPU:	68000
Sample Format:	16-bit floating point, 7X oversampled, with 20-bit sample accumulation, 17-bit/D/A converters, processed with pre/de-emphasis.
Outputs:	Line level stereo.
Programming RAM:	Battery-backs RAM for up to 64 user-defined programmes. Programs may consist of up to 4 layers/splits.

K1000 Additional Specifications

Keyboard:	76 notes, velocity sensitive, lead-weighted plastic keys.
Inputs:	2 switch pedal inputs (sustain and sostenuto).
Headphone Jack:	Stereo headphone output, 1/4" jack.
Preset (ROM) Programs:	115 presets, including grand pianos, electric pianos, electric organs, string section, choirs, clarinet, vibes, trumpet, acoustic bass, baritone horn, 11 digital waveforms for synthesis.
Front Panel:	10 multi-function buttons, 3 bank-select buttons, 10 preset-select buttons, 32-character LCD, Volume and data sliders.

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NB de heads are OK man.....	
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ALESIS HR16, S/H.....	£349
ALESIS MMT-8 Seq.....	£299
ALESIS MMT-8, S/H.....	£225
KORG SQD-1 Seq, S/H.....	£345
KORG SQ-80 Seq.....	£299
ROLAND PR100 Seq.....	£399
ROLAND BX600 Mixer.....	£170
ROLAND BX800 Mixer.....	£225
ROLAND BX16 Mixer.....	£450
DESCTECH 6:2 Mixer.....	£225
DESCTECH 12:2 Mixer.....	£350
DESCTECH 16:2 Mixer.....	£435
TASCAM Rec Mixer, S/H.....	£
NOMAD Axeman.....	£299
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A Rarity . . .

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INTERFACE

Your questions answered by MUSIC TECHNOLOGY's resident team of experts. If you have a query about any aspect of music technology, or some information that might be useful to other readers, write to Interface at the new editorial address, and include your address and day-time phone number.

Q I recently purchased a Roland TR808 drum machine with the intention of using it in conjunction with my Yamaha RX5. I knew the TR808 wasn't MIDI-equipped, but I thought I could link the two instruments together from the RX5's External Clock In/Out jacks. As I soon found out to my cost, this isn't possible - presumably because the RX5 is expecting a CV/gate pulse while the 808 uses Roland's Sync 24 system.

You've probably guessed what I'm about to ask: is there any kind of Sync 24/MIDI converter, or alternatively a converter between the Sync and External Clock jacks? Any information would be most gratefully received. Thanks.

■ Paul W Gibson
Brackley
Northants

A Don't reach for your cheque book yet - you can get the TR808 and RX5 to run in sync.

The problem you've run into is not in the type of sync pulses the two machines talk, but in a start/stop signal that the TR808 needs to see before it will run as a slave unit. The Sync 24 (five-pin DIN) socket on the rear panel of the TR808 is wired as follows: pin 1 - Start/stop; pin 2 - earth; pin 3 clock. Making up a lead to connect the earth and clock pins to the RX5 shouldn't present you with any problems as long as you know the difference between a soldering iron and a number four iron. The start/stop signal can be taken from the start/stop footswitch jack on the RX5. Obviously, to incorporate this your lead will have to be a split lead (five-pin DIN and 1/4" jack at the TR808 end), but it's considerably cheaper than buying a synchroniser.

The RX5 now becomes the master drum machine. You must switch the TR808 to "slave" using the switch on the rear panel and press Start before starting the RX5. The TR808 should now read the RX's clock pulses quite happily, starting when it starts

and stopping when it stops. The only problem is that it won't automatically reset itself to the start of a pattern when the RX5 is stopped - you'll have to switch it back to "master" each time. ■ Tg

A Re Elizabeth O'Toole's letter about Theremins (MT June '88), it may be of further interest to know that this device was invented in 1924 by a Russian scientist called Leon Theremin and consisted of two oscillators controlled by the proximity of hands to antennae. It was used as a magician's trick, but musically it achieved something of a milestone in 1945 when Miklos Rozsa wrote for it in his Spellbound Concerto for the film Spellbound, where it was used to provide an appropriately ethereal background. He also used it in the later production of The Red House.

A full constructional project to build a Theremin is contained in book number 203 Integrated Circuits and Transistor Gadgets Construction Handbook by BB Babani, Bernard's (Publishers) Ltd. I don't know if the book is still in print, but I'm willing to sacrifice my copy if it proves impossible to obtain elsewhere.

I trust this may be of value to you.

■ AL Grant
Romford
Essex

A Further to Elizabeth O'Toole's letter in the June issue of MT asking about the Theremin, a firm called Imaginatronics sell a Theremin kit for £12.75 inc VAT plus 75p for p&p. There's an advert in the July issue of Practical Electronics.

I hope this is of some use to you.

■ John Roskilly
Southsea
Hants

A In your reply to Chris Wareham's letter (June '88 Interface) you said the Atari 520ST has a built-in single-sided disk drive. There may still be some 520s in the shops with single-sided drives, but all the new 520s (ie. since the price increase) are now fitted with double-sided drives.

■ David Sanderson
Sheffield

A I am very worried about the computer viruses that I hear about. It is difficult to explain just how damaging a carefully written virus can be - highly infectious in its incubating phase, and highly destructive in its attacking phase - but subtly so, in order to give the victim no chance to use any form of backup. I can, however, offer some advice and assistance.

Do not run any software unless you are completely certain about what it does. Software downloaded from bulletin boards is a prime candidate for spreading viruses and (I hate to say this) public domain and shareware is another good way to catch a virus. Make sure you get your shareware from a proper user group or other reputable source, not a commercial bucket shop that just wants to sell disks.

If you do get hold of a virus (or think you have) send me a specimen and I will try to write an antibody to it, a program that will seek and destroy the virus.

I can offer a program that will write-protect your hard disk, so that any virus trying to infect it will throw up a Write Protect error message. You can use this when trying out software that isn't supposed to write to your hard disk, or else use it routinely as a permanent protection, keeping your information on floppies. Anyone who wants a copy, send a photocopy of this page and £5 to Dr Solomon (Anti-Virus Offer), 31 Holloway Lane, Amersham, Bucks HP6 6DJ.

THE GOODS

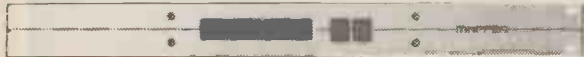
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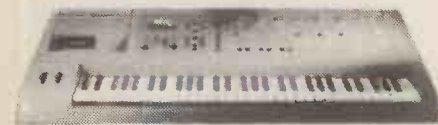
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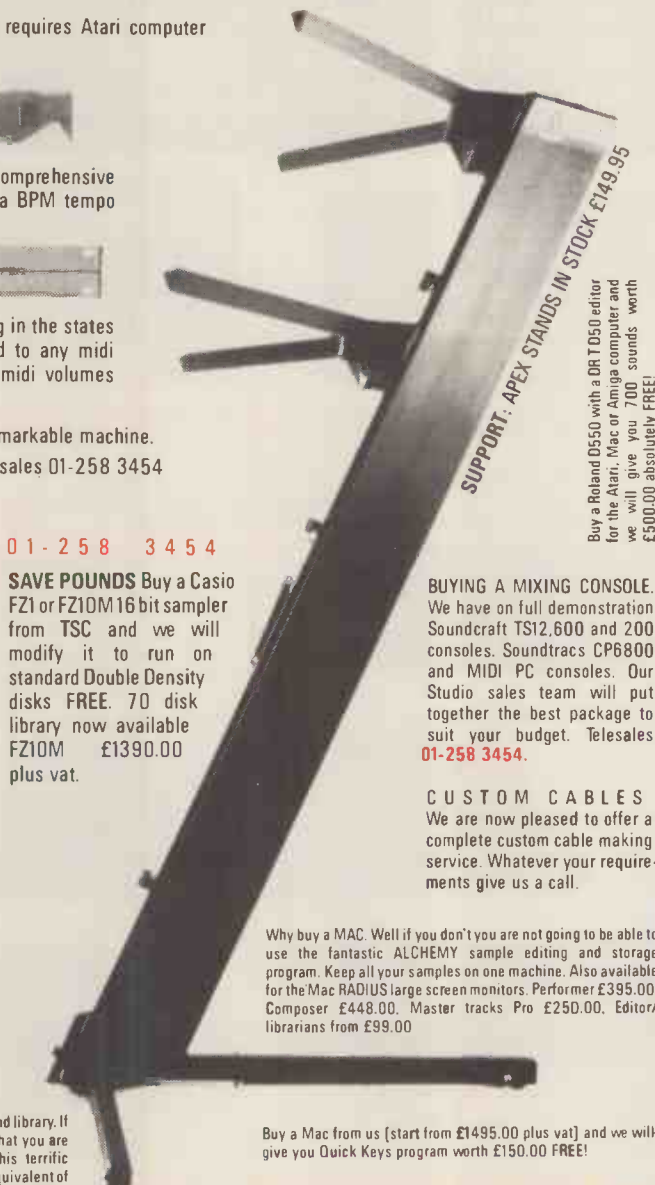
SIMMONS SDX 16 bit 8 meg memory (80 seconds) 16 voice built in CRT and 20 m/b hard disk prices from £4900.00 plus vat.

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 - 4 AKAI/LINN MPC60
 - 5 SIMMONS SDX
 - 6 ALCHEMY SOFTWARE
 - 7 MASTERTRACKS PRO SEQUENCER
 - 8 ROLAND PC100 KEYBOARD
 - 9 AKAI S1000
 - 10 ACOUSTIC ENERGY AE2'S
- compiled from a list of customer enquiries



PORTABLE DAT While most manufacturers are holding back from launching DAT in Britain. The Synthesizer Company has taken the bold move of importing a portable model direct from Japan. The Casio DA-1 is the smallest model seen in Britain so far and costs only £799.00 plus vat.



ROLAND GOES DIGITAL

The R880 professional digital reverb and E660 digital parametric equalizer are the first of a new range of pro audio products from Roland to feature AES/EBU digital

interfaces. At TSC we feel that the quality and price performance of these new innovative products are unparalleled and are sure to become industry standards.

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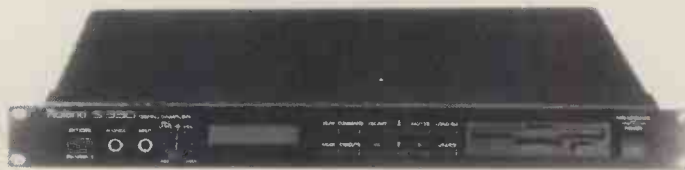


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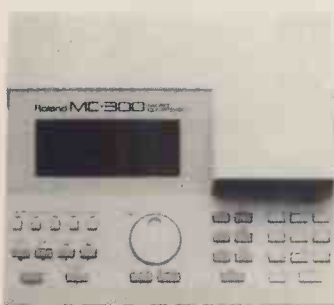
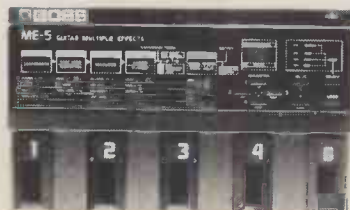
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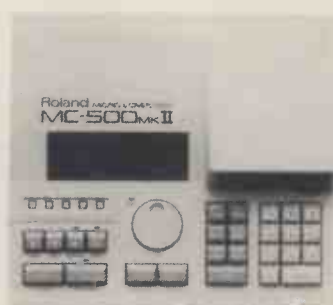


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COMMUNIQUE

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

Rock On

Nice to see *I caused such a stir - I'm afraid, Baf of Bristol and Wendy of Brum, I must point out that I am well acquainted with the music of the late '80s - DJ/hip hop/rap and so on. Fortunately it has about as much staying power as a shire horse in the Grand National. Why let these manufactured idiots lead the Great British lemmings over the precipice?*

Musical individualism is not to be found in any of these avenues. In two years' time the record companies will invent some new kind of torture and the current pop trends will vanish into obscurity. Some young friends of mine have just made a conscious break from being force-fed radio pulp and discovered James Marshall Hendrix. They are now beginning a "voyage of discovery" through the '60s and '70s.

Music is currently all about fashion - the trends change from week to week. Musical longevity is impossible because of the rubbish that is being churned out. The pop leaders are supposedly the rebels of the day, like the Rolling Stones and the Who were in the '60s - but are they? No. The real rebels are the ones that can see through the facade. I recently did a TV gig (live!) where "current musicians" were invited to join in at the end - John Wetton, Phil Manzanera and those Cutting Crew chaps, were the only ones to say "yes" - and jolly good fun it was too.

The answer? A little education, perhaps. I understand what's going on now, do you understand what was going on then? Check out: Refugee, Trace, Solution, David Sancious, Terry Reid, King Crimson . . . The list is endless.

To Chris Frost (Communique, June '88): I have several Weather Report albums, Return to Forever, McLaughlin and so on. I used to play jazz and jazz-rock and worked with Hancock and Moraz. The problem is that the music does tend to disappear up its own bottom from time to time. The English jazz-rock scene offered some hope

with UK, Bruford and Brand X, but the light flickered and died. I'm afraid I've been through the jazz era and out the other side. Some of your comments were well valid - proficiency isn't everything, I agree - The Beatles were one of, if not the, best bands to exist. Cop those melodies. Just remember jazz and art are heavy allies and when art takes over music leaves.

To John Gambold (Communique, June '88): nice one John, couldn't put it better.

■ John Young
Liverpool

Dear MT

Play On

John Gambold (Communique, June '88) attempted to make some cogent points about an apparent phenomenon - the only people who can be musically creative are those who can't play their instruments properly. He failed miserably.

He failed mainly for two reasons: one was that such a phenomenon does not exist, the other was that his letter was really all about personal taste. In essence all he said was that he likes some types of music and dislikes others - therefore they're crap.

The reality (which clearly irritates him) is that the music he dislikes so much is far more popular with the record-buying public than the music he likes. Most people would simply accept the situation, realising that the question of what sounds good and what doesn't is a purely subjective one.

Unfortunately John Gambold doesn't - and blames the user-friendliness of technology, the "easy option", as he puts it, for this terrible state of affairs. He then goes on to contradict himself by stating that the "solution" (to what I'm not certain) is to learn to play, which he then states is easier than trying to master technology.

Oddly enough most of the arguments and examples he uses to support his case are more valid when used to support the opposing viewpoint. It's true, having a word

processor doesn't make you a good author - but it does enable somebody with genuine writing talent (who might have illegible handwriting) to present their work in an attractive and legible style. Technology is merely a tool - use it.

As for 20 years in the business and sell-out concerts being a prerequisite for creative talent, where do Status Quo or Brian Eno fit into all this? It's an irrefutable fact that being able to play an instrument well does not automatically enable us to create more interesting music. Personally I've found the opposite to be true, but that's just my opinion, John. What's evocative and stimulating to one person can bore the tits off another.

It seems to me that the advancement and availability of technology has enabled more and more creative people to bring their ideas to life, which is something they couldn't have done a few years ago - perhaps they can't play proficiently or can't find other musicians with compatible ideas (see Tom Dolby interview, MT, June '88). I fail to see how this development can be a bad thing.

John Gambold concludes by relating some of his personal experiences, so I'll briefly do the same. I've spent over ten years in and out of various bands in an attempt to get something going that would satisfy me personally. Occasionally it's worked well but never as well as in the last couple of years because I've been working alone with technology - I've been able to produce recordings that are pretty close to how I originally envisaged them.

In the past I've involved people with formal training in my projects. My experience is that they'll happily churn out anything you give them as a score but dry up if you ask them to experiment. My guess is that it's because they've been indoctrinated by their training. Now, if I ever want to incorporate something as intricate as a scored piece in my music I'd be able to do it in step time with a sequencer.

I suspect I do have something in common with John Gambold: I have an intense

dislike of a lot of current chart records that use technology. But I also realise that this is just a tiny part of what's happening and what's possible. Music, and its creation, is too important and pleasurable to be the exclusive property of Gambold's elite. Thankfully, I'm sure that can never be.

■ Dave Thompson
Manchester

Dear MT

Champion Taste

First of all, I must stress that I'm not writing to slag anyone off; I only want to disagree with and express my own rational opinions concerning a letter from Louis M Champion which was printed in the May '88 edition of Music Technology. I would simply like to make him aware of the contradiction implicit in the third paragraph of his letter: isn't "good music/bad music" even more of a categorisation than today's "classical", "new age" or "pop"?

Secondly I'd like to touch on a more philosophical point. "Good" and "bad" are relative words - they express opinions rather than facts. There's some music I think is "good" that other people will consider is "bad", and vice versa. Applying Mr Champion's definition of "bad" music, do all the boys and girls who go out and buy Bros or Wet Wet Wet records have appalling taste in music? I don't think so. Just glancing over at my own record collection, I see Johnny Hates Jazz's Turn Back the Clock album leaning against the wall, partially obscuring the 12" of 'Love is the Art' by Living in a Box. Elsewhere there are hints of A-ha and Level 42 among other groups who seem to sell a lot of records these days.

Also prominent in my strange piles of black vinyl are Rachmaninov's Piano Concerto No.2 and records by YMO, Sakamoto and - spinning on the turntable even as I write this letter - M/A/R/R/S. Does this mean I have good and bad taste in music? I like to think of myself as having good taste in music full stop, since I like what each artist or group in their own unique way has to offer.

There are types of music I genuinely dislike (yes, Mr Champion, I'm human too). For instance, I don't listen to any Stock, Aitken and Waterman productions if I can possibly help it (and believe me, that really is a challenge!), but who's to say that their music is "bad" by definition? Me? Would I be right and x million Rick Astley fans wrong? I'd like to think so, but I doubt it really.

■ Tadashi Fukutome
Surbiton
Surrey

Dear MT

Mechanical Performance

I like kitsch, I like pop music, I am 25 years of age, I've just been to see George Michael in concert - and I urge you all to throw your sequencers out of the window.

Yes, this is another "music technology is killing music" letter. George Michael's tour is aptly named "Faith": I've just lost mine, both in George and in anything to

do with computers in music. MT's pages have often been filled with arguments pro and contra the use of technology in the production of records. Well, tonight I have witnessed how much damage technology can do to "live" music.

Believe it or not, George actually put a distinguished group of musicians on his stage only to have them mime to a battery of sequencers - in front of 8,000 screaming fools.

Picture this: the musicians look pretty (if a little embarrassed) while the computers provide the music. Every now and then, the bass player is allowed to move his middle finger down the E string for effect, but most of the time he stands around inactive and somewhat lost. Even the acoustic guitar solos came out of that favourite box labelled "sampler". And let's not even talk about the drums - or the keyboards, or the horns, or the percussion, or the backing vocals for that matter.

But there's more. The stage is framed by two huge SMPTE-code displays; every 24th of a second is under total digital control. Behind the mixing console (which is computerised, of course) is a bank of PCs and Macs, complete with operators. It's these people who call the tune (literally). The music is run by computers, the (admittedly amazing) light show is run by them - even George Michael is run by them. His every move during a two-hour set corresponds to the predetermined music/lighting sequencer patterns.

The result of all this? Yes, pop will eat itself. It's a dreadful, dreary, droopy overdose of musical slush, sadly lacking in spontaneity and sparkle. Even great Wham! songs failed miserably to create any real excitement. As an uninteresting bass sample droned on together with the standard 4/4 rhythm box, my feet fell asleep. It was all so perfect! Aargh! And why!? There was only one exception: a version of 'Lady Marmalade' ("Voulez-vous coucher avec moi" indeed) was really played live by all the band. It was a gem, and finally got the house moving.

I went to see George "live" because I believe he is a brilliant songwriter, a great pop star and a brilliant poseur (or as my girlfriend tells me: "What a bum"!). I also happen to rather like this Atari ST computer, which, when it isn't writing letters, helps me to run my own bank of synths, samplers and a drum machine.

But on this night I am confused. Suddenly my Pro24 scares me. Can't George simply get a bassist to play his piss-easy basslines? Can't he afford a horn section? Can't he have a real drummer play along to a click track (Okay, so the light show has to be synchronised)? I believe he just doesn't want to. He, you and I have all been bitten by a bug called "music technology" - anything goes, the RAM's the limit. Unfortunately, this just doesn't work.

Maybe when discussing music technology we should really be asking ourselves which wood gives the best sustain to a bass guitar, or how to tune an upright piano. Be a musician - throw away that sequencer today!

■ Jens Meurer
Paris
France

Dear MT

Restrictive Practices

Thanks for a magazine which makes all the reviews as unborng as possible and the interviews more than "this is the gear I use". The reason I read MT is because it charts developments in attitudes towards technology alongside all the factual stuff.

So it comes as a little shock to find a friend of John "head in the history books" Young popping his greasy head up. Yes, it's another one of those letters. How nice it is to see those people with a head as opposed to an extra buttock talking about creativity and good or bad musicians. However, I feel there is more needed to push the message home.

We mustn't start getting up in arms against traditional musicians or traditional skills, but rather against restrictive traditional attitudes. The big problem for the two Johns is that they cannot comprehend the blurring of definitions of "instrument" and "tool" that new technology has brought about. If it communicates something through a sound medium then surely it's an instrument. A prat with a guitar will sound just as bad as a prat with a turntable or a prat with a Fairlight. Using computers as digital event recorders is just an alternative to using tape, which is why they often work alongside one another. The people who cling to their printed music with its low resolution are the people who are restricting themselves, because only tape and MIDI have the accuracy to communicate feels and timbres by using the sound medium.

Music relevant to the late '80s? "That's utter bollox, matey" (to quote Chris Frost from last month's Communique). Dig out some mid-'80s music and see if that has lasted. To my ears, 'Two Tribes' sounds as fresh as ever, as does Depeche Mode's 'Master and Servant' and - even earlier still - Howard Jones' 'Newsong'.

The point I'm trying to make is that sounds are as intrinsic to the final product as any other input is, so just because something gets clever in the sound department doesn't mean it won't last. Would Sade sound as good without the great production, or 'Two Tribes' sound as good without Frankie's original song? I think not. Making a finished song requires various inputs: performance, arrangement, programming, engineering, mixing and so on. In some cases, inputs are fixed or not required, but if an essential input falls short then so does the finished song.

John Gambold's reference to "Sharons boogieing round their handbags" highlights how in touch he is, obviously having never been to a "real" club. The whole point of dance music by itself is to communicate escapism, and in the current social climate it's easy to see why the charts are so dance-orientated. To quote Madonna: "Only when I'm dancing can I feel this free".

Mr Gambold also seems to have no awareness of how sampling has led to a general openness among many newer musicians, causing more interaction between musical styles. At the moment I believe the chart is more interesting than it

► has been for a long time, and therefore I hope the combined attitudes of people like John Young and John Gambold don't stunt the current widening of the chart spectrum.

On the subject of plagiarism (hello, are you still with me?), I think the people that SAW plagiarise most are themselves. Most people with their ears switched on can tell a current SAW single or remix at first hearing. It's really rather a shame after the delights of their early productions such as 'Venus', 'You Spin Me Round (Like a Record)' and 'Showing Out'.

Finally, with reference to your Comment about DAT copying (MT, June '88), I'd like to quote a statement made by Factory records in Q magazine:

"We find the British record industry's negative attitude to DAT releases ludicrous and counter-productive . . .

"1. The dangers of copying will only be fought off by a continuing attention to the fetishism of the artifact: the desire of the fan to possess not just a piece of music but a piece of the artist, by the purchase of the official item. Concentration on design, packaging and the artists' role in this set of product imagery will eventually render copying a minor irritation. Clearly, not to release on DAT will make DAT copying more - rather than less - attractive, which is why we find the rest of the industry's Luddism so insupportable. The role of the artifact is clearly reflected in pre-orders for the new Durutti Column DAT of 1,000 together with CDV orders of 1,500 - both figures way in excess of the number of machines that exist in the country.

"2. Technology is a moveable feast. The unmatched sampling between CD and DAT, the imminent digitisation of Copycode, and the development of one-copy systems will soothe all fears by the end of the year.

"3. Quite simply, you deal with Digital Audio Tape by using Digital Audio Tape, not by sticking your head in the bureaucratic sand of the BPI."

I think that says enough, and has implications beyond DAT. Going to keep up the good work, Tim?

Yours with disgusting sincerity,

■ Tev
Boston
Lincs.

Dear MT

It's a Steal

There's no doubt that sampling technology has opened up vast new horizons for the composer, musician and creative recording enthusiast. I feel strongly that one should be free to take snatches of recorded music and reassemble them to make new, exciting pieces of music without being hampered by the threat of copyright infringement. Musicians have been doing this with chord progressions and melodies for a good many centuries (how many of Bach's masterpieces were based on old folk tunes?). As long as the person doing the sampling makes no bones about his raw material coming from existing sources, and credits the relevant people, I can't see what all the fuss is about. If need be, pay the copyright holder a fee for use of the material - but don't put restraints on what

could very well be one of the most creative periods in modern music - new music from old.

However, this does not apply to acoustic events ie. sounds. No amount of tweaking, filtering, reverberation or outboard treatment will make these sounds anything other than someone else's property. For instance, let's take the situation of companies and individuals who sell sample tapes of sounds from popular drum machines, samplers and synthesisers. The manufacturers of the units from which these sounds have been plagiarised have spent a lot of time and money on their preparation, and I'm surprised that Roland, Yamaha, Fairlight, E-mu and so on haven't threatened legal action to stop their hard work lining someone else's pockets. Okay, if you took the attack transients of a LinnDrum snare, grafted it onto the "body" of an RX5 snare and cross-faded the ambience of Phil Collins' snare through them, you'd be onto something totally unique - in fact, much like what I'm on about: new music from old. But to take sounds in their entirety from a drum machine or sample library and offer them for sale to the general public without the manufacturers' permission is a despicable practice - and in my eyes is exactly the same as stealing someone's melody note-for-note.

Come on guys, get off your backsides and offer us some original sounds - sounds that require a bit more effort and imagination than stealing does.

■ Tom McLaughlin
London

Dear MT

Dial MT for Murder

letter of the month

Being a quiet sort of person, it takes a great deal to get me to put pen to paper in order to complain about anything. However, complain I must.

I don't think I've ever seen such a load of tedious drivel as the MT June '88 issue. Let's have a look at some of the articles. Firstly, the Thomas Dolby interview. A man who sold out to bland American garbage - the last interesting thing he did was "The Golden Age of Wireless". What else? Ah yes, a stunning interview with the Three Wise Men. Yet another band of musical no-hopers who've latched on to the current hip hop/house music craze. You can savage the Pet Shop Boys (and frequently do!) but at least the songs they release sound finished.

However, topping even these two terrific examples was the "Shaping the Wave" article. Obviously there were three or four pages left in the issue and no article to fill them. So you went out into the street and found someone with absolutely no knowledge of synths and got them to fill in the spaces. Believe me, even my mother (who thinks a synthesiser is an implement for measuring knee-caps) could have written that article, it was so bloody obvious.

The above might sound like the rantings of a complete turd, but I am worried at the demise of MT from a magazine which told you what you needed to know to a dull, trendy computer magazine. It's come to a pitiable state when the adverts in the

magazine are more interesting than the articles - or worse still, when MT is as bad as all the other competing magazines (yes, even "Keyboard").

Yours regretting I ever renewed my subscription.

■ Peter Dayson-Smith
Christchurch
Dorset

It's always disappointing to know you've failed someone, isn't it? Sorry to hear that Thomas Dolby's sold out - I guess that makes his comments about his experiences and his music pretty well worthless. Sorry that the Three Wise Men are doomed to obscurity - you never could learn anything from bands that are anything less than million-sellers, could you? And "Shaping the Wave" is only going to be of any use to people who are perhaps a little less well-versed in the workings of new and old equipment than you and I - wouldn't want to waste any time on them, would we?

I'd heard that some people were interested in what a cross-section of musicians had to say - even those whose records they don't buy. I'd also heard that people need a source of information if they're ever to learn to understand their gear a little better. Guess I've been too open-minded and accomodating. Thanks for putting me straight, Peter.

Feel free to cancel your existing sub as "Letter of the Month" wins you a year's free subscription - you deserve it. ■ Tg

Dear MT

Producing Skills

Firstly I'd like to congratulate you on an excellent magazine. It's nice to see a magazine reviewing keyboard software as well as the instruments themselves.

Secondly, my eyes popped out of my head when I read your Live Takes review of the World DJ Mixing Finals. How was Jellybean voted Best Producer in the World? Was there any other producer there at all? I admire Jellybean for his work, but I can't believe he won that award. Did it apply to anyone outside the Royal Albert Hall? If so, maybe you could get MT readers to cast their votes on who is the best producer in the world.

Jellybean was quoted as saying "DJs are the producers of tomorrow" (MT, April '88). Well, I think DJs should stick to playing records - most of 'em couldn't produce a fart after a vindaloo. Why do people think that producing only involves moving a couple of sliders up and down and having your name on the record sleeve? Producers do a damn sight more than most people think.

Finally, to conclude my rather harsh letter, I was tickled by Baf from Bristol's idea (Communique, MT, May '88) that "if you want to make today's music, line up a sampler and a record deck alongside your Minimoog and find out how to really make the floor move." Has he stumbled on the secret of success in music today? I doubt it.

Thanks for your time.

■ NJ Hopkins
Swansea

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PRODUCT

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DR T SOFTWARE
KCS 1.6 & LEVEL 2 sequencers. **COPYIST II. SAMPLEMAKER** sample editing on the Atari for most popular samplers, **GRAPHIC EDITORS** and librarians for Roland Yamaha Kawai Korg Casio and Ensoniq synthesizers all for the Amiga, Apple Macintosh IBM and of course Atari ST computers. **INTELLIGENT MUSIC SOFTWARE** 'M' composition sequencer for the Atari and Mac **UPBEAT** drum sequencer, **JAM FACTORY** for the Apple Macintosh.

BLANK SOFTWARE ALCHEMY the ultimate sample editing programme available for the Apple Macintosh computer.

MARK OF THE UNICORN **PERFORMER** the sequencer, **COMPOSER** the music scoring program for the Apple Mac. **OPCODE SOFTWARE** Editors and librarians for almost every synthesizer, **SEQUENCER 2.5 CUE** film composer. **FRIENDCHIP SRC AT**

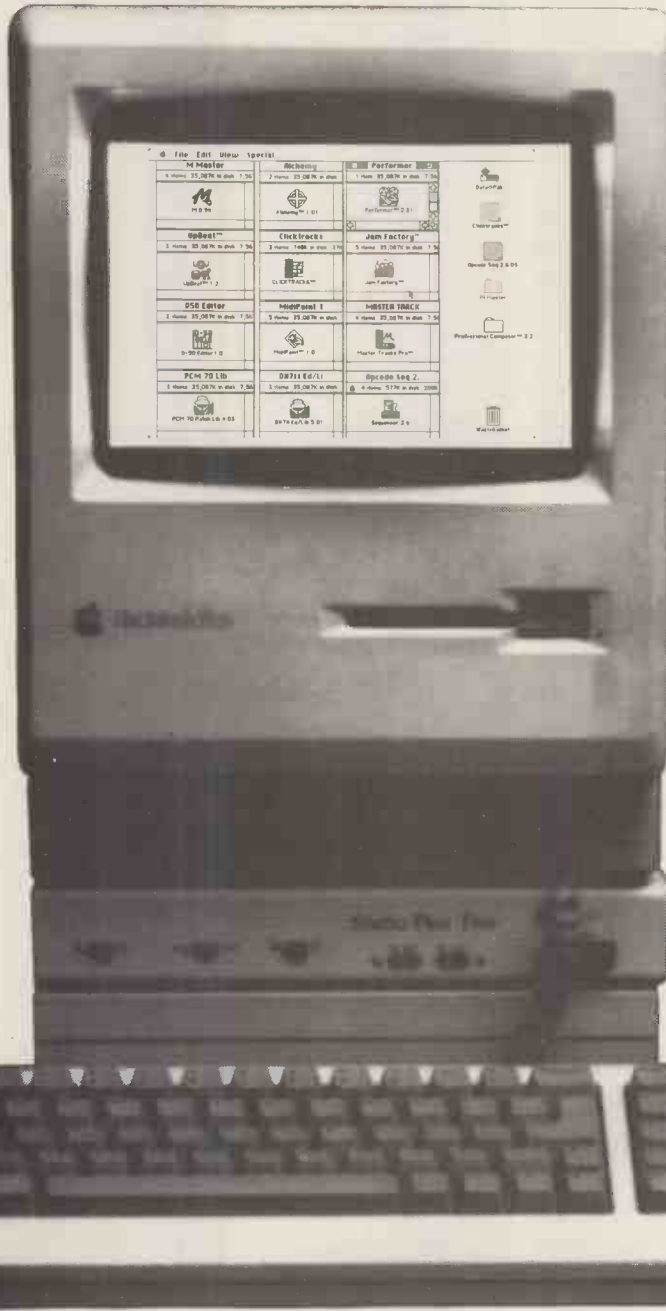
The SRC is the industry standard SMPTE reading clock used by many major studios and professional musicians to synchronize their equipment to SMPTE timecode. The AT is the next generation of such devices designed for use with computers offering extremely easy control and a 1/10000 of a BPM tempo resolution and a price that everyone can afford £699.00.

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HOT TIPS
 The SRC AT will learn from any sequencer on any computer all timing and tempo related to a song with a BPM resolution of one ten thousandth of a beat. **Ultimate Support Systems** components can be customised to any requirement. Please write for full listing. The Mapper can split velocities to play different samples, midi channels, one finger chords, and re-assign your entire system. We challenge any application.

SEND IN YOUR HOT TIPS



PLAYERS

CHRIS HUGHES record producer. His work includes the first two Tears For Fears albums and Adam And The Ants. Chris started his career as a drummer consequently the timing and the feel of the equipment he uses is of the utmost importance as a result of these demands Chris chooses to use Mark of the Unicorn's **PERFORMER** and intelligent music's **UPBEAT** for his sequencing. When it comes to editing and storing his sound he uses **OPCODE** editors and librarians.

HOWARD JONES runs a lot of his synthesizers from a **MACINTOSH II** and like Chris he has chosen to use **PERFORMER** and to score outparts for musicians, he uses it in conjunction with **COMPOSER**.

WIX is a well known session musician having played on many hit records. For his sequencing he runs **PASSPORT MASTER TRACKS PRO** on the Mac with its superb graphic layout and to edit samples he too uses **ALCHEMY** and for his synthesizers a mixture of **DR T** and **OPCODE** editors. **RUPERT HINE** and **ALAN PARSONS** are record producers both choose to run **PASSPORT MASTER TRACKS PRO** on their Atari computers. **DANIEL MILLER** who is well known for his production of Depeche Mode and Erasure on the other hand uses **DR T'S KCS** as does session musician **JO GLASSMAN**. Producer **ANDY RICHARDS** and Living In A Box writer/producer **STEVE PIGGOTT** synchronize with the **SRC AT**. Propaganda and Frankie Goes to Hollywood producer **STEVE LIPSON** also uses the **SRC AT** and is the owner of an ultimate support system built to his own specifications.

THE SOFTWARE CHART

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 LOOKING AFTER YOUR FUTURE

CLAVIA DDRUM 2

Digital Drum Kit

The latest Ddrum kit claims to be the best electronic imitation of an acoustic drum kit the world has yet seen. Does double D really work wonders? Review by Nicholas Rowland.

THEY'RE BLACK AND white with red go-faster stripes, they're built in Sweden and they're designed by the intelligent, to be driven by drummers.

That last word gives you a clue: no, not the latest model to smash its way out of the Volvo factory, but an electronic percussion system from Clavia Digital Musical Instruments AB, better known as the Ddrum 2.

The original Ddrum system was launched a couple of years ago to universal acclaim. At a time when some drum kits still went "pew, pew" and had all the response of a wet fish slapped on carboard, here was one which sounded and played almost like the real thing. Amazing. Unfortunately, in this country the rumours were the nearest most people ever got to the actual product, since the Ddrums were not only prohibitively expensive, they were extremely difficult to track down.

Having just given a whole crateload over to their current British distributor, Evenlode Soundworks (those nice Steinberg people), Clavia are in the process of launching their number twos, albeit to a world where musicians have considerably higher expectations of electronic percussion. Pad design has improved tremendously across the board: high-quality digital samples are now the norm rather than the exception. Most significantly, the best of current percussion technology offers the same limitless sound creation possibilities which keyboard players have long taken for granted. The Simmons SDX (reviewed MT, April '88) for example, is not far short of a Fairlight triggered by pads.

If RRP's are the determining factor, then the Ddrum 2 system files under "state-of-the-art" (read, "you and I can't afford it"). But unlike financially comparable systems like the Dynacord ADD-One or the Akai S900, this is one unit which prides itself on *not* offering boundless creative possibilities - on *not* giving the player control over every single function and parameter. Hence, since life is short and drummers are often shorter, the heart of the system is the preset sample, which users can manipulate to a certain degree, but not so much that they work up the sweat they should be saving for the live performance.

In other words, the Ddrum 2 is to the SDX, as digital pianos are to synthesisers. While the sound architecture is no less complex, it's dedicated to doing one job very well, rather than a lot of jobs fairly well. "Swedish engineering and smart software matched in simplicity - the ultimate sophistication" runs Evenlode's current advertisement. It's good, but not that good.

What the Ddrum lacks in technical versatility though, it more than makes up for in sheer playability. Quite frankly, this is the nearest that anybody's got to being allowed to add the sentence "the definitive replacement for the acoustic kit" to their advertising campaign. Just play the kits for a while and you'll see what I mean.

Let's talk sordid facts and filthy lucre. The basic Ddrum 2 outfit consists of an eight-channel control unit, one kick, one snare and three tom pads, plus all necessary cables. This will set you back a cool £3215 (including VAT) though you'll have to dig a little deeper to buy some stands. The other thing to remember is that even for this price you'll only get access to 25 sounds, 18 of which are held in the brain's internal memory, the other seven stored on a plug-in ROM cartridge. Extra ROM cartridges, containing anywhere between two and 12 sounds (depending on length) are available for £79 a throw, so collect all 11

available so far, and you'll have spent a further £869.

The prices of extra pads and the remote selector (which allows you to change kits at the drop of a stick) quoted below will no doubt provoke a sharp intake of breath. Let me assure you, all the hardware - the pads, brain box, even the cartridge boxes - is of fantastically sturdy construction. If punishing world tours are your bread and butter, they should easily stand up to the gentle touch of Attila the Roadie. However, the opening pages of the manual warn you never to use the electronics or the pads at sub-zero temperatures, so if village halls rather than mega-stadiums are your usual gigs, be warned.

Since the Ddrum 2 is no snip, prospective purchasers are really going to be interested in just how well it does beat ye goode olde acoustick drummes at their own game. I stress again that Ddrums are as damn near perfect as you can get, but with this much money involved, no one would be stupid enough to take my word for it without trying them out for him/herself (would you?).

Sound Abilities

ANY INPUT CHANNEL can have any voice assigned to it, chosen from either of the two internal banks or from any or all of the six cartridges plugged into the slots on the left hand side of the brain's front panel. These voices can then be edited and the results stored as kits in any one of 64 memory locations. Should you need more than this, RAM cartridges or "Kit Pacs" are available, which plug into the cartridge slots too.

The 18 internal sounds are all conventional kit samples and feature four snares, four kicks, six toms, rimshot, tambourine, cowbell and claps. A list in the manual gives precise details of the original source (14" X 6 1/2" solid maple wood snare, 22" X 16" jazzkick "tuned up", and so on). One cartridge is included with the module, labelled Assorted Percussion I, and contains a small bell, a 26" tympani, low and high timbales, low and high open congas and conga slap. The sounds, not the actual instruments, you understand.

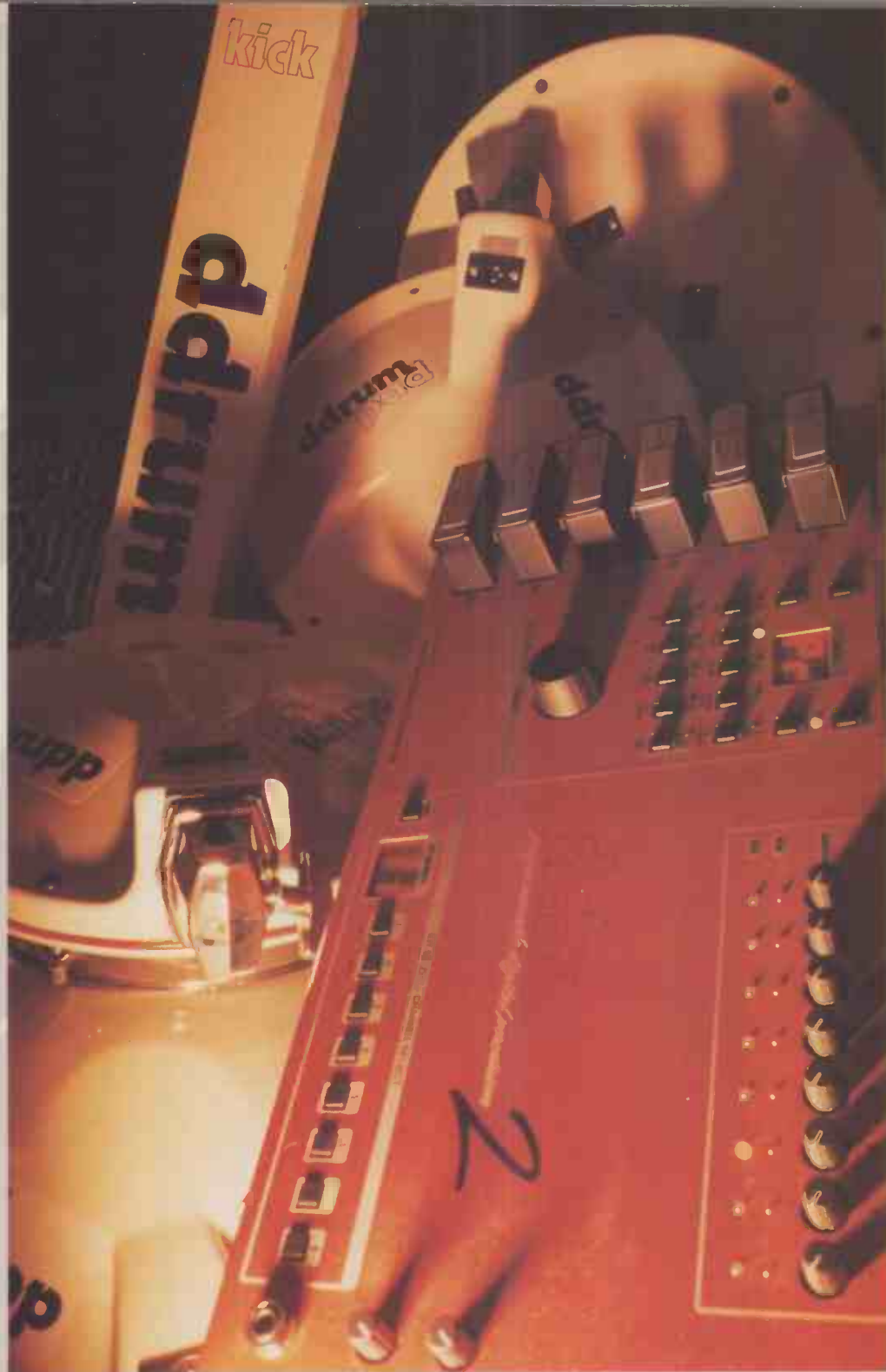
The other Sound Pacs range from ethnic percussion and cymbals to overtly electronic voices from the TR808 and Simmons SDS5. Most choice is given in the standard kit department with no less than four cartridges devoted to variations on the "snare, kick, toms" theme.

Being rather perverse, I personally preferred the more off-the-wall collections to be found under Metal and Ethnic. Here one could wallow in the delights of 'Large Aga gastube being hit by sledgehammer' or thrill to the merry donk of Tunisian clay drums.

Whatever their original source, all the samples are superbly recorded, two of the best undoubtedly being 'Large Churchbell' and '36" Tamtam', both 15 seconds long and both text-book examples of the devilish art of looping.

Play around with the samples and you realise that the Clavia bjoffins certainly know their swedes. There are a whole variety of different techniques to edit, process, then store each sample, in order to achieve maximum realism. For example, with the bell and gong just mentioned, it's obvious that the sample start time varies according to dynamic, since the harder you hit it the more attack you get. Many of the snare sounds, too, though they might appear straightforward enough, actually prove to be





Photography Nicholas Rowland

complex multisamples, which again change very subtly across the dynamic range.

The spec sheet reveals that there are two separate sound generators per channel - in other words, that for each sound two voices are triggered alternately so samples don't cut each other off (the dreaded "machine gun" effect.) But on the longer sounds you can hear how this is also related to dynamics. For example, when you trigger a loud gong or cymbal sound, then play a series of softer strokes, the softer ones do cut each other off while the louder note continues to play over the top. Clever stuff indeed.

Programmability

ENTERING EDIT MODE is a simple matter of hitting the Edit button situated in the programming area of the front panel, selecting a channel, selecting the appropriate

parameter and dialling up a value on the large two-character LED display using the control knob. Like every other aspect of this instrument, the editing system has been extremely well thought out with lots of small LEDs to light your programming path.

Decay, Pitch, Amount and Time of Pitchbend, Bass, Treble, Pan and Level are the eight basic parameters. Note that these are programmable for each channel rather than each sound. In other words, whichever sound you assign to a channel, those values will apply. There are no default values associated with each sound. Also every value can be stored as part of each kit combination.

Sounds are given two-digit reference numbers. The first number tells you whether the sound is internal or cartridge, (numbers 7 and 8 are internal, while 1-6 refer to each of the cartridge slots). The second (either a number or a letter, depending on how many sounds are stored on the cartridge) represents the sound itself. The Ddrum 2 can automatically tell how many cartridges are plugged in ►

If you have serious ambitions in recording, the move up to 8-track is a matter of when, not whether.

Emotionally, it is multitrack's equivalent of your first pair of long trousers.

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Up to 36 layers of sound can be exploited. Which is a world away from the ten offered by 4-track.

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But does it have to follow that this extended ability will be that much harder to use?

Will you find yourself bogged down by technology, when you should be buoyed up by inspiration?

In developing the Model 80 and other 8-track equipment, Fostex have made sure that this is far from being the case.

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When we pioneered 8-track on 1/4 inch, we dramatically reduced the bulk of the machinery and the size of budget needed to buy it.

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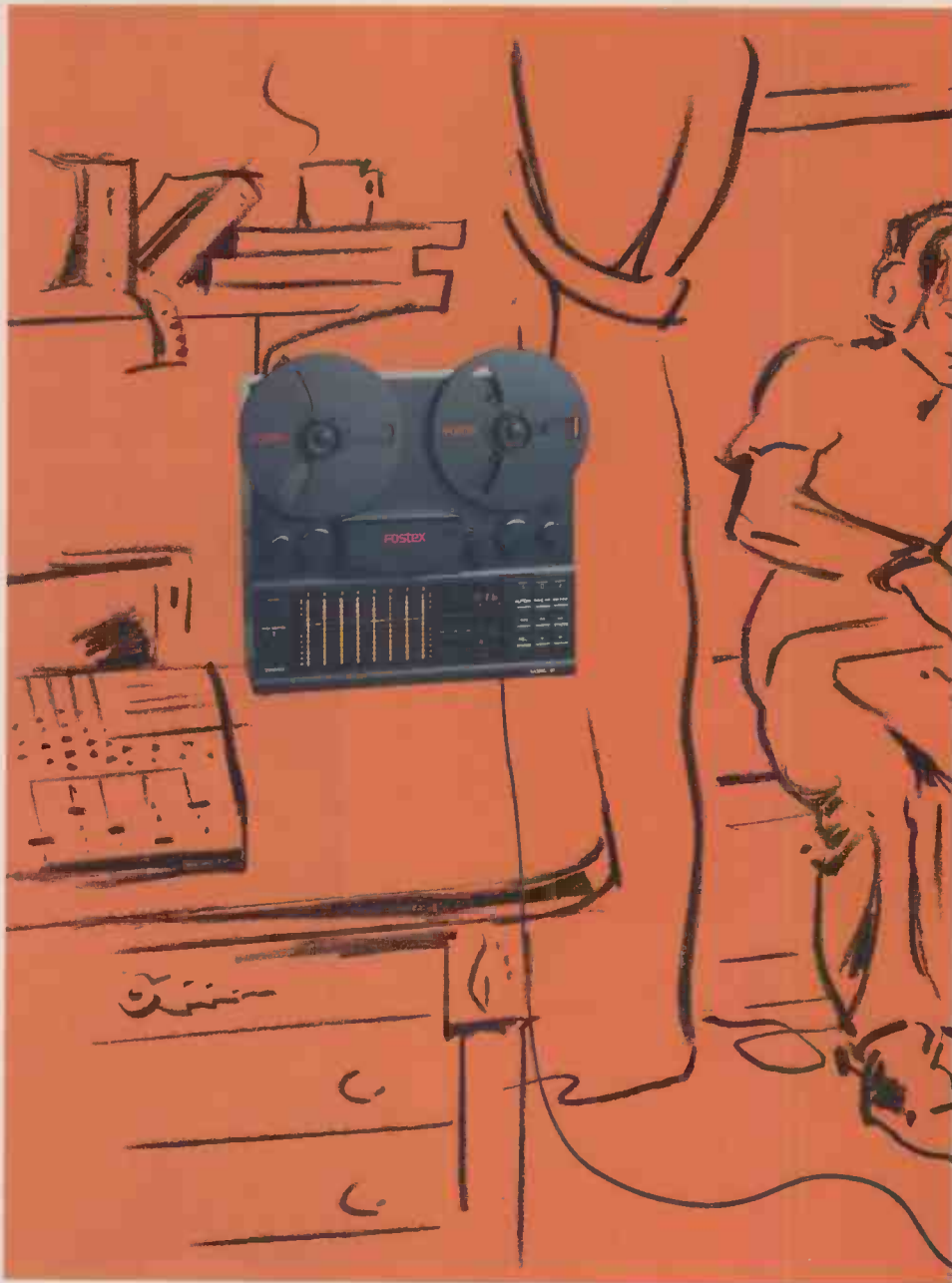
In the opinion of 'Home Studio Recording': "It would take a good pair of ears to tell the difference between a Fostex 8-track and its 1/2 inch (or even 1 inch) rivals."

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And drop-ins are entirely transparent. A tribute to the flawless inter-locking of the audio and transport electronics which have been created by our engineers for this machine.



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LESS IS MORE

The whole object of the Model 80's design is greater efficiency. Both in the way the machine works, and in the way you work with it.

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The tape machine is the heart of recording, but it doesn't stand alone. So the Model 80 hasn't been designed in isolation.

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And, recognising the broader applications that are so much part of recording today, Fostex is also the only tape machine manufacturer to have developed lock-up devices for SMPTE and MIDI.

The 4030 synchroniser, 4035 system controller, 4050 autolocator and 4010 sync generator have made whole new areas and ways of working available and affordable.

The fundamental practicality, so apparent in the Model 80, is common to them all. The potential is fantastic.

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► and how many sounds each has and so will only display the numbers of sounds actually available, which makes things easier. However, it's not quite clever enough to tell one cartridge from another, so if the cartridges are swapped round, the programmed reference number might end up recalling a completely different sound or no sound at all. What should have been a mega chinese gong and churchbell kit, could actually turn out to be two agogos and half a maraca. Just so you don't get mixed up, there's a little box on each Sound Pac so you can write slot numbers down.

Decay can be programmed in steps from 0-31, while pitch is adjustable in steps from 0-96. In the latter case each step represents an eighth of a semitone. (The original recorded pitch of any sound is quoted as "somewhere around 64".) Hence you have a whole octave to play with, which is generally fine if you want to keep the timbre within "realistic" limits. However, if, like me, you enjoy

"Sensitivity is much in evidence when Ddrums are used as a Trigger-to-MIDI converter, making it the ideal in MIDI sequencing setups."

creating more outrageous effects by horribly distorting samples, then you might be a little disappointed.

In the same way, the available pitch-bend settings keep things within the bounds of credulity. Samples can be bent up or down by up to seven "steps", which in this case seems to work out at two-and-a-half tones. In either case, the sound will start out at the higher or lower pitch and then drop or rise to the pitch value as set by the Pitch parameter. Importantly, you're not allowed to go above or below the one octave limit, so samples tuned very high or low can't always have pitch-bend applied.

Pitch-bend is affected by dynamics. In layman's terms: the harder you hit it, the more bent it becomes - this also applies when a channel is triggered over MIDI. One of the Pitchbend Time settings allows you to expand on this further by making the overall pitch of the drum rise or fall according to dynamics. Again, this can be accessed over MIDI, though as before, the amount is still subject to the one octave limit set by the Pitch parameter.

Sounds can be considerably modified by the "tone controls", very active bass and treble filters. Turning up the treble proves particularly useful on bass drum and low tom sounds to simulate the click of the beater or stick against the head.

The Pan function allows each channel to be placed in the stereo field - seven "steps" to either side - and is used in conjunction with the Left and Right outputs on the rear panel. Even if you're using the eight individual outs, this facility proves useful for setting up a separate stereo monitor mix, or even two slightly different mono mixes. Incidentally there's also a Line In socket on the back panel, which could prove useful for adding a click track or a sequencer pattern to the drummer's own studio or stage monitor setup.

The stereo capability of the Ddrum 2 really comes into its own when used in conjunction with a function called Link which allows you to simultaneously trigger sounds from any one of the other seven channels whenever the current one is hit. It can be simply used to double up on sounds, particularly in situations where you'd need to grow another pair of hands or feet; sounds with very fast attacks, with ones with a slow decay to create a much more gut-wrenching effect. Or you can get more creative by, say, assigning the same sound to both "slave" and "master", panning them hard left and right and detuning one against the other in the best tradition of analogue synths.

Since any channel can be both a slave and a master at the same time, you can quickly set up some very interesting networks of interdependent sounds. The manual even

recommends slaving a quiet, trebly snare to all the other channels to simulate the snare rattle you get on an acoustic kit. I'll leave you to consider the ironies of this for yourself.

Link is certainly one of the most exciting program functions. It would be even more fun if you could assign more than one slave to a channel. Or indeed if the Ddrum 2 was a 16- rather than an 8-channel unit. But I'll save those gripes for my conclusion. In the meantime let's plug in some MIDI leads.

Link Ability

THE DDRUM 2 has MIDI In and Out, but no Thru. Each channel can receive and send on a separate MIDI channel, and this is programmable for the unit as a whole. However, the MIDI note number for each channel is programmable for each kit, as are program change numbers sent or recognised. Also programmable for each channel in every kit is the Local On/Off function, which when using the Ddrum 2 as a Trigger-to-MIDI converter allows you to select which of its own sounds are to be used in conjunction. When using the module in this way, you can program the Gate Time of each channel to precisely match the sound source you're triggering.

As you've probably gathered by now, the Ddrum responds in much the same way over MIDI as it does when triggered from pads. That sensitivity is also much in evidence when the Ddrums are used as a Trigger-to-MIDI converter, thereby making it the ideal quasi-drum machine in MIDI sequencing setups.

Its application in a recording environment is further extended by a function called Trigger Threshold, which allows you to match the inputs to triggers other than pads, the most obvious use here being to trigger from tape and thereby replace old sounds with new. Even here, the Ddrum 2 manages to retain all the dynamics. I even tried triggering it with a recording of an acoustic snare roll and got an extremely passable result.

Sensibilities

THERE'S NO DOUBT that the Ddrum 2 is a first-rate piece of kit which lives up to all the claims made for it. It sounds good, it plays like an acoustic drum kit, it's easy to use and it's as versatile as it needs to be within its self-imposed brief. I'm sure many drummers will love it. I'm sure many others will see it as a complete waste of time and money. How it fits into your setup depends on your approach to music making and your sympathy for drummers (or, if you're like me, past experience of being one).

Personally, I don't like the idea of paying a fortune for a closed-ended system. Only eight channels? No pitch-bend over MIDI? No tuned percussion as yet available? No possibility of user-sampling those favourite James Brown riffs?

Clavia are the only electronic drum manufacturers who seem to have tapped in to the true mentality of drummers (nay, musicians). The majority don't want an intense relationship with their data entry slider, they just want an instrument which will make them sound good.

If this is your aim (and you're filthy rich) then the Ddrum 2 is for you. As I say, designed by the intelligent to be driven by drummers. ■

Prices Ddrum 2 5-piece kit £3215; Ddrum 2 brain £2295; Snare pad £235; Tom pad £180; Kick pad £280; 1Mbit Sound Pac £79; Remote Kit Selector £319. More from Evenlode Soundworks, The Studio, Church Street, Stonesfield, Oxford OX7 2PS. Tel: (099389) 8484.



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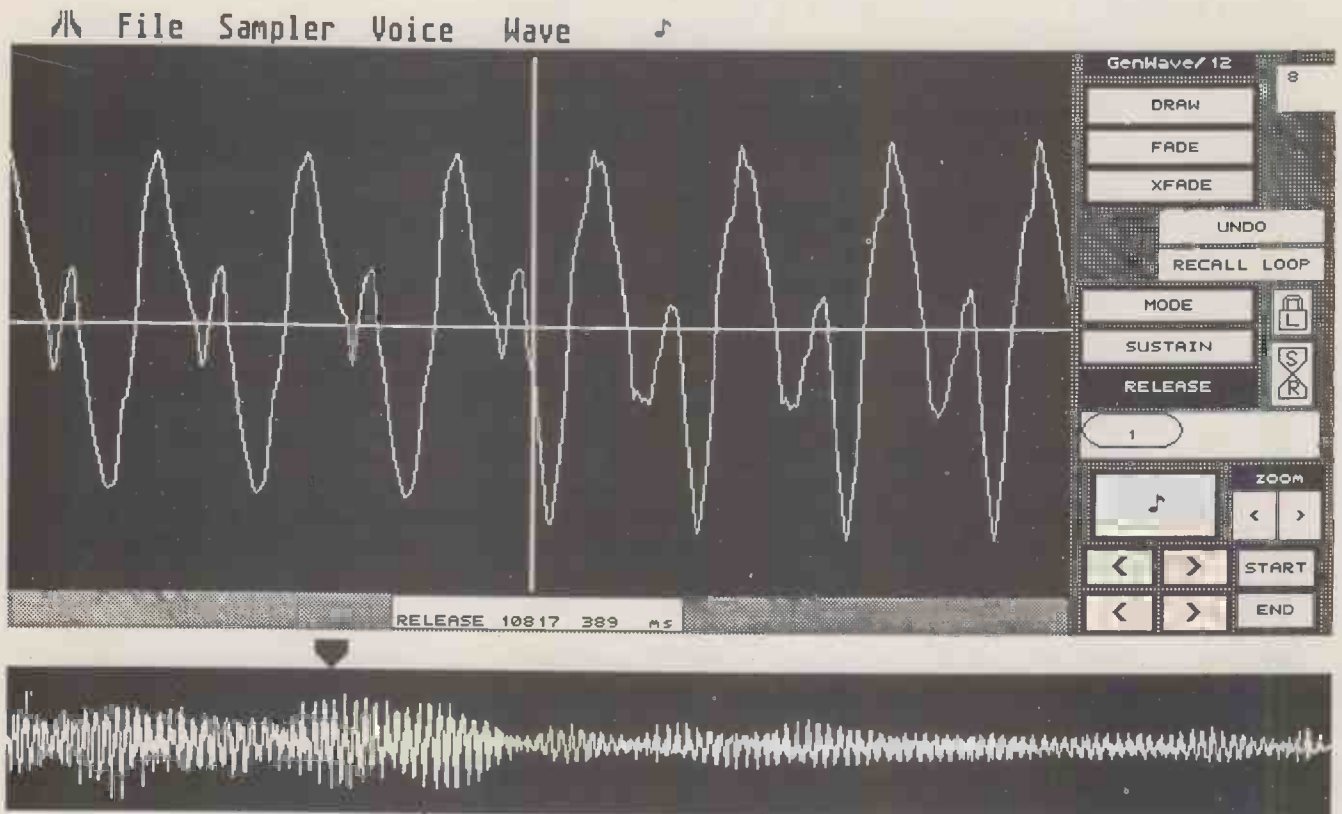
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DRUMWARE

GENWAVE/12

Software for the Atari ST



Loop/Draw page.

Sample waveform editing is one area where Atari ST owners have remained jealous of users of the powerful Macintosh – but that was before this American program arrived on the software scene. Review by Lorenz Rychner.

GENWAVE/12 IS A universal visual waveform editing package. For those less fond of impressive titles and more interested in what the software does, it facilitates on-screen editing of samples that have been made on a variety of samplers. GenWave comes in a sturdy ring-binder containing a disk, a dongle and a user guide. The manual wastes no time with unnecessary preliminaries – it gets straight down to the useful stuff about backup copies, hard disk installation, and computer specifics. GenWave runs best on a 1040 or MEGA ST, in medium resolution on colour monitors or in high resolution in monochrome. The manual draws your attention to the need for correctly wired MIDI cables (no internal straps between pins 4 and 5, please), due to Atari's decision to incorporate the MIDI Thru signal in the MIDI Out port.

GenWave/12 lets you import sample data from the Akai S900, Emax, E-mu SPI200 and Prophet 2000/2. If your sampler isn't among these, GenWave also supports the MIDI Sample Dump standard, which further expands your options. Drumware are also working on drivers for the Yamaha TX16W and Korg DSM1, and there may be others in the future.

While the sample is in the Atari's RAM, you can view and edit the waveform at various zoom sizes. You can adjust loop start and end points for sustain and release loops, redraw parts of a waveform, change the overall amplitude of the sample, apply a variety of filters to all or parts of the waveform, change the amplitude envelope, cut/splice/merge sections of waveforms, apply different looping techniques, shift a loop of a set length along the sample and transfer a sample between instruments while adjusting the data for the instrument's specific operating

system. Many changes are transmitted in real time to the samplers on the Sampler menu (but not via the MIDI Sample Dump Standard) so that you can hear the results immediately. Other changes are heard after initiating a Send function on the computer. In addition, the FFT feature shows you the frequency spectrum in various ways and screen dumps let you print what you see. You can also select MIDI note numbers to play from the computer screen with a click of the mouse. GenWave does all this from three screens, and practically all functions are easily implemented with the mouse.

Up and Running

AFTER BOOTING THE program from the desktop, the first screen comes up with a simple ID and a greeting – be sociable and click on Hello or you won't get any further. Now you're on the Loop/Draw page, ready to import a sample. But before you get too greedy and grab a sample to play with, you need to make a few quick decisions. First, you should enable the Undo function, so that any changes that were unsuccessful can be erased without reloading the original data. A click on AutoSend enables the real-time updating of your looping work. From the same menu you may want to select Hi Res for high resolution display of the waveform. GenWave defaults to low resolution, which takes only a few seconds to update the screen. High resolution should rarely be needed, since the magnification window gives you all the detail you need. The snail's pace of screen updates in Hi Res mode will turn you into a coffee addict; the manual calls it, very honestly, "slow to

excruciatingly slow, depending on the length of your soundfile". Anyway, it's there if you want it. The last item on this menu brings up the MIDI keyboard, where you set the MIDI note number and velocity for sample playback with the mouse from a command box on all three screens.

Pull down the menu under the heading of Sampler and click on the instrument of your choice (the Emax is the default selection). Set the sampler to receive and transmit in MIDI Omni On mode. Then select Request/Catalogue to get a directory of the samples currently in the instrument's RAM. Depending on the sampler, this may appear as a list of names or numbers. Click on your choice, confirm it with a click on Okay, and the screen displays the sample waveform. You have six voice buffers available, although the sixth should normally be reserved for the Undo (backup) function.

Loop/Draw displays an entire sample along the bottom edge, stretched from left to right in a window covering about one sixth of the overall screen height. Above and below it you have narrow strips where pointers for start (above) and end (below) points can be grabbed with the mouse and shifted from left to right and back. Sitting above this window, filling the far right of the screen, are 20 small boxes that activate the various functions you can perform on this screen. The largest section of this page is taken up by the magnification window, where you can work on selected portions of the waveform for looping and redrawing. In Looping mode, this window is divided by a cross, where the horizontal line represents the wave's zero-crossing, and the vertical line marks the loop splice point, with the loop end on the left and the loop start on the right. When Looping is not selected, only the vertical centre line is shown. Numerical readouts below the magnified sample portions show which sample positions you're working on.

Looping

THE PERFECT LOOP is well within your grasp, as long as you use common sense and patience. One of the command boxes along the right of the screen is Mode, where you select looping (as opposed to One-shot/Loop-off mode). The cross appears in the magnification window. The top pointer now marks the loop start point, while the lower pointer defines the loop end point. The current positions are shown in the magnification window. Moving the pointers represents fairly coarse travel through the sound data. When you get close to the desired position, you have fine control with the incremental arrows in the command boxes on the right. They move by single sample, in both directions. Depending on the sample rate of your waveform, this could take you through your sound by increments of 1/40,000 of a second.

Among the command boxes on the right is a padlock symbol. Selecting it enables the loop lock - a fun feature - where the length of the current loop is frozen. Now only the upper pointer or arrow is active, moving the start point. The end point moves automatically in the same direction, by the same number of samples. The manual suggests using this feature for single-cycle loops on pitched sounds. You can move this constant-length loop through the sample, hoping for a lucky match. When you think you're close, you can refine the start and end points with the freehand drawing feature.

The magnification window shows the loop splice as one sample per pixel. Given the generous size of the Atari monitor screen, this shows the finest detail of your sound. But while the entire waveform display at the bottom of the screen is too coarse for detailed information, the 1:1 ratio of magnification is often too fine, since it doesn't display much of what's either side of the selected points.

The solution is zooming out, taking a slightly more distant view, up to a resolution of 64 samples per pixel. Zoom is selected from one of the boxes on the right, where the zoom ratio is displayed. Clicking on Draw selects the drawing mode. The mouse cursor turns into a fine cross (called a "crosshair") and drawing is possible for as long as the cursor remains inside the boundaries of the magnification window. After you zero in with the crosshair, pressing the left mouse button activates the drawing. If the zoom ratio is larger than 1:1 when you click on Draw, it is automatically reset to 1:1. When the cursor is moved outside the magnification window, the Draw mode is disengaged, and the entire waveform display is redrawn while the cursor turns into the busy bee. This is where Hi Res has you twiddling your thumbs until they fall off.

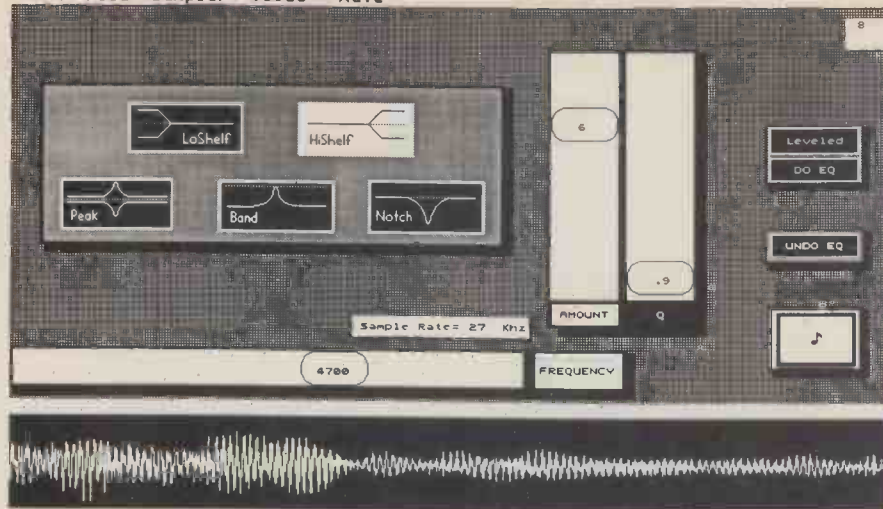
Sustain or Release Loops are available, depending on your sampler. In release loops, the crossfade feature often helps smooth things out. While the manual promises no miracles and encourages you to look for the best possible looping points before attempting a crossfade, a detailed paragraph explains how the program goes about them. A dialogue box lets you set the percentage of the data between the loop points that you wish to use for the crossfade; clicking on the charmingly entitled Do It starts the calculations. The result must be sent to the sampler to be heard. If you give up, click on Undo, and all is forgiven (as long as Undo was enabled before you started). Click on Recall Loop, and you're back to the original loop points. For samplers with sustain and release loops, clicking on SXR assigns the same loop and all edits to both sustain and release loops.

More Knives

ONE-SHOT MODE lets you work just with Sample Start and End points and any area in between, again using the sliding pointers and the increment arrows and Draw mode. In addition, you can click on Fade, which implements a linear fade-out, starting from the current position of the Start pointer and reaching zero amplitude at the current position of the End pointer. This can eliminate unwanted "gated" or noisy endings of samples. As with loops, the result must be sent to the sampler to be heard. Fade can be undone with Undo, as long as Undo was enabled before you started.

Fade is a quick solution to simple problems; much finer control is available from the Envelope Screen. This has four main windows. The bottom is again occupied by the entire sample display, across the full width of the screen. Above it is a band of similar proportions, within which you can draw amplitude envelope shapes. In the upper left corner is a magnification viewing window, and the remainder of the screen is filled with command boxes. The sliding pointers along the entire waveform display have a different function on this screen; they mark the boundaries of the Clipboard area, for "cut and paste" operations. The fine detail of these pointer positions is shown in the magnification window.

Once you've defined the portion to be worked on, you can click on any of the following command boxes: Reverse (simply flips the data between the pointers by 180 degrees horizontally, so that this portion now plays backwards); Clear Work (erases all data between the pointers); Invert Phase (flips the data by 180 degrees vertically); Draw Envelope (lets you draw an amplitude envelope, which must be followed by Do Envelope to initiate the calculation); Reset Envelope (brings back the original shape); Do Envelope (activates the calculation of your drawn shape); +6dB (boosts the gain of the sound between the pointers (this can be done repeatedly and is cumulative, so it can be used to produce clipping to ►



Envelope page.

- ▶ simulate compressor effects); -6dB (attenuates the sound between the pointers); Normalise (boosts the sound between the pointers to maximum gain before clipping); Copy (copies the sound between the pointers to the "Clipboard" buffer), from where it must be saved to disk (the only function that requires the use of the ST disk drive); Replace (moves the contents of the Clipboard to the area between the pointers, where it overwrites any existing data); Merge (merges the contents of the Clipboard with the sound between the pointers, beginning at the position of the upper pointer - executing a -6dB attenuation of both signals before merging is recommended to avoid clipping); and Insert (squeezes the contents of the Clipboard into the sound at the position of the upper pointer, pushing existing data to the right). All these functions can be undone with Undo. Pointer positions can be saved for future recall or reset to match the positions on the current Loop/Draw page.

The Equaliser Screen's bottom is again occupied by the entire sample display, across the full width of the screen. No pointers are present because equalisation works on the entire sample. Five diagrams show various filters, and three virtual sliders let you adjust the cutoff/centre frequency, amount of cut or boost, and Q (bandwidth). The filter choices are: LoShelf & HiShelf (both 12dB/octave "Butterworth" response); Bandpass and Notch with adjustable Q, and a Peak response with cut/boost and Q. After choosing a filter and response setting, clicking on Do EQ initiates the calculations. To hear the result, you send the sound to your sampler. Undo will restore the original EQ characteristics. Enabling the Leveled function ensures that clipping is avoided during the calculation of your EQ settings. Multiple passes at the same function are possible.

Late Fourier

FAST FOURIER TRANSFORM (FFT) was the reserve of mainframe computers and high-end digital systems until recently. It is the process of breaking down a sound into its sine wave components, also called the frequency spectrum, including all harmonic and enharmonic overtones. Since the rest of the program was finished before the FFT and marketed without it, Drumware offer this feature as an update at no cost (except for a handling fee) to registered buyers of the program. Eventually, all disks sold will contain FFT.

At the time of writing a beta version was available, which worked satisfactorily. It displays the sample graphically in the form of peaks and valleys representing the amplitude of different frequencies at different times, from the start to the end of the sample. The display is placed on a reference grid that outlines the frequencies from left to right and the

duration of the sample from front to back. The whole thing is shown from a slight angle, off-side and above, like a landscape in relief.

Various choices allow viewing percentages of the bandwidth, so that resonant peaks can be identified more easily. Together with the EQ features, this puts you in the driver's seat in the race for good sound. If you care to initiate a screen dump to a compatible printer, you can even plaster your walls with your favourite samples - seriously, a useful feature. I only wish that a choice of display modes would allow viewing a "thinned-out" sample, or at least a side-on and back-to-front angle, since complex samples necessarily generate convoluted displays.

Manual Labour

OWNERS' MANUALS ARE a common source of gripes, from users and reviewers alike. Well, not this one. That it was written with care is evident in the way that each "page" (screen) is described, first outlining its main purpose, then clearly describing everything on the screen. No global remarks here that you miss out on when you look up a single item.

The section on Sound Sample Editing Techniques & Applications describes in detail the most common looping problems, and illustrations make the text easy to understand. Step-by-step instructions for mixing two sounds, and suggestions for creating digital flanging and echo, digital distortion and cut & splice editing complete this bonus chapter. The manual ends with details on the operating systems and interface characteristics of the samplers that the program accesses individually, plus some useful MIDI Sample Dump Standard (SDS) information. While there is no index, the table of contents should point out the right page at a glance.

Verdict

WHAT ABOUT PERFORMANCE? I used the program with an Akai S900 and it worked fine. The Fade feature cleaned up the ends of dirty samples, and looping a snare drum successfully filled the studio with glee. When using a Yamaha TX16W via MIDI SDS, things went less smoothly. When called about this, Drumware's Scott Morgan explained that the real-time update of samples was not happening and that a new Yamaha operating system disk is supposed to be available to take care of this and other quirks by mid-summer.

Other MIDI SDS devices pose similar problems, requiring the edited sample to be transferred to the sampler every time the results need to be heard. This takes forever. While this isn't Drumware's fault, they plan to configure an audio output via ST-Replay that will let the user hear the edits on the fly, in companded eight-bit resolution.

Other samplers will be added to GenWave's roster in the future - Roland S50 owners could well benefit here because GenWave works in more critical detail than the S50's on-board video interface.

Having made these positive statements, I want to make one thing clear: working with samples at any serious level is time consuming. Many of the operations of this program take a long time to calculate. The owner's manual makes no bones about this, it even points out the ones that take extra long. Reserve that midnight oil for serious work. But remember, you can sleep when you're old . . . ■

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Photography David Bradwell

playing the
BLUES

Pop stars or PWL protégés? Blue Mercedes talk about the pleasures of production by the Stock, Aitken and Waterman machine and the power of image in pop music. Interview by David Bradwell.

BLUE MERCEDES, IT must be said, seem to enjoy a laugh. In spite of being very serious musicians, their career so far has been plagued by a series of backfiring jokes. Take a look at the 1987 publicity photographs of the band in nasty cycling shorts and you'll know what I mean. As they readily admit, nobody who looked like that could possibly write a decent song. Or could they?

"I'd rather go for something 'huge' than be too arty about it", says Duncan Millar, keyboard player and one half of Blue Mercedes, who have been strangely quiet since their Top 20 hit 'I want to be Your Property' last year. His partner is singer David Titlow, who first sprang to semi-fame while in an outfit called Duck You Sucker. The two met while recording the latter's near-hit 'Love is Criminal'. As Blue Mercedes, they teamed up with former Wham! manager Simon Napier-Bell, and after a long slog around dodgy London nightclubs, eventually signed to MCA at the beginning of '87. So much for their background; I've come here today to talk to them about the musical side of their activities.

Having found my way to the top floor of a block of flats in Brixton, I'm shown through to the nerve centre of the Blue Mercedes operation. On the floor is an American copy of *Music Tehnology*, in the middle of the room is a Seck 18:8:2 mixer, on the wall an Atari 1040ST, Akai S900, Roland MKS70 . . . The Atari is running

the ubiquitous Steinberg Pro24 sequencing software - a package with which Millar is immensely pleased and a convenient point to start talking equipment.

"There's nothing bad you can say about the Steinberg", he comments, "yesterday I arranged a whole song and at the end I realised it was in the wrong key - a bit too high for David's voice. But it was the easiest thing in the world to transpose the whole piece. It's been very useful because things like that don't interrupt your train of thought, although then the tendency is to get completely carried away."

Millar hasn't always had it so easy, however. He began his sequencing days on a hardware sequencer: the Yamaha QX7.

"It was really quick", he says, "the trouble was, you could only put down one thing at a time. I'd put a bassline down and save it to cassette, then work out the next bit and do the same . . . I probably don't use the Steinberg to its full potential but I use it enough to get what I want out of it."

What he wants is a series of songs on disk which he and Titlow can then take along to PWL Studios and transfer to 48-track tape. For those of you not in the know, PWL stands for Pete Waterman Limited, the same Waterman that founded the chart-dominating Stock, Aitken and Waterman production team.

"In a lot of ways we were a new concept for them", says Millar by way of an explanation. "They weren't just doing remixes for us, we aren't Bananarama. Our album, *Rich and Famous*, was produced by PWL's Phil Harding and Ian Curnow. I think they knew that there were likely to be some quirks, having spoken to them in a pub beforehand."

Titlow explains further: "We've just done a new track that's got a really irritating first line and when we went to PWL with it Ian and Phil said 'you can't sing that!'."

The line in question went something like "The very thought of doing you in" - very profound.

"It was a very 'up' commercial pop song", continues the singer. "My lyrics are a combination of TS Eliot and London street slang, but our producers consistently want to change them. There was another track called 'Treehouse' with a line 'Let's build a treehouse of love, let's build a treehouse on my head'. They said 'look, we are not doing the track until you change 'on my head' to something else'. In the end I had to change it."

So who's in charge, band or producer?

"It's just give and take really, and we went into it knowing what they would be like. You can imagine the arguments if Lloyd Cole had been in there, or the Blow Monkeys. I think it was good fun for Phil and Ian really. Another song was called 'Crunchy Love Affair' and they didn't bat an eyelid over that."

"They'd never worked with a band like us before but our working process is quite similar to theirs and we all got on really well."

Millar: "I actually like their production values but I suppose we're a bit more off the wall than they are."

Apart from their admiration for PWL's success as a production outfit, Millar and Titlow are impressed by Pete Waterman's equipment-buying policy.

"You can go into any disco across the country and hear non-stop PWL productions all night because they're so clear and bright", says Millar. "PWL is just like an extension of somebody's bedroom studio but they've got fantastic up-to-the-minute equipment. As soon as something new that could be of use comes out, it's in their studio. In fact, it's in both the studios, which is unusual - most places get equipment for their main studio but they forget about the others. Pete Waterman doesn't and that's what I really like about him. Also, the atmosphere at PWL is the best of any studio I've worked in."

BACK TO BLUE Mercedes' own equipment, and keyboardman Millar is voicing familiar complaints about DX7s: "They're fine for basslines and percussion sounds, but for anything else they tend to sound artificial. We tend to use a lot of Roland stuff like Super Jupiters - Ian's got about five of those. They're quite old fashioned really but they have a very warm sound. I must buy a programmer for mine because I'm quite lazy when it comes to finding new sounds - I tend to go for something which is approximate and then let Ian finish it off."

If you caught any of Blue Mercedes' TV appearances at the time of 'I Want to be Your Property', you will probably remember seeing Millar sporting a curious twin keyboard shaped vaguely like a double bass. What was not freely

admitted at the time was that the instrument was a mock-up using two CX5 miniature keyboards - and wouldn't play a note. It was designed by a British company called Space Logic who are involved in (amongst other things) investigating less conventional forms of MIDI controllers. Typically, the situation backfired on Blue Mercedes.

"I wanted to get a portable keyboard because we were being asked to do loads of PAs around the country" recounts the keyboard player. "It was going to be impossible to go into all the clubs with a stand-up keyboard so I rang up the company and asked them if we could use one of their designs in the video and they agreed. At that time it was just a dummy prototype. I thought it was really funny and started using it all the time and now I'm having a real one made which contains two Yamaha DX100s which I'll use as a master keyboard."

Titlow: "People used to come up and touch it and say 'is it real, mate, does it work?'. If Sting appeared in a video playing one of those nobody would bat an eyelid - they'd just assume it was some obscure French instrument and he was incredibly arty. I like it because it reminds me of *Star Trek* - the Vulcan lute that Mr Spock played that looked like a bicycle wheel. Our problem was that people thought it was a joke - which it



was - but that reflected badly on our ability to play live."

But now the joke has become a viable MIDI controller.

"I'm determined to become a master of it", announces Millar, "but our whole image has been beset with problems. People remember the cycle shorts and think 'oh yeah, nobody who wears shorts like that can write a song. And that bloke with the keyboard - they're obviously just a couple of puppets.'"

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► "We'd spent over a year perfecting the songwriting", recalls Titlow, "and when it came to promotion we'd do things for a laugh, not realising that people would see that first and not the album - and maybe only buy the album if they liked the look of us. I think we might have lost a lot of sales through that, but I don't want people not to buy the album just because they remember the clothes we wore."

Never underestimate the power of image . . . Back to the music, and in particular to the Akai S900 lurking in the studio. Millar readily admits that he doesn't sample himself - surprisingly it's the singer who is most enthusiastic about the controversial art.

"Yesterday we were doing a track, messing around with the vocal bit. It was a high note so we ended up doing it on the Akai and I thought we ought to try doing some more vocal samples. The thing I really like about sampling is in recording voices. Sitting downstairs with Ian Curnow in his studio is wonderful - I could sit there sampling voices all night, chopping up bits and making them sound weird. I love sitting with the Fairlight, taking one word apart, running the light-pen backwards . . ."

Other Blue Mercedes production specialities include the (almost) legendary potato technique. "We were going to mic a potato up once", announces Titlow, "and have it playing on track 24 to add a bit of ambience. The secret is not to hit it or anything - just put a Calrec microphone next to it and record it for the duration."

Quite.

"I love the idea of all those gimmicks and tricks - doing things with toilet paper and seeing what happens."

There are no such frivolities in their home studio setup, however. Millar is wary of spending too much time working on demos at home.

"You can get carried away and make demos much more polished than they need to be. I suppose you may discover a new way of doing something if you carry on working with it, but generally speaking, you re-do everything in the studio anyway. I would advise anybody not to spend ten hours working out a single digital delay setting because you're never going to recreate 48-track digital in your home. It's much more important to spend the time working out how a song is written and what makes a good melody line. It works both ways with record companies - in some respects they expect better quality demos now that technology is becoming more accessible, but sometimes a tape can sound too good and they think it's been sent to every record company under the sun, which will naturally make them less interested."

Blue Mercedes' songwriting technique is interesting if only because they invariably start with a title. From there it goes to the piano where it is built up in stages, with Titlow writing the lyrics and melody lines while Millar writes the music. This way the songwriting credits are split evenly between them. From the piano the arrangements are worked out on the Pro24. Time to look more closely at their own studio.

"I started out with a four-track, a Juno 60, a Roland Drumatix and a TB303 Bassline", recalls Millar. "Then I bought an eight-track with a Studiomaster desk and that's what we used for our album."

"When we got our record deal we got an equipment advance so I changed the desk and bought some more gear. I used to do all the

drums on an RX11 although I use the Steinberg rather than the drum machine as a programmer. Now I mainly use the Akai for drum samples and bass sounds, although I haven't explored it nearly enough. I tend to use it as a songwriting aid rather than a sampler.

"The best thing about having a home studio like this is that you don't need to stand around rehearsing all the time, and spending a fortune on rehearsal rooms just to write your songs. The record company like it because it's so cost effective after you've dished out the initial

"We'd spent a year perfecting the songwriting and when it came to promotion we didn't realise that people would see us first, not the album."

capital - I don't know what they'd do if a band didn't have their own recording facilities."

A LOT HAS been said in the press about BM's debut single, 'I Want to be Your Property' - some of it good, some of it bad, a lot of it concerning aspirations of their management. The first single gained a fairly respectable chart position for a new band; its successor, 'See, Want, Must Have', fared much worse, reaching only No. 57. Titlow takes up the story:

"The first single was really commercial, and the second was an attempt to go against that and become more serious. The title was easy to understand to me, but it got everybody else confused . . . 'What was that record, 'See, Got, Want, I Want to Have What I See'?' Nobody could remember the title. It was a more sophisticated song in the respect that it had a more credible beat and the lyrics were more interesting. And more than anybody else, I was in favour of it being released as a single. I thought it would show everyone that we can write cred sort of songs, but it backfired."

The charts have always been about dance, and while Blue Mercedes' own brand of dance/pop is built around conventional song structures, that of artists like M/A/R/R/S and S-Express patently isn't.

"'Pump Up The Volume' and 'S-Express' I actually like", proclaims Titlow, "but Bomb the Bass and that 'Bass (How Low Can You Go)' were dreadful. It's really frustrating if you spend all of your time writing songs and somebody walks to No. 1 with a sampled Rose Royce loop - which is what that is with a few backing singers. At the end of the day you have to have a song, if you don't you become S-Express."

We're about to see the release of single number three, 'Love is the Gun' from the Blue two. The release of *Rich and Famous* has been delayed in Britain, but it's already in record shops in the States. How do Blue Mercedes consider its ten tracks to have turned out?

"It's a collection of singles", explains Titlow, "which is a failing in a way. We never really thought about the effect they would have as an album. It's more the sort of thing you'd put on at a party. It sounds really demeaning in a way."

But as long as music is going to be played at parties somebody is going to have to make it. The real trouble seems to start with the fact that there's money to be made out of pop bands - not necessarily by pop bands. And while the money's there to be made, somebody's going to be making it - usually record companies and artists' management. ■

BASS HOW LOW CAN YOU GO?

Listening to commercial sample libraries, you'd be forgiven for believing that the electric bass is capable of producing only a handful of different sounds. A session with your sampler could take your music to new depths. Text by Tom McLaughlin.

A LITTLE BASS history: the electric bass was designed to replace the plucked upright bass in live performance situations. Using your imagination, its sound almost resembles the real thing – on a bad night. Scope for any other sound was severely limited by simple pickups and passive filters. Some basses sported only a single volume control. For all it had going for it, the electric bass might have shared the fate of the do-do bird. Instead it caught on. And in a big way.

Today the electric bass plays a key role in music, not only rhythmically, harmonically and often melodically, but in respect of the energy band it occupies within the audio frequency spectrum. How well the bass "sits" in a commercial track is vital and can make or break a song aimed at the dance floor.

The electric bass relies upon pickups, tone controls and an external amplifier to filter and amplify its sound. It may have a solid or hollow body, single or multiple pickup and may be fretted or fretless. The bass you sample will be decided upon by what instruments you have available to you and what type of sound you're looking for. If it's an authentic '70s bass sound, hunt down an authentic '70s bass. Pulling the current "bright 'n' snappy" sound from a 15-year old bass is difficult (they weren't designed for it), but the new wave of basses is capable of mimicking most bass sounds.

Strings & Picks

NEW STRINGS MAKE a difference like night and day, and can give a mediocre instrument a new lease of life, producing a brighter sound than an old, beat-up set. Strings come in several gauges, metal alloy combinations and flat or round outer windings. Flatwound strings keep finger squeaks to a minimum but tend to lose their tone in a matter of weeks. Even when new, flatwounds never seem a match for roundwound strings' crispness and clarity. New strings don't come cheap though (£15-20 a set). Simply cleaning the grime and finger perspiration from a used set of strings with isopropyl alcohol (from

your chemist) or tape-head cleaner, can make a big difference and is the next best thing to buying a new set if your budget doesn't allow it.

How and where you pluck the string has a lot to do with the tone colour of the sound. In addition to your fingers, there are all sorts of plectrums available, made from a wide variety of materials. The nylon variety have the widest range of flexibilities, ranging in hardness from a baby's fingernail to a buffalo tooth. There are also plectrums made from stainless steel, stone and occasionally you'll find them in seashell or hardwood.

It's all a matter of taste but generally hard plectrums give a more immediate response, brighter tone, and more pronounced attack than softies. Metal plectrums add a "zing" to the front edge of notes with the metal-to-metal contact bringing out upper harmonics "other plectrums fail to reach"; this results in a very aggressive and distinctive bass sound.

The force with which a string is plucked not only gives a brighter sound, it causes notes to begin sharp. The greater the force used to set a string into motion, the sharper the initial pitch is likely to be and the longer it will take the string to settle down to its proper pitch.

But where you pluck a string and the effect on its harmonic profile is really a separate issue. Suffice to say here that plucking a string at half its length reduces or cancels every second harmonic. Since only half the harmonics are prominent this is the mellowest and "roudest" plucking position, producing a fruity, square wave-like tone. The further away from its centre you pluck a string the brighter the string will sound, mainly, but not solely, because fewer harmonics are cancelled out. Starting at its centre and working your way to the bridge, listen to the tone colour as you repeatedly pluck a string with varying degrees of forcefulness and a selection of plectrum gauges (not forgetting your fingers) to get an idea as to the wide palette of timbres open to you.

Amplifying & DI'ing

TO AMPLIFY, OR not to amplify, that is the question. Direct injection of the instrument's output, either into your sampler or after passing through effects and/or a mixer, will give you a crisp sound but may emphasise finger noise and string squeaks. Miking up the sound from an amplifier adds the coloration of the amplifier, tone control circuitry, speaker and microphone, and gives a warmer sound with a natural ambience. Many recording engineers and producers prefer combining both techniques and using the

presence of DI'ing and the warmth of amp miking to make a composite bass sound.

Microphones

THE MIC USED to sample an amplified bass plays a large role in the overall sound. Due to its frequency range and percussive quality, a dynamic microphone with a large diaphragm captures the low frequencies of the bass more authentically than your old faithful vocal mic. Most microphones don't have the low frequency response needed. The fundamental of the bass' low E is about 40Hz. Since 95% of sounds you'd want to record have little or no energy present below 80Hz you'll find many mics go down to only 50 or 60Hz.

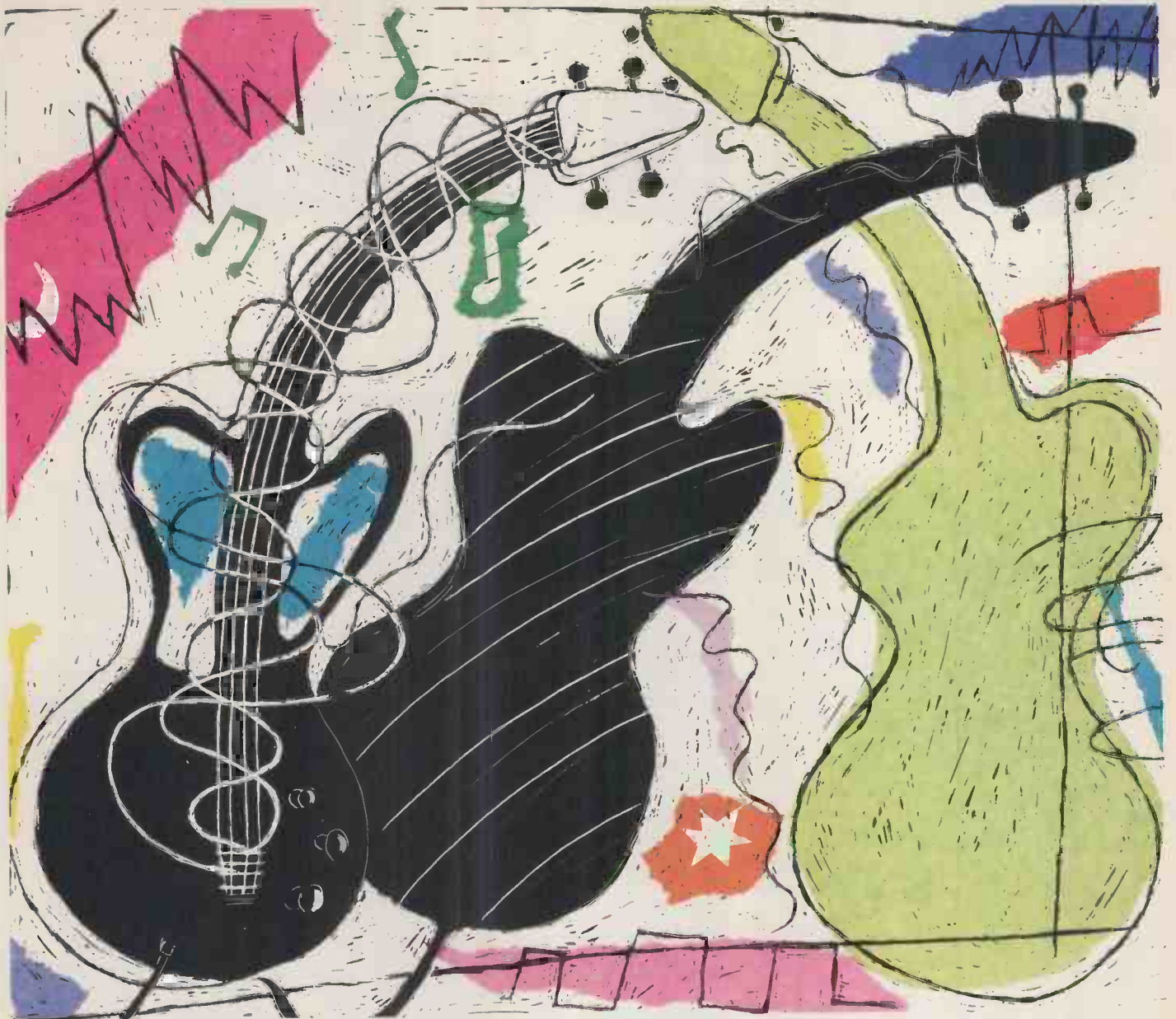
Traditional kick-drum mics like the AKG12 or Beyer do the job of picking up very low frequencies admirably but seem a bit lacking in the mid-upper frequency range. Hefty equalisation in the 3k to 8kHz range is needed with these mics for a crisp, modern bass sound. Using a second mic, one with a brighter mid range, is often a more desirable alternative.

If a general-purpose mic is all you have you'll need to heavily equalise the bottom end to do the bass justice. It takes work but it can be done, often with little more than the bass and treble/boost cut and mid parametric equalisation on your bog-standard mixer.

Amplifiers

A HOST OF companies manufacture combo amplifiers designed to flatter the electric bass. The variety of tone control/amplifier circuitry, speaker sizes/configurations and enclosure designs available is a good example of man's ingenuity. Effectively amplifying low frequencies has several physical limitations to hamper a straightforward design approach. In terms of size needed for an acoustic resonator to project the fundamental of a note, low means B-I-G. In the case of very low (40Hz) means V-E-R-Y big (we could be talking the volume of a small-sized bedroom). The fact that manufacturers have managed to bring us bass amplifiers that we can lift, let alone throw in the boot of a car, is quite an accomplishment.

When miking up amplifiers, give the speaker room to "breathe" by placing the mic 9-12" from the speaker cone. Pointing the mic directly at the centre of the speaker will emphasise the mid-upper frequencies but often adds a boomy thud to the attack portion of samples. You may ▶



want this. If not, moving the microphone so that it faces the speaker at an angle will prevent its occurrence.

Positioning a single microphone to record a bass amp with multiple speakers is preferable to using several mics. The bass' low register will accentuate any phase inaccuracies between microphones and multiple mics may cause part of your sound to disappear. If you do choose to use more than one mic and find that the sound coming through your monitors bears little resemblance to what you hear in the room, reversing the phase of one or more microphones may be necessary. Comprehensive mixing consoles will have a provision for reversing the phase of a channel; it's a simple and inexpensive circuit to install, otherwise you'll have to make up a lead wired out of phase (swap the wires around at one end) with your other leads, but do remember to mark it.

Equalisation

ALWAYS START WITH the instrument's tone controls before resorting to external means. Set any amp, mixer and effects (if

you're using them) to flat and fiddle around with the bass' onboard tone controls to see how close you can get to the sound you're after. Take a sample of it and see how it sounds. You may find it needs very little treatment for a straightforward electric bass sound. If not, it'll give you a good idea what needs to be done. If too little top end is coming back from your sampler, try a higher sampling rate before subjecting the top end to equalisation.

When using a graphic or parametric equaliser, try cutting frequencies around its middle range a little bit – between 250-500Hz. Cutting in this area helps the bass sound a lot less muddy. Boosting frequencies in the 4.5-7kHz range will improve definition, accentuating the pluck or pop portion of the sound (and string squeak), boosting between 40-200Hz will add "balls" by increasing the fundamental and lower harmonics. Be careful with frequencies under 80Hz – a "sub-basement" bottom end may "boom" when transposed upwards. If need be, a response curve more to your liking can be fashioned easily enough when session time comes, with a graphic or parametric equaliser.

Compression

IF ONE EFFECT or treatment is most responsible for the modern bass guitar sound it has to be compression. Even though the electric guitar and bass have substantially more sustain than their acoustic counterparts, they're still plucked string instruments and notes are not infinitely sustainable. Compressing a bass won't lengthen its notes (although sample looping will), but what there is of a note will stand more of a chance of being heard. Compression levels out the

"Lower sampling rates may mean that a loop is unnecessary, but the downward harmonic movement during notes often makes finding smooth long loops a headache"

loudness of input signals, and used to the extreme will eliminate any amplitude variation on the length of a note – the bass will essentially be either on or off. By setting the attack control on your compressor to a few milliseconds, the ▶

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percussive entry to notes can be exaggerated, giving today's punchy bass sounds.

Effects

FULL REVERB TENDS to confuse the bottom end occupied by the bass (there are few things worse in life than a confused bottom end). A little added ambience on DI'd bass will help prevent your samples sounding too little; a wee bit will do the trick. Go easy on the reverb's bottom end. If you can hear it as an effect it's probably too much.

I'm fond of putting a small amount of Yamaha's "Early Reflections" on DI'd bass and guitar. This is an ambience programme on their SPX and REV series of digital reverbs that excels in giving a "live" feel, adding the impression of a sound bouncing off of walls in a room, without the thickness associated with typical room, hall, spring or plate reverbs.

Flanging, phase shifting, chorus, harmoniser, delays, octave dividing and overdrive all work well with electric bass. Although of limited bandwidth, the richness of analogue effects actually seems to complement the range of the bass. The noise usually inherent in analogue effects can easily be filtered out without affecting the bass' tone to any great extent.

Flanging and phase shifting add harmonic movement to sounds by cancelling certain frequency bands and accentuating others. In addition to an internal LFO for modulation, some flangers have an envelope follower circuit that allows the flange to follow the amplitude envelope of the input instrument. This adds an almost vocal quality to the bass. Chorus adds richness and depth to the bass - anything from the simple chorus with a delay line to the complex chorus algorithms available on digital reverbs and multiple effects units.

Effects are a special case with the bass. To make sure that the fundamental and lower harmonics remain strong, it's wise to carefully balance the treated and untreated bass signals. Some effects units have this provision onboard. Failing that, you'll need to split the bass' output, send one half to the effect and blend them together with a mixer. Fading the effected signal in (with the aid of a noise gate set to a slow attack) ensures a crisp, clean pluck.

Sampling Rates

AS THE FREQUENCY spectrum of the bass is so low, we can often afford to sample it at lower rates than with other instruments. (The 32nd harmonic of the bass' high E is less than 4Hz.) Valuable memory space may be saved when working at lower sampling rates while still capturing the character of the instrument. Use common sense with sampling rates; you should be able to get away with lower

sampling rates for a mellow jazz bass than, say, for a crisp, slap sound. Sampling rates giving a playback response of between 4-12kHz are a good starting point to experiment with.

It's important that the trigger at the input of your sampler be set low enough not to lose any attack transients on the pluck portion of bass notes. If you have the choice between automatic or manual triggering, you can hit the manual trigger then quickly play your bass, editing off the blank space before the note at a later time. Leaving a small amount of string squeak or finger noise will help give the illusion of a real bass being played.

Lower sampling rates also mean lower samples and may enable you to record bass samples so long that a loop is unnecessary; the continual downward harmonic movement throughout the duration of plucked string notes often makes finding smooth long loops a headache. Alternating loops and loop cross-fading sometimes help, but due to the decrease in amplitude and flattening of pitch, there almost always seems to be some tell-tale cyclic movement that gives the game away. A "short" loop (where the loop is only one, two, four or eight cycles long) may be the best compromise for problem bass samples. If you find the right waveform(s) to loop around midway in the sample, the effect of heavy compression can be achieved.

Multi-Sampling

MAPPING YOUR BASS across the keyboard should be quite straightforward if you sampled a comprehensive set of pitches in the first place. If your bass part is not too demanding you'd be surprised at how few bass samples you can actually get away with.

As with any keyboard map, the best place to start is by assigning samples to notes relating to the original sampled pitches, your ear telling you how far from the original pitch a sample can be taken to meet its neighbouring sample. For those without velocity switching, soft and loud versions of the same bass sound can be assigned to different keyboard zones.

Some samplers allow you to sample two sounds and switch or cross-fade between them once a pre-chosen MIDI velocity is reached. With velocity cross-fading, the harder you hit a key, the more dominant the "loud" sample will be. This requires two Digitally Controlled Amplifiers to carry out. Velocity Switching requires only one DCA, switching to the louder sample once the velocity threshold is reached.

The most obvious application of this facility is to chop between soft and loud bass samples. Loud samples may be slapped or popped versions of a bass note, but don't rule out switching to harmonics or octaves. Loud samples needn't be technically perfect; a small amount of string "rattle" or squeak often adds aggression and realism to a loud bass sample.

Filters

THERE ARE TWO types of filter commonly available on samplers; fixed cutoff-frequency low-pass filters, and envelope-controllable low-pass filters. Some samplers have both. Occasionally you'll come across a high-pass or band-pass filter but these are more likely to be found in external software packages than resident in a sampler's internal operating software.

The cutoff of fixed-frequency low-pass filters can be adjusted to set the maximum brightness of a sample. In the case of sampled bass this is ideal for minimising unwanted tape hiss or amplifier noise.

Envelope control of a low-pass filter's cutoff must increase a sampler's usefulness by at least ten-fold. Even a simple four-stage ADSR envelope on a Digitally Controlled Filter (DCF) offers so much more scope to the manipulation of samples that a serious "pro" sampler wouldn't be caught dead without one. (Hear that guys?)

As nice as a short loop's tone colour might be, the human ear gets bored listening to sounds with no harmonic movement for even short periods of time. Bass samples with short loops benefit greatly from clever use of a DCF. Try setting the attack and decay controls to zero and, while holding down a note on the keyboard, adjust the sustain of your filter's envelope to let only the first few harmonics of your short loop through - the tone colour you'd expect to hear just before a bass note dies away to nothing. From there it's a simple exercise adjusting

"The most obvious use for velocity switching is to chop between soft and loud, slapped or popped versions of a note, but don't rule out switching to harmonics or octaves."

the decay control to start the sample off bright and decrease the filter cutoff to the sustain level over, say 5-10 seconds, simulating the natural decay characteristics of plucked strings.

By manipulating the filter envelope and feedback amount, an effect resembling the old faithful funky bass synth can be superimposed on a sampled bass. Fun stuff. More snap can be added to the attack portion of samples with a DCF and by fading in both the DCA and DCF something approaching a bowed string bass can be achieved. Faded-in harmonics border on the ethereal.

Modern instruments and studio techniques allow the tailoring of bass sounds as never before; sampling enables us to store these sounds on floppy disk ready for instant retrieval. So what's your excuse? Get your hands on an electric bass, start sampling and get your bottom end together. ■

vinyl T·A·K·E·S

Anne Clark

RSVP

10 Records LP

Anne Clark, if you are unfamiliar with her, is an aggressive female poet who backs her heavy political verse with equally heavy and aggressive electronic music. *RSVP* was recorded live at The Music Centrum in Utrecht, Holland in May 1987, and contains 14 tracks summarising her career so far.

Supplemented on stage by Rick Kenton (bass and keyboards), Gordon Reaney (bass and guitar), percussionist Ned Morant, and keyboardist Charlie Morgan (Not the Charlie Morgan, you understand) Clark conjures up images of decay and destruction while venting her anger at politicians, pseudo macho men, and most of the rest of the world. Sounds uninviting? Surprisingly enough, it isn't, and by the end of side two you're drawn into the atmosphere of the night and all but seduced by the subtlety of the music.

Emulated strings, choirs and percussion, combined with the warmth of a analogue sequenced bass, produce a sound reminiscent of Depeche Mode in their 'Master And Servant' days. Energetic in the extreme, but with no chance of daytime airplay (or chart success) due to her vocal style, Anne Clark is destined to remain a cult phenomenon. Yet her heavy use of drum machines and sequencers gives rise to precise contemporary dance music that should sell a million - if only she could sing.

I don't suppose for one moment she'd ever consider refining her sound for the sole purpose of financial gain, as this seems to be the complete antithesis of all she stands for. Indeed her strength is the original approach she adopts in respect of creating music with a message.

This is Clark's first live album after five created in the studio over the last six years, each of which have demonstrated a progression of ideas and inspirations. She believes that it is only through live performance that her work becomes complete, and speaking as a hapless soul who picked up a seven-inch copy of 'Heaven' for 10p a few years ago, I couldn't agree more. 'Heaven' wasn't up to much but this is, both in its use of technology, and in its originality. Highly recommended as a source of inspiration. ■ Db

Jane Siberry

The Walking

Duke Street/WEA LP

Canadian Jane is receiving extensive critical acclaim at this moment in time, with this self-penned, self-played and self-produced LP. However she has, where necessary, supplemented her own talents with those of a drummer, bassist, guitarist and keyboard player, along with co-producer John Switzer, to create a mainstream sound I'd say was best suited to American FM radio.

MT office opinion is divided as to whether her vocals are reminiscent of Joni Mitchell or Kate Bush - personally I'd say Bush, although the truth is probably nearer a combination of the two. That said, the album as a whole isn't particularly original, although there are a few sparks here and there. Fairly standard AOR when all is said and done.

Siberry's reputation is for being experimental, although evidence of this is sadly lacking in *The Walking*. Standard issue DX7 patches with plenty of piano and synthetic brass stand alone in the hi-tech department. This record is, as far as these ears can discern, completely sample-free. Nothing wrong with that, of course, but it all adds up a record that hasn't lived up to expectations, and I, for one, am disappointed. ■ Db

Claire Hamill

Love In The Afternoon

Coda LP

When Claire Hamill was working on a song called 'The Moon Is A Powerful Lover' for the album *Touchpaper* she discovered sampled vocals and became increasingly involved in the art of vocal arranging. Consequently, her follow-up album *Voices* was characterised by the Prophet 2000 and featured no sounds which had not originated from human vocal chords. As a concept, it showed her the way forward, and she became one of the leading exponents of British New Age. History lesson over.

Surprisingly enough, the singer now seems to have taken a sideways step, and rather than

merely reworking the themes of *Voices*, she has introduced drums, keyboards, a flute and even guitars and lyrics. But all is not as it seems . . .

The elaborate vocal arrangements are intact - the other instruments (D50, S900, DX7 by Nick Magnus) are there to complement the voice rather than vice versa. *Love In The Afternoon* may be less obvious than its predecessor, but ultimately it is more accessible and will appeal to a larger number of people, but never reach a fabulous chart position, which is fairly tragic.

Hammill herself would probably agree that the instrumental tracks work best. I'd say it's an album to go home to listen to, which can't be a bad thing. ■ Db

Act

Laughter Tears And Rage

ZTT LP

So what's Steve Lipson been up to since he was subjected to his infamous MT "disillusionment" MT interview back in '87? Producing this offering from Act, that's what.

Laughter Tears and Rage is a massive Synclavier workout with no less than 14 tracks on CD and cassette. How does it sound to these "enlightened" ears? Not at all bad, if the truth be told.

Act are Claudia Brucken of Propaganda fame, and Thomas Leer, who made great records that never really took off commercially in this country.

Together they have yet to see any real success in this country (although they appeared on a *Tomorrow's World* synthesiser special).

The Synclavier is prominent, even overpowering all the way through. Despite being a "controversial" instrument, Lipson is able to use it to its best to create the trademarks of a crystal-clear ZTT production. But there you have a problem - a huge budget and the best equipment doesn't necessarily make the music good. Luckily, Act are not short in this department as both Leer and Brucken have considerable musical ability, but this itself becomes a problem: I can't help thinking that their work is better suited to long-playing vinyl than the seven-inch variety. And success at the moment comes in seven-inch packages. ■ Db

demo T·A·K·E·S

I can be bribed like the best of them. But only with the prospect of power. I'll befriend any man who thinks my opinion is wise, honest and truthful enough to be worth listening to and that he damn well wants to hear it, whatever sharp criticism he may be inviting. So when I came across just such an invitation in a letter from Jonathon Hawes and

Paul Emery announcing the existence of a little thing they have going called *Seduced* (but not yet abandoned), I placed their five-track offering, *Birth*, into my trusty hand-cranked, Beltone cassette without the slightest hesitation.

I didn't regret my unjustified bias - not immediately. The first track, 'Get It Together' is a

pop gem of carbuncle-like proportions: an eminently singalonga chew hanging on a punchy bass riff (Roland TB303) with just enough from an electric piano to give the impression of an arrangement without cluttering things up. Brilliant.

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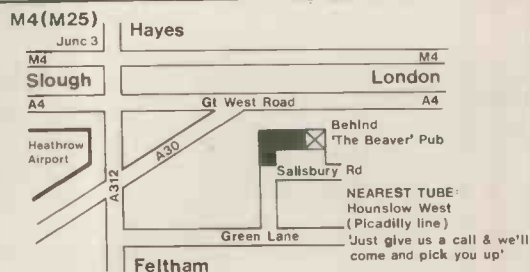
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with: "Like a latter-day Dylan or Cohen, Emery tends to overreach himself in his vocal delivery, thereby bringing a sense of atonal piquancy to the proceedings which, in turn, has a disturbing alienation effect on the listener, almost Brechtian in its intensity". But being a bastard, I'll just say, he can't sing. That's not to say he can't deliver a vocal, but from 'I Won't Go Away' through to 'Give In' we get all the warmth, all the human emotion, all the tortured angst of the chanteur at his best, but none of the notes. And as the vocal is mixed high and dry, this makes for extremely painful listening.

But let me assure you, possums, I mean all this in a caring way. Because underneath it all, there are some extremely interesting things going on. Like the opening section of 'I Give You Love' which has all sorts of weird and wonderful synth sound effects, including distorted car horns and manipulated digital noise in its rhythm track.

This and other good moments show there's no shortage of good ideas, especially in the light of the plentiful though fairly limited equipment and effects available. (Jen SX1000, Yamaha PSS-270 and H10, Casio SK1, SK5, MT100 and PT10 keyboards are used to make the noises, Fostex X15, Tandy electronic reverb, Ross stereo mic to record them with.) But like so many bands, Seduced do need to learn which ones should be trashed and which should be developed further. Easy, boys, easy.

The same could be said very much of **The Answer** (yes, but what's the question?) who turn out to be two brothers from Hull, **Richard and Christopher Oaten**. Like Seduced, they operate with a minimum of equipment, though in their case it's of an older variety: Sequential Pro-One, Moog Source, Korg Delta, Roland SH101 and TR808. Ever-resourceful, as the impecunious so often need to be, the radio is dragged out more often than not to provide random snatches of the spoken word - all deep and meaningful I'm sure, though most of them are in French which neither I nor they understand. There's a lot of use made of backward tape techniques too: again fairly random, but occasionally very effective.

Musically the Answer exist in that time-warp where New Order and Depeche Mode once walked as gods. Most of the 11 tracks on this cassette (entitled *Trans-Europe Ago-Go*), are hustled along by the snappy whiplash of the 808 and bouncy 'I Just Can't Get Enough' bassline rhythms squelched out on the 101.

The best numbers are undoubtedly those where this latter instrument is employed as part of the percussion line-up, where it generates some truly wonderful noises, including one which sounds like a shoal of girlfish having a mutual slapping session in a school shower.

But let's leave the fishist innuendos aside for a moment. The Answer undoubtedly make a good noise, but they know their limitations. They're also wise enough to realise that those limitations don't magically disappear with the purchase of more and better gear. Again, I can only recommend ruthless objectivity, to be taken at least four times every recording session.

And now, children, pull your chairs closer to the fireside and listen to my tale of passion, jealousy, murder and revenge. The lights grow dim, the text in front of you begins to go wobbly and from the street comes the sound of scuttling rats and the death rattle of a thousand Black Death victims. Yes, you've guessed it, we're back in medieval Paris, a time and place immortalised by Victor Hugo in *Notre Dame de Paris*, that roller-coaster of a novel, best known for its lovable, knockabout, cuddle-some hero, Quasimodo.

Hugo's steamy pot-boiler is the inspiration for **Richard Fincher's** *Notre Dame Suite*, a work in four movements with each movement intended to express the personality of the novel's four main characters: La Esmeralda (gypsy and goat lover); Dom Claude Frollo (alchemist, priest and spooky religious bastard); Phoebus de Chateaupers (professional soldier and lecher) and old humpalong himself.

Spirit of Wakeman arise, we're talking Concept Album. Though in this case, it's not played simultaneously on five Mellotrons and a hair dryer, but meticulously programmed in step time on a Yamaha CX5M and Kawai R50.

Now I almost wish that I hadn't known there was supposed to be a *point* to the music, for the simple reason that while these pieces may work as a set of musical ideas on their own terms, I have to conclude that as an evocation of something more specific, they don't really work. My main criticism is that the musical imagery is rather heavy-handed and, ultimately, rather banal. So we get snare rolls for the military Chateaupers and tambourines for gypsy Esmeralda, but they are just stuck in to rhythms and melodies which really evoke very little except the wonders of modern technology.

Fincher has set himself an incredibly difficult brief, and one which personally, I believe is impossible given purely electronic instrumentation, which has none of the power of association which acoustic instruments do.

Still, it might inspire others. Hump up the volume, anyone?

Pink Floyd meets Fields of the Nephilim is how I'd describe our next contender, who's no doubt big in his home town Bryn-y-Baal, Clwyd. **Jan Moore** has a happenin' thang going there with a heavily chorused guitar, Simmons drums and Korg Vocoder. The one track is called 'You' and with its doomy lyric and insidious vocal it qualifies Moore for this month's "Demo I Wouldn't Take Home to Play to Mother" award (you should hear my mother's demos).

We play out with *Living For The Future* by **Bob Ellis**, a cassette which bridges the gap between the "song" and "concept" methodologies by consisting of both, one side containing four individual pieces, the other devoted to a long one based on Richard Bach's *Jonathon Livingston Seagull*. This proves especially significant because by day Ellis is an RAF pilot, so it's to be hoped he knows a thing or two about flying.

Over the last seven years he's also learned a thing or two about recording, and on a purely technical level this is a beautifully produced piece of work. Most of the tracks are recorded in real time onto the Steinberg Pro24 and instrumentation involves FZ1, DX7, JX3P, TR707 with a Vocoder Plus and Moog Rogue cropping up here and there.

Musically, it seems to shift uneasily between pastoral, almost psychedelic passages, (reminiscent of early King Crimson) and frenetic, rather irritating bursts of elevator muzak. The quality of the vocal work (Jill Ellis and Seimon Morris) also tends to be rather variable. But there are worthwhile moments, mainly quiet, introspective passages like the Morris composition, 'Timeless' where synth sounds seem to float like clouds.

Others might like to make their own mind up by sending £3.50 to 16 Dale Road, Haverfordwest, Pembrokeshire, SA61 1HY. ■ *Nicholas Rowland*

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liveT·A·K·E·S

George Michael

Earls Court

And so the troubled *Faith* tour hits London, ageing Wham! fans rehearse their screams and Earls Court is packed to the rafters with 14,000 people who've braved the London traffic to watch George run through his quite considerable repertoire.

The stage set is composed of a number of huge white grids, lit by lasers and an impressive range of effects. Having said that,

fourteen-and-a-half quid for a ticket demands something spectacular, right? And is it? Mmmm.

Throughout the show, the sound quality was immaculate - the two keyboardists, hidden away at the back of the stage managing to copy perfectly all the sounds on record. It seemed they were using sequencers for a lot of the precisely timed sections, which has to be a questionable practice - bands use backing tapes when they can't afford to hire musicians or when the stuff simply can't be played. I wouldn't have thought George Michael fell into either category.

The show opened with a powerful rendering of 'I Want Your Sex' and proceeded to tear on through two hours' worth of Michael's pop (dwelling only briefly on Wham!'s past hits and pausing only to change a split pair of 501's).

It was an enjoyable and theatrical show on a grand scale, and an uplifting experience for all those on stage and in the audience (at least, this audience). Artists of George Michael's calibre have got where they are today by knowing how to entertain and being good at it. George Michael certainly knows how to throw a good show. ■ *Db*



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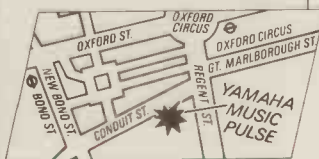
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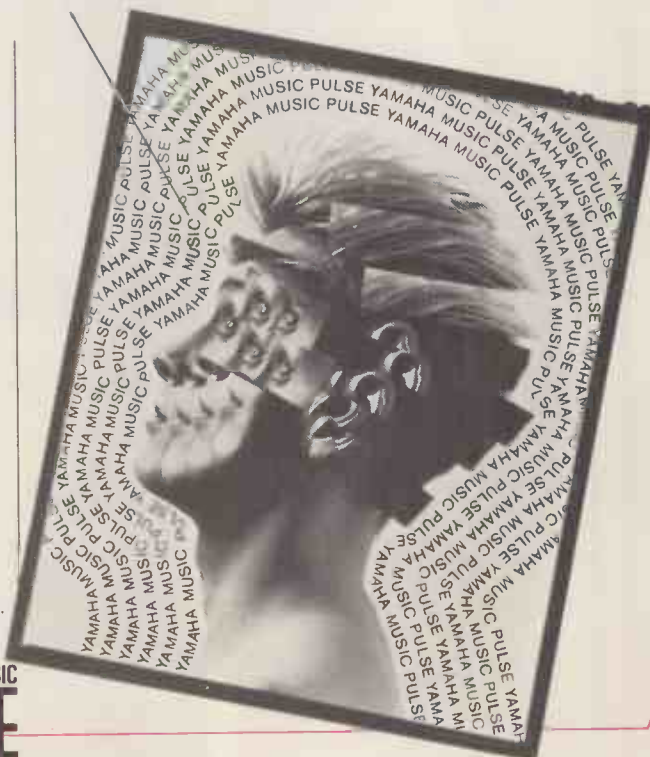
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In Praise Of Music



Photography Tim Goodyer

David Torn's unique guitar loops and textures are currently a feature of David Sylvian's live performances, but his unconventional approach has made him critical of the music industry machine. Interview by Tim Goodyer.

IT WAS FIVE o'clock in the morning. I looked around the table and I could see David Sylvian, Steve Jansen, Richard Barbieri, Mick Karn, Ian Maidman, Robbie Aceto, Terry Bozzio and Mark Isham. And I thought 'this is my dream table!.'

The speaker is guitarist extraordinaire David Torn, currently on David Sylvian's *In Praise of Shamans* tour and presently recounting the events of the previous evening - or earlier this morning, if you lack the musicians' perspective. The celebration marked the last of three concerts at London's Hammersmith Odeon, a long way from Torn's native New York but "home" for the ex-Japan frontman. Torn claims not to be "too lucid" as yet, but his enthusiasm for the Sylvian concerts and our interview

conceals any evidence of his fatigue.

Torn is probably most widely regarded as a jazz player – a label he resents and one that has brought him problems in the past.

“I thought I was playing pop music all the time”, he explains. “Admittedly the music was strange but I always thought it had commercial potential. I circumstantially fell into the world of modern jazz but it never was me; I was a lead singer and lead guitarist in weirdo bands.

“Now I feel I’ve fallen out of the jazz world, people realise I’m not John Schofield, I don’t play like John Abercrombie or Wes Montgomery. The difficulty of obtaining a realistic recording contract in America pushed me out of that scene and I just became a player.”

Today Torn is happier to describe himself as a pop musician. It’s a description that’s been brought about by the musicians he’s become involved with and the direction he hopes popular music will continue to take.

“It feels like the musicians in pop who I feel are really expressive – like Mick, David and Andy Summers, people I have a lot of respect for – are mixing. For me this is a really exciting time, because not only is my circle of friends expanding, but the public is picking up on something else beside industrial-grade pop.

“Something exciting was happening in the ’70s, out of the mixture of rock and jazz, which everybody thinks has died. But it didn’t really die, it kind of boosted the level of pop in general. Now I feel the same kind of thing is happening again. We keep talking about this expanding ‘Bloomsbury set’ – Mick is working with Mark’s band, now Terry Bozzio comes in bringing his influences . . . I’m going to work with Jane Siberry and that’s another set of influences.”

It’s tempting to politely suggest that Torn’s idea of pop music and the overtired clichés that characterise the pop charts in this country are entirely different matters. The amicable American has the answer ready and waiting.

“Didn’t Scritti Politti work with Miles Davis recently? And Jon Hassell’s been working with Lloyd Cole and the Commotions. It’s hard to tell at the moment, but I think what’s bound to happen is that stuff that was once considered, at least by the industry, as being strange, is actually showing up with great strength and power in public. The fact that Mark’s records and 4AD records sell, and that there’s a public for David and groups like Blue Nile suggests that what was once obscure is now proving itself to be very interesting to the public at large. And that includes musicians who were considered to be pop musicians but who are finding that there are ways to experiment with music. Some of the Art of Noise and Grace Jones stuff is very experimental.”

TIME TO TAKE stock. Torn last spoke to MT just twelve months ago following the release of his LP *Cloud About Mercury*, an adventure into sounds and scales that leaves you convinced that Torn is happy pushing his playing to the limits of musical harmony and technical dexterity, and happier making his guitar sound more like a synthesiser than a guitar. All the same, it’s hardly mainstream pop. In the same year he contributed to David Sylvian’s third solo album, *Secrets of the Beehive*, along with Mark Isham on trumpet and flugelhorn. Since then he’s written the music for

a film directed by Brad Gilbert called *The Order of Things*, which he describes as “totally technology” and which should be on release in a matter of months. Coming up is a proposed collaboration with Richard Barbieri, Mick Karn, Andy Summers, Bill Bruford and possibly Steve Jansen.

Somewhere along the line ex-Frank Zappa drummer Terry Bozzio fits into the picture. But in the meantime Torn, Sylvian and Isham have been joined on the road by ex-Japan men Barbieri and Jansen on keyboards and drums, bassist and percussionist Ian Maidman, and guitarist and keyboard player Robbie Aceto. Once again Torn’s guitar contributes washes of sound that defy you to link them to the instrument in the hands of the man you see playing in front of you. His relationship with Sylvian began after a trans-Atlantic phonecall.

“He was that man that rang me”, remembers the guitarist. Reference to MT’s interview with Sylvian helped convince Torn that the invitation was worth accepting.

“I really was left this wild card position where he didn’t know what he wanted me to do before I started reacting to the tracks. So we did a solo on ‘Boy With the Gun’ and I played my koto guitar on ‘Maria’.

“He’d run pieces on tape and I’d just react to them and start playing. David would play it back and say ‘the area that you were in here, give me something more’. We spent two or three days doing some really nice things. Some pieces worked and some didn’t. ‘Ride’ was my favourite track but – and I hope David’s going to read this – it isn’t on the record.

“Live it’s pretty much the same thing except it’s really expanded. Mark and I are improvising like crazy, which is exciting because you can see a night that’s mediocre, and you can see a night that’s just above mediocre and you can see some





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► fucking brilliant nights. This never happens in pop music - or if it does, it's purely on an energy basis. The forms of the tunes we play are fairly well set; most of the band are doing the same things night after night, and that's an important difference from jazz, but there are two guys onstage doing major improvisation. It's the availability of inspiration that takes it above pop."

Sylvian and Torn also spent some time building up guitar tape loops recorded on Sony PCM-F1 that contributed to the atmospheres of songs like 'Mother and Child'.

"That's something I'm doing a lot of these days - making tape loops with a lot of different instruments. Last year I worked on Mark's record, *Castalia*, and two films with him, *Motherland* and *Beast of War*, and I worked on a Wyndham Hill video called *Tibet*. My biggest role in these was to build a library of loops, so I've started doing it for myself as a new concept in basic building blocks for pieces rather than purely ambient things. Now I've got all sorts of things: flute, soprano sax, guitar, altered guitar . . . David was also writing a piece for a dance company at the time; instead of just building a loop and putting it on tape he wanted performances, so I did a couple of improvised 15-20 minute performances. He chose one that he really liked a lot and that was supposed to be the compositional basis of this ballet piece - naturally that's the piece that the second engineer chose to lose on F1. We got a field recording of bird sounds over the entire 20-minute loop."

The equipment responsible for Torn's unique guitar treatments live revolves around a Steinberger guitar and a collection of delays and effects - a Lexicon PCM70, PCM42, with 20 seconds of delay time, ADA and Ibanez harmonisers, a BBE Sonic Enhancer and a Microverb. At home in the States he has an E-mu Emax sampler, Casio CZ101, TX81Z, Alesis HR16 drum machine, a Macintosh running Performer 2.3 and Intelligent Music software and "all kinds of weird home-made things."

His interest in making tape loops has recently made recording equipment a priority.

"I was going to wait for DAT machines to slow down in price but I want to build a library of things that you can only improvise once, and DAT's a perfect way to do that. Sometimes things happen, like sometimes your demos are better than the recorded piece, so why not just record everything? If you've got a DAT player why not record everything and be able to use it in other contexts? I've already done this in a way by putting some guitar loops on tape, sampling them into my Emax and playing them from my Stepp guitar. It's a whole new area of being able to play my own loops."

"Surely the obvious way for a guitarist to approach what is essentially playing samples would be from a MIDI guitar controller. At the time of his last MT interview he had reservations.

"Even a year ago I was not prepared to say a guitar synthesiser was useful because of the technical problems - the tracking, having to dispense with standard guitar-playing techniques. But now I've got an unbelievable collection of samples, including guitar loops and things I couldn't repeat, that I really want to find

a way to use them live. The opportunity to perform a loop live and then walk up to the guitar controller and play another loop over it and control the pitch of the loop from the guitar is too brilliant to miss. I'm at the stage where I've got so many interesting samples that I've got to find a way to use them other than punching a keyboard. It's been an evolution in the way I think. Now I'm starting to think that a guitar controller is a step in the right direction. But I'm not going to turn it into a solo instrument in the standard way, I will take the line of more textural stuff."

Torn bought a Stepp DGX before coming to Britain but it broke down on him. Now it seems the Yamaha controller is a more attractive proposition. So much so that he is involved in its testing and expects to be using one within the next six months.

THE "TEXTURAL" APPROACH that characterises Torn's music was also an important part of Japan's before they disbanded in 1983 and probably explains why Torn received that call from Sylvian.

Torn offers his perspective: "With Japan's stuff and Mark's stuff sound is just sound. You can put it into a geography rather than staring at microchips. It's the same with Mark's synthesis in a way - it very rarely sounds like synthesised sound, it always has a certain warmth and an 'organic' quality to it. Mark and Richard continue to get brilliant sounds out of the Prophet 5. To me it's weird that the instrument is considered out of date."

As I said, the result is that you can't readily tell who's playing what onstage.

"Everybody in the group has that same attitude. Sometimes people don't even recognise what I'm doing as being a guitar, which is a little bit ego ungratifying having to point out that the sounds all over Mark's new record for example, are my guitar. On 'Mother and Child' there are sounds like sampled strings which are actually guitar loops. But I'm here to make music and not to hold up the flag that says 'me'. I'm there to do what needs to be done, and most times that means just being part of larger textures.

"One of the things about a guitar that makes it old-fashioned is that it always has to jump out front and make loud buzzing-bee sounds. It depends on what the piece requires: I know if I use a little chorusing and a very short reverb on 'Weathered Wall' it's not going to work. If I make the guitar very bright, have a 15-second reverb and swell every attack, I know that's going to work. I'd rather not have anyone know it's a guitar and have the music work and communicate with people. You might see some guy playing but not know which sound he's making but fuck it, the music sounds right.

"Barbieri is incredible. This is a guy who goes to every soundcheck an hour or two hours early and just programs. He's an unsung hero; he's got an amazing ear for sound. Jansen too; he's very clever with all these little backwards rhythms. He's not like someone who's there to work all aggressions out, he's a musician who's thinking about what he's doing. All his rhythms are composed and that was something that characterised the last few years of Japan - it was really well thought-out in terms of what statement they were trying to make and how they

"Something exciting was happening in the '70s, out of the mixture of rock and jazz, which everybody thinks has died - but it didn't really die, it boosted the level of pop in general."

"The opportunity to perform a loop live and then walk up to the guitar controller and play another loop over it and control the pitch of the loop from the guitar is too brilliant to miss."

► were going to make it. The whole group had that. In any group in any style of music he's the eloquent type of player you want to be with.

"The point to make about the use of all this technology is that it's a double-edged sword. There are so many synths, so many drum machines, so many computer programs and so many ways to use these things that haven't been explored in pursuit of human expression. It's like a horn of plenty. The other side of it is that you have all of these instruments but without an inquiring mind what ends up happening is that all the pop music starts to sound the same. Everybody uses the same sample and the same preset on the DX7 or the D50. You get this tremendous dichotomy between what could be, and what is pop.

"When it's really clear that artist's expression has first to do with the sound of their instruments, how many times can people take that non-creative option before they realise that they're not saying anything? Do they think they're doing something hip? Do they think they're doing it because it's sold before so it'll sell again? I can never figure out where it comes from, this lack of motivation to do something original. I don't mind using a preset sound but I'll change it or I'll process it to make it sound like something I can use. It really doesn't make sense to me that somebody would settle for something that doesn't sound like them. In a way it would be really useful if manufacturers stopped selling instruments with sounds in them - send them out with a blank memory, but of course they can't do that, because they won't sell the instruments.

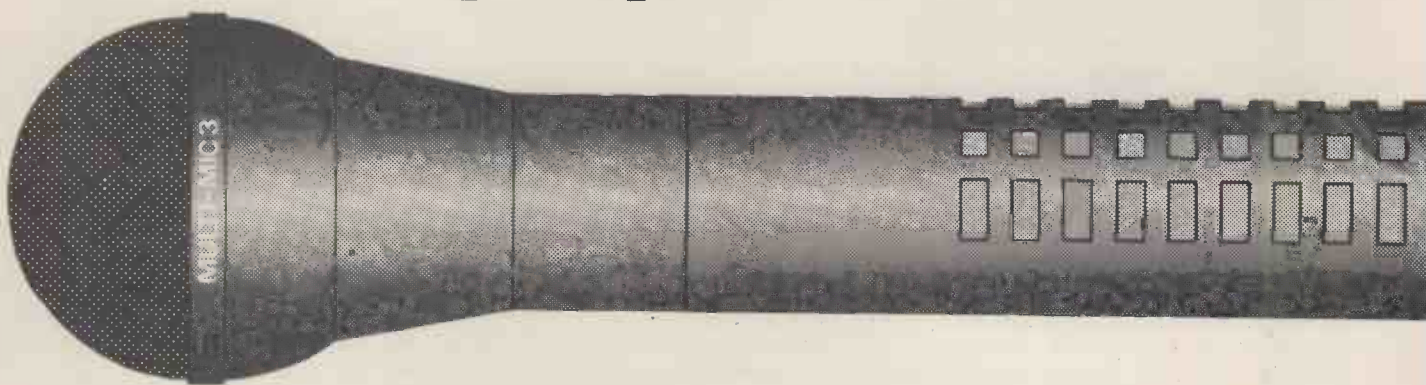
"It's a shame that the point doesn't get across

that this is a really creative time in terms of music and the equipment that's available. It's very unusual that so much has occurred in so short a span of time - the last 30 years.

"It's not just to do with the technology - the record industry was created to serve the creative and it's like the roles have been reversed. I understand it because I still have to fight to convince people in the recording industry that I can sell records. But there's been this switch around, in which musicians feel that they have to please the industry. If you go at it from the angle that you've got to do something that's like something that's been successful before then you're degrading your own view of your creativity. I should be able to go to Richard Branson and convince him from things that I've done and from my attitude that I'm capable of doing exactly what I want to do creatively and they'll be able to sell it. The industry itself has become the glamour beast, but it was created to be an intermediary between the creative artist and the public. It's a confusion that revolves around the desire to make a decent living or better in people who aren't musicians and who aren't artists. Young musicians should find a way to convince the industry it's there to serve them and they're not just there to 'get a deal'. I can't imagine a more critical time to have to convince younger musicians that it's better to have a day job and keep the integrity of their music - and then convince the record industry that what they've done doesn't need to be drastically altered to be successful."

One event that is unlikely to compromise Torn's musical integrity is a proposed benefit for St Peter's Church in London's Vauxhall later

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this year. The church became a cause for concern several years ago and artist Russell Mills (whose work provided the backdrop for *In Praise of Shamans*) began a series of concerts to help rekindle interest in the building. Since then it has played host to the likes of Roger Eno, John Foxx, John Bonnar and the Happy End. Now Sylvian has suggested he and Torn play a duet there . . .

"I've already begun to have some ideas about it", comments Torn, "particularly in the area of processing. One thing that hasn't been done with David is to use his voice as an instrumental vehicle rather than a verbal vehicle. One of the things I've suggested is to bring in a further delay line and split his vocal signal so that one half goes directly to the house and the other goes through my rack with the delay so I can randomly 'play' his voice.

"There's a quality in the low range of his voice that's incredible, it's unbelievably powerful and resonant, and I thought it would make a great building block as a chordal device - no words, no vibrato, just that low end of his voice instead of bass or synth pads to use as an improvisational tool. But we haven't really sat down and done any mapping yet."

In the wake of the Nelson Mandela birthday concert, nothing could seem more straightforward than to organise two musicians and a pile of sound processors in an old church. So when's the happy event?

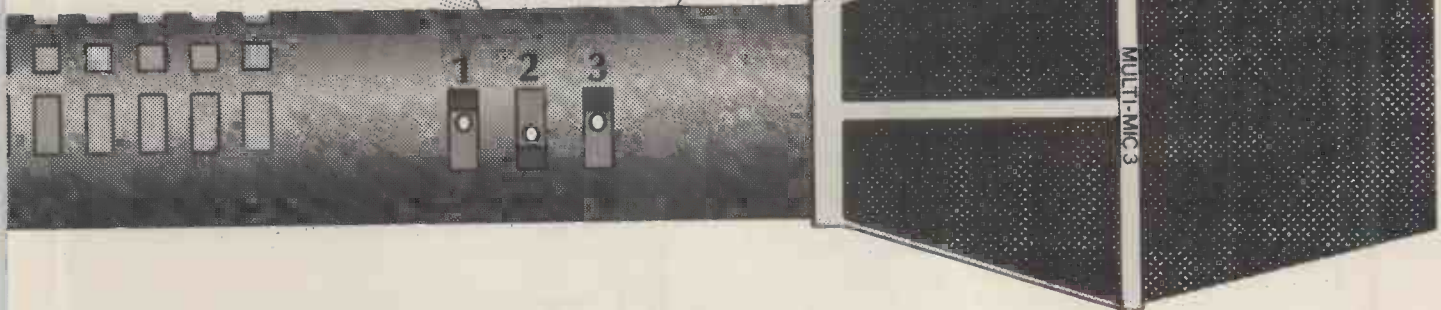
"This morning I was thinking about all these things that are coming up for me and I realised that, no matter how many years that go by, with musicians nothing is confirmed until after it's done. And then sometimes you have trouble



confirming it."

Well, the man did only get a handful of hours' sleep last night. ■

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more studio time;
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to obscurity? Not if
The Production
Workshop have
their way.
Interview by
Nicholas Rowland.*

IMAGINE THIS: YOU'RE casting your eyes over the classifieds in a national music paper and you see an advert for a London studio. There's an eight-track tape machine and 24-channel desk on offer along with innumerable synths, samplers and expanders. Some expensive microphone model numbers are also listed as well as a choice of sequencing - nothing out of the ordinary, just the sort of "industry standard" equipment you'd expect to see on the shelves of any local studio along with the 20-quid-an-hour price tag. You come to the last line and suddenly your curiosity is aroused. Why? Because the all-in price is a rather unusual figure. Zero. This studio is absolutely free.

Now, human nature (and the variable standard of proof-reading among classified sales persons) being what it is, you'd probably pass it off as either a joke or a misprint. And even if you took it at face value, you'd assume there was a catch somewhere along the line. "Probably involves mortgaging your soul to the devil", you'd mutter as you carried on down the page, musing that if indeed these were the terms, your soul is the least creditworthy thing about you.

Which explains why I now sit opposite Mike Myers, a man who really is giving his studio away for nothing, but doesn't want to pay 18p a word to advertise the fact in case people take him for a deranged loony with delusions of philanthropic grandeur. I soon discover that he's neither lunatic nor devil, but a self-confessed "songwriter-cum-producer" who has had more years experience in the Pop Bizz than he's entirely happy to mention. Indeed, getting Myers to talk about his own past as a prelude to the present proves fairly difficult. I sense a reluctance to drop names which were once on the tip of every tongue, but now are perhaps not quite the hippest of the hip. Billy Ocean, Nick Heywood, the Nolans and Buck's Fizz all crop up in conversation as acts for which Myers has written and co-produced. On the office wall, a series of gold and silver discs confirms that when he says he's been involved in 29 major hits, he means it. 'I'm in the Mood for Dancing' was one of them. Corny stuff, but it still shifted over seven million units.

Since 1978, Myers' writing and production activities have gone under the name of Tasty Music, which he co-directs along with the more recently established Tasty Music Publishing (affiliated to MCA). The studio, calling itself The Production Workshop for reasons which you'll learn later, is the newest project, set up around six months ago. It's primarily a workhouse for Tasty Music's own projects, though it's available for commercial hire as well. Two rooms contain an Atari ST running Hybrid Arts SMPTE-track, an Emax, three TX81Z modules, two DX7s, two Juno 106s, a JX8P plus a whole lot more. The distinguishing factor

between the rooms is the choice of tape recorders; whereas one has a Fostex B16 in the corner, the other has an A80. So far, they've been used by the likes of Robin Millar, Hugh Jones and Black, as well as a number of lower-key producers and aspiring bands and solo artists. Judging by the fact that they keep on coming back, they seem to like it here.

"It's because, compared to the major studios, it's cheap", says Myers cheerfully. "Even people like Robin Millar enjoy working in an environment where they're not having to watch the clock, knowing that if they spend time working on something it's automatically going to cost a lot of money. Time really is of the essence in this business. I should know because in the early days when you had a group of musicians rather than a load of synths, if you ran out of time you had to pay them double."

The Production Workshop, like so many studios which are springing up at the moment, is a product of the last few years' advances in music technology. MIDI sequencing and the relative accessibility of digital recording through low-cost units such as the Sony PCMF1 means that the facilities on offer at these "production suites" can now rival those costing ten times as much. Of course, what you don't get is the fashionable address, the wood-panelled live room converted from a former priest-hole and designer coffee machine, but The Production Workshop does boast a special deal with the gym upstairs.

"Nowadays all you really need are good sequencers, a couple of good mics and a big desk to handle all the mixing live. For our own stuff, we often just stripe one track of the B16, use another couple for vocals, and run the rest live to the F1 and cut from there. Obviously there are situations for which studios of this type are no good, like when you've got to get a whole load of guys in playing together, but even then you can get round it by doing a series of takes and overdubbing one person at a time. Technology means that there's no real difference between doing something here and going to Battery Studios. You might get a few more toys to play with, but if that's all you want, we can hire them in."

THE BURNING QUESTION is, why let people use for free what others are more than happy to pay for? The explanation is to be found partly in Myers' past experience and partly in his vision of the record industry's future. On one hand, as the head of a production company and publishing concern, he has a commitment to new musical talent, particularly to taking the raw material of an up-and-coming act and turning it into the sort of product a major record company is likely to put pen to contract paper for. But on the other,



Photography E

his recent dealings with the record companies lead him to believe that, because they've become increasingly inaccessible to the struggling band, such new talent as exists is in serious danger of being completely ignored.

"I don't believe the record industry would know the next big thing if it came up and bit them on the leg.

"I think everyone would agree that music is no longer exciting. Everyone is desperate for the next Elvis, or the Beatles or the Police, no-one more so than the A&R guys at the record companies. I've got A&R guys, people I've grown up with in the industry, phoning me up, desperate for good new signings. Some of them have almost got money to throw away, although there's certainly not the money there used to be a few years ago. But I've also got these young bands who come into the studio and say 'Can you help us to get in touch with the record companies. We can't get past reception.'

"I've seen both sides of the story and I can understand why there's a breakdown in communication. For example, a few years ago I phoned a record company to make an appointment, but because I didn't know anyone in A&R the girl on the switchboard said, 'If you want us to listen to a tape, you'll have to send it in'. I explained that I didn't send tapes and she said, 'Well we don't give appointments'. I said, 'It looks like we're destined never to meet'. Then I explained who I was, what I'd done. A moment later there was a voice on the other end of the line saying, 'Hiya, Mike, how you doing? When do you want to come in?' I'd never spoken to this guy in my life.

"The receptionist was just doing her job, because there are a lot of time wasters. And you can see what the A&R man is up against when you're sitting in his office and you watch someone dump a whole sackful of demos on his desk, as they do every single day of the week. If

you ask them how they can possibly listen to them all, the answer is they don't. They pick out the ones that look interesting, maybe because of the cover or the photos, and listen to those for an hour. That's all they can do because any longer and their ears go and so does their judgement."

But while Myers can sympathise with the predicament of the A&R man, it's precisely on the point of judgement that he takes issue.

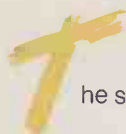
"First of all, you've got the narrow-minded attitudes of the music business in this country. Unlike America, where if it's good and it's marketable, they'll try and sell it, in England, there's got to be an element of 'cred' about a band. If it isn't credible then the A&R guys won't touch it. They're all nervous anyway because if they sign a naff band they're out of a job. If it's not cred and it fails he's not going to live it down, if it is cred and it fails, all right so at least it's still cred."

Myers also identifies another bugbear - technology. But his argument is not the conventional one of "sampling killing music" or "too many people with too much cheap gear which they don't know how to use". It's rather that the standard of recording technology, particularly at what used to be considered the raw demo stage, has simply got too high.

"Basically, it means that the A&R man is listening to demo tapes which are often better than the masters of five years ago. In that way, I think they've become spoilt. They've become so acclimatised to production that they no longer know whether the content is any good. For example, I've known cases where bands have been passed over just because the bass sound wasn't quite right, although the A&R man wouldn't actually admit it. One of the more common responses to tapes now is, 'I'm not quite sure, why don't you go away and master it and I'll see what I think of it then'. And you can see why they do it. If you eat caviar every day ►

"Too many bands are wrapped up in their own thing and aren't listening to what's going on around them - or even to what's going on in the band."

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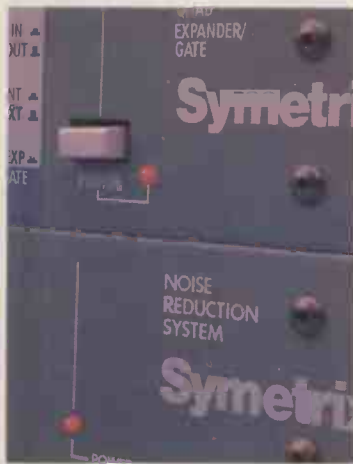
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► then smoked cod roe is going to taste pretty foul.”

However, Myers doesn't see the point of bands producing quality masters solely to make the A&R men's decision easier, when it should be their job to spot the spark in the music which merits it being taken any further.

“In the old days you'd go to an A&R guy with a demo done just with piano and voice, on a four-track if you were lucky. And he had to have enough imagination to know whether the musicians should be put into the studio to see what could be made of it. The song simply had to stand up on its own two feet. I remember doing demos on an out of tune piano and a cassette recorder that was so duff you had to hold it right

up to your ear on playback. But it earned me an awful lot of money - then. It wouldn't now.

“What it comes down to is that a lot of the A&R guys today haven't gone through the '60s and '70s - I'm not saying it's their fault, it's just that they weren't born in time - but it means that they haven't been able to learn their craft in the same way that the older guys have. In that respect, technology has made a rod for everybody's back.”

MYERS' CONCLUSION IS: if you can't change the system, then you've got to learn to play it. Which is where we once more focus attention on the activities of The Production Workshop.

“Over the last few months it seemed to me that, because of our situation here, we could be doing the job that the record companies should be doing in the first place. For a start, people are always sending us tapes just because we've got a studio. Everybody seems to be in a band. The milkman, the guy who comes to read the meter. Just the other day, there was someone delivering pizzas and even he pulled a tape out of his pocket.

“Because we don't have the volume of tapes, we *can* listen to them all and perhaps, because of my background, have a clearer idea of what we're listening for. I'm not saying I'm immensely talented, but I do think over the years I've learnt instinctively if there's something there, even if it's recorded or arranged badly.

“And since there's less at stake, we can afford to take it further by putting the band in the studio and see what we can come out with. This

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is what record companies used to do, and they had studios specifically for that purpose, though now you find they're just not used.

"But with our experience we're also able to get things to a certain level where the production is taken care of, and since we're successful in our own right, record companies might pay more attention if the final tape then comes via us.

"In order to encourage people to come out of the woodwork, I thought maybe we should offer free studio time. The studio may not be being paid for, but at least it's being used and hopefully there'll be a buzz about the place. That's why I called it The Production Workshop in the first place. I wanted it to become the centre of activity for a whole load of musicians. A bit like a mini-Motown where people would work on each other's stuff."

While you may see this as the stuff of which dreams are made, Myers has both feet firmly on the ground when it comes to declaring his interests in the setup.

"Somewhere along the line we would hope to get involved at a publishing or management level, but as long as we declare our interests right at the beginning then no one can lose out. The refreshing thing is that we're the ones taking the risks. How can anyone lose?"

You sceptics may be thinking that all this is an elaborate plot to haul in musicians with little experience of the industry, and turn them into slaves of a Tasty Music production dictatorship. After all, one of the most successful production companies of recent years (we all know who they are, don't we, children?) has built its reputation on doing just that. But how, exactly, do you transform a homegrown demo into a slick master fit to grab the attention of record company ears and still leave that essential rawness which young bands usually have intact?

The approach at The Production Workshop is to concentrate on the material rather than the production or the image. Get that right, suggests Myers, and the rest follows.

"One of the most common problems is that of waffle. Far too many bands are wrapped up in their own thing and aren't listening acutely enough to what's going on around them - or even to what's going on in the band. There's usually so much padding there - guitar solos going on all night and drummers playing fills all over the place. I don't tend to worry too much about that when a band is inherently strong, because you can always change the structure of the material. What is more difficult when dealing with a band is if it doesn't seem to work together very well. Maybe the drummer's shit - so many of them are - in which case you don't know how good the bass player is either and so on. That's when you start getting into personality politics, which is a whole different area altogether. But I'd never force a band or an artist to work with a producer or engineer they didn't like or who wasn't sympathetic to them."

There must be a danger, though, particularly when you're a relatively small concern in the great scheme of things, to try to persuade artists to follow certain trends because that's where the record company's interest lies at the time?

"Of course, the clever answer is that bands should set trends. But, yes, it is often a question of making them sound up-to-date, although obviously you tailor the production to the situation. If you've got an interesting guitarist, you don't turn it into Kylie Minogue just because

you think it will be more appealing to a record company."

While aware that it can be the easy way out, Myers doesn't subscribe to the theory that success can be gained merely by having access to this year's presets. He qualifies this by making a neat distinction between what he calls "songs" and what he terms "tracks".

"Songs are like 'Three Times a Lady' where you could have done it on a piano and it would still have sounded great. Tracks are when you have to pull all the stops out and make the sound a feature of the record. Ultimately, it's horses for courses. It's the application which counts. I honestly don't think there's any point in sitting down in a studio and coming up with sounds independently of the track. We certainly don't spend any time here programming for the sake of it. It's always during an actual session.

"This idea of trying to keep up with the fashions in sound is very interesting, because if you're doing your job properly I think it's actually impossible to be fashionable for the sake of it. I think everybody at some stage or other has been guilty of hearing a sound on a record and saying, 'That's killer. I must have that sound in my song'. So we've had all these crazes like the Nile Roger's 'Let's Dance' bass drum, the Cameo snare and the 'Two Tribes' bass.

"But what many people don't realise is that those sounds were specifically related to their musical contexts. So Steve Lipson didn't sit down one morning and say, 'I'm going to create this monster bass sound which is going to set the trend for the next year', he already had a very definite musical part which he knew he had to play, and so he tailored the sound to suit that. No doubt all these other great sounds everyone nicks were created for their specific context too. But we do get people coming in and saying 'Give me Rick Astley's bass drum sound'. On the one hand that's naive because it shows they think that's the secret of his success, but on the other, that's the only way you can describe what sound you actually want."

Inevitably the name of the Pet Shop Boys crops up as an example of a current act whose production consists of the most clichéd, dreary and old-fashioned use of sounds.

"We had a producer in here the other day who said, 'Can you get hold of those electronic drums which go booo, booo'. I said, 'You're talking about Syndrums. You can't use those, they're really naff'. He said, 'No, they're really fashionable, the Pet Shop Boys have just used them on their latest single'. I mean, who's setting the trend there?"

I'm not sure whether Myers wants to set any trends by opening up The Production Workshop to all comers, but for the moment I get the impression that he's looking forward to the experiment.

"That way, everybody ends up happy. The band get through and make their point and the A&R people are happy because you're doing half their job for them. And we're happy because the studio is being used, even if it's not being paid for. And ultimately, who knows, we may find ourselves involved with the Rod Stewart of tomorrow."

At the mention of that name, the world begins to tremble in delicious anticipation. ■

Mike Myers and The Production Workshop can be contacted on 01-450 5115.

"I don't think there's any point in coming up with sounds independently of the track - we don't spend any time here programming for the sake of it."

patchW·O·R·K

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

ROLAND D50 Ebony Whistler Will Brady, CA

According to Will, "Ebony Whistler" can be used as a pad sound or as a performance setup, combining a DX7-ish piano sound and organ overtones, with an electric flute for more melodic intervention. ■



Tune Name ELEC FLUTE Used Patch No. _____

[Common Parameters]

Structure No	01	Pitch ENV	Velocity 00 KF(Time) 00	LFO	1 2 3	EO	125	Chorus	Type 01
Partial Mute		Lo	00	Wave	TRI TRI TRI	Lg	+05	Rate	41
		T1	20	Rate	74 00 00	Hl	2.50	Depth	94
		T2	20	Delay	00 00 00	HO	0.3	Balance	35
		T3	20	Sync	OFF OFF OFF	Hg	+02		
		T4	20						
		T5	20						
		EndL	00						

Pitch Modulation

LFO Depth	00
Lever Mod	20
After Mod	20

[Partial Parameters 1/2]

WG Pitch	Coarse C4 C4	TVF	Frequency 29 29	TVA	Level
	Fine +09 -08		Resonance 00 00		Velocity
	KF(Pitch) 1 1		KF(Freq) 8 8		Bas Post/ Bas Decison
WG Modulation	LFO Mode OFF +		Bas Post/ Bas Decison C5 C5		Bas Level
	P-ENV Mode OFF OFF	TVF ENV	Bas Level -01 -01		Depth
	Bender Mode KF KF		Depth 90 90		Velocity
WG Wave Form	Wave Form SQU SQU		Velocity 20 20		KF(Time) 01 01
	PCM No 01 01	TVF ENV	KF(Depth) 00 00		KF(Time) 01 01
WG Pulse Width	PW 00 00		KF(Time) 04 04		T1
	Velocity 00 00				T2
	After Touch 00 00				T3
	LFO Select +2 +2				T4
	LFO Depth 00 00				T5
					EndL

TVF ENV

L1	100 100	TVA ENV	Velocity (T1) 00 00
L2	53 53		KF(Time) 01 01
L3	00 00		T1
SusL	00 00		T2
EndL	00 00		T3
			T4
			T5
			EndL

TVF Modulation

LFO Select	+2 +2	TVA Modulation	LFO Select +1 +1
LFO Depth	00 00		LFO Depth 00 00
After Touch	+02 +02		After Touch 00 00

5. SAMPLE NOTE

Patch No. _____
Patch Name _____

Key Mode	DJAL
Split Point	C4
Tone Balance	21
L-Key Shift	00
U-Key Shift	00
L-Fine Tune	00
U-Fine Tune	00
Bender Range	02
Alter(Pitch Bender)	00
Portamento Time	00
Portamento Mode	UL
Road Mode	UL
Output Mode	01
Reverb Type	10
Reverb Balance	50
Total Volume	92
Chase Mode	ULU
Chase Level	50
Chase Time	50
MIDI TxCH	B
MIDI SepCH	OFF
Used Tone	
Upper	ELEC FLUTE
Lower	DARK SIXTH

Tune Name DARK SIXTH Used Patch No. _____

[Common Parameters]

Structure No	01	Pitch ENV	Velocity 00 KF(Time) 00	LFO	1 2 3	EO	350	Chorus	Type 01
Partial Mute		Lo	00	Wave	TRI TRI TRI	Lg	+09	Rate	45
		T1	20	Rate	75 00 00	Hl	3.4	Depth	65
		T2	20	Delay	00 00 00	HQ	2.0	Balance	100
		T3	20	Sync	OFF OFF OFF				
		T4	20						
		T5	20						
		EndL	00						

Pitch Modulation

LFO Depth	00
Lever Mod	26
After Mod	26

[Partial Parameters 1/2]

WG Pitch	Coarse C3 A6	TVF	Frequency 28 07	TVA	Level
	Fine -12 +38		Resonance 00 26		Velocity
	KF(Pitch) s1 s1		KF(Freq) 1 1		Bas Post/ Bas Decison
WG Modulation	LFO Mode + +		Bas Post/ Bas Decison A1 A2		Bas Level
	P-ENV Mode OFF OFF	TVF ENV	Bas Level 00 -07		Depth
	Bender Mode KF KF		Depth 100 100		Velocity
WG Wave Form	Wave Form SAM SAM		Velocity 08 09		KF(Time) 00 00
	PCM No 01 01	TVF ENV	KF(Depth) 00 00		KF(Time) 00 00
WG Pulse Width	PW 91 91				T1
	Velocity 00 00				T2
	After Touch 00 00				T3
	LFO Select +1 +1				T4
	LFO Depth 00 00				T5
					EndL

TVF ENV

L1	100 100	TVA ENV	Velocity (T1) 00 00
L2	85 83		KF(Time) 02 02
L3	71 55		T1
SusL	69 32		T2
EndL	00 00		T3
			T4
			T5
			EndL

TVF Modulation

LFO Select	+1 +1	TVA Modulation	LFO Select +1 +1
LFO Depth	00 00		LFO Depth 00 00
After Touch	00 00		After Touch 00 00

YAMAHA DX21 Midnight Gong Dave Miller, Bedford

Another convincing bell patch for the DX21. This one combines a very midnight-in-the-Churchyard atmosphere in the lower registers with slight detuning for a gong-like feel (there's nothing like a gong-like feel). Dave suggests that the patch is best used playing two or three notes at a time rather than complex chords. ■





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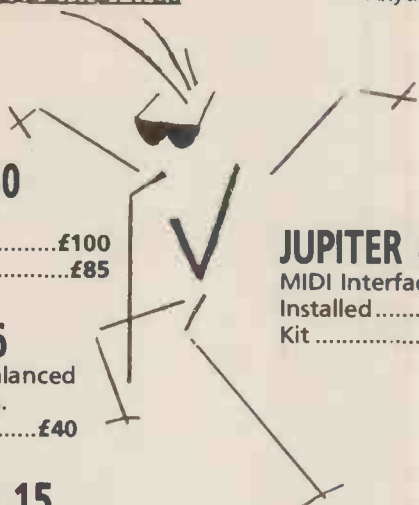
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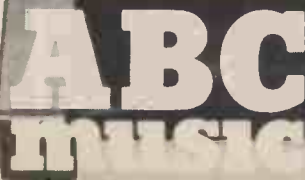
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DATE/PRESET No. : _____

VOICE NAME : _____

PROGRAMMER : _____

														AME	DP	
															4	
															3	
															2	
															1	
5	4	TRI	7	0	4	0	OFF	6								
ALGO-RITHM	FEED-BACK	WAVE	SPEED	DELAY	PMD	AMD	SYNC	PITCH	AMPLITUDE	EG BIAS	KEY VELOCITY					
LFO										MODULATION SENSITIVITY						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	

OP	4	0-87	0	31	1	11	1	4	83	0	22								
	3	0-78	+3	31	0	7	4	2	71	2	0	99	50	99	50	99	50		
	2	1-73	+3	31	0	13	0	3	75	2	0								
	1	0-50	-3	31	0	14	3	3	99	20	0								
		FREQ. RATIO	DETUNE	AR	DIR	DIL	D2R	RR	OUT LEVEL	RATE	LEVEL	PR1	PL1	PR2	PL2	PR3	PL3		
OSCILLATOR				ENVELOPE GENERATOR				OPERATOR				KEYBOARD SCALING				PITCH ENVELOPE GENERATOR			
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32			
	POLY MONO	PITCH BEND	PORTAMENTO			FOOT CONTROL		WHEEL RANGE		BREATH RANGE				CHORUS	TRANSPOSE	VOICE NAME			
			MODE	TIME	FOOT SW	VOLUME	SUSTAIN	PITCH	AMP	PITCH	AMP	PITCH BAS	EG BIAS						
							on							on	C3				

ALESIS HR16 Drumkits Charles R Fischer, CA, USA



Although this isn't strictly a patch, we thought Charles' drumkit would make a nice change to give you something to program into your drum machine instead of your synth (if you've got a HR16, that is). The various kits are very good as they stand, but obviously can be tweaked to suit your own preferences. ■

Kit: ROCK/POP

Pad Name	Instrument	Tune	Level	Pan
Tom 1	#21 10" double-head tom	+5	85	<3
Tom 2	#21 10" double-head tom	-1	85	<1
Tom 3	#22 14" double-head tom	-2	82	1>
Tom 4	#22 14" double-head tom	-8	78	3>
Ride	#30 Ride cymbal bell	-1	96	<1
Crash	#31 Crash cymbal	+2	96	1>
Perc 1	#34 Low conga slap	-4	75	<1
Perc 2	#33 High conga slap	-3	75	1>
Kick	#01 Power kick	-3	99	<>
Snare	#12 Ambient wood snare	+2	96	<>
Closed hat	#25 Closed Hi-hat B	0	99	2>
Mid hat	#26 Half open Hi-hat	0	99	2>
Open hat	#27 Open Hi-hat	0	99	2>
Claps	#46 Tambourine	0	95	<2
Perc 3	#43 Medium cow bell	-3	88	<2
Perc 4	#41 Shaker	-1	96	2>

Kick	#09 Electronic kit I	-5	93	<>
Snare	#14 Gated snare	+1	82	<>
Closed hat	#24 Closed Hi-hat A	0	99	2>
Mid hat	#26 Half open Hi-hat	0	99	2>
Open Hat	#27 Open Hi-hat	0	99	2>
Claps	#47 Hand claps	0	96	>
Perc 3	#15 Electronic snare	-4	96	<1
Perc 4	#48 Finger snap	8	96	1>

Kit: ETHNIC

Pad name	Instrument	Tune	Level	Pan
Tom 1	#36 Large wood block	-8	88	<2
Tom 2	#36 Large wood block	-5	88	<1
Tom 3	#35 Small wood block	-3	4	1>
Tom 4	#35 Small wood block	+1	96	2>
Ride	#34 Low conga slap	-2	90	<2
Crash	#34 Low conga slap	+3	85	2>
Perc 1	#33 High conga slap	+1	75	<2
Perc 2	#33 High conga slap	+5	84	2>
Kick	#34 High conga slap	-12	85	<>
Snare	#49 Drumsticks	-9	76	1>
Closed hat	#37 Rosewood claves	-13	84	2>
Mid hat	#38 Cabasa	-3	94	2>
Open hat	#41 Shaker	-3	94	<2
Claps	#44 Large cowbell	-5	85	<>
Perc 3	#43 Medium cowbell	-7	88	<1
Perc 4	#42 Agogo bell	0	96	1>

(All sounds were sent to Output 01).

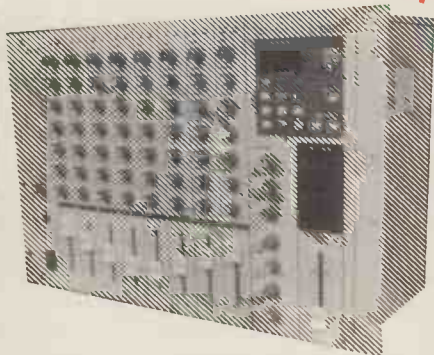
Kit: TECHNO/RAP

Pad name	Instrument	Tune	Level	Pan
Tom 1	#21 Electronic tom	+6	96	<3
Tom 2	#23 Electronic tom	0	85	>2
Tom 3	#23 Electronic tom	-5	85	2>
Tom 4	#23 Electronic tom	-11	85	3>
Ride	#31 Crash cymbal	-14	90	<3
Crash	#31 Crash cymbal	-16	90	3>
Perc 1	#38 Cabasa	-16	75	<2
Perc 2	#38 Cabasa	-16	75	2>

AKAI

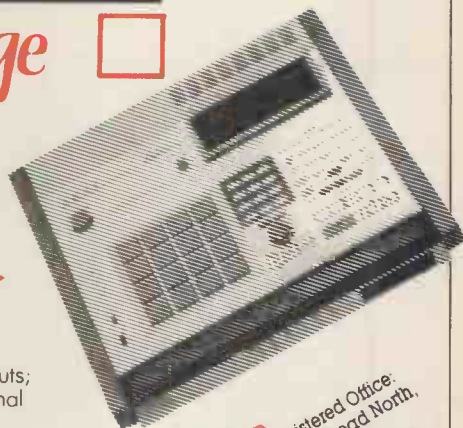
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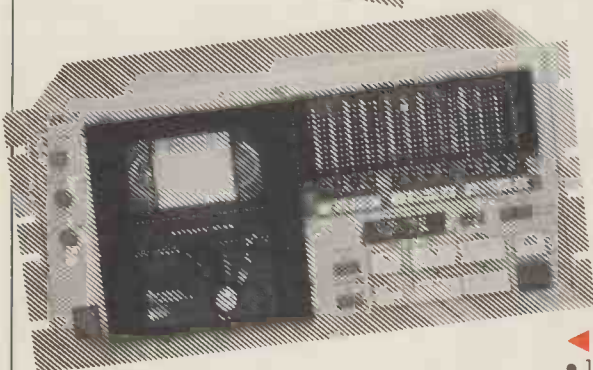


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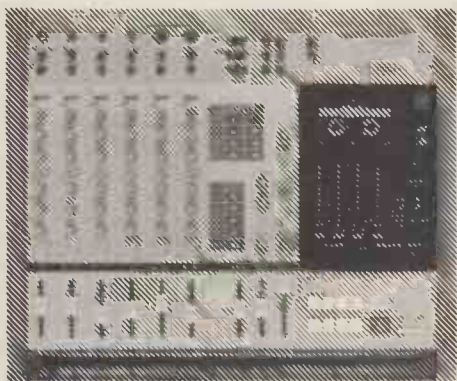
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PROVISIONAL arrangement

After a three-year hiatus Scritti Politti are back with a charting single and new album of immaculate white funk. Interview by Tim Goodyer.

WHAT DO YOU think about live performance?

"I enjoy it."

What do you think is interesting or valuable about it?

"I think you can create an atmosphere that you can't create on record. It's too easy to put a record on and be distracted; instead, you're shut in a concert hall for two hours and somebody says 'I'm going to push my music down your throat whether you like it or not.' If you don't like it it's hell, if you like it . . . Either way it's an experience."

The interview is going smoothly - or it would be if I were asking the questions instead of answering them. Scritti Politti's Green Gartside and Dave Gamson have turned the tables on me and I find myself defending live music. They seem to have grown out of it, preferring the studio as an ideal environment in which to create their music. Although the music has been a long time coming. Scritti have remained ominously silent since the *Cupid and Psyche: 85* LP and its attendant Top 20 singles, 'Wood Beez' and 'Absolute', were released back in 1985. A new album, entitled simply *Provision*, has brought about this unusual confrontation between interviewer and interviewee.

Getting back to the issue of live music Gamson is in full flight.

"The end product is music, public performance, at least to me, is not that interesting. What we're dealing with is creating music and making records. I really couldn't care less if you're the greatest guitar player in the world, if there's another way for me to get that sound onto a record I'll do it.

"What we're doing is not an improvised form in any way. What we're trying to do is to record a

"Making my first record for three-hundred-and-something pounds was more appealing than putting myself on a stage in front of an audience."

written song. Improvisation is not something that ever interested me."

And his sentiments are unequivocally shared by Green.

"Marvelling at the dexterity of an individual on a platform is probably an unhealthy thing; it's certainly something that now seems very alien

and old, even fascistic in its own way. And it has no ardour for me.

"I'm not even happy with that distinction between what is written and what is improvised. I don't really believe in the mythology of this pure, untainted source of expressivity - it's garbage, it's metaphysical reactionary garbage.

"It was pointed out to me the other day that, as I'd started with punk I must be interested in the whole business of playing music live, but what actually interested me about it was independent records. People had made records for one hundred to two hundred pounds. Our first record cost three-hundred-and-something pounds to make, that was what was appealing. Realising a record was more appealing than putting myself on a stage in front of an audience."

Perhaps another tack . . . Scritti currently have a single riding high in the charts by the name of 'Oh Patti (Don't Feel Sorry for Lover Boy)', which features the talents of jazz legend Miles Davis guesting on trumpet - after Davis had covered Scritti's 'Perfect Way' on his own album, *Tutu*. Another song has been chosen for single release in the States, 'Boom, There She Was', which, along with 'Sugar and Spice', features Zapp's Roger Troutman on voice box-treated synthesiser. In both cases the soloist's contribution has been improvised over Scritti's song structure and backing tracks. Not live music? Gamson to the defence.

"He's a very good musician responding to a situation. He's making it up, yes, but we've given him the rules."

"But then, we're making it up", interjects Green. "We're just conduits for our history and influences at a given moment. At the moment of writing, when you choose this progression or these intervals or this inversion over something else, it's as spontaneous as anything. He's thinking on his feet, but you're doing that when you write and when you sing. It's all just thinking as you go."

Gamson again: "Roger was playing, but the end product is our selection of what is going to work from what Roger's done. If we have ten tracks of him playing from beginning to end of the song, that isn't an interesting song. He was so nervous about doing the session that, at first, he found it difficult to play. It was only when he

was able to loosen up and feel as though he was in the studio that he could be creative. Also, to some extent, what Roger's doing is responding to what we've got on tape."

ALTHOUGH GREEN LATER describes the interview as "adversarial", I can appreciate his and Gamson's point of view. Indeed, popular music would be considerably poorer without it. Let's take a closer look at the nine songs that make up *Provision*. First of all, why different singles for the UK and US?

"'Boom, There She Was' is the most like the last record in lot of ways" comments Green. "I don't think we wanted to come out with something like that again. In this country, it's better to throw it at a bit of a curve. Scritti's songs have always been a bit jittery and syncopated - well this one isn't."

"To me it's a definite continuation and an improvement on the last record" continues Gamson. "I think the vocals are much, much better and I think the arrangements generally are a little more open. We tried to take into consideration leaving a lot of space for the vocal, while still keeping the concept of how we build the arrangements. I feel much happier about this record than I did about the last one."

"This album has been a completely collaborative effort", Green comments. "Initially there was a little bit of a sense of David being brought in to a pre-existing Scritti as an accessory."

Gamson: "By the end of *Cupid and Psyche* we were working quite closely together and this record is a continuation of that. We went into it from the very beginning saying we're going to do this on equal terms. To me at least, if something happens on this record it's there for a reason; I tried to be very careful about where things were happening around the vocal."

As a result *Provision* comes across as a refined continuation of the clean funk of *Cupid and Psyche*. Both are a far cry from the punk days that saw the conception of an almost unrecognisable Scritti Politti. Green is the only surviving member of the original line-up, Gamson only joining him for the making of *Cupid and Psyche*. Much has changed in both the album and single charts since the last Scritti long player, so where does Green see himself



fitting into the popular scene of '88?

"There is a huge catalogue of options offered to the consumers as to what they'd like to constitute themselves with. Aesthetic inclina-

"I couldn't care less if you're the greatest guitar player in the world, if there's another way for me to get that sound onto a record I'll do it."

tions are choices people make either consciously or unconsciously to one degree or another. It would be impossible to generalise about music. I don't know where we are in it really. History dumps us pretty unequivocally in white pop territory; I'm afraid that it might dump us somewhere between Johnny Hates Jazz and



▶ whatever else is just around the corner. I've willingly lost all sense of where it's coming from or going to. I think that's a good thing.

"The brief that took the original Scritti into this Scritti was a reactive brief. But it's sustained enough interest for me - and, I suppose, for David - to sustain over two albums. I don't think of it in terms of being happy with it, although I'm always dissatisfied.

"Whatever's conventionally thought of as more marginal music - whether it's the independent scene or whatever, they are the margins of conservatively designated space - there's nothing more inherently interesting or expressive or radical happening there than anywhere else. That's why I embraced the idea of returning to a dominant aesthetic and I see no good reason to be anywhere else. Although I might - the map could be carved up again or I may want to be involved in carving it up again as much as it's possible to do so. I just want to emphasise the fact that I don't think there's anything inherently more challenging or truthful or more radical than where we are. You get involved in minutiae of pop, and the journalists and papers involved in packaging and presenting the consumer with a catalogue of choices of

musics that he can use to construct or deconstruct himself. That all tends to overlook the fact that pop music in itself is this gloriously enigmatic, pleasurable, meaningless/meaningful thing.

"But all you can ever do is talk around music, you can never actually refer to music - in the same way, music itself doesn't have a semantic level. I became hooked, when I was younger, on finding challenging musics. I would seek out records that initially frustrated me and were unsettling for me. The Beatles were an unsettling thing: each subsequent single was a sufficient departure from the last in terms of its language, its melody, its rhythms, to be a very big thing for a little boy - a little boy who took it very seriously. These things were thrown down as things of great power and beauty, and troubled me. I searched them out and they led me to listening to rock 'n' roll: Matching Mole, Robert Wyatt, Henry Cow . . .

"I no longer have that cartography of the world - this is difficult music, this is easy music - I just don't think it's like that. But those musics are there to be found as challenging to listeners throughout the whole catalogue of possibilities of music. There are musics that may even seem terribly anodyne to me and you, that hopefully are undoing little boys and girls throughout the country as they did me. I believe that to be the Great Hope. I'm retaining a wilful naivety about these things whilst theorising at the same time and finding to my surprise and delight that I can keep both of those alive. Music is essentially so resiliently enigmatic."

TALKING ABOUT *PROVISION* in terms of the equipment that helped construct it proves considerably more straightforward. Being the more technical half of the partnership Gamson takes the lead.

"All the drums were done on the Synclavier. We had a library of drum sounds that we transferred to the Synclavier and then we had a whole bunch more drum samples that we did in the studio. We already had all the drums sequenced and we did MIDI dumps into the Synclav and then we just went through and picked the drum sounds we wanted to use. That was all we used the Synclav for, really. Then it was just basically my keyboard setup on top of that: TX rack, Super Jupiter, Prophet 2000, DX7, Minimooog, Matrix 12, Prophet VS . . ."

Simple really. Gamson came into Scritti through the band's decision to work in New York's Power Station studio (with help from producer Arif Mardin) on the *Cupid and Psyche* LP. As we all know, they do things differently in the States, but Gamson's own approach is closer to its British counterpart.

"What's happening in America is that you're getting guys who are players and guys who are programmers", he explains. "The players don't usually have very big equipment setups and the programmers have ridiculously big setups but can't do very much with them. The players will hire a programmer to do all the programming while he just plays. I myself can't deal with somebody else doing my programming. If you know what a sound's supposed to sound like, it ends up being easier to do it yourself even if that means spending some time trying to do it. It depends on what kind of record you're making, but if you're going to make a sequenced record, a ▶

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► lot of what the sound is, is how it's being struck and how long it's holding for. When I sequence stuff I have to make sure every release is together and all the velocities are what I want so I can bring out certain notes within a chord. You could never do that playing - I don't care who you are, you could never have the kind of control you can have with a sequencer. It makes such a difference to the whole sound. I think it makes more sense to be a player who is also going to program because you have to control all the parameters."

And once again the idea of a "live" performance seems to go out of the window.

"I don't want to say that performance is bad or not valuable" Gamson continues, "but making a record is a totally different thing. When you're making a record you're using a whole bunch of things that don't exist in live playing. That's not to say that all live performance is uninteresting, but to me, live performance is uninteresting because I enjoy making records.

"The interesting thing about working in studios with electronic instruments is that what you're playing in the end is the studio. Hearing a violin in a room is a very different experience to hearing a violin over a speaker. When you go to a live pop performance you're hearing sound waves moved by large speakers which is very different to going to see an orchestra. Each of these things is something you have to worry about; if you're going to perform using electronic instruments and speakers it's different to performing with acoustic instruments. If you're making records they have to sound good over a speaker which is different again to using a PA system. The Synclavier certainly doesn't seem to be designed to bridge the gap between live playing and the studio."

One of the more unusual aspects of the recording of *Provision* is Roger Troutman's contribution. His voice-treated synthesiser - usually assumed to be a vocoder - has long been one of Zapp's trademarks but the details of the equipment he uses have remained a closely-guarded secret.

"I think he likes to keep it a little mysterious", confirms Green. "Basically it's a bit of garden hose taped to a free-floating speaker and a Minimoog. It's amazing but it's obviously a whole different principle to a vocoder."

In fact, what Troutman has done is to build himself a DIY voice-box. These were most widely used during the '70s by guitarists such as Peter Frampton and Robin Trower. More recently Bon Jovi used one on 'Living on a Prayer'.

"I saw Stevie Wonder doing all that with an ARP 2600 on TV back in the early '70s", comments Gamson. "I never knew what Roger used until he showed up."

Talking about the experience of working with Troutman elicits more natural enthusiasm from both Green and Gamson than their considered views on the merits of live performance.

"He turned up in this tight-fitting, double-breasted red suit with red mock-snakeskin shoes, a little red tie, the hat and red-rimmed shades; it was classic", Green recalls. "And he had an identical outfit in blue which he wore the next day. He's definitely a throwback to 1974. He made us all put sunglasses on as well in the studio, and it was like a party. He's a wonderful man."

"We've both been fans and it's fun to get people that you've always admired on your record", says Gamson. "He was great, so quick - once through a song and he knows the whole thing. We got him plugged in, started the tape and just took it the minute he started. We got ten tracks of absolutely fantastic stuff that we had to wade through and decide what we were going to use because so much of it was just fabulous."

"Watching him work was like watching somebody possessed", Green adds. "He was suffering. He's so syncopatedly 'in there'. And with all that he has a great melodic sensibility.

"He's got a top five single in America but he's something of an unsung hero. He's one of the few people keeping that whole P-funk flag alive in an age that's become a little arid as far as good grooves go."

Where did all the good grooves go? Could it be that our old friend technology has led the musician astray?

"You can say that about any instrument", replies Green. "The frets on a guitar lead you to a certain way of thinking about music. You're saying that *new* technology has led us and I'm saying that *old* technology has led us. It's no more or less conducive to a conservative way of making music. Arguably music technology would lead you to have greater freedom in undoing, unsettling, rewriting, reshaping music than before. And I would testify to that being the case in pretty general terms."

"You don't make music from an instrument", observes Gamson, "you make it from an idea. The instrument is only a way of communicating your idea. At any point in time there are going to be people doing uninteresting things - it could be with computer, it could be with anything. I don't see that making it easy for people is necessarily bad in itself."

In spite of their refusal to accept live performance as a useful part of Scritti's music, it transpires that concerts were once considered.

"We did rehearse to play live at one point", admits Gamson. "We said let's start from the song and work up. What happened was that the people we got in focused in on the record - to them the song *is* the record.

"But you'd have to take a radically different approach to doing it live. You certainly couldn't try to recreate the record, you'd have to totally rearrange it for live playing because we're talking about a very precise way of recording. Some of it is unplayable by a human being. And if it's sequenced live then what's the point? It certainly wouldn't be terribly interesting from our point of view."

But it must be interesting to Virgin records who, having put money into the recording of *Provision*, must be eager to see a return on their investment - and a tour is one of the accepted ways of promoting an album.

"The music industry as a whole does expect you to go out and promote a record it has subsidised and you're certainly up against some difficulty if you don't - and we don't, so we're up against some difficulty. It takes the form of making expensive records that then have to recoup that money through cover sales alone. I think Virgin have now got the message that we're not very keen so they're not pushing us to do that."

Me, I'm still going to go to gigs, even if seeing Scritti Politti play live is one pleasure I'm likely to be denied. ■

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KORG M1

Music Workstation

Korg's latest synth serves up a fashionable cocktail of sampled and synthesised sounds, an eight-track sequencer and sophisticated digital effects. Does it represent the future of synthesisers?

Review by
Simon Trask.

COMPANY TAKE-OVERS SEEM to be all the rage nowadays, and among high-tech musical instrument companies Yamaha have shown themselves to be enthusiastic in this direction. Korg succumbed some while ago to Yamaha's advances, leaving a question mark hanging over their independence. With instruments like the DS8 and 707 FM synths and the Concert range of AWM electronic pianos, it seemed as if their design team was devoting all its energies to producing variations (some would say improvements) on Yamaha's technology. Where were those uniquely Korg instruments?

With the benefit of hindsight it's now clear that other developments were taking place in Korg's R&D labs, as the company are about to launch three products which have decidedly professional graces and no obvious parallels in the Yamaha stable: the M1 Music Workstation, the SI Production Workstation and the Q1 MIDI Workstation.

Korg's evident fascination with the term "workstation" does appear to have a basis in reality. My Dictionary of Computing defines a workstation as "a position for an operator that is equipped with all of the facilities required to perform a particular type of task". Substitute "instrument" for "position", "musician" for "operator" and "music" for "a particular type of task" and you should start to get the picture. Korg's claim to workstation authenticity is that the M1 combines an eight-track sequencer and sophisticated digital effects with a distinctly fashionable mix of sampled and synthesised sounds.

But if the "Music Workstation" bit is clear enough, where does the M1 come into it? Somehow I don't think Korg had in mind a certain British thoroughfare when they christened their latest keyboard instrument, but that hasn't stopped the motorway jokes, er, piling up in the MT office. Suddenly, road testing takes on a whole new meaning.

Layout

THE M1 CONTINUES Korg's relationship with chic design: rounded edges, rounded buttons and a minimalist front-panel layout give the instrument a suitably sleek appearance (the Porsche of the hi-tech instrument world, perhaps?).

Minimalist the front-panel controls may be, but the M1's numerous parameters require each function button to conceal a multitude of display pages (for instance, 30 such "pages" lurk behind the Edit Prog button); you can either step through these using the dedicated Page +/- buttons or tap in numbers on the numeric keypad to take you to a functionally-related group of pages (if you can remember the number). So much for minimalism.

Operation of the M1 centres around the 2x40-character backlit LCD and the eight general-purpose edit buttons beneath it which facilitate quick editing. The M1's five-octave dynamic keyboard (attack velocity and channel aftertouch) hold no surprises. It's pleasant enough to play, though a shallow action does make for an uneasy feeling when you really want to "dig into" a sound. And it really is about time manufacturers started taking the provision of polyphonic aftertouch and release velocity more seriously; the sonic quality of their instruments demands it.

Meanwhile, round the back of the instrument are MIDI In, Out and Thru sockets, LCD contrast button, sustain

pedal and two assignable pedal/switch inputs, four audio out jacks (1/L, 2/R, 3 and 4), a stereo headphone jack, and a slot for inserting a PCM data card.

This last feature is of crucial importance, because it allows a completely different set of source sounds to be accessed by the M1, effectively completely "refreshing" the instrument. If Korg support this aspect of the M1 properly, everyone else had better watch out.

Overview

WHILE ROLAND'S D50 has clearly set the agenda for synthesis in 1988, the origins of the M1 can be traced back to earlier Korg instruments - specifically the DW synths and the DSSI sampler.

The former saw Korg taking advantage of DCOs - essentially just numbers in a wavetable - to expand the range of source waveforms through their DWGS synthesis system. Subsequently they integrated the synthesis capabilities of the DWs into a sampling instrument to produce the DSSI.

But if the DSSI is a sampler with synthesis capabilities, the M1 is a synth with sample (but not sampling) capabilities. Korg call their new system AI (Advanced Integrated) synthesis. More specifically, the raw sound material of the M1 consists of a mixture of 16-bit PCM multi-samples, DWGS waveforms created through additive synthesis, and aperiodic waveforms created through the extraction of harmonically-unrelated components of percussive sounds - 100 "multisounds" in all - plus 44 16-bit PCM-sampled drum and percussion sounds. All these are stored permanently inside the instrument, but, as mentioned above, you will be able to access completely new sets of multisounds and drum samples on plug-in data cards.

In an effort to keep the sampled aspect of the M1 as transparent as possible, all the samples (apart from the percussive one-shots, of course) come ready-looped. In truth the loops aren't always ideal, and though the worst potential problems have been overcome there is a noticeable (but by no means overbearing) thinning out and lack of motion in, for instance, sustained acoustic piano sounds on the M1. Ultimately, we're not talking the realism of SAS or AWM modelling here.

Korg have provided a very broad range of samples, which reflects in the broad range of sounds that the M1 is able to handle with equal facility. We're talking piano, electric piano, electric and acoustic guitars, all manner of horns, electric and acoustic basses, and a variety of tuned percussion, together with DWGS recreations of a variety of keyboard and tuned percussion waveforms and, of course, the "classic" synth waveforms. Particularly impressive is the obvious care that Korg have taken in capturing the attack characteristics of their sampled instruments (notably with the horn sounds).

The 44 drum sounds are sharp and clean, much closer to Roland- and Yamaha-style drum sounds than to the rough-edged, beefy sounds of the company's DDD drum machines. If you select the M1's Global mode you can define four "drum kits" ie. arrangements of up to 30 drum and percussion sounds across the keyboard. Each sound can be given its own tuning (+/- 12 semitones), volume

level, decay time and – perhaps most impressively – pan setting.

Incidentally, Global mode also gives you access to master tuning and transposition, pedal assignments, MIDI global input/output channel, MIDI filtering and data dump, RAM card data transfer and (the Yamaha influence showing itself) alternative tunings.

All of the MI's sounds can be used as source material for synthesis, and – perhaps most importantly – they can all be filtered.

Single multisounds can be assigned to each of two "oscillators" in a Program (the basic patch of the MI, which utilises the familiar oscillator-filter-amplifier configuration). The MI can store 100 Programs onboard and a further 100 on a RAM card.

An "oscillator" on the MI is a flexible concept, as it could contain a DWGS waveform or a multi-sampled acoustic piano. In many instances, then, one oscillator is

enough, in which case the MI is 16-note polyphonic. Unlike multisounds, a drum kit can't be combined with any other sounds within a Program (there again, you've got an "oscillator" which consists of 30 different sounds).

As its name suggests, Combination mode allows you to combine Programs in various ways. Korg have gone all out here, providing programmable single, layer, split, velocity switch and multi configurations (the latter allowing up to eight Programs to be active at once). As with Programs, you can store 100 Combinations onboard the MI and a further 100 on a RAM card.

The final stage in the sound chain consists of two stereo Multi Digital Effects. The MI's sound processing takes place entirely in the digital domain until the final output stage where, as mentioned earlier, Korg have thought to provide four audio outputs. The organisation goes like this. There are four inputs to the MDEs: A, B, C and D. These inputs are "hard-wired" to audio outs 1/L and 2/R (a stereo pair), ▶



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▶ three and four via the MDEs, with the exception that inputs C and D can be panned across to outputs one and two for a composite stereo image. Programs in Program mode are automatically panned to A and B (and thus out of the stereo pair), while individual Programs in Combination mode and Sequencer mode can be panned to any one of A, A:B (9:1 to 1:9), B, C, C+D or D.

The two MDEs can be configured in two ways: serial and parallel. Serial configuration places both MDEs in the A:B path, in which case panning a Program to A and/or B allows you to send it through, say, delay followed by reverb. Parallel configuration places MDE2 in the C+D path, allowing different programs to be passed through different effects.

There are 33 programmable stereo effects available, providing not only reverb, but delay, chorus, flanging, phasing, tremolo, equalisation, overdrive and distortion. Also included are some combined effects organised as left channel/right channel (such as reverb/delay, delay/chorus and delay/flanger). Many of the effects also feature simple but effective high/low EQ. All are of a high quality, sounding clear and crisp – though the reverbs do exhibit some graininess when the drum sounds are put through them.

Programs and Combinations

AS MENTIONED EARLIER, Programs are the basic patches of the MI. You can select single or dual oscillators, and define VDF (Variable Digital Filter) and VDA (Variable Digital Amplifier) envelope and level settings for each oscillator. Other Program components include pitch and VDF modulation generators, while velocity, aftertouch, keyboard tracking and the joystick can all be set to dynamically modify various aspects of the sound (for instance, velocity can modify volume as well as VDF and VDA envelope times, while aftertouch can modify pitch, volume, and the amount of pitch or VDF modulation). It's particularly interesting to start with a familiar acoustic sound and see how you can stretch and modify it using the MI's synthesis power.

A neat touch is the ability to quick-edit such features as VDF cutoff point, VDA attack and release times and effect balance from the main Program page. In this way it's easy to, for instance, darken or brighten a sound, or completely alter its envelope shape. The results of this editing can be stored, or you can enter Edit Prog mode and "fine-tune" your efforts.

The MI's default Programs very effectively display the synth's competence with a broad range of sounds, both synthetic and realistic. Acoustic and electric guitars, tuned percussion, horns, choirs, strings, acoustic and electric pianos, acoustic and electric basses, woodwind, atmospheric new age-ish sounds... You name it and the MI has a good imitation or recreation of it (well, almost – the sitar and the harpsichord aren't so hot, and I didn't discover an Outer Mongolian noseflute). Best of a fine bunch are, to my mind, 'Piano 16" (01) and 'Piano 8" (41), 'Guitar 1' (04), 'Fretless' (06) and 'Acoustic Bass' (26), 'Angels' (43), 'Choir' (23), 'Symphonic' (07), 'Pipe Organ' (47), 'Dream Pad' (20) and virtually all of the brass sounds. A particularly neat feature of some of the guitar and bass sounds is the inclusion of harmonics at the top end of the keyboard – the proverbial icing on the cake.

Combination mode is where you can really start having fun. Basically, Korg have provided just about all the flexibility you could possibly wish for in organising multiple Programs (internal and card) on the keyboard and via MIDI. Needless to say, voice allocation among Programs is dynamic.

Single offers no advantages over Program mode other
MUSIC TECHNOLOGY JULY 1988

than the speed of being able to call up individual Programs as Combinations, and the ability to pan the Program to any output. Fairly obviously, Layer allows you to layer two Programs across the keyboard. You can also specify sustain on/off and pan position for each Program. Additional parameters allow you to specify the volume of each Program together with interval and detune values.

Split allows you to define a single non-overlapping keyboard split, again with separate volume level, panning and sustain on/off settings for each Program, while Velocity Switch allows you to switch between two Programs on the basis of a programmable velocity split-point (0-127), with volume level, sustain on/off and panning once again programmable for each Program.

So far so good, but Korg's Multi implementation is the real biz. Basically it's a glorified version of all the other Combination modes put together. You can select up to eight Programs and give each one its own MIDI channel, note range, velocity range, output level, transposition, detune and pan values. Additionally you can individually enable or disable reception of patch change, sustain pedal, aftertouch and controller messages for each Program. Programs are placed on the keyboard (as opposed to just being accessible via MIDI) by assigning them to the current global transmit channel.

Using Multi Combinations, you can step through up to eight Programs on a single key (which, quite apart from anything else, is great for developing your touch), spread up to eight Programs across the keyboard using any overlapping or switch textures you want, and specify any combination of MIDI and keyboard control of Programs. In many ways the Multi Combination is more flexible than the MI's onboard sequencer (but I'll come to that later).

As with the default Programs, the Combinations which come with the MI are uniformly excellent. Many of the Combinations concentrate on building up fuller, more complex sounds by layering Programs across various areas of the keyboard, but there are also useful split textures. Massed choral and string sounds abound, but there are also plenty of delicate, shimmering atmospheric sounds, warm bass sounds, and dynamic acoustic guitar, horn and piano sounds. Well worth checking out are the 'Club Date' (55) combination of acoustic bass, piano and tenor sax, the 'Bass & Horn' (59) combination of, er, acoustic bass and 'Tubaflugel', the pseudo-Oriental 'Fuji-san' (04) combination of classical guitar, flute and tremolo koto, the stately orchestral strings of '3 Strings' (52), the warm fretless bass of 'OctaveBass' (97), the appropriately celestial chorus and strings of 'ThePlanets' (80), the icy-still 'Luna-Pad' (89) and the hushed vocal tones of 'VoiceChoir' (41).

As with the individual Programs, what distinguishes these Combinations is their tremendous presence and clarity (even without the digital effects), and an overall perfect balance between the synthetic and the realistic.

Sequencing

THE MI'S EIGHT-TRACK sequencer can store up to ten songs at a time (each up to 250 bars long), and has either a 4400- or 7700-note capacity, depending on whether you choose to have 100 Programs plus 100 Combinations or 50 Programs plus 50 Combinations.

Whichever option you choose, that's not a lot of notes, but Korg have alleviated this shortcoming to some extent by providing both track-based (continuous) and pattern-based recording. You can record up to 100 patterns, each of which can be up to eight bars long, and then chain them together in each of the eight tracks. Unfortunately you can't record patterns within the context of other patterns (or tracks), but it is possible to copy pattern data into a ▶

► track, and conversely to copy any portion of a track (up to eight bars in length) into a pattern. You can also copy or bounce (merge) one pattern to another and one track to another, while any number of bars within a track can be copied to any position in the same or another track in the same or another song. Other functions allow you to insert, delete and erase bars from individual or all tracks, and to post-record quantise any section of individual or all tracks. You can't get much more flexible than that.

Patterns can be recorded in familiar drum-machine style – loop-in-record. This method isn't limited to the MI's drum and percussion sounds, though; any of the synth's sounds can be used. However, patterns aren't assigned their own sounds, but play the Program of the currently-selected track.

Another feature familiar from drum machines is the ability to erase specific notes, in this case by selecting Remove and holding down the relevant keys on the keyboard as the pattern cycles in record. Strange nobody thought of it before.

Individual tracks in Sequence mode are assigned a single MIDI channel (1-16), and can be set to off, on (internal and MIDI), internal (non-MIDI) or external (MIDI-only). Additionally, each track can be assigned its own Program (internal or card) together with volume, transposition, detune, pan and protect on/off settings. As with Programs and Combinations, each song can have its own effects settings, with individual tracks being routed through the effects according to the pan values you assign them. The MI's voices are allocated dynamically across all the tracks, but there's no voice reserve feature to ensure that certain tracks don't have voices snatched from them at embarrassing moments. Real-time recording includes automatic punch in/out (any bars are specifiable), and record quantisation can be set to values from 1ppqn (a crotchet) to 48ppqn. The latter value represents the sequencer's highest resolution, and no doubt won't be high enough for some people.

Perhaps the most significant shortcoming of the MI's sequencer is that it doesn't allow you to use Combinations

On a brighter note, selecting multi-channel recording allows you to record incoming data from several MIDI channels together with data from the MI's keyboard (so that, for instance, you could record a duet with another keyboard player). Multi-channel recording also helps speed up the transfer of data from another sequencer.

Korg haven't neglected step-time recording, which is available in both Pattern and Sequence modes. In fact, the procedure is the same in both modes, with the exception that you can keep cycling around a pattern, adding notes on each pass.

For each step you can choose a duration from 1/1 to 1/32 (including dotted and triplet values) which can be notes or a rest. Notes can be further modified by specifying staccato or tenuto values. The sequencer won't advance to the next step as long as at least one note is held down, so it's an easy matter to enter all manner of chords and textures. Additionally you can specify that notes be tied over to the next duration; by holding down one or more notes and then playing new notes after each tie, you can create drone notes with chords and melodies around them. The MI doesn't record note velocity in step mode, but does give you the option to choose one of eight dynamic values from ppp to fff for each note within a step (if you enter notes consecutively).

The MI allows event editing of patterns and sequences, again with the procedure being the same for both. You can insert, delete and alter note, velocity, pitch-bend, aftertouch, patch changes and controller data, and slide the position of events to 48ppqn resolution. Korg have included six controls which are specified as MIDI controllers 102-107: VDF cutoff point, effects one and two on/off, effects one and two wet/dry balance, and tempo change respectively. Korg can chalk one up to their sequencer here, because with the exception of tempo changes (which are specified globally by MIDI clock rate) these creatively-useful controls sadly aren't available if you choose to play the MI from an external sequencer. Why? Well, they aren't official MIDI controllers, and are neither sent nor received via MIDI.

The MI's sequencer can send and receive the standard MIDI sync data, including song position pointers. Sequence data can be saved either to a Korg MCR03 RAM card or via MIDI to an external storage medium (MIDI transfer of the full memory amount takes around ten seconds, while of course card transfer is near-instantaneous). A combination of the two methods is best, but those musicians who don't already possess an external storage setup (whether dedicated or computer-based) might wish that Korg had followed Ensoniq's lead with the SQ80 by kitting the MI out with a disk-drive for patch and sequence storage.

Verdict

I FIND IT hard to overrate the MI. To my mind it represents the most exciting combination of sampled and synthesised sounds yet produced – and that's not even taking into account the potential suggested by the instrument's sonic open-endedness.

Although in my opinion the onboard sequencer is ultimately limited by lack of memory, lack of tracks, and a sound-to-track assignment which doesn't match the flexibility of the instrument, on the whole it is well thought out, powerful and easy to use. There's no denying it's a nifty songwriting tool. Finally, the plentiful assortment of stereo digital effects are the icing on this particular cake.

Am I impressed? Damn right I am. ■

Price £1499

More from Korg UK, 8-9 The Crystal Centre, Elmgrove Road, Harrow, Middlesex HA1 2YP. Tel: 01-427 5377

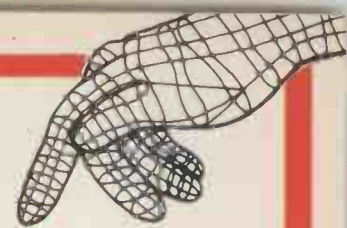
MUSIC TECHNOLOGY JULY 1988



within its tracks. You can layer two or more Programs by setting the relevant number of tracks to the same MIDI channel (data is recorded into the lowest-numbered track), but of course you lose tracks which you might need for other parts. Similarly, if you've been playing split-texture Combinations (for instance the acoustic bass, piano and sax of 'Club Date') you could always record each part separately onto different tracks, but it's still a compromise. Ultimately, if you want to get the most out of Combination mode you'll need to turn to external sequencing.

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AT FUTURE MUSIC CHelsea YOU WILL FIND AN ARRAY OF THE LATEST IN HIGH-TECH MUSIC EQUIPMENT AND BECAUSE WE DEAL WITH MOST OF THE MARKET'S BRAND LEADERS YOU CAN FEEL SAFE AND SECURE IN THE KNOWLEDGE THAT IF YOU HAVE A PROBLEM, WE WILL BE HERE TO RELIEVE YOUR SORROWS.

WE ARE CURRENTLY OPENING TWO NEW SHOW AREAS IN OUR CHelsea STORE TO MAKE OURSELVES AN EVEN BETTER PROPOSITION TO YOU. A MASSIVE GROWTH AREA FOR US AT THE MOMENT IS THE HOME PIANO MARKET, SO WE WILL HAVE AN AREA SOLELY FOR DEMONSTRATING THE LATEST DEVELOPMENTS IN THIS RAPIDLY CHANGING SECTOR.

SO IF WE CAN HELP IN ANY WAY PLEASE DO NOT HESITATE TO CALL US, OR WHY NOT POP IN FOR A COFFEE AND A CHAT? REMEMBER YOU ARE ALWAYS WELCOME.

OH SORRY! I NEARLY FORGOT PRICES. WELL WHEN IT COMES TO PRICES THERE'S REALLY NO COMPETITION. CHECK OUT OUR REGULAR ADS IN MELODY MAKER AND SEE IF YOU AGREE!

ACCESS/BARCLAYCARD WELCOME. INSTANT FINANCE AVAILABLE. WORLDWIDE MAIL ORDER SERVICE.

See you soon!



IN TOUCH WITH TIME

LURE OF THE JINGLE



Photography Nicholas Rowland

Fancy writing radio jingles? If you're interested in getting into commercial music that isn't pop the Pync Brothers have a few friendly words of advice.

Text by Nicholas Rowland.

COULD YOU HUM Sabrena's latest single? Or repeat the important bits in Maggie's latest speech to the nation? Chances are you couldn't. Chances are you wouldn't want to. But if I'd said the words "Coca-Cola", "Carling" or

"Cadbury's Fruit and Nut", then I bet a tune, a lyric and/or a set of catch-phrases would instantly have sprung to mind.

You've just proved yourself a dupe of the subliminal tyranny of Advertising, that big bad wolf of modern culture which

seems to control just about every opinion we hold and every decision we make. Like it or lump it, it seems you just can't avoid it. Perhaps in many ways we regard it just as another form of entertainment. Certainly, in its various forms, it

encompasses all the same devices: lights, camera, action, appealing music and the full emotive range of the human voice.

That's why we've seen a number of individuals cross over to the art world, having learnt their craft in advertising, because, essentially the tools are the same. Similarly we've seen people jumping the other way, from Art to Advert. But while it's the apocalyptic state of the art TV ads which provoke the biggest grunts during pub conversations, it's in the medium of radio that some interesting developments are currently taking place and where outlets for new talent are opening up.

Over the last few years, local commercial radio stations have become an increasingly important focus of the local community, often taking over from the local daily as the most important source of regional news. Hence radio advertising is making increasing sense for the local businessman. And with deregulation of the air waves upon us, advertising time is going to get cheaper, as new stations cut the price of airtime in order to attract custom. But as the volume of advertising increases, so does the need for better commercials, simply to make each new campaign stand out from the others.

This is certainly the experience of the Pync Brothers Ltd, a commercial music company based in Brighton, who today are acting as our interpreters of the law and language of the jingle jungle. In fact, the two "brothers" prove related only by christian name - their full identities being Chris Moore and Chris Mansbridge.

Their company is a fairly new one, although they have worked together in various capacities for over seven years. Pync Brothers originally set up as a complete "tailor-made" music production service.

"Bespoke Sonic Haberdashers' best sums us up", says Mansbridge.

Moore and Mansbridge both turn out to have a long history of professional involvement in a variety of musical disciplines: Moore as a composer for theatre and dance, Mansbridge as an engineer and freelance producer for companies such as Decca, Polygram and Polydor.

"We've done everything from estate agents to alternative planes of existence", says Moore with a grin.

However, most of their current work involves writing and producing commercials for radio. For this they work in conjunction with an advertising agency also based in Brighton.

Though relatively new to this game, their comments on jingles and general radio production techniques are derived from more familiar musical areas and methods. Without their diverse background they claim they wouldn't have been able to make the transition to jingle writing as easily. It's also a case of having acquired enough business nous along the way to chase the paperwork.

This latter point may seem unimportant, but the message is that if you run your side of the business efficiently, then you'll be able to cope with the factors over which you can never have complete

control - in particular, the ever-unpredictable deadline.

"Most advertising agencies seem to work on this peculiar calendar which bears no relation to the rest of us", explains Mansbridge. "And they change their minds about deadlines an awful lot. Most of the time they want things done yesterday. Other times they might give you a month, then ring up after a week

actual information. With a small business, first of all you have to try and compete with that approach by providing all the comedy and characterisation, but you've also got to get across their name, what they do, how long they've been doing it and what time their branches open on alternate Thursdays. Try getting all those facts into 30 seconds and you're inevitably going to be faced with problems."



and say 'We want it tomorrow'". Occasionally, when we've been given a long deadline, we've fallen into the trap of saying 'Oh, we can do it in a few days'. Then, for certain reasons, we haven't finished it, but in the meantime the advertising agency has suddenly restructured their timetable around us."

The Story So Far

THE SCRIPT - OR if it's a visual piece, the story board - is the starting point for any radio or TV jingle. That's usually the responsibility of the copywriter at the advertising agency, but often, the Pync Brothers find themselves called in to offer their opinion too. And in the instances where there's a follow-up campaign, they might well just be given the details of the new offer or the latest update and told to come up with a script themselves.

"The agency we work with seem to appreciate our opinion on texts", says Moore. "Which is how it should be, since we're the ones who end up translating the script into a finished recording, directing the actors, editing voice-overs and creating the music."

Even with experience, coming up with a creative script for local radio proves to be a difficult juggling act, especially when it involves trying to build up an image for a local company.

"It's very different from tackling a campaign for a major national", continues Moore. "As we all know from TV, a high profile company can afford to take liberties with their corporate identity and base their advertising on enigma and humour with a very small amount of

Compromise is the operative word here, but it can't always be made to work. In a recent script involving loadsacomedry, pauses which were essential to the humour were gradually squeezed out, simply to make room elsewhere for a long list of facts. While the client kept all his vital statistics intact, the humour of the ad fell flat.

"People just don't appreciate that with a lot of words, you've got to work harder to make it sound exciting and yet still comprehensible. Often it can come down to the fact that they resent paying the extra ten pounds they'd need to buy themselves another ten seconds on air", says Mansbridge. "But the net result is that when the script arrives it's totally impossible, and we're left with the job of whittling it down until it's just impossible."

It's only as the final script is emerging that ideas for music and sound effects begin to present themselves.

"Radio is a literal medium and music should be used in a literal way", says Moore. "If it's not helping, then it shouldn't be used. Obviously it's very effective to turn the name of the company

"People have very sophisticated memories - they can distinguish between the Top 40 singles even though many of them sound remarkably similar."

into a jingle because that's how people will most easily remember it. People have very sophisticated musical memories. After all they can distinguish between the current Top 40 singles, even though many of them sound remarkably similar.

"I think one of the more common ▶

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The W5 and 5S are made in England by Philip Rees (Modern Music Technology), Unit A, Park End Works, Croughton, BRACKLEY, Northants NN13 5LX. ☎ (0869) 810830

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► mistakes is to slap library music on top just to give the impression of sophistication or of lots of things going on, but it often just clutters things up. Generally we find beginnings and endings are important and certain high points in between, but if otherwise it doesn't enhance the overall message, forget it."

Mansbridge: "Plus the fact that there are more subtle ways to approach it. Like one thing we did where we were given a script of two girls talking about a company. We thought very hard about

"You have to really think about the product, who you're selling it to and perhaps even in what situation they are likely to be receiving the 'message'."

who and where those girls might be and then set the whole thing in a works canteen with all the appropriate sound effects. It conceptualised the ad and made it much more effective when heard among a whole bunch of others."

The Hard Sell

WHEN IT COMES to writing that ear grabbing jingle for "Plug Ugly - the local plumbers", how's it done?

Mansbridge: "We always start with the name of the shop or product or a phrase built around it - 'Butlin's Holiday World', 'See You at the Picture Shop' - and construct a melody from that. That may seem obvious, but remember that in some cases there isn't going to be a sung lyric in the final ad, you're just going to have a tune. But if that tune is based around the rhythm of the words, then it will help to carry the name of the company by association."

Moore: "The length of a jingle can most often be determined simply by the space available. We lay down a guide voice-over then see where the gaps are, so we can see where there's room for highpoints in the music, and then we try and match the dynamics of the music with the dynamics of the voice."

"Sometimes, though, it can work the other way round. We did a whole lot of successive ads for someone recently and decided that the best way to hold them all together was to use the same backing throughout. So we found ourselves taking

"With a small business you have to get across their name, what they do and what time their branches open on alternate Thursdays."

each new script and moving the words around slightly to fit the rhythm of the words to the music."

The piece of gadgetry which is wheeled out at this point is the Hybrid Arts SMPTE Track sequencer.

"We always use SMPTE because it's one hundred percent accurate, whether you're timing music, or just cueing and triggering sound effects", explains Mansbridge. "In musical ads, we start by working out how many choruses we're going to have to fit in at the beginning and

end or how many musical 'hit points' there are going to be. We find a bar length which is best going to accommodate all those things, then jiggle around with tempos to fit that number of bars into the number of seconds we've got. The SMPTE Track gives us a lot of control, because we can do very precise edits in step time. We also have a MIDI mutable desk, so if we have difficult cut-in or cut-out points on any or all of its channels we can program those in step time from the sequencer."

At which stage we dive into the basement and have a quick butcher's at the Pync production suite. At the centre of operations is the aforementioned desk, a 32-channel, 16-group, Studiomaster Series 2. In the corner you'll find a Fostex EL6, Revox B77 and Sony PCM 501, plus a Ferguson Videostar VHS machine with audio dub, useful for recording soundtracks direct to video to give clients an idea of how the final version will work. The racks tell a familiar story: sound sources are Yamaha TX802 and TX16V, along with their "mother", a Roland JX8P, while effects consist of a Midiverb 2, SPX90II, Nomad Axxeman, Drawmer gates and LX20 compressor.

Mansbridge again: "We've gone for equipment which is either tried and tested and we like, or things which are new and to a certain extent limitless. We've deliberately kept sound sources to a minimum because we've always found necessity has been the mother of invention. So we haven't bought a D50, because we don't want to get into clichés, although we've sampled D50 sounds for advertising."

In any musical situation, it's easy to get bogged down by simply having too much choice, or to make the mistake of believing that every idea can automatically be made stronger by playing it with three sounds MIDI'd together. But if you're producing material for radio, there are frequency limitations which make the grand production totally redundant.

Moore: "You have to remember that TV and radio are very low-definition media, though obviously FM is fairly good. A few years ago, when we were first doing some pieces for TV, we made the huge mistake of arranging and mixing them like a pop single. So we had these beautifully orchestrated pieces, really full-bodied, and were shocked to discover that most of it completely disappeared. Now we can achieve the same effect using a quarter or even a fifth of the instrumentation, because we now know just exactly which frequencies are relevant."

Mansbridge: "Our instrumentation involves what you might call a 'frequency collage' principle where different sound timbres are slotted together to build up a complete picture. In that respect, we've found with a lot of the TX16W factory disks, while the sounds are very beautiful and complex, they have so many layers that you just can't use anything else with them."

"We all know that digital sounds are very transparent and hi-fidelity, which makes them good for the top ends, while analogues are much smoother for low and mid-low. But mix low digital and low analogue sounds together, and you find

that the phase differences mean that certain frequencies are cancelled out, so that gives you room to put in something else without it interfering with what's around it."

When deciding instrumentation for a jingle, one of the greatest determining factors is the frequency range of the actor's voice. As engineer, Mansbridge is able to work in and around this to make sure the final effect remains uncluttered. The music tends to be kept low in the mix too. Invaluable for keeping a check on things is monitoring, both through the ubiquitous Yamaha NS10M's and the speaker of the wall-mounted television set.

"Very close miking always works best for radio.", says Moore, "And the actors we deal with are professionals with good mic technique. We sometimes apply an effect similar to an aural exciter, which involves mild compression and extra treble, but beyond that there really are no special technical tricks."

Et voilà. The voice-over is first digitally mastered and from there transferred to quarter-inch tape for any editing or cutting, which often proves to be the case. The digital master is always kept though, since, as happened recently, the client then decided to pay for extra airtime, and the ad had to be re-recorded with the voice-over restored to its original length. Where clients are concerned always be prepared for the unexpected.

"You just have to learn to accept what comes with the territory", comments Moore. "At this local level you can run into the 'big fish in a small pond' syndrome: businessmen who think they can do everything themselves and don't trust you to know your job. If we get a tape back saying that the clients want it remixed, but later discover that they've been listening to it on a telephone answering machine or, as on one occasion, on a stereo with only one speaker working in a jeep in a concrete multi-storey car-park. No wonder the comment was 'Well, it's a bit reverby!'"

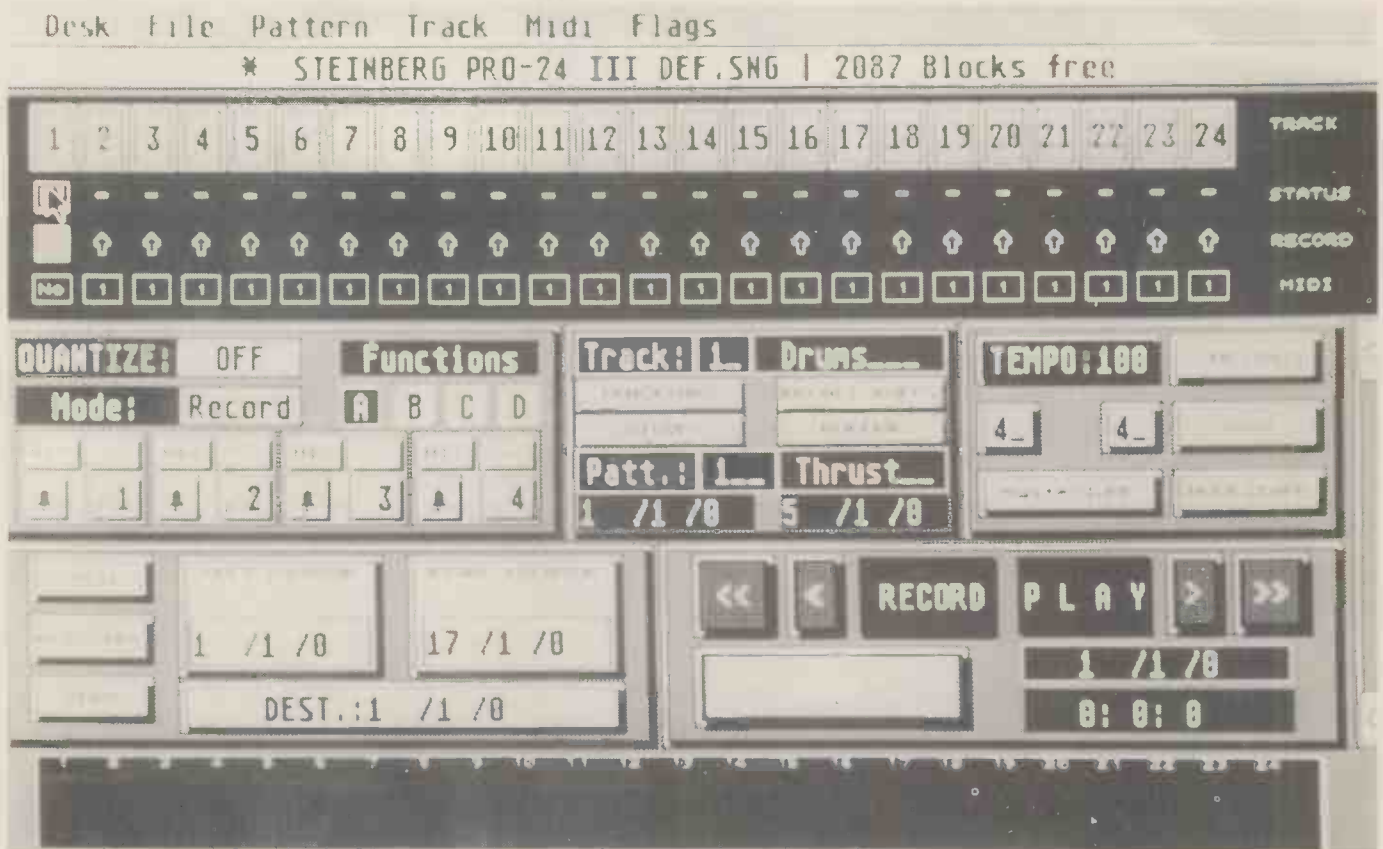
This and the 30-day invoice seem to be the main occupational hazards of the jingle trade. On the other hand, it is one of those currently expanding areas which offers increasing creative opportunities. It's a medium which is ultimately limited, but as Moore points out it brings this should bring its own challenges.

"The main thing that we've discovered from all our work is that you have to be interested in the intellectual process behind the medium you're dealing with - and that goes as much for advertising as for theatre, dance or commercial pop. Just as in theatre you have to know about the way that sound can say something more about what's going on, on stage, how it combines with the visual element. With advertising you have to really think about the product, who you're selling it to and perhaps even in what situation they are likely to be receiving the 'message'. So for all budding composers out there, it's not enough just to get the gear, record sounds and noises and make money."

A comment which could be applied to a few other areas too. Now how does that Sabrena song go again? ■

STEINBERG PRO24 III

Software for the Atari ST



Computer-based sequencing software has always promised non-redundancy through software updates. Has Steinberg's Pro24, the original Atari ST MIDI sequencer, lived up to the promise?
 Review by
 Simon Trask.

IT'S NOW ALMOST two years since MT reviewed Steinberg's Pro24, the first professional MIDI sequencing package for the Atari ST. During this time there has been a veritable explosion of ST-based MIDI software which has helped to put Atari's computer in pole position as far as musicians are concerned.

Other software companies haven't been shy about coming forward with their own sequencing packages, to the extent that there must now be some 15-20 ST-based sequencers of varying sophistication and cost. Yet Pro24 still has the biggest user base and the most solid presence in professional recording studios.

Clearly Steinberg have reaped rewards from the flagship status of their sequencer (the "early bird" syndrome), but for any sequencing package to survive in this fast-moving age it needs to adapt to current demands. This is where software updates come into their own, a fact which Steinberg always seem to have appreciated, as Pro24 has been through several updates since its original version. With the release of version III software it seemed high time for MT to survey the developments that have taken place in Pro24.

The Update

SO WHAT DOES Pro24 have to offer musicians nowadays? The number of tracks has remained a constant throughout the various software versions, and the front-

end screen has remained essentially unchanged in conception - merely squeezing in more parameters to handle the greater sophistication of the software. Updates inevitably take their toll on computer memory, and as from version 2.0 the size of the program has been such that the 520ST doesn't have sufficient memory to run it.

Innovative features of the original Pro24 which have been retained through to the current version include the mastertrack (for specifying global tempo and time-signature changes) and the grid-edit screen. The mastertrack concept has now been expanded to include real-time recording of tempo changes by means of the data fader or +/- buttons.

Pro24 has stuck to its original method of track organisation, whereby patterns are created within individual tracks as a consequence of the way in which you go about recording. For example, if you decide to record a bass part in eight-bar sections then Pro24 will define them as a series of eight-bar patterns, simply as a matter of organisational convenience. Patterns within a track are automatically numbered, but you can also name them. For another track you might decide that it's time to record an extremely long and tedious synth solo; Pro24 will treat this as a single pattern.

Steinberg's intention has always been that Pro24 should be conceptually similar to a 24-track tape machine, with the obvious exception that Pro24 records MIDI data as opposed to audio data. Consequently, as with tape, you can start and stop recording at any position within a track,

even if the track is otherwise blank. Unlike tape, you can use Pro24's Create function to create a series of empty patterns which reflect the structure of the piece you're about to record, name them accordingly, and then refer to the Track List or Where Am I? windows whenever you need to remind yourself of just where you are. In addition to providing organisational convenience within individual tracks, patterns can also be used as a means of transferring musical data between different tracks.

With the Arrange Song mode (debuted in the version 2.0 software, I believe) Steinberg departed from their favoured tape-style approach to adopt the more drum-machine-like approach of chaining patterns together. You can select any combination of Pro24's tracks to play around with by setting the relevant tracks to Sequence (as opposed to Tape). However, one track must be adopted as a reference track, while patterns in other tracks must align with the patterns in this track. Up to 64 patterns can be chained in this way.

Steinberg have attempted to provide a variety of approaches to recording and editing music. Following the now-famous Grid Edit system they added a Score Editor for those musicians who like to work with traditional notation, while now with version III they've added a Drum Editor for those musicians who like to work within a rhythmic framework (and I don't mean a four-poster or a hammock).

Like the Grid and Score Editors, the Drum Editor isn't divorced from Pro24's tracks - in fact it simply represents a specifically rhythmic way of envisaging a track. Basically you define a 32-instrument drum and percussion kit which is set up against a rhythm "grid" into which you record your percussive fancies in real or step time. It's just like recording into a pattern from the main screen, except that the Drum Editor is optimised for rhythmic playing. The principle isn't new (remember Fairlight's Page R?), but it's a welcome addition to an already flexible sequencer.

Incidentally, the Score Editor is no match for a full-blown scorewriting/transcribing program - but in fairness it isn't intended to be; if you require such a program then you should investigate Steinberg's Masterscore.

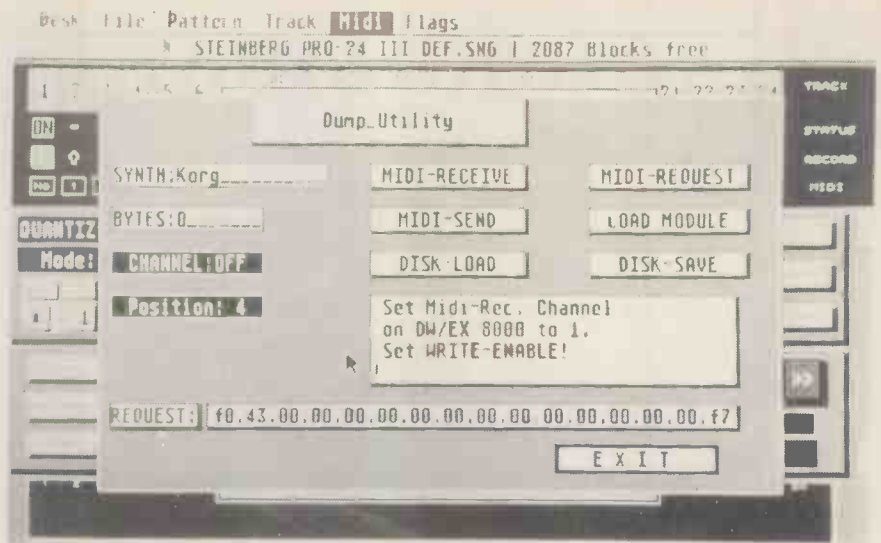
One of the most significant enhancements to Pro24 (just introduced in version III) is its ability to record on up to four tracks at a time. This can only be accomplished in Cycle Record mode (another development since the original software), the cycle being any portion of a track as defined by the left and right position locators.

Instead of recording into four tracks directly, you go via four "subtracks" - each subtrack being exclusively assigned to any one of the 24 tracks. This might seem a bit long-winded and over-complicated at first, but it does make sense after a while.

Each subtrack can be set to Mix, Auto or Normal record mode. Briefly, Mix is the loop-in-overdub approach typical of drum machines, Auto only punches in when you play a note, and Normal erases all data recorded in a previous pass as soon as you play a note.

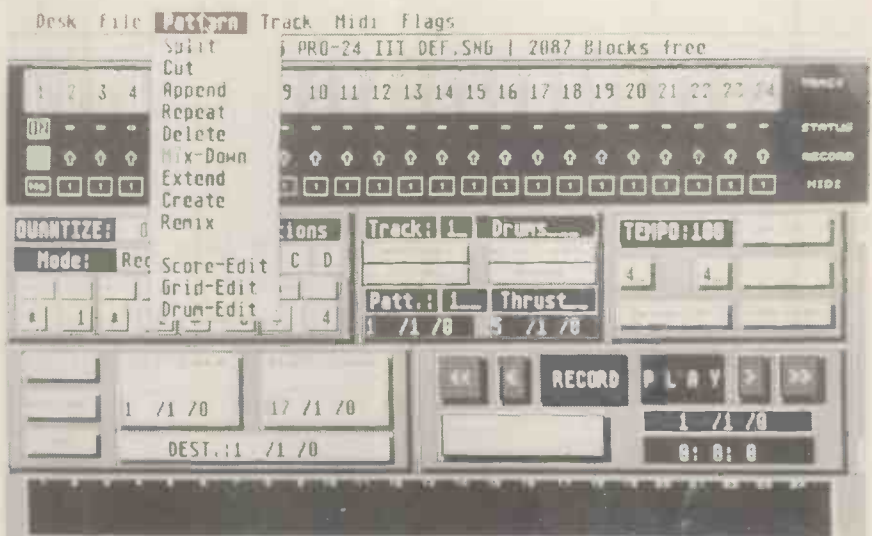
Setting the flag Cycle:Multi-R to on allows incoming data on multiple MIDI channels to be allocated to four tracks via the four sub-tracks in the following way: channels 1, 5, 9 and 13 are routed via subtrack A, channels 2, 6, 10 and 14 via subtrack B, channels 3, 7, 11 and 15 via subtrack C, and channels 4, 8, 12 and 16 via subtrack D. This can be useful if, say, you're recording several MIDI'd players via a MIDI merge box.

Although Steinberg have stuck with 24 tracks despite the mega-track sequencers which have sprung up since (for instance, Master Tracks Junior offers 64 tracks for around a third of the price of Pro24), you can now effectively increase Pro24's 24-track capacity by using a feature known as Mixdown. This mixes down any number of tracks onto a single destination track. It's best to set



each track to a different MIDI channel, because then you'll have the option to demix them (or Remix them, to use Steinberg's term) back onto separate tracks at a later date. It works like this: if you want a track to play back on multiple MIDI channels, you must set it to "No". You can also set a single MIDI channel (1-16) for playback, but this doesn't alter the channel assignments in memory.

Steinberg have developed Pro24's range of quantisation options quite considerably, coming up with some quasi-



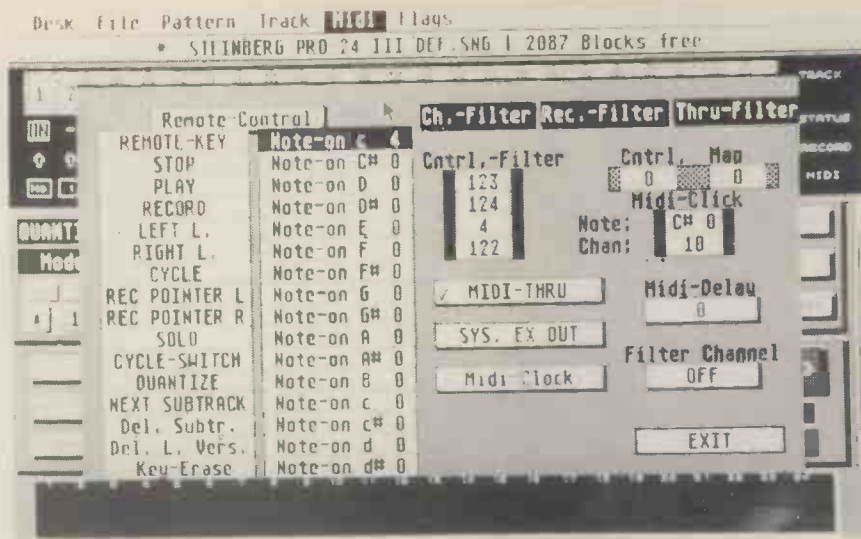
intelligent quantisation in the form of Over-quantise, which tries to tailor its quantising to your playing style, and additionally recognises chords and aligns them.

One of Pro24's most sophisticated developments has to be Logical Edit, which is accessed from either the Grid Edit or Score Edit screens. To quote from the manual, it "allows you to perform changes to your music based on logical or

Editing "Pro24 now has Score Editor for musicians who like to work with traditional notation and a Drum Editor for those who like to work within a rhythmic framework."

mathematical criteria, rather than musical". Essentially, Logical Edit allows you to perform arithmetic manipulations of MIDI notes and of other MIDI data such as pitch-bend, aftertouch, controllers and patches. You can also transform one type of MIDI event into another (pressure into a controller, for instance).

Though the more mathematically inclined among you would probably disagree, Logical Edit isn't one of Pro24's most intuitive features. Still, for those musicians prepared to investigate this "detour" down the alleyways of software sophistication it will no doubt prove to be an interesting



► journey.

Less visible, but possibly more readily useful, is the ability to create ten pairs of Left/Right Locator settings which can be called up instantly by pressing the ST's Shift and Function keys. Similarly, you can define up to ten group mute settings of any combination of Pro24's tracks, and recall them by pressing the ST's Alternate and Function keys.

Added MIDI features include remote control from a MIDI keyboard of sequencer functions such as Stop, Play

Recording "Although Steinberg have stuck with 24 tracks, you can now effectively increase Pro24's 24-track capacity by using a feature known as Mixdown."

and Record, the ability to "map" one controller onto another (so that, for instance, an incoming volume control can be outgoing as a pan control), and the ability to transmit a metronome pulse as a MIDI note (channel and note can be specified).

One area of MIDI communication which has grown significantly during the last couple of years is that of SysEx data dumps. In recognition of this development, Pro24 now includes a dump utility which allows you to send and receive SysEx data dumps, and to input and transmit a data request message if required. You can also define channel and ID numbers which Pro24 will then insert into SysEx data headers - highly useful if you're using, say, two MT32s and need to address them individually. You can also load in Steinberg Dump Modules, which contain the necessary communication protocols for specific instruments.

When Pro24 first came out, file transfer between different sequencers was a pipe dream. Now it's a reality - at least for software running on the same computer. Most MIDI software companies are now incorporating Standard MIDI Files disk storage into their sequencers and associated software, and Steinberg are no exception. Pro24 III adds Import and Export MIDI File capabilities, so now you can transfer your music to and from other ST MIDI software which incorporates Standard MIDI Files (such as Passport's Master Tracks sequencers and Intelligent Music's M).

Essential to any professional sequencing package is the ability to synchronise to tape. Since the arrival of Pro24, Steinberg have introduced the upmarket SMP24 SMPTE/MIDI processor (mentioned as a future product in MT's original Pro24 review) and budget Timelock SMPTE processor. Both units can be programmed from Pro24, while with an SMP24 connected to the Atari you can direct each of Pro24's tracks to any one of the unit's four MIDI Outs.

At the Frankfurt show this year Steinberg introduced their Tape Controller TCI and software, which allows a tape machine (currently only the Fostex A and B series) to be controlled from the Atari ST. Pro24 III already has menu provision for tape control, so come a future software update you'll be able to control a tape machine from the sequencer.

Since the advent of Pro24, Steinberg have built up a healthy range of synth and sampler editing software, plus of course the Masterscore transcription and scorewriting software and DMP7 desktop mixing software. Now, as Steinberg employ the key copy-protection system, you run into problems if you want several programs in memory at the same time (the direction in which MIDI software usage appears to be going). Aside from the fact that you'll probably need more than a megabyte of RAM, you'll have to fork out £99 for a Steinberg key expander box which holds three keys at a time. The price of progress, I guess - but at least Steinberg are meeting the challenge.

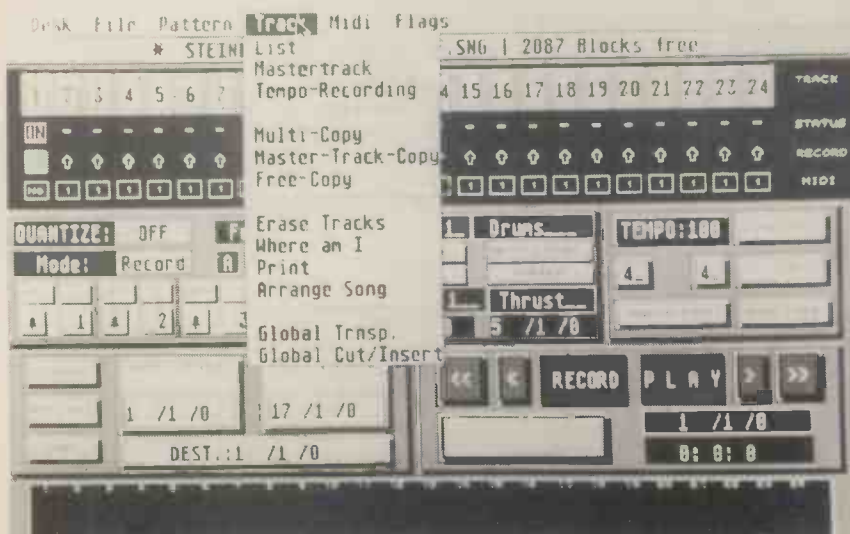
Verdict

STEINBERG'S DEVELOPMENT OF Pro24 is a good illustration of the way in which software-based sequencers can be adapted to meet the demands of their users. The developments outlined above give a good idea of how the sequencer has changed, though there are also other changes which are a lot more subtle but nonetheless useful.

Importantly, Steinberg have concentrated on practical features which would seem to have arisen from the requests of Pro24 users, rather than arcane developments which will only please the converted - presumably in part a consequence of Pro24's adoption by many professional recording personnel. Also importantly, Steinberg have managed to maintain a continuity throughout the updates, so that users will know where they are rather than being faced with a steep (re)learning curve each time.

Finally, talking about learning curves, Steinberg have really got their act together when it comes to the manual. Clearly laid out, easy on the eye, thorough without being overwhelming, and surely written by a member of the Plain English society. When I recall the lamentable dot-matrix-printed German-English manuals that Steinberg used to come up with back in the days of Pro16 (now I'm showing my age), it fair brings a tear to my eye to see just how much things have improved. ■

Prices Pro24 III £285, Masterscore £325, SMP24 £919, Timelock £399; all prices include VAT
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THE secrets OF TIMBRE



Illustration Toby Goodyer

After spending hours writing, arranging and recording a song, it sometimes seems impossible to get the mix to do it justice - the answers may lie in the secrets of timbre.

Text by Robert Rich.

AT LAST YOU'VE found the perfect sound: the silky strings that seduced Kate Bush or the gated snare that ate Miami. Faster than you can say "fix it in the mix" the new sound has found its way onto your latest demo. But somehow, it just doesn't sound as good in the mix as it did on its own. Sound familiar? Sometimes it works the other way around too: patches that sound uninteresting on their own turn out to be perfect in the right context.

There are plenty of ways to make a mix sound good or bad, but if the instrumentation doesn't work to begin with, you're going to have a hard time straightening things out later. Good orchestration is an art in itself, but it becomes an especially big challenge when the sounds are unnatural. You can guess what a piano is going to sound like with a string patch on top of it, but what does a Prophet 5 going "glish" sound like with a DX7 going "fwoomp" on top? Are there any guidelines to help you slot synthetic

timbres into a mix?

Thankfully there are - though there's no substitute for educating your own ears through experience - and I will try to present a few such guidelines in this article.

The Theory

IN OUR HUNT for that elusive "hot mix", few things will help us more than an understanding of the nature of sound and human hearing.

Vibrations are the raw material of sound. Current music technology converts vibrating electrons into vibrating air molecules. These vibrating molecules tickle the hairs in your inner ear, causing nerves to "fire" in your brain. Alas, what we "hear" in our brains only indirectly relates to what is happening in the air. The ear has its own logic, its own prejudices and in essence, a good mix panders to the

tastes of the human ear.

We can better understand the ear's logic by breaking down the spectrum of sound into its constituent frequency components. Anyone who has worked with additive synthesis or who has seen a frequency domain graph of a digital sample will be familiar with these ideas.

Any sound - including the sound of a complete mix - can be broken down into a set of sine waves. Each sine wave represents a discrete frequency in the audio spectrum. The amplitude of each of these sine waves represents the amount of that frequency found in the original signal. This is the essence of a Fourier transform. (For anyone who thinks that the Fourier transform is an abstraction, the ear uses this very technique to break down incoming sound.) Different nerves in the inner ear respond to different frequency bands, leaving it up to the brain to build a complete picture of the sound. A graphic equaliser also uses these ▶

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► principles, though with much lower resolution.

Let's begin by looking at some of the overall frequency characteristics of a good mix, and the qualities of various frequency bandwidths. With these characteristics in mind, we will look at the role of individual timbres within the mix. Remember though, that none of the recommendations here should be taken as gospel. These are rules-of-thumb which can help guide the direction a sound might take. In the end picture, nothing will help more than a good ear.

The Practice

IN GENERAL, A satisfactory mix will appear to contain a relatively balanced amount of signal throughout the audible frequency spectrum. If we were to draw a curve showing frequency against amplitude, averaged across time, we should see no sharp peaks or dips, although this does not mean that the curve should look flat.

The ear responds far better to high-mid frequencies (about 1000-8000Hz) than to low (20-200Hz) or very high (10,000 plus) frequencies. The response will change with overall loudness as well, so it is a complex state of affairs. This mess is why we have so many ways of representing sound level. Decibels (dB)

"Increasing the extreme low and high frequencies of a mix will make the music sound louder, even when the absolute sound level remains the same."

measure absolute sound pressure. Various standardised filtering (or "weighting") schemes attempt to match the dB curve to human hearing, the most common being A-weighting (dBA).

These technicalities bring us to a very important idea in mixing sounds: the loudness curve. To put things simply, increasing the extreme low and high frequencies in a mix will make the music sound louder, even when the absolute sound level (dBs) remains the same. This sense of loudness can also increase the perceived clarity of the sound. There is more to it than this, though; the ideal loudness curve will change depending on

the listening level of the music, and upon the style of music.

For quiet musical passages, a lot of bass is needed for the low end to be audible. The upper few octaves will dominate the mix at low levels (1-8kHz) due to the sensitivity of the ear, so you should balance this range accordingly. Generally, the extreme high end (10-15kHz) will cut through fairly clearly, due more to the efficiency of most loudspeakers than to the sensitivity of the ear. While the ear does not tend to expect high frequencies during quiet passages, one good reason for including high-frequency material is to hide noise, an unfortunate reality in quiet music.

For loud music, extreme amounts of low or high frequencies can become annoying. At rock concert volume levels, the ear's response comes pretty close to flat, which explains why music usually sounds better when it's loud (a fact that's become a regular part of family arguments over the years). Due to the ear's improved response curve at high volumes, it's especially important to avoid resonant peaks in music that may be played loud. Not only can you hear these resonances more clearly, but they can be downright painful.

The Instruments

THE RELATIONSHIP BETWEEN harmonic content and perceived loudness plays an essential role in the placement of instruments in a mix. Consider the behaviour of nearly all acoustic instruments: the harder you blow, pluck, or hit them, the louder they sound. And as they get louder, they also get "brighter". In the natural world, loud sounds generally contain more overtones than quiet sounds. The ear expects this to be the case, so much so that we assume a sound is loud when it contains many overtones. If you compare a sine wave with a square wave of the same energy, the square wave will seem much louder.

Acoustic sounds naturally get brighter as they get louder, but in the world of electronic timbres, we have to plan for this to happen. Herein lies the cause of many a muddy mix. For example, the best way to add more "punch" to a kick drum

is not to make it louder than everything else, but to boost its high-mid frequencies. The same applies to muddy basslines: try mixing in some velocity-sensitive "pluck noise" overtones. The slightest bit of high-end can work wonders in clarifying a bass sound. This is exactly what makes psychoacoustic enhancers so popular. But if your sounds are well structured to begin with, you should never have to rescue sounds with lots of outboard gear.

Of course overtones affect perceptions other than just loudness. An awareness of the effects of harmonic content on imaging can help clean up a mix. One of the most abused imaging characteristics is that of distance, or depth. You don't need a dozen different reverbs to create subtle imaging and layering in your music, just be aware of the fact that sounds with fewer overtones appear farther away than sounds with many overtones. The reason for this lies once again in our expectations of sound based on sounds in nature. High frequencies are absorbed more easily by the atmosphere, while low frequencies propagate over longer distances. (Whales can communicate over hundreds of miles using low-frequency thumps.)

Now that digital reverbs are finding their way into more home studios, people are getting into the habit of giving everything a wash of synthetic space, with little thought for the actual perceived placement of sound. If you want a sound to appear far in the distance, don't just drown it in reverb soup, first make it sound like it's far away by rolling off the high-end a bit - then drown it in soup (well . . . you know what I mean).

On the other hand, sounds that you want to stand out clearly at the front of the mix need not be louder than the rest of the music, they need only contain a wider harmonic spectrum. Notice how clearly most DX7 voices stand out - FM synthesis excels at generating lots of overtones. When the DX7 first appeared on the scene it was always responsible for the sound that sat in your face while the rest of the music played in the background. This characteristic can help your music or hurt it, depending on the context.

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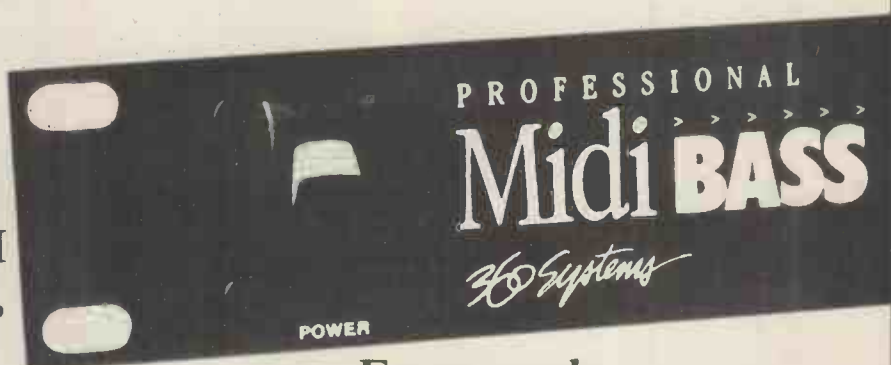
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► characteristic of imaging involves left-to-right discrimination. The ear is far more sensitive to the stereo placement of high frequencies than to the placement of low frequencies. In controlled environments, people have a hard time discerning the location of tones below 200Hz. Only with tones above 1-2kHz can we accurately determine location. So, if you want a sound to have a clear stereo image, give it plenty of overtones.

Panning the bass generally confuses the imaging by altering the mix depending on where a person stands relative to the speakers. In other words, the bass might sound louder in one speaker than the other, but that won't necessarily help the stereo image.

If you want stereo imaging on a bass track, try splitting the high-frequency components from the low-frequency ones, then process and pan only the highs. With acoustic instruments this splitting requires drastic use of EQ. The trick works well in theory, but in reality it's not easy to keep an acoustic timbre sounding good after such drastic equalisation. With a couple of synthesisers and MIDI, though, you can create your own acoustic reality, and the stereo image can become your playground. Split a sound across two synths, with one covering the low-frequency components of the sound, centrally panned. The other synth, producing the upper harmonics, helps provide the imaging. With careful programming, this setup not only tricks the ear into fusing the two sounds, but allows a huge amount of control over the

stereo image without muddying the low frequencies.

Cohesion and Separation

THE EAR IS unbelievably sensitive to the timbre of an instrument. For example, if two violins play the same melody at once, we can usually track the two instruments with little difficulty. Even the most advanced computer systems have yet to come close to our abilities in timbre discrimination. As a result, we rarely give much thought to the overlapping qualities of different instruments in a piece of music. But even a passing understanding of these qualities can really help when orchestrating electronic timbres.

Have you ever wondered why most lead lines occur in the upper register? Try playing a fast arpeggio with a smooth sinusoidal timbre, first at the high end of a keyboard, then at the low end. The bass arpeggio is very hard to discern. This has to do with many factors, primarily the fact that the ear has very poor pitch resolution at low frequencies. If a low sound is going to move quickly, it needs a lot of overtones. Better yet, leave the busy stuff for the upper voices.

When music has a lot of activity, and you want each part to be audible, the timbres of each instrument should be fairly distinct from each other. When multiple instruments play the same note, the ear uses two major cues to distinguish them: vibrato and overtones (especially transient overtones). If these combined

sounds have no vibrato, then the ear must remember the harmonic spectrum of each sound (the timbre). These spectra are not static, but change with the envelope characteristics of the instruments. If the combined sounds have no transients as well as no vibrato, they will sound like one instrument. Herein lie some of the keys to interesting timbral balance.

Personally, I don't believe there are any rules for ideal instrumentation or orchestration - except one: keep it interesting. Because instrumentation involves mixing together different timbres, interesting orchestration should introduce changes in the interplay of these timbres. For example, you can make two instruments fuse together, separate, then fuse together again. Two very similar timbres will take on independent identities if their harmonic transients (envelopes) differ even slightly, yet when played together their similarity can contribute a feeling of richness. In general, you get a "big" sound by fusing together the timbres of many similar-sounding instruments. At the other extreme, two dissimilar timbres may lend clarity to melodies or harmonies, yet their combination may not make the music sound any bigger. Control of these characteristics can bring music alive.

But remember, nothing will help your music sound better than listening and learning, and that requires patience and a good ear. This article can't teach these skills, but *knowing* why things sound the way they do can help you understand what you're hearing. ■

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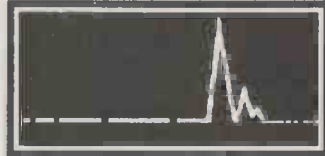
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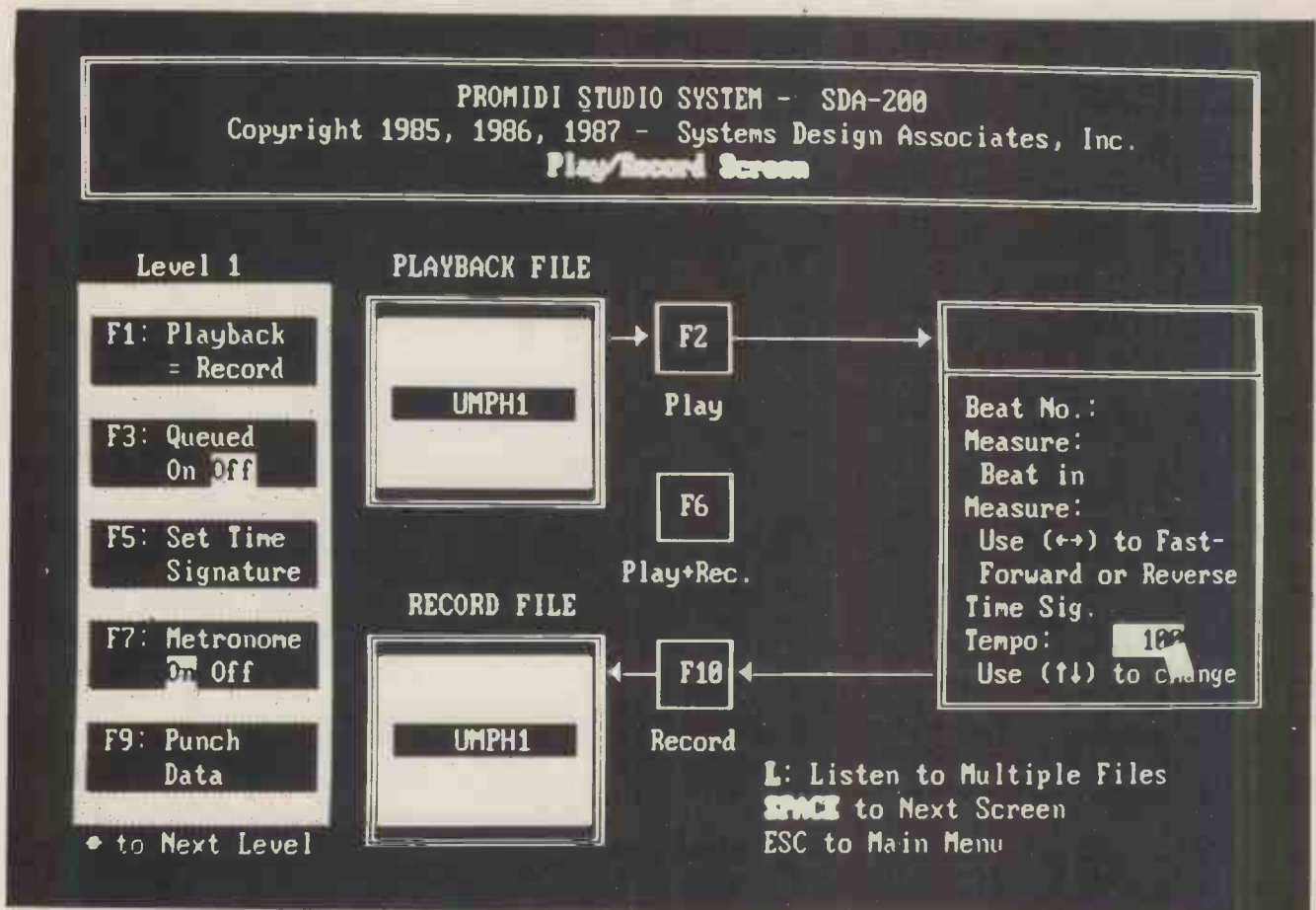
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PROMIDI STUDIO SYSTEM

Software for IBM PC and compatibles



Play/Record screen

An IBM PC sequencing package powerful enough to boast direct-to-hard disk recording is sure to attract its share of attention.
Review by Ian Waugh.

"CAN YOUR SEQUENCER do this?", asks the advert: "Record three million MIDI events? Record songs direct to disk? Play songs without waiting for them to load?" (Trick question.) "Does it give you an unlimited number of tracks and an unlimited track length?"

Unless you have Promidi, I think you'll have to answer "No" to most of these. Promidi differs from yer average MIDI sequencing program in several ways. It records direct to disk; it needn't be a hard disk but if you want to store 3,000,000 events you'll need a 20Meg drive. A floppy disk will store about 60,000 events.

It stores music as files on disk instead of as tracks in memory. If you're used to "conventional" sequencers, this will take some getting used to. But get used to it you must, for it is the hub of Promidi's operation.

The package comes with its own MIDlcard which plugs into one of the slots at the back of the computer. It contains its own RAM and part of the program loads into the computer's RAM and part into the MIDlcard. Updates will be in software form (for the price of a disk and p&p) so you don't have to worry about forking out for a new card.

It has a timing resolution of 192 clocks per beat. There's nothing new about that, but it also has a tempo resolution of up to 762 beats per minute. Yep, that's fast.

You can install a RAM disk to speed up disk operations. While a hard disk won't increase Promidi's actual recording ability, it will speed up some of its other disk-

intensive activities such as filtering, mixing and editing (all coming up in good time).

As it saves direct to disk the program requires relatively little onboard RAM. The minimum requirement is 320K, which still leaves room for a small RAM disk. A hard disk will improve the Punch In/Out function by a factor of about five times, a RAM disk will increase it by a factor of 19.

Another consequence of saving direct to disk is that should a failure or power loss occur, your data is already there on disk. One word of advice if you use a RAM disk, however, don't forget to back it up.

Promidi was developed by SDA - System Design Associates of America, not to be confused with Steinberg Digital Audio which is something else altogether.

So, introductions over, let's get started. The version under review is EI.2, the manual is 94 pages long and contains 6 pages of addendum.

Getting started

THE FIRST THING you have to do is make a bootable disk from the one supplied. If you've a hard disk you can install it quite easily. If you've a double disk drive it won't take very long but if you've only one drive your arms will drop off swapping disks during the conversion process.

This is as good a time as any to say that the system was made for hard disk although it is still eminently useable with 5 1/4" floppies.

The conversion, copying and installation over, you boot the disk and get a few screens of welcoming words leading to the Main Menu which has six sub-screens: Directory, Play/Record, Mixing, MIDI Channel, File Maintenance and Filter. The program is menu driven, mainly by the function keys. Pressing Escape at any time will take you back through a menu or two, eventually returning to the Main Menu. You'll never get lost, although you may occasionally be confused over which screen (or sub-screen) you need to do a particular job.

Most of the menu screens contain diagrams of the function keys with arrows pointing to a description of their function. Reading a screen is a little like following a route map.

You can call up Help screens from any part of the program by pressing "H". The Help files are stored on disk and if you keep them on your work disk you'll be left with a meagre 22K of music storage space. They can be removed, however, once you're comfortable with the program; alternatively you can use an empty work disk - or get a second disk drive or hard disk.

Recording

RECORDING IS NOT just a matter of pressing a button and playing. First you must select/create a directory and then enter a filename for the track/music line you are going to play.

Filenames can be up to eight characters long and they are suffixed with a version number. If you're really in a hurry you can jump in and go by pressing "T" to create temporary files called TV01, TV02, TV03 and so on. You can rename them later. Promidi allows 99 versions of a file to appear in each directory - I wish you the best of luck sorting them out. Pressing the "=" key lets you draft a note of up to 1036 characters to accompany each file. Useful.

Having recorded a file you can play it back straight away by pressing F1 (to nominate the file as a playback file) then F2 (to play it). To record one file while another plays back you must designate both a record and a playback file. This requires a brief excursion to the Directory Screen to select the Playback file.

To playback several files at the same time you must mix them. You can do this from the Play/Record screen with the Listen function (which automatically produces a file called \$LISTEN) or from the Mixing Screen (which lets you choose your own filename). You can then play this new file while recording another. If you want to mute a track/file within the mixed file you have to do another mix.

Promidi's powerful recording facilities will record multiple MIDI channels at once. You can extract specific channel information from the file and edit it.

On the Play/Record screen you can adjust the tempo and fast forward and rewind to a specific location in the file. The Beat and Bar Numbers are shown as the piece plays. You can pause the music by pressing the space bar and "rocking" the fast forward and rewind buttons, then pressing F2 (play) again. Really odd.

On the Level

ON THE LEFT of the Play/Record screen is a box containing five options which are activated by the function keys. Pressing + cycles through three more sets of options

(the program calls these Levels). Let's see what we've got here.

F1 sends a file from the Record box to the Playback box. F3 toggles the Queued function which puts the sequencer under the control of external MIDI equipment (strange name). F5 lets you set the time signature and F7 toggles the metronome on and off (it plays through a separate audio out on the MIDIcard). F9 lets you punch time signatures, tempo and program changes into a file: the position is defined in beats.

On Level two, F1 accesses the Step Editor (coming up). F3 is an auto punch-in function allowing you to record a section inside a file. F5 toggles the Master control on and off which puts the sequencer under timing control of the MIDIcard. F6 toggles Omni mode and F9 toggles looping on and off allowing you to playback or overdub a file continuously.

On Level three, F1 will trim empty beats from the beginning and end of a file while F3 and F5 add empty beats. F7 shows you where the Marks are and F9 lets you set up to 16 Marks in a file. These are inserted in real time as the file plays back. Pressing "M" advances you to the next Marked position.

At Level four, F1 Cuts, Blanks and Copies segments from a file: the segment must be defined in terms of beats. F3 is the Paste function and F5 adjusts the metronome volume. F7 lets you chain up to ten files together, allowing you to specify leader beats and the number of repeats. Adjacent files can be made to play simultaneously and you can even perform an overdub. The flexibility of this process allows you to construct songs based on patterns as well as linear, tape-like constructions.

As you may have gathered, all positions within a file are referred to in terms of beats and some reference to bars (or Measures as the program calls them) would have been helpful.

Step Editor

THE STEP EDITOR loads a part of a file from disk into RAM for editing; the buffer size is variable allowing you to compensate for very dense files. Again, the segment of the file is specified in beats and it may take up to 40 seconds to load.

You can adjust the magnification of the Step window to show one, two or four beats surrounding the current note. There are two Step Edit displays. The first shows only one note and the second shows notes across an octave range with the note names by the left. If simultaneous notes are more than an octave apart the editor toggles between them as you step through it; not an ideal situation.

Both displays show a keyboard at the bottom of the screen with the current note highlighted (it would be nice if it showed middle C).

The layout looks like it could be the forerunner of grid-based editing, but it has no grid and the information is not as easily assimilated.

You can edit virtually any aspect of the music here. You can alter a note's position, duration, velocity, pitch and MIDI channel. You can add and delete notes and insert MIDI events, although the program expects them in hex. Who's it kidding? Most modern sequencers list the options in English - program change, pitch bend, even System Exclusive messages.

The cursor can be moved from note-to-note or from step-to-step (you can vary the step size) and you can change notes by playing them on your MIDI keyboard. Positions are given in clock pulses and beat numbers. Where are the bars? ►

► Step-time Recording

TO RECORD IN step-time you must first "record" a blank file of the required length. Then select a step value and press "R" to go into step-time record. Each note you play will take the value of the step and you can enter chords by holding down several notes at once.

You can program notes on your MIDI keyboard to alter the step size so pressing them will advance the cursor by an eighth- or quarter-note, for example. By using a few carefully-chosen durations you'll be able to enter most types of music without too much trouble but again, the display is in beats only, not bars.

During recording and editing I got a "Can't open Playback file" error but renaming the file solved the problem.

Filters

THE FILTER SCREEN has five options: Auto-correct, Velocity Control, Channel Management, Transposition and Slide. A Source file is selected along with a filter operation and a target file must be named. That way you keep your original data intact. You can set start and end beat markers so you needn't filter the whole file.

There are lots of options within each filter process. There are three levels of Auto-correction, for example: note on only, simple auto-correct (for use with drum tracks) and MaxAuto which quantises both note on and off messages. There's also a swing option which is defined as a percentage.

The Velocity Filter lets you adjust the upper and lower dynamic range and the amount of gain.

Channel Management lets you record, extract or

remove a range of pitches and MIDI messages from a channel. Here you can set a file to play on a particular MIDI channel. The process is rather circumlocutory, however: having entered the Filter menu you must select the file, enter a target filename, select Channel Management from the Filter menu, set the options and then filter. Whew (or similar comicbook expression of exhaustion).

The Transpositions Filter lets you run your piece through harmonic and melodic scale transpositions as well as just shifting it up and down. Slide lets you move a file back or forward in clock ticks.

Beware of hitting Escape to get you out of the Filter Screen as this will save the processed file without any warning.

Other Screens

THE MIXER SCREEN offers an alternative to the program's auto Listen function and lets you mix up to six files. A new file is created so you don't lose your original data.

The File Maintenance screen is where you change directories, rename, copy, delete and append files. You can't append a file directly to itself although you can append it to a "blank" file up to 100 times (disk space permitting).

The system sometimes generates temporary files and you can rename or delete them. There's no way to tell how long a file is without loading it.

The MIDI Channel screen allows you to select MIDI record channels and MIDI Thru channels so, for example, you can route what you play on your Master Keyboard to an expander.



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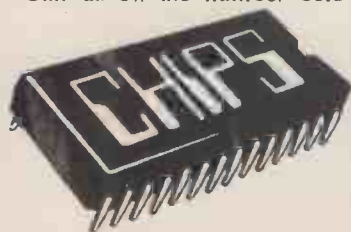
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Sync-To-Tape

THE MIDICARD HAS sync-to-tape input and output sockets and in Remote mode it can interface with SMPTE equipment via a SMPTE-to-MIDI converter.

The manual tells you how to set up dump and load messages to send and load voice banks to and from your equipment, but you need to be able to send those requests to Promidi via your equipment in the first place.

SDA have just released Micidcard+ (£65), a plug-in platform for MIDICard to give it compatibility with Roland MPU401-based software. They are also providing a number of file-conversion programs to allow Promidi files to be read by other PC software and they are working on the standard MIDI File Format.

Verdict

WELL, PROMIDI HAS power but I'm afraid, for me, it could fare a lot better in the ease-of-use department. There are a few shortcuts but most operations require you to button-push your way through a series of menus and options, and some of the operations aren't particularly user-friendly. This is partly a result of recording direct to disk but the design must also share some of the responsibility.

Music software has developed enormously over the past couple of years. Most good programs nowadays fall under your fingers after a short period of use, and while Promidi may have been state-of-the-art in 1985 (when it was first launched), I could find little in it that was instinctive or intuitive. It has a very long learning curve and I think in 1988 musicians expect something more immediately

PROMIDI STUDIO SYSTEM - SDA-200
Copyright 1985, 1986, 1987 - Systems Design Associates, Inc.
Play/Record Screen

Beat: 13 14 15 16

F1 F2
F3 F4
F5 F6
F7 F8
F10

Note On Position: 111
Duration: 158
Velocity: 73
Pitch: A 69
Channel Number: 1
Cursor Position: 111
Step Size: 32nd Triplet

M: Change Magnification (←,→) to Add/Delete Notes (↔) to Next Note (↑) to Next Step
Q: Quit - No changes
S: Save and Exit
SPACE: Sound Current Notes
I: Keyboard Inp. Off
R: Step-Record Off
M: Non-Note Messages Off
C: Display Channel - ALL

F10 - Changes Screen

accessible.

Promidi has three things going for it: the ability to create an unbelievably long piece of music (provided you have a hard disk) with an unlimited track length and a unlimited number of tracks. In addition, the distributors, MIDI Music, offer a free helpline service to Promidi owners. The importance of customer service in this business should never be underestimated.

If this appeals to you then take a look at Promidi by all means, but be prepared to spend a long time getting to know it.

Prices Promidi £399 including VAT; Demo disk £2.
More from MIDI Music, 33 Barrington Close, Liden, Swindon, SN3 6HF. Tel: (0793) 45567.

Step Edit screen



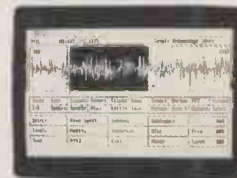
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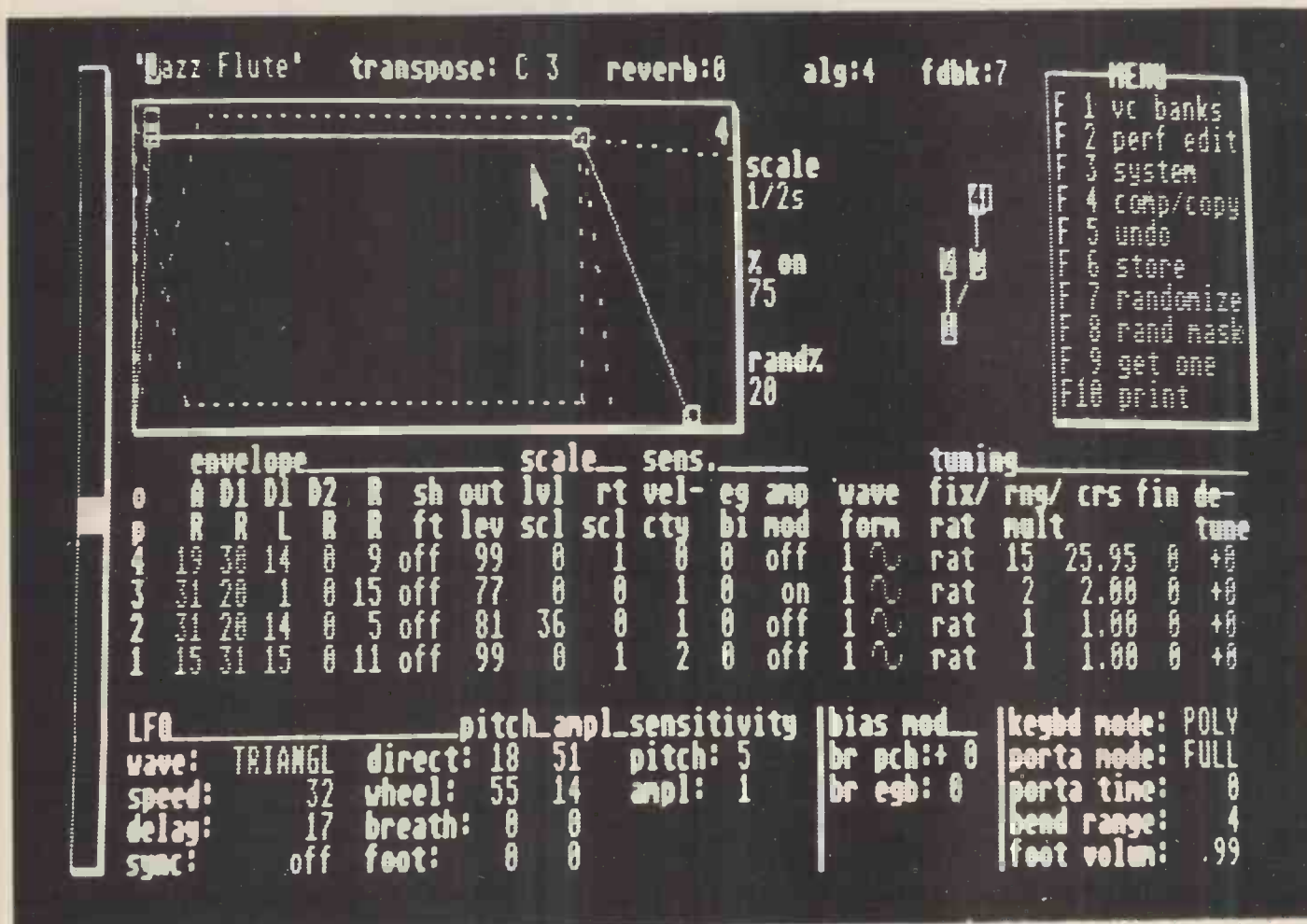
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DR T'S 4-OP DELUXE & SOUNDBITS' 4x4

Software for the Atari ST



TX81Z Voice Edit screen

Photography Roger Hemptall

If the drudgery of FM programming has prevented you making a star of your FB01, DX11/21/27/100 or TX81Z, one of these four-operator FM voice editors could be for you.

Review by
Ian Waugh.

THANK HEAVEN FOR digital synthesisers – praise the lord and pass the collection box. But they can be little buggers to program, can't they?

Anyone over the age of six will probably remember analogue synths. You knew where you were with those – the VCOs connected to the VCF, the VCFs connected to the VCA, and so on. With digital synthesisers, not only do you have to learn a whole new way of creating sounds, but you only get to see one parameter at a time – and that on an LCD the size of a matchbox. And to control all those parameters there are four buttons on the front of the synth which have to be pressed in a contortionistic series of devious combinations.

If this has never bothered you then you're probably a professional programmer. For the rest of us, however, there are Voice Editors. These can help in three ways: they can show on screen all (or most) of a sound's parameters enabling you to "see" what a sound looks like at a glance. They also let you arrange banks of sounds and save them to disk, far more convenient and reliable than storage on tape. Finally, they often have features not available from the synth itself such as Compare, Copy and Undo facilities, not to mention random voice generation.

And if you're still unconvinced – they're fun. Clicking parameters on screen may not be quite the same as sliding

real sliders and twiddling real dials, but it sure beats 'the hell outta button pushin'.

The two programs under the hammer today allow you to edit a variety of Yamaha four-operator FM synths and expanders. 4-Op Deluxe is a Caged Artist/Dr T's (distributed by MCM) production while 4x4 comes from Soundbits, one of the few British companies writing music software.

4-Op Deluxe

THERE ARE THREE separate programs on the 4-Op disc: one for the DX21/27/100, one for the FB01 and one for the TX81Z. The DX program forms the core of the other two which have added facilities to accommodate the extra FB01 and TX81Z features.

The programs are not GEM-based but mouse-o-philic will be relieved to hear that virtually all functions can be controlled with the mouse. If you don't like mice you can still use the keyboard.

The main screens all contain three boxes: Voices (or Banks in the case of the FB01), Menu and Files. The Voices box lists a bank of voices. The programs can store several banks in memory and these are listed in the Files box; ▶

► there are eight in the DX program, two for the FB01 and four for the TX81Z. Clicking on a new File shows that bank of voices.

From the Menu box you Save, Load, Get and Send banks and voices to and from disc and the synth. From here you access Store, Copy, Move and Swap operations. This is also your departure point for the Voice and Performance (Configuration in the case of the FB01) Editors, and these screens have their own Menu boxes too. The program isn't controlled through a series of nested menus, however, and most screens can take you to most other screens. It's a mite confusing at first but I soon found my way around.

The FB01 and TX81Z programs also have an Instruments box. In the case of the FB01 this is used to select the current instrument for editing. In the TX81Z program they show the instruments used by the currently selected Performance.

System Control

BEFORE WE GET delving into the Editors, let's make a brief sojourn to the Systems screen.

Here you can set parameters such as System Exclusive Channel (Yamaha synths have a MIDI channel as part of their SysEx messages) and altering this allows more than one instrument to be controlled by the program.

There are Merge options for incoming data and you can filter Program Change information and alter the colour scheme.

In addition, the TX81Z program lets you alter the basic Receive and Transmit Channels; adjust Master Tune, Program Change, Control Change and Pitch Bend and so on and switch Memory Protect on or off.

To hear the current voice you press the right mouse button. This can play a single note or a glissando by moving the mouse left and right. The program can also accept input from a master keyboard or an external sequencer and play the music while you edit the sounds. Neat.

Some of these settings can be saved and the program will automatically load them when booted. You save to the system disk, however, which always makes me uneasy.

From the Systems menu you can program Effects, set up the Program Change Table and Micro Tuning options and all these can be saved as separate files, too.

The Editors

THE VOICE AND Performance (or Configuration) Editors each have three Buffers: Edit, Compare and Undo.

Both editors operate in exactly the same way so let's see how the Voice Editor works as this is common to all programs.

A voice selected for editing goes, naturally enough, into the Edit Buffer. Compare will compare it with any voice – the original one or any other – and highlights the parameters which are different. Copy allows you to select and copy any parameters from the Compare voice to the Edit voice.

The Undo Buffer stores the last-edited voice and Undo swaps this with the voice in the Edit Buffer.

Parameters are selected by clicking on them and altered with the Virtual Slider running up the left of the screen. It's a similar idea to the slider used by Steinberg in their Pro24 program (who was first, I wonder) to simulate the DX7's Data Entry slider. You don't have to zap off to the left of the screen for the slider, however, you can "pick it up" by moving to its vertical position. Alternatively you can use the + and – keys or type in a new value directly.

Voice Editor

AND SO TO the Voice Editor. At the top left of the screen is a box containing a graphic representation of all four operators' envelope generators. The currently selected operator's envelope is highlighted and can be dragged around the box with the mouse. The resolution can be scaled from 1ms to 32 seconds – a suitably large range to cater for most sounds, I reckon.

All a voice's numeric parameters are displayed on the bottom half of the screen and can be altered as described above. You can mute individual operators – ideal for seeing what effect an operator has on a sound.

Randomisation

HARDLY A VOICE Editor worthy of the name exists without some form of voice creation facility. 4-Op makes no attempt at intelligent voice creation. It allows you to select a group of parameters with a Rand Mask and then it randomises them by an amount ranging from 1 to 99%. The Rand Mask can be saved.

Undo will remove the effects of Randomisation so it's a simple matter to keep randomising a voice to see if anything better turns up.

The Randomisation process is very interesting, although I wouldn't advise you to start a career as a professional programmer with it. It's particularly fascinating to start with an Initial Voice and see how far Randomisation can take it – you may produce a gem. During experiments, the process produced sounds varying in quality and usability from an African Hollow Log to someone taking a bath in mushy peas.

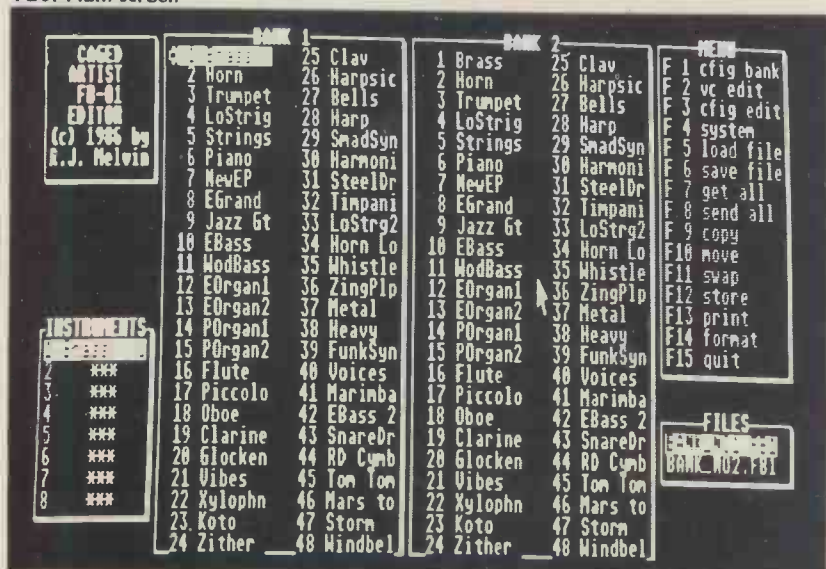
Performance Editor

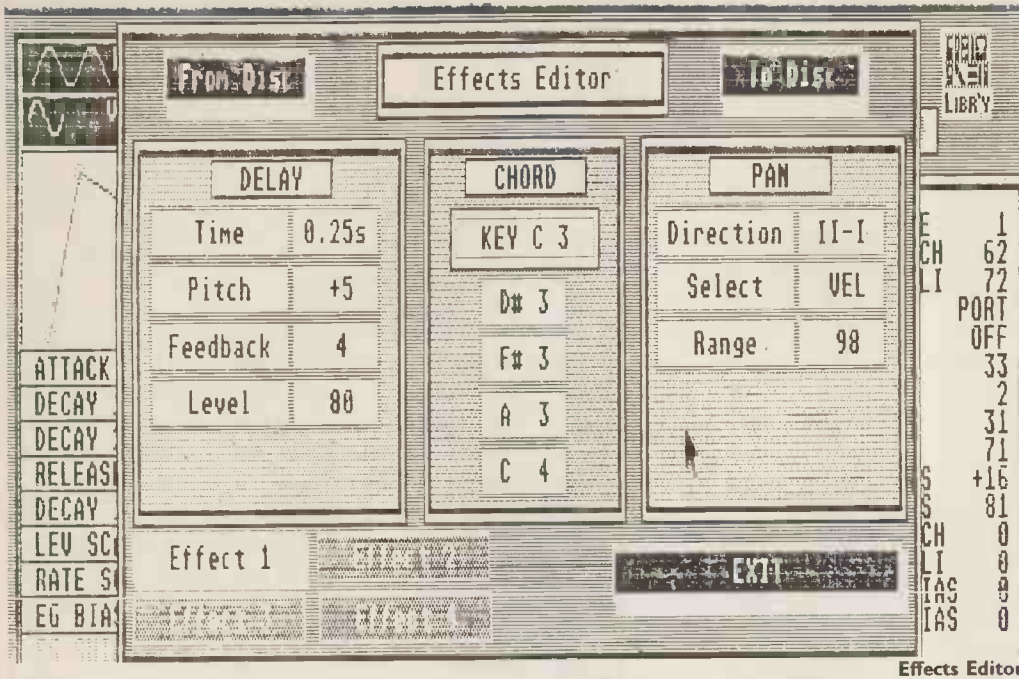
THE PERFORMANCE (or Configuration) Bank is identical in operation to the Voice Bank – except it contains Performances.

The Performance Editor shows all the instruments and their associated parameters on screen at once. This is very useful indeed and makes the creation of Performances a pleasure. There's even a Randomise function here, would you believe, and you can create a Rand Mask for Performances, too.

Re-arranging a voice bank from which Performances have been arranged is asking for trouble and the astute among you may be wondering how the program copes ►

FB01 Main screen





► with this. It does it quite simply but cleverly: it uses a Voice Pointer to indicate the position in a bank the voice came from (although the original voice may not still be there).

The DX and TX8Z files are compatible. The manual says there is a DX to FB01 file converter on the disk but the review copy was a Promo version and the file was not there. I have it on good authority that there's also a desktop accessory which allows you to load a bank into your synth from another program but this was not on the review disk either.

Before making comparisons and drawing conclusions, let's look at 4X4.

4x4

THERE'S ONLY ONE program on the 4X4 disk and it caters for the DX21/27/100, the TX8IZ and the new DX11 but not the FB01. When you boot it, you are asked which synth, if any, is connected, and the program automatically downloads a voice bank from it.

The screens are well laid-out and very attractive in colour (the screen dumps don't show it off to best effect). Even some of the menu options have been replaced with icons. This, I think, is worth mentioning, as the best that can be said about the 4-Op screens is that they're ►

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► functional (so what do you want from a utility program, you may ask?).

4X4 is GEM-based and anyone who knows a mouse from a duck-billed platypus will have the thing up and running in minutes. The program holds two banks of sounds in memory and these are shown on the Voice Library screen. In the centre is a Transfer box in which you place a voice you want to edit.

Voices can be dragged from one location to another. From the Files menu you can transfer banks between computer, disk and synth although you can only get a bank from the synth when you first enter the program. Using these facilities it's a simple matter to construct your own voice banks. There's no swap facility but the Transfer box is a ready temporary storage place.

Voice Editor

THE VOICE EDITOR screen shows all the parameters for all the synths although the ones which your synth may not have are greyed out. You can still edit them but obviously they will have no effect. All the files are compatible, however, so you could, in theory, create voices for synths you do not have. If you're clever.

A box displays the operators' envelope generators in graphic form, although only one is visible at a time. You can drag the envelope around the screen and although there are no scaling functions you can get a good idea of the envelope without them.

Parameters are altered by clicking on them: the left button decreases them, the right one increases them, and if you hold the button down the rate of change speeds up after a couple of seconds – rather too quickly at times, I thought. To assist with editing there's an envelope copy function but no compare or undo.

Clicking the mouse in a blank area of the panel sounds a note. In addition, the first four function keys have been programmed to play chords, and the fifth plays a short riff which is quite catchy the first 100 times you hear it.

There is a Randomise menu, of course, which holds two options. The first seems to attack the sound with tweezers rather than a steam hammer (the manual doesn't explain exactly what it alters). The second option is used in conjunction with the Rand Mask, allowing you to select just those parameters you want to randomise although you can't specify the degree of randomisation.

The Effects Editor is called from the Voice Editor and the Effects can be saved to disk. There's no Micro Tuning

Table, basically because Soundbits haven't found anyone who was using it – are there any Micro Tuners out there?

Performance Editor

THE PERFORMANCE LIBRARY is identical to the Voice Library – except it holds Performances instead of Voices. The DXII can store 32 Performances as opposed to the TX8Iz's 24. All 32 are shown and if you have a TX8Iz you can use the extra sockets as reserves or templates. Handy.

The Performance Editor only shows one instrument at a time, which is not quite as helpful as 4-Op's Editor. The bank and location number are given but not the instrument name, mainly I suspect, because of the conflict which could arise if the instruments in a Performance were changed (as discussed above).

GEM is rather RAM-greedy, and a few corners have been cut to enable the program to run on the 520ST (I doubt if there's room for any accessories). Soundbits' philosophy is to support all the hundreds (thousands?) of musicians with a 520ST and only half a Meg of RAM – good on them.

I felt that several aspects of 4X4 could be improved in the interests of user-friendliness and the latest word from Soundbits is that several additions have been made to the program. These include saveable random masks, the ability to play a sound from the Voice Library screen and improved loading of a voice from synth to editor.

There could be more in the slim 12-page manual, but as long as you're familiar with your synth you won't need to read it more than once.

The disk also contains a desktop accessory to let you load a bank into your synth from another program.

Verdict

IF YOU'RE AFTER a voice editor to simplify programming, on first acquaintance with 4-Op you could be forgiven for thinking that you've jumped from the frying pan into the fire, and the 50-page-plus manual needs to be read carefully. However, power and versatility is what we're talking about and you don't get them for nothing – it takes a little effort on your behalf.

4X4, on the other hand, is basically plug-in and go – and it's £24 cheaper. Although it lacks many of 4-Op's frills, it can duplicate a lot of its functions one way or another although not always as directly. 4-Op's ability to show all parameters on screen at once, however, is a considerable programming advantage and it is, ultimately, the more sophisticated program.

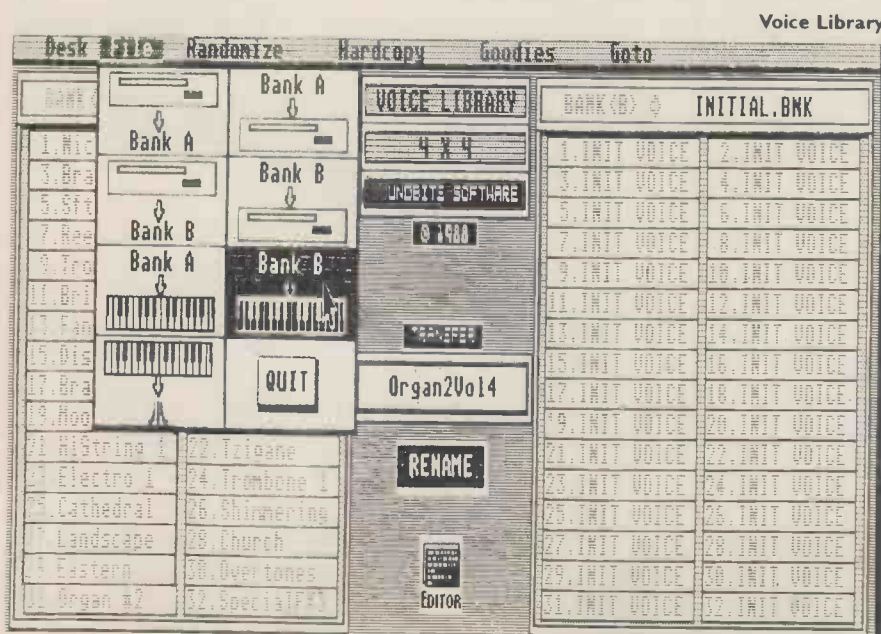
If you have an FBOI there's no choice (although there are other FBOI editors around). Likewise if you have a DXII, 4X4 is the only program I'm aware of (at the moment) which can edit all its functions.

If that hasn't made your mind up for you, the choice between the two depends on how seriously you take your programming. If you're one of the many musicians who uses presets and buys banks of sounds, you're unlikely to be willing to learn 4-Op well enough to make the most of its features. Which is a shame. But then there's 4X4...

Ah, decisions, decisions. What sort of programmer are you? ■

Prices 4X4 £75; 4-Op Deluxe £99. All prices include VAT.

More from MCMXCIX, 9 Hatton Street, London NW8.
Tel: 01-724 4104/01 and 01-258 3454.
Soundbits Software UK, 48 Galton Tower, Civic Close,
Birmingham B1 2NW. Tel: 021-233 3440.



Due to overwhelming demand we have finally produced a **Thatched Cottage Newsletter**. As well as giving details of some **VERY special offers**, it contains a complete **secondhand and demonstration list** (the list we advertise represents only a fraction of actual stock). There are also details of courses and classes and we briefly introduce ourselves!

Why not go on our mailing list and write or telephone for your copy?

NEW STOCK

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

THIS MONTH'S BEST BUYS

-ALESIS HR16 DRUM MACHINE
-TASCAM 38
-YAMAHA TX16W NEW AMAZING SUPER SAMPLER
-TASCAM MS16 MULTITRACK (inc free Noise Reduction)
-YAMAHA DX11 MULTITIMBRAL SYNTH
-TASCAM 238 8 TRACK CASSETTE

Thinking of buying a Porta Studio? See Page 84
Check out the amazing new Amstrad 4-track/Hi-fill

SPECIAL OFFER 1040 + monitor +
COMPUTER PACKAGES Pro 24/C-Labs/Dr.T **£699 + VAT**



When it comes to new equipment you may have noticed that we don't say 'phone for best deal, POA, or ring for lowest price ever'. Our bulk buying policy can usually guarantee that a telephone call to us will not be wasted and in any case we can throw in those "hidden" extras — cables with multitracks, patchbays with desks. To be honest though, if you spend all afternoon on the telephone the chances are you might find someone somewhere who will undercut us by a pound or two. The difference at **THATCHED COTTAGE** is if your E16 breaks down on a Sunday morning or your drum machine blows up on a Bank Holiday Monday you **CAN** ring us, we'll be here and we **WILL** do something about it — 365 days a year. Have you ever needed help and advice outside shop hours? If you are serious about your music you will know that it is quality of service that makes the difference and at **THATCHED COTTAGE** it's only a phone call away!



PRODUCERS' MASTER CLASS

From March we have been holding a series of one-day Master Classes featuring some of the world's leading producers. Each seminar will consist of a comprehensive question and answer session and a practical demonstration of production techniques in our own 24-track studio. In order to allow maximum flexibility classes will take place at weekends and will be limited to the first 15 applications. Those taking part include:

- | | |
|------------------------|---|
| Hugh Padgham..... | (Phil Collins, Police, etc) |
| Rupert Hine..... | (Tina Turner, Howard Jones) |
| Stephan Hague..... | (Communards, Pet Shop Boys) |
| John Porter..... | (The Smiths, The Alarm) |
| Mike Howlett..... | (OMD, Joan Armatrading) |
| 'JJ'..... | (Art of Noise) |
| John Leckie..... | (Simple Minds, XTC, The Fall) |
| David Lord..... | (XTC, Peter Gabriel) |
| Chris Tsangarides..... | (Black Sabbath, Gary Moore, Thin Lizzy) |
| Mike Pala..... | (Sade, Fine Young Cannibals) |
| Wally Badarou..... | (Level 42) |

For anyone interested in producing, these classes will present a unique opportunity. Tickets are £50 + VAT each and are available from Thatched Cottage. For further details of dates and timetables phone Paul Tingen on 01-249 1876 or contact Thatched Cottage. Book early to avoid disappointment.



Recently a few dealers have complained about our secondhand and ex-demo list — it seems they are losing too many customers! Being the largest single supplier of 8 + 16 track equipment in Britain, we've decided we can afford to give away a few secrets! We simply tell customers that if any new equipment they purchase breaks down in the first two months we won't fix it, we will **REPLACE** it! Result? Yet another customer who **KNOWS** they can rely on Thatched Cottage, and a secondhand list full of the latest gear, factory repaired, in mint condition with a full guarantee! Simple? We didn't become the biggest without being the best!

SOME SECOND HAND AND EX-DEMO BARGAINS

Fostex X30	£299
Fostex MN15 mixer	£39
Yamaha KX1. The ultimate remote keyboard	£275
Fostex 350 8 track mixer	£299
DBX 224X noise reduction	£150
Tannoy Crossover	£250
Yamaha 2031	£220
Symetrix 522	£250
Alesis HR16	£340
Alesis MMT8	£225
Alesis XT dig reverb	£250
Seck 12-8-2 Mixer	£775
Seck 18:8:2	£1,050
Scintillator (New)	£125
Ram 10-4-8 Mixing Desk	£499
Audio Logic 1900 Millisecs, Full Band Width DDL	£150
Boom Stands, New	£18
Drawmer DS201/Dual Gates	£255
Yamaha RX5	£650
8-Track DBX Noise Reduction	£325
Alesis Midiverb II	£225
Yamaha SPX90 II	£450
RSD Series II 16-16-2	£2,750
Yamaha MT1X 4-Track - new	£260
Casio FZ1, silly price	£899
Casio CZ1	£499
Sony PCM601	£725
Tascam Porta 05	£229
Tascam Porta 2	£389
Casio HT6000	£825
Yamaha RX11	£199
Yamaha DEQ7	£605
Yamaha MEP4	£225
Yamaha MJC8	£169
Fostex E16+sound tracks MRX 24:16:2+patchbag	£9000
Yamaha RX17	£165
Aphex Compellor	£699
Fostex E8 NEW (8 track version of E16 (large reel))	£1499
Tascam 38 (full guarantee)	£1299
Yamaha PF85 Piano/Mother Keyboard	£799
Fostex M80	£1050

(All prices exclude VAT)

For those of you who are seriously considering starting a commercial studio I've come up with three packages, each containing everything you will need for your first paying session, from the multitrack machine right through to DI boxes and cables. The price of the 8 track system is £3,750 + VAT, the 16 track is £8,250 + VAT and the 24 track is £15,500 + VAT. At Thatched Cottage I proved it *could* be done, and I have helped many new studios to open and start making money — my 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!!

FANTASTIC OFFER

To coincide with the launch of the amazing new Tascam 8 track cassette we have made a bulk purchase of Ram 10:8 desk to make an entire 8 track system (including plugs and cables) for the previously unheard of price of £1499 + VAT! Interested? Call in or ring for details!

**NEWS
FLASH**

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

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

If you're a private seller, advertising in the back of MUSIC TECHNOLOGY really couldn't be simpler. And if you're searching for a specific piece of equipment or looking for other musicians to fill a gap in your band, we can help out there, too.

Just fill in the form at the end of this section, indicate which sub-section you'd like your ad to appear in, and send it to us by the date specified. We'll do the rest - and it'll cost you no more than the price of a postage stamp.

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

Keyboards

AAAAARGH!!!, I must sell my Casio MT400V, £75 ono; DX100, £199 ono; TR505, £165 ono; Viscount organ, £300 ono, Tel: (0992) 466612.

AKAI AX73, 6 oct, amazing MIDI, all leads, good cond, un-gigged, £550, Tel: Durham (0833) 31153.

AKAI AX73, 6 oct velocity MIDI synthesizer, immac, £580; FB01 Yamaha sound module, immac, £180. Jason, Tel: (0752) 880432.

AKAI AX73 velocity synth, exc cond, great sounds, £410 ono. Julian, Tel: (0733) 244102.

ARP ODYSSEY mega fat lead/bass synth, £250. Andrew, Tel: 022-023 7397.

CASIO CZ5000 8-track seq, stand and combo amp, offers. Mark, Tel: Manchester 061-789 6022, flat 4.

CASIO CZ5000, multitimbral sequencer, 5-octave, full sized keyboard, still boxed, £468 ono. Colin, Tel: 061-905 1045.

CASIO CPS 101, MIDI, mother/sequencer, home use only, good cond, must sell, bargain, £100, Tel: 01-639 5717, days.

CASIO CZ1 multitimbral synthesizer, boxed, complete with CZ-Android + voices, £500; Roland TR505 D/M, boxed, £170; various Atari software, Tel: (0758) 613721.

CASIO CZ1 plus cartridge, £600; Korg SQDI disk seq, £250; Carlsbro profexi multiflex, £85. All vgc, Tel: 061-620 0058.

CASIO CZ1, Yamaha DX100, Roland TR505, Roland MSQ100, MPC drum machine, as new, offers required for quick sale, Tel: 01-352 9486.

CASIO CZ101, £150; MSQ700 sequencer, £200. Or swap both for SQDI, Tel: 063-33 65758, after 5pm.

CASIO CZ101 and extras, swap for Yamaha DX100. Alan, Tel: Gosport (0705) 535204, after 5pm.

CASIO CZ-2305, exc cond, hardly used, free MIDI leads, and psu, £200, Tel: (0873) 77320.

CASIO CZ1000, £250; Korg Poly 800, £230; Korg SQD-1 sequencer, £250, with stands and boxes etc. Paul, Tel: 061-681 1593.

CASIO CZ1000, s/case, RAMS manuals, £220; H/H "Bass Baby" 150w amp. Pete, Tel: (0603) 667641.

CASIO CZ1000, vgc, 6 months old, boxed with manuals, £180, Tel: Camberley (0276) 28196, after 4pm.

CASIO CZ3000, £290; Korg DDM110, £70. Nigel Baker, Tel: 01-734 8222, ext 29, Mon-Fri, 2.30-5.30pm.

CASIO CZ5000, £450; Roland TR505, £150; Laney 4-channel combo, £100, Tel: (0332) 761649, eves.

CASIO CZ5000 multitimbral synth with built in 8-track sequencer, £440, Tel: (0722) 73277.

CASIO HT700, MIDI synth, boxed, manual, RAM card, only £190, Tel: Camberley (0276) 685151.

CASIO HT700 synth, Roland TR606 D/M, extras, £300. Both immac, buyer collects. Michael, Tel: (859) 1623, eves.

CASIO HT 3000 5-octave home synthesizer (MIDI) boxed with manuals and RAM card, imint, £275, Tel: Southampton (0703) 269196.

CASIO HT 3000, perfect, boxed, £330; CT 202, full size, 4-octave keyboard, £70, Tel: Minehead (0643) 6060.

CASIO HZ-600, perfect cond, x-stand, adaptor, manual, boxed, £200. Buyer collects, Tel: Selby (0757) 708160.

CASIO MT400, ADSR filter, chorus etc, £75; Dx100, £199; TR505, £165; Viscount organ, £300. Swaps considered, Tel: (0992) 466612.

CHASE BIT 99 analogue MIDI synth, £400 ono; Casio RZ1 sampling drum machine, £150 ono, Tel: (04862) 29341.

ELKA MASTER control keyboard MK 55, boxed, as new, £300 ono, Tel: 051-334 8367.

ENSONIQ ESQ1 (expanded) 3.4 software, 320, voice cartridge and stand, immaculate, £795. Ian, Tel: (602) 8629.

ENSONIQ ESQ1, expansion/voice cartridges, original accessories, hard case, vgc, £875, Tel: (0424) 218711 before 7pm.

ENSONIQ ESQ1 latest software cartridge and stand, £795; Roland DEP 5, £395. Steve, Tel: (0202) 735247.

ENSONIQ ESQ1, mint cond c/w stand, £800, Tel: (0404) 822608, eves.

ENSONIQ ESQ1, mint cond, voice cartridge, sequencer expansion cartridge etc, £700, Tel: (06685) 360, Northumberland.

ENSONIQ ESQ1 plus voice cartridge, exc cond, £850, Tel: Reading (0734) 62960.

ENSONIQ ESQ1 synthesizer, cartridges, pedals, leads etc, all new, bargain at £835, Tel: 01-341 0856.

ENSONIQ ESQ1 with sequencer expansion and 320 voice RAM, immaculate, £900. Steve, Tel: 01-648 8108.

ENSONIQ ESQ1 with voice cartridge, home use only, exc cond, £800, Tel: 01-318 2429.

Hohner Clavinette pianet duo, case, nice cond, £140 ono. Simon, Tel: (0702) 303040.

Hohner P120, exc home keyboard, 12 poly, 4 mono tones, rhythms etc, £120, Tel: (0268) 732638.

Kawai K1, and superb Kurzweil PX1000 module (250's), best sounds. Chris, Tel: 01-675 7415.

Kawai R50 plus chip, £290; Bit 1 (cased), £365; DW 6000, £340, Tel: (0257) 452303.

Korg DW6000, £375, exc cond, studio use only. Ross, Tel: 024-027 352.

Korg DW6000, £375, studio use only, perfect cond. Ross, Tel: 024-027 352, after 6pm.

Korg DW6000, home use only, mint, £410. Or swap for JX3P, Tel: (023371) 3483.

Korg Micro preset, in good working condition. Write to Chris, 81 21st Avenue, North Hull Estate, Hull, HU6 8PL.

Korg Mono/Poly, you won't find this great synth cheaper, £135 for quick sale. Tel: (0223) 314561, eves and weekends.

Korg Mono/Poly, fab lead, bass sounds and cross modulation, £185; p/ex FB01, Tel: (0324) 482348, Scotland.

Korg Mono/Poly, great analogue

synth, mint cond, £180; Roland TR606 £70, Tel: 01-204 4002.

Korg Polysix synth, programmable, good cond, great sounds, £280 ono, c/w stand, Tel: Lancing (0903) 767558.

Korg Poly 800, £210 with s/case; Yamaha RX21, home use only, £99. Steve, Tel: 01-800 3661, days.

Korg Poly 800, £240; Korg EX800, £130; Yamaha CX5, large keyboard plus voicing, sequencer, software, £300, Tel: 01-699 6128.

Korg Poly 800 MKII, onboard digital delay etc, exc cond, manual, boxed, £295 ono. Tony, Tel: 01-720 4910/(04862) 60841.

Korg Poly 800, psu and manuals, vgc, £250 ono, Tel: Worcester (0905) 621019, eves.

Korg Poly 800, vgc, well programmed, £250. Tel: Bristol 720302.

Korg SP80 touch-sensitive piano, case, stand, £250; swap for keyboard combo/Hohner pianet/WHY?, Tel: (0206) 34541.

Moog Minimoog, mint, £400; Roland Axis 1, f/case, mint, £200. Both have manuals, can deliver, Tel: (0437) 690357.

Moog Opus polysynth, strings, brass, organ, multitimbral, with f/case, £175; swap keyboard combo/Pianet-T, Tel: (0206) 34541.

Moog Opus III in need of some attention, hence £90 ono. Simon, Tel: (0737) 244126.

Moog Rogue, immac, £109; Roland MSQ-700, Immac, £299. Simon, Tel: (09592) 4261, anytime.

Oscar MIDI, £185; Yamaha REX50, £225; FB01, £165; Alesis HR16, £345; MMTB, £245, Tel: (0462) 895 791.

Oscar Programmable Synth synth, boxed, immaculate plus stand, £255; TR606 drums, £55. Paul, Tel: Leeds (0532) 865197.

Rhodes Electric piano with amp, 300w input vibrato, £250, Tel: (0252) 520546, after 7pm.

Roland Alpha Juno 1, exc cond, boxed, manuals, £375. Or swap for MKS70, 80 or 100. Deena, Tel: (0376) 488 83407.

Roland D50, £650; Casio CZ1, £420; DX7, £490; Casio FZ1, £750; Korg DDD1, £300. Will deliver. Alan, Tel: (0706) 524628.

Roland Juno 6, boxed with manual, £200 ono; Yamaha CS5, Roland MC202, £80 each, or £150 for both, Tel: (0233) 812250.

Roland Juno 6, f/case, stand, £250; swap keyboard combo/Hohner pianet/FB01/MKS10/WHY?, Tel: (0206) 34541.

Roland Juno 6, f/case, vgc, £175 ono. Or swap CZ1000 or p/x for REX 50. Stewart, Tel: Hull 803786.

Roland Juno 6 polysynth, immac, £240, Tel: 01-701 4143.

Roland Juno 6, vgc, plus Marshall amp, £210; Yamaha CX5, large keyboard, software, £165, Tel: (0202) 823772.

Roland Juno 60 with f/case, £300, Tel: N.London 01-800 8315.

Roland Juno 60, perfect cond, must sell, upgrading to ESQ1, £250. Ashley, Tel: Cheltenham (0242) 872004.

Roland Juno 106, £340; TR 505,

£140; Casio CZ101, £120, mint cond, Tel: Aldershot (0252) 850485.

Roland Juno 106S, (built in speakers), great analogue sounds, full MIDI, case, Immaculate, £375, Tel: (608) 0059.

Roland Jupiter 6, f/case, £550 ono. Paul, Tel: (0380) 870406.

Roland Jupiter 6, f/case, good cond, MIDI, manual, great sounds, un-gigged, £625 ono. Mark, Tel: 01-531 5763.

Roland Jupiter 6, immac, MIDI, cased etc, £550 ono. Stuart, Tel: Gosport (0705) 527532.

Roland Jupiter 6, MIDI, home use only, £500, with f/case. Andrew, Tel: Milton Keynes (0908) 567476.

Roland Jupiter 8, + JSQ60 sequencer + case, mint cond, best analogue ever, only £950. Daniel, Tel: 01-847 1553, eves.

Roland JX3P, good cond, manual, box, £380. Dean, Tel: 021-458 4930, now!

Roland JX3P plus PG200, mint, £350; CZ100, mint, £240; TR707, superb, £270. All ono, Tel: (0332) 810933.

Roland JX3P, programmer and case, exc dual vco synth with sync, £460 ono, Tel: 021-744 6315, eves.

Roland JX3P with PG200 programmer, stand, and SH09 monosynth, £450. Steve, Tel: (0327) 702953.

Roland JX8P, manuals, f/case, programmer, £650 ono. Or exchange for modules MKS70/20, Tel: (0533) 663879.

Roland JX8P/PG800/Cartridge, as new, boxed, £725 ono. Dave, Tel: (0992) 25270, eves.

Roland JX10, £1195 ono; Yamaha REV 5, £925; Revox A77, £325 ono, Tel: 01-462 6261.

Roland MT32, £350; Cheetah's MK5 MIDI keyboard, 5 octaves, £120, Tel: (0270) 669224.

Roland MT32, 4 months old, perfect cond, £360, Tel: (07462) 2971, Shropshire, after 8pm and w/e.

Roland MT32, £360; Casio RZ1 drum machine, £170; Boss compressor limiter, £70, all boxed, Tel: (0222) 733010.

Roland MT32, £375, boxed; Technic Pr-10 electric piano, £290; MPU-103 MIDI converter, £100, all mint. Kevin, Tel: (0276) 34466.

Roland MT32; Cheetah MK5V; psu's, manuals, all new. Boxed MIDI leads, will split, £655 ono. Darren, Tel: 01-595 3552.

Roland MT32, home use only, leads etc, exc cond, £355. Matt, Tel: Crayford (0322) 525526.

Roland MT32, home use only, mint cond, £395, Tel: (0245) 460180.

Roland MT32, mint cond, £360, Tel: 01-788 3729.

Roland MT32, multitimbral sound module, £390, mint. Mr.A.Boyd-Lee, Write: c/o Emmanuel College, Cambridge, CB2 3AP.

Roland MT32, + DR T's editor, + 128, new sounds, £380, no offers. Mrs Bill, Tel: (0734) 303696, office hrs.

Roland MT32, 2 months old, guaranteed and in perfect cond with box, £375, Tel: 051-427 3222.

Roland MT32 with mains adaptor, MUSIC TECHNOLOGY JULY 1988

manuals, £375; TX7 with 1000+ sounds, £320, both boxed, Tel: Sittingbourne (0795) 78869.

ROLAND PGI000, mint, £295 ono; or exchange for Midverb 2 or similar? John, Tel: Sheffield (0742) 348063, eves.

ROLAND PGI000 programmer for Roland D-50, boxed, as new. Also connect leads. John, Tel: (0656) 842879.

ROLAND SH101, boxed, manuals, £90; Armon electric piano, £45, fully polyphonic. Jonathan, Tel: Southport (0704) 29394.

ROLAND SH101 mono synth with MOD grip, £95 ono, Tel: 021-744 6315, eves.

ROLAND SH101, psu, manual, £100; Vesta MDI MIDI/CV converter, £50, Tel: 051-632 5398, after 6pm.

SCI PRO ONE, £95; Accesit comp. gate, £20 each. Tony, Tel: (0222) 236036.

SCI PRO ONE, limited edition including UCI sequencer, f/case, good cond, £280. Dean, Tel: 021-458 4930.

SCI SIXTRAK, £200; Moog rogue, £60; ART programmable digital reverb, £200; Midverb, £175. Pete, Tel: 01-367 1720.

SEQUENTIAL MAX, unmarked but needs attention, £100; Casio CZ1000, mint, £240; Midverb, as new, £200, Tel: (0332) 810933.

SEQUENTIAL PRO-ONE monosynth, perfect cond, versatile, £120 ono; or p/x cheap poly. Colin, Tel: (0705) 454202.

SEQUENTIAL PROPHET S REV 3.3, exc cond, £600 ono, Tel: (0743) 240226.

SEQUENTIAL SIXTRAK, £350; TEAC M2, 6x4x2, £110; Allen/Heath 6x2 inc psu, £115; Tanteq delay, £59; GBS reverb, £59; all home use, boxed, Tel: (0482) 563440.

SIEL DK80, bi-timbral, touch sensitive, £250; TB303 bassline, £60; TR 909, £180. Mike, Tel: (0582) 664377, eves.

SIEL DK80 plus DX100, pair £350; will split or swap Akai AX73, Sci MultiTrak, Tel: (0387) 720133.

STEINBERG PRO16 plus Interface, £50; DX7, £500; TX7, £150; Roland S10 sampler £550 ono. Mike, Tel: 01-379 7180.

SWAP CASIO CZ101, manuals, psu, sounds etc, for FB01 or Korg EX800. Andrew, Tel: (0633) 895922.

SWAP KORG 8001I, delay, sequencer for Casio CZ5000 or Sci MultiTrak. Miles, Tel: (0223) 61614.

SWAP KORG DW6000 for your Chase Bit 99/Akai AX73, or sell £450 ono, Tel: 021-561 5765, West Mids.

SWAP ROLAND S10, Yamaha MTIX 4 track, and RZ1 sampling drums for good sampler. Jez, Tel: 053-759 2222.

SYCO MIDI MATRIX, £90; Apple Europlus, £100; SC169 sequencer, £50, Tel: 01-935 6611, ext 2473, or 01-328 0244.

TECHNICS PX9 PCM; Digital electric piano; and MIDI system, as new, £1100, Tel: Cosham (0705) 379383.

TECHNICS SX-K500 keyboard, 48 poly voices, 32 solo voices, MIDI, 32 rhythms, £500, Tel: Brighton 686942.

TECHNICS SX-K700, £740; Alesis MMT-8, £275; Elka X30, £2250, Tel: 01-572 3800.

YAMAHA CE20 FM poly touch sensitive keyboard, perfect cond, £120. Elaine, Tel: Leeds (0532) 864129.

YAMAHA CS01 digital, mono breath controller, boxed, £50 ono; Boss PC2 percussion synth, £25, Tel: (0865) 721 687, eves.

YAMAHA CS15D analogue monosynth, 30 presets & manual and settings, one owner. Good cond, £75, Tel: Huddersfield (0484) 535226.

YAMAHA CS40M duophonic analogue synth, mint cond, 20 memories, brilliant soloist, buyer collects, £150, Tel: Cheshire (0260) 27648.

YAMAHA CS80, exc cond, many extras, swap for KX76, KX88 etc. Ade, Tel: 051-734 4983, after 5pm.

YAMAHA DX7, £695; QX21, £135; TR707, £295; Seck I2:8:2, £725; BBC Model B computer, £150; can deliver. Rick, Tel: (0962) 82661.

YAMAHA DX7, backlit, Euro plug fitted, with stand, case, leads, pedal. Simon, Tel: 01-898 1421.

YAMAHA DX7, boxed with stand, ROMs manual, perfect cond, home use, £700, Tel: 01-940 7274.

YAMAHA DX7, exc cond, home use only, £750 ono, Tel: 031-228 4877, after 6pm.

YAMAHA DX7, home use only, 400 sounds, boxed, £699; Jupiter-6 MIDI update, £485, Tel: (0926) 55296.

YAMAHA DX7, home use only, immaculate, £675. Tony, Tel: Southend (0702) 219723.

YAMAHA DX7, home use only, many voices, manuals, £650. Jeffrey, Tel: Orpington (0689) 52903.

YAMAHA DX7, plus ROMs and synthworks; REV7, CZ101, TR808, Fostex 3180 reverb, very good cond, offers. Terry, (0268) 742082.

YAMAHA DX7IID, new, boxed; DX7 II 512, Monst-ROM, PA-Decoder, offers? Dave, Tel: (0264) 58343.

YAMAHA DX7, sounds, manuals, £680; TX7 £300, together £950; Solina strings, £100, Tel: Blackpool 724937/720379.

YAMAHA DX9, foot controller, breath controller, manual, home use only, boxed, £325 ono, Tel: (0702) 520440.

YAMAHA DXII synth, £550; TX81Z tone generator, £310; QX21 sequencer, £155, exc cond. Steve, Tel: (03317) 4005.

YAMAHA DXII synth, brand new, cost £650, extra sounds, breath controller, £499, Tel: Leeds (0532) 600963.

YAMAHA DX21, £325; Casio SZ1, £95; both with cases and ono, Tel: Rugby (0788) 535811.

YAMAHA DX21, £325; Roland TR707, £275. Both in exc cond, Tel: 021-449 9125.

YAMAHA DX21, £380; FB01, £180; home use only, Tel: (0558) 822134, West Wales.

YAMAHA DX21, £400; Korg Poly 800 II, £300. Both exc cond with f/cases, boxed, manuals, Tel: 01-946 1644.

YAMAHA DX21, boxed, manuals, £400. Nick, Tel: (0622) 672593.

YAMAHA DX21, boxed, manuals, tape, one year old, absolutely perfect condition with custom dust cover, £325 for quick sale. Genuine sale, as I'm upgrading. You won't find this great synth cheaper! Tel: (0223) 314561, eves or w/e.

YAMAHA DX21, boxed, very little use, perfect cond, Tel: Peterborough (0733) 43230.

YAMAHA DX21, brill cond, 1 year old, hardly used, £750 new, great price, £475. Dave, Tel: 01-530 3972.

YAMAHA DX21, f/case, manuals, extra voices, vol pedal, £425. Pete, Tel: Stevenage (0438) 723192.

YAMAHA DX21, f/case, one year old, exc cond, £475, Tel: (0843) 603033.

YAMAHA DX21, perfect cond, few months old, boxed, manuals, £425; KM 602 mixer, £75; Tel: (0206) 844 958.

YAMAHA DX21, perfect cond, home use only, boxed with all manuals, £435, Tel: 01-205 6652.

YAMAHA DX21, perfect cond, home use only, manuals, £400. Mark, Tel: (0895) 70822.

YAMAHA DX21, perfect cond, music stand, sustain pedal, extra voices, boxed, £425. Andy, Tel: 01-994 5328.

YAMAHA DX21, superb cond, boxed, with manual, plus separate combo amp, £420, Tel: (0903) 714152.

YAMAHA DX21 synthesiser, QX21 sequencer, Roland TR505 drums, boxed, MIDI, leads, mint cond, £899 ono, Tel: Stevenage 352612.

YAMAHA DX21, with case, manual and cassette, Tel: (0269) 850933.

YAMAHA DX21 with hard case, manuals etc, £395, Tel: Leeds (0532) 612105.

YAMAHA DX21, offers? Many extra sounds. Dave, Tel: 01-531 9824.

YAMAHA DX27, boxed, manuals, home use only, £300, Tel: Droitwich 779854, Worcs.

YAMAHA DX27, exc cond, £300 ono; or swap for JX3P. Neil, Tel: (0262) 674656.

YAMAHA DX27, immac, boxed, £330; Roland Juno 106 with f/case and x-stand, £350, Tel: 056-44 2385.

YAMAHA DX27, perfect cond, £325 ono; will swap for Roland JX3P, Juno 106. Dave, Tel: (0706) 359958.

YAMAHA DX100, 7 months old, psu and sustain pedal, good cond, £175, Tel: (0909) 477307.

YAMAHA DX100, £150; Syco MIDI bass,

£150; Yamaha RX15, £150; Clarion XD 5500 4-track, Tel: (0352) 713088.

YAMAHA DX100, boxed, home use only, pro psu, £189, Tel: (0252) 510582, or 01-633 7155, daytime.

YAMAHA DX100, boxed, vgc, bargain at £200, Tel: Bodmin (0208) 3705.

YAMAHA DX100, home use only, boxed, manuals, leads, mahns, £190 ono. Chris, Tel: (0704) 73334.

YAMAHA DX100, immac, boxed with instruction tape and manuals, £200, Tel: (0274) 547955.

YAMAHA DX100, stand, pedal, sounds; RX17 drum machine. Both immaculate, £200 each, £350 for both, Tel: 01-698 3110.

YAMAHA FB01, £155; REX50, £225; Alesis HR16, £325; MMT 8, £255. All as new, Tel: (0462) 895791.

YAMAHA FB01 multitimbral expander, as new, will post, £165, Tel: (0877) 30528.

YAMAHA KX88, home use only, immaculate, £750, Tel: (0582) 38860.

YAMAHA PF70, exc cond, £575, owner emigrating, c/w f/case, Tel: 01-659 5566.

YAMAHA PF80 electronic piano, 88 keys, built in speakers, vgc, only £580. Karl, Tel: (0785) 662147.

YAMAHA PORTATONE PSR 70 with stand, six months old, good cond. Sue, Tel: (0734) 751755.

YAMAHA PS6100 portable keyboard, 64 preset rhythms, 42 voices, MIDI stereo, £495, Tel: (0708) 762103, eves.

YAMAHA PSR70, FM sounds, PCM drums, sequencer, stereo, one year old, RRP £699, £550 ono, Tel: Slough 653276.

YAMAHA PSS-170, as new, 6 months old, £75 ono, Tel: (552) 8677, after 4:30pm.

YAMAHA PSS 270 with hard case and adaptor, £80, Tel: (0473) 719394.

YAMAHA PSS S60 portastand keyboard ideal, portable practice instrument, mint cond, boxed, manual, £120, Tel: 073-522 2107, Berkshire.

YAMAHA PSS S70 programmable rhythm, drums, voices, synth, super sounds, boxed, warranted, £150 ono, Tel: (0842) 66273.

YAMAHA TX7 expander, perfect cond, hundreds of voices, £250, Tel: 061-998 3494.

YAMAHA TX7 expander, plus over 1000 voices, immaculate, boxed, £350, Tel: (0689) 57588.

YAMAHA TX802, mint, 4 hours use, £1000 ono; Roland DEP3, £275 ono; DX7 voicing ROM CX5, £10, Tel: (0241) 54780 after 7pm.

YAMAHA TX816, £1750; Yamaha DX100, £190, Oxford area, Tel: (08675) 71909.

YAMAHA TX81Z, £280; Yamaha YPR9 FM piano, MIDI, stereo, £320, cash, Tel: High Wycombe (0494) 26960.

YAMAHA TX81Z, as new, must sell, £295, Tel: (0424) 218711 before 7pm, E.Sussex.

YAMAHA TX81Z, immac, one year old, boxed, manual, leads, home use only, £295, Tel: W.Yorks (0422) 206830.

YAMAHA TX81Z multitimbral FM expander, vgc, £295 ono; Dynamix I2-2 mixer, £195, Tel: 01-381 3844.

YAMAHA YPR6 electric piano, plus accessories, £260 ono; Casio CZ101, RAM, £165. Tim, (0993) 881821.

Sampling

3.5" DISKS, oops I bought too many! Ten disks, £12. Greg, Tel: (0865) 243878. After June 26, Tel: (0865) 882995.

AKAI S612, IODS disks, lustful sounds, free sampling CD, £270. Come on! Gaz, Tel: (03917) 6171.

AKAI S612 sampler and disk drive, £320; Oberheim matrix 6R, £400, Tel: (0268) 43815, eves.

AKAI S612 sampler and d/drive, vgc, £270. Chris, Tel: 01-205 8865.

AKAI S700 six voice sampler with separate outlead, £70 of disks with quality samples, Tel: Oxford (0865) 512446.

AKAI S900, £1300; Tascam Porta-Two, £400; Siel DK80, £350; Alesis HR16, £350. All as new, Tel: (0909) 566695.

AKAI S900 MKII, software and 10 disks, £1300; Yamaha DMP7 MKII, perfect, £1950. Jai, Tel: 01-723 2310.

AKAI S900 plus crossfade, looping software, as new, £1300. Paul, Tel: 01-751 0280 after 6pm.

AKAI S900 plus disks, boxed, £1450; TR707, £250; MSQ 700, £220. All perfect, Tel: Wakefield (0924) 366754.

AKAI S900, six months guarantee, large sound library. Ross, Tel: 024-027 352, after 6pm.

AKAI S900 with extensive sound library to copy, immaculate, home use only, £1250. Steve, Tel: 01-648 8108.

AKAI X7000 crossfade looping, 16 onboard samples, multitimbral, boxed, manual, 22 disks, £800; KB300 130w, RMS, 3 channel, separate EQ all vgc, upgrading, Tel: (0642) 479789.

AKAI X7000 + disks, leads and BOSS CE-3 chorus, home use only, perfect cond, must sell, £850; Also brand new boxed Roland CR1000, £225. Chris, Tel: (0625) 524330.

CASIO FZ1, £450 worth of samples, 60DD discs, must sell, hence £180, Tel: 01-451 6287 for list.

CASIO FZ1, one week old! Zero mileage, genuine reason for sale, £1315 ono. Richard, Tel: 01-554 9018.

CASIO FZ1 OWNERS!, twenty disks for swaps. Ian, Tel: 061-432 5705, after 6pm.

CASIO FZ1 sampler plus £300 worth of library disks, £1150, mint, boxed, under guarantee, Tel: (0442) 41377, eves.

EMAX SE RACK, 150 disks, offers; Simmons SDE £250. Greg, Tel: (0865) 243878. After June 26, Tel: (0865) 882995.

ENSONIQ MIRAGE c/w disks, exc cond, £625, owner emigrating, Tel: 01-659 5566.

ENSONIQ MIRAGE MKII, disks, masos, exc cond, quick sale, £600. Bill, Tel: (0705) 381348.

ENSONIQ MIRAGE rack sampler, big library, as new, £800. Tony, Merseyside 051-608 3689.

FANTASTIC SAMPLING package, Prophet 2002 512K 100, original disks, Atari/Steinberg soundworks editor, offers? Dave, Tel: (0403) 53337.

GREENGATE DS3, incl MIDI sequencer, Apple etc, £450; Korg DW6000, £350; TR505, £160, Tel: Windsor 858425.

GREENGATE DS3 sampler, Apple 2E keyboard monitor, d/drive, 50 disks, 100's, professional samples, 4-outputs, £475, Tel: Pontefract (0977) 49100/42270.

GREENGATE DS3 sampler/sequencer MIDI and Apple II system, looping etc, bargain, £495. Ashley, Tel: 01-723 5842.

GREENGATE SAMPLER, Apple 2E, d/drives, MIDI, Loop software, versatile sequencer keyboard, splits, manual, bargain, £500, Tel: (0602) 41185.

ROLAND MKS100 rack samplers, immac, £375 each. 50 free disks if both bought, Tel: Southend 529745.

ROLAND MKS-100 sampler, 9 months old with 50 disk library, £450 ono, Tel: 01-655 0399.

ROLAND S10 sampler, plus over 40 disks, mint cond, £500; Also TR505 drums, £150, Tel: (0404) 822608, eves.

ROLAND S-50, exc cond plus disks, £1350. Or swap Emax, Tel: (0706) 50897.

ROLAND S-50 with interface for connection to TV, boxed, as new, £1350, Tel: (0706) 50897.

SEQUENTIAL PROPHET 2000 sampler, beautiful sound, f/case, disks, perfection, £1200. James, Tel: 01-568 8765, ext 312, days.

SWAP MY ROLAND S10 sampler plus disks (inc D50 samples) and MT32 for your Jupiter 8, Tel: Selkirk Borders (0750) 21920, after 8pm.

Sequencers

ATARI 1040ST with high-res monitor, guaranteed, incl MIDI, software etc, new, £549, Tel: (0703) 435842.

CASIO SZ1 with psu RAM and f/case, £80 ono, Tel: Rugby (0788) 535811, after 6pm.

ROLAND MC4 MicroComposer, the guv'nor, £99; Korg KM530 MIDI-DIN sync converter, £50. Steve, Tel: 01-648 8108.

ROLAND MC500, £550, plus TR505,

£720, Tel: 01-444 2336, evs, or 883 3096, days.

ROLAND MSQ700, £200; GBS, £70; Roland KM60 rackable mixer, £90, swap Poly 800? WHY?. Paul, Tel: (0772) 315638.
ROLAND MSQ700 digital keyboard recorder, £200, for quick sale. Trades considered (MIDI). Paul, Tel: (0772) 315638.

ROLAND MSQ700, £200 ono; GBS reverb, £40; Roland KM60 mixer, £65, swaps? Paul Nagle, Tel: (0772) 315638.

YAMAHA QX3, new, £750 ono, Tel: (0677) 24592.

YAMAHA QX5 sequencer plus datacoder, perfect, £260; F801 expander, £160; Roland TR505 drums, £150, Tel: (0827) 899064.

YAMAHA QX7, 16-track MIDI sequencer, boxed and as new, £120, Tel: Blackburn (0254) 47199.

YAMAHA QX21, immac, '125. Nigel, Tel: (0473) 685251.

Drums

ALESIS HR16, brand new, boxed etc, unwanted gift, offers. Pete, Tel: 061-832 5955, days.

ALESIS HR16 digital drum machine, two months old, £360, Tel: (0706) 50897.

BOSS DR220 A, brand new, never used, unwanted gift, bargain, £110 ono, Tel: (0795) 537663, evs.

BOSS DR220 E drum machine and Laney linebacker 30 bass amplifier, £230 ono, Tel: Camberly (0276) 34378.

CASIO RZ1 sampling drum machine, £200 ono; Korg SQD-I sequencer, £250. Martin, Tel: 01-992 4382.

CHEETAH MD8 drum machine, £125. Rob, Tel: (0703) 268432, days, (0703) 615903, evs.

E-MUDRUMULATOR, £120, Tel: Southend-on-sea (0702) 432562.

EM-U DRUMULATOR, Sequential Circuits SixTrak, Technics cassette deck, p/x possible, Tel: 01-534 5576.

KAWAI R50 with extra chip, £240 ono; Prommer, £130; Bit 1 (cased), £350, Tel: (0257) 452303.

KORG DDD1, DX21, Porta-One, 40w combo. Vesta-Fire RV3 reverb, will deliver, Tel: (0704) 894047.

KORG DDD1 drum machine, £345; Roland MT32 sound module, £350, mint, Tel: (08956) 72768.

KORG DDM10 and DDM220 digital drums and percussion, boxed, perfect, £65 ono each, Tel: Maidstone (0622) 685866.

MPC PERCUSSION computer, £100 ono; Roland CSQ600, £75 ono; Moog Rogue, £75 ono; all as new, Tel: Crayford 54877.

OSBERHEIM MIDI DX, new and under warranty, £325 ono, without MIDI, £225 ono; spare voice chips, manual, mains lead etc. Tel: (0255) 434217.

ROLAND CR1000 drum machine, used once, boxed, psu, manual, full MIDI, digital sounds, perfect cond, £225. Gordon, Tel: (0563) 46590.

ROLAND TR505, £150; Roland MSQ100, £120. All immac, boxes, manuals, etc. Paul, Tel: (0759) 72094.

ROLAND TR505 as new, unrigged, manuals, some great programs, £150 ono, Tel: 01-704 7899.

ROLAND TR505, boxed, as new, £175. Paul, Tel: 01-751 0280.

ROLAND TR505, boxed, vgc, £165; Casio MT400V poly keyboard/synth, stereo, chorus etc, £75, Tel: (0992) 466612.

ROLAND TR505 drum machine, manuals, immac, £145, Tel: Ipswich 685251.

ROLAND TR505, separate outputs, mint cond, home use only, p/x? Swaps?, £175. Steve, Tel: Exmouth (0395) 263179.

ROLAND TR707 digital drum machine, home use only, immac cond, £310 ono, Tel: (0474) 323404.

ROLAND TR707 digital drum machine, immac cond, home use only, £310 ono, Tel: 92-724 301.

ROLAND TR707 Inc f/case, psu and manual, £325, Tel: (0233) 812250.

ROLAND TR808, a classic drum machine for £180; sound chips for Oberheim etc, £7,

Tel: (0342) 23094.

SEQUENTIAL CIRCUITS DrumTrax drum machine, tuneable, individual outputs, boxed with instructions, bargain, £250. David, Tel: (0603) 662527.

SEQUENTIAL CIRCUITS DrumTraks, MIDI, in-out separate outputs, bargain, £300, Tel: (0803) 554716.

SEQUENTIAL DRUMTRAKS, vgc, brilliant drum machine, f/case, £290, can deliver, Tel: (0264) 333813.

SEQUENTIAL TOM DRUM machine, boxed, £150; wanted, MKB 200, swap tom + cash or buy. Gary, Tel: 01-648 7968.

SIMMONS MTM drum trigger, unused, boxed, £500 incl VAT, or WHY?, Tel: (0908) 564915.

SIMMONS MTX9, tom and percussion expander, hardly used, £290, Tel: Mark 01-390 5384.

SIMMONS SDE, as new, still in box, £270 ono. Stevie, Tel: 024-027 310, evs.

SIMMONS SDE tuned percussion expander, triggered via MIDI from keyboards or pads, £190, Tel: Bristol 421 524.

SIMMONS SDS9 brain, latest version 6 software, hardly used, £700. Mark, Tel: 01-390 5384.

SIMMONS SDS 1000 complete with rack, as new, still boxed, £525. Steve, Tel: Leics (0664) 61887.

SWAP BOXED TR808 for analogue MIDI synth E6 JX3P, Juno 106. Matthew, Tel: (0923) 50609.

SWAP MPC DRUM MACHINE c/w Spectrum and cassette deck for Minimooq, Yamaha CS40M, OSCar with MIDI, BIT 01 Expander, or WHY? Brian, Tel: (0202) 738477.

SWAP SIMMONS SDS9, black with stands for Yamaha RX5, exc cond. Steve, Tel: (0279) 30466.

YAMAHA RX11, £275; will exchange for TX81Z, or rack effects unit, WHY? Jeff, Tel: (0624) 561254.

YAMAHA RX15, perfect cond, boxed, as new, £160, Tel: Shropshire (07462) 2971 after 8pm and w/e.

YAMAHA RX21, boxed, manuals, good cond, £75 ono. Geoff, Tel: (0428) 723744, evs.

YAMAHA RX21, good cond, boxed, only £110, Tel: Cardiff (0222) 620847.

YAMAHA RX7, £499; SPX 90, £499; Roland TR626, £249; Roland M151/1, Write: Stirling University, TK9 4LG.

YAMAHA RX11, perfect cond, £275, Tel: 01-367 5502.

Computing

AMSTRAD 6128+ mono monitor, built in 3" disk-drive, MIDI interface, 8-track realtime sequencer plus other music packages, £275 ono, Tel: 021-561 5765.

ATARI 520ST FM, IMeg d/drive, usual extras, £400; Software Inc, new guarantees, one year, £370 ono. Stevie, Tel: 024-027310/(0895) 422066.

ATARI 520ST FM, 2 hrs use, guarantee etc, £220; 19" stand 17U. Matt, Tel: (0727) 57525.

ATARI 520STFM upgraded to IMeg, PRO24, other MIDI software, 3 weeks old, 2 yr warranty, £500, Tel: (0270) 669224.

ATARI 1040 STF, mono monitor and mouse, boxed, virtually unused, £410, Tel: 01-998 8358.

ATARI 1040 STFM plus various bits of software, 4 months old, vgc, offers, Tel: (0926) 36668.

ATARI ST SEQUENCERS, DRT KCS 48-track, passport Midisoft studio, 32-track, Tel: (0246) 203494.

BBC B 40/80, disk drive, Music 500, E&MM MIDI interface, SWR, wordwise, joysticks, and extras, £350, Tel: (0272) 52103.

BBCB PLUS memory expansion plus expansion ROM board, £265, Tel: 01-367 5502.

CBM 64 plus disk 1570 drive, Pro 16 plus edit kit, other software and interface, £300, Tel: (0270) 669224.

CHEETAH 8-TRACK sequencing software, plus spectrum interface, £30.

Chance of a lifetime! Mike, Tel: (08864) 620, Worcs.

CHEETAH SPECTRUM MIDI interface, vgc, 2 months old, full software, £30, Tel: (0276) 28196, after 4pm.

COMMODORE CM4 colour monitor, boxed, as new, built in speaker and anglare screen, £100 ono. Geoff, Tel: (0428) 723744.

COMMODORE 64, 1541 drive, Joreth sequencer software, Steinberg interface, and other software, £225 ono. Ben, Tel: 021-430 8980.

COMMODORE 64, 4 joysticks, loadasoftware, books, magazines, CZN, Rotronics case. ANSY serious offer ENSURES, Tel: (0252) 877260.

COMMODORE 64, datel sampler/drum machine, mouse, art studio (advanced), 55 games, CZN cassette, freeze frame, 170, Tel: (0252) 546189, evs.

EMR MIDI interface for BBC B, performer, composer, editor disks (40T), £55. Mike, Tel: (0202) 526062.

GREENGATE DS:3B, complete sampling/sequencing system, thousands of samples plus other software, £500, Tel: 01-908 1185.

MACINTOSH 512+, ext drive, MIDI interface, passport seq, ESQ librarian, cables etc, £1150, Tel: (0222) 493492 after 6pm.

MT32 EDITOR, Dr T's, creates brilliant new sounds, two banks included, £70; Super conductor, £30, Tel: (608) 0059.

PRO-SOUND designer and pro MIDI sampling system for Atari ST, £60, Tel: (0934) 635943.

ROLAND MSQ700 digital keyboard recorder, £200, for quick sale. Trades considered (MIDI). Paul, Tel: (0772) 315638.

SWAP XRI CZ EDITOR and step sequencer software for XRI multitracker software and manuals. Mike Swannick, Tel: 01-853 8047.

SWAP YAMAHA CXSII/128 + £15, for DMS 16-track software. Graham, Tel: Leicester (0533) 884123.

XRI MICON interface and step-time sequencer, £35; Spectrum 48K, £35. Both ono, Tel: 021-744 6315, evs.

XRI MIDI interface step-time and realtime sequencers, DX7 and CZ editors, MPC synttrak, £120 ono, Tel: 01-223 1857.

XRI STEP/realtime sequencers, CZ editor, Spectrum +, microdrive, interfaces and games, £120 ono, Tel: (0206) 211595.

YAMAHA CXSII large keyboard, 16TR sequencer plus software, £250, Tel: Bristol (0272) 426310.

YAMAHA CXSM computer with YK20 keyboard and software, £175, Tel: (0245) 252908.

YAMAHA CXSM, exc cond, YK01 keyboard, composer and editor ROMS, £180, Tel: Southampton 636268, evs.

YAMAHA CXSM, large keyboard, music composer, DMS 16-track sequencer, loadasvoices, boxed, will split, offers, Tel: (0353) 87586.

YAMAHA CXSM large keyboard, voicing and composing software, £180, Tel: Southend-on-sea (0702) 432562.

YAMAHA CXSM music computer, full-size kbd music composer and voicing software, £195, Tel: (0323) 892701, evs.

YAMAHA CXSM small keyboard composer and voicing software cassette recorder, £200, Tel: (0302) 61672.

YAMAHA CXSM with music composer II; and SFG05, £200; TX7, £300; YMCI0 MIDI/tape converter, £40, Tel: 01-699 4610.

YAMAHA CXSM, YK01 keyboard, music composer and voicing software, vgc, Tel: (0264) 333813.

YAMAHA CXSMII 128K, composing, voicing, and chord progression software, all boxed, £185, Tel: (04917) 242.

YAMAHA CXSMK2, FM, composer, MIDI recorder, 737 simulator, joystick, £290; Portable CD, £85. Jon, Tel: (0272) 293 864.

Recording

ACCESSIT AUTOPANNER, £50; Aural Exciter, £100; Akai stereo 7 band graphic

equaliser, £50. Steve, 01-648 8108.

ACCESSIT STEREO REVERB, £50; Boss BX600 6-2 mixer, £50. Both exc cond, Tel: (570) 1577.

ACES B18:2 desk, £900; MTR DNG-I 'stereo' gates, £175; Shure SM58, new, £95. Jonathan, Tel: (0272) 679766.

AKG D202's, matched stereo pair, brand new, cartridges, gorgeous! £270, or £150 each. Terry, Tel: 086-32 418.

ALESIS MIDIVERB, home use only, £190 ono. Mike, Tel: (0740) 51364.

CANARY 16:2, £285 ono; Korg rack mixer, £95; Tandy 10-band graphic, £50, all boxed, immac cond, Tel: (0203) 310808.

CANARY 16:2 vgc, £220 ono; pair of full range 300w cabs, £280. Steve Tyson, Tel: Lancaster 65201, ext 377.

DIGITEC RSD 3600 8sec DXL plus sampler box, will p/x for YAM RX11/17 or Akai S612, or £275 ono. Mark, Tel: (0935) 822357.

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RSB 16:4, £550; MM 285, 16-2, £295; Yamaha DX9, £300. ARP AXE, Sollna strings, £120, Tel: (0492) 532436.

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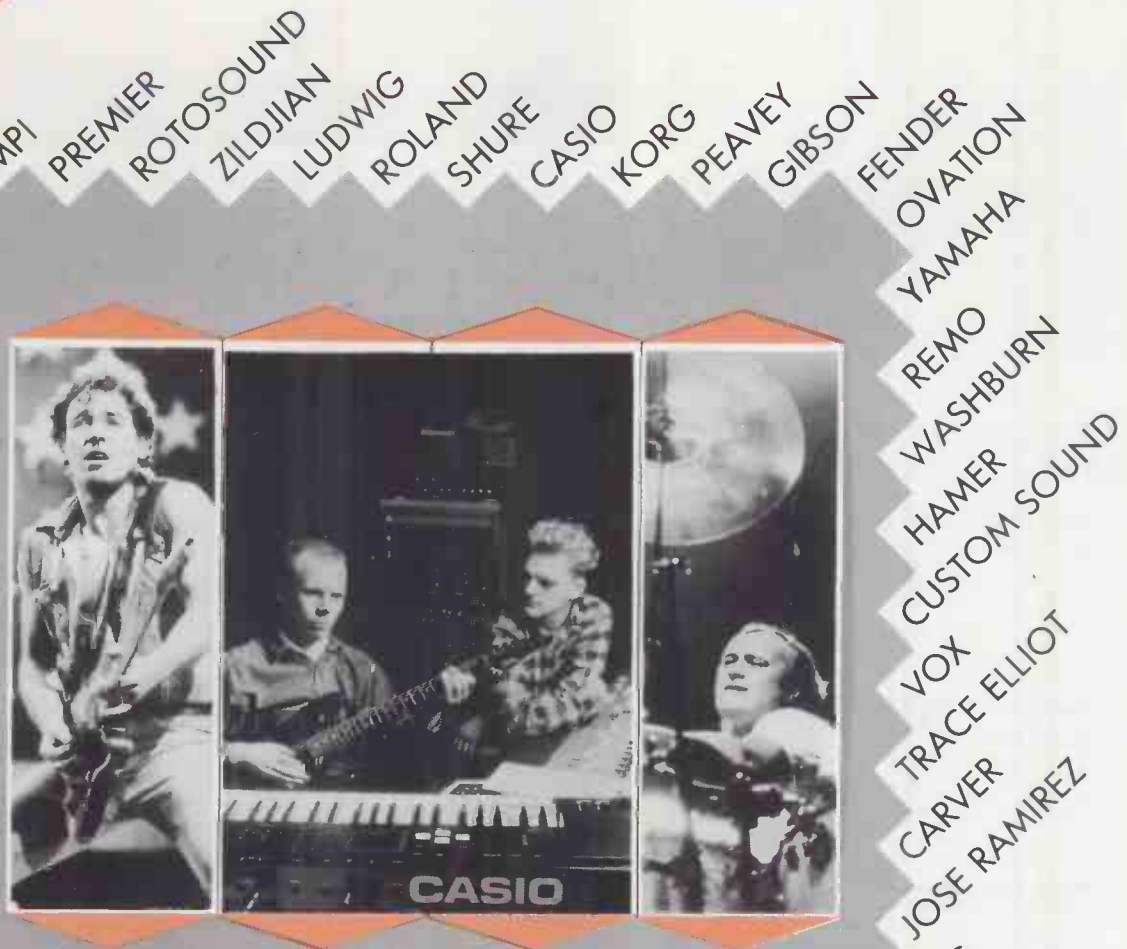
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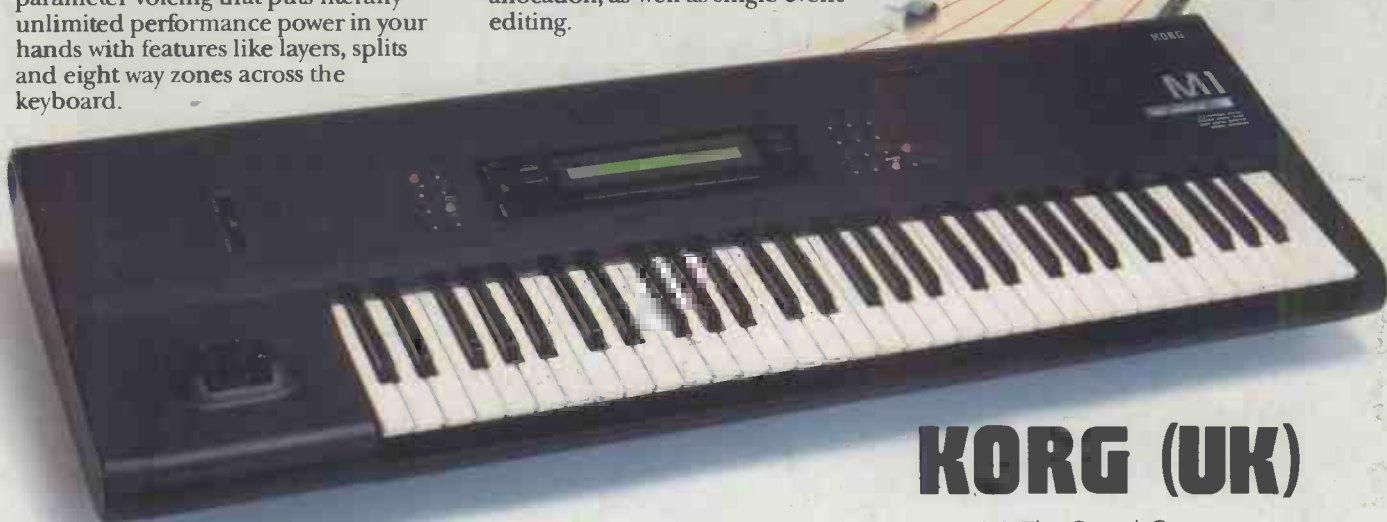
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