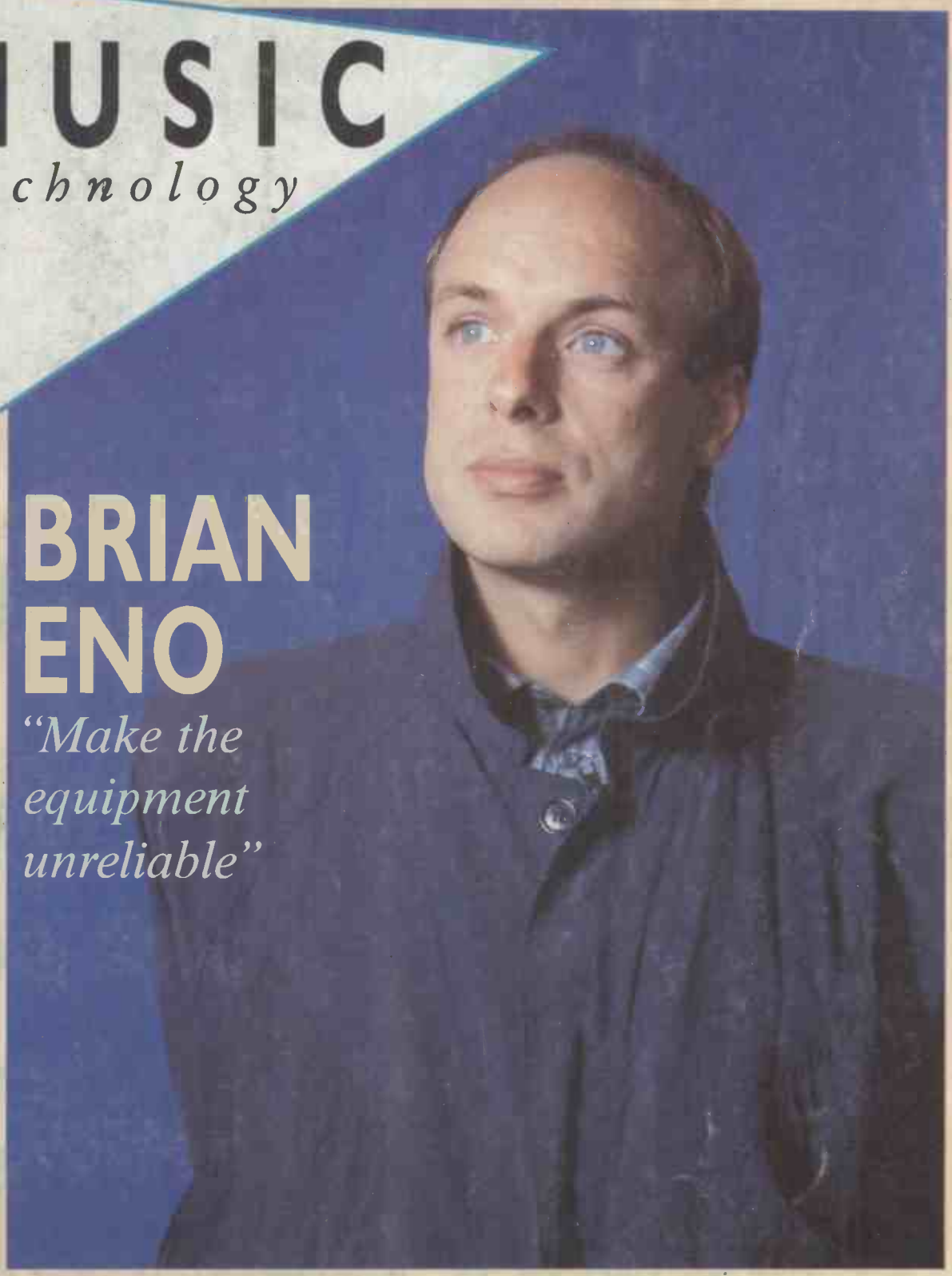
FEBRUARY 1988
£1.40

MUSIC technology



BRIAN ENO

"Make the equipment unreliable"

ON TEST

Yamaha RX7 Drum Machine
360 Systems Pro MIDI Bass
Korg DRM1 Drum Module
Alesis MMT8 Sequencer
MIDIDrummer software
DrumDroid Software

ENSONIQ SQ80

Cross Wave Synthesiser

CLIMIE FISHER

Rising to the Occasion

JUST INTONATION

The key to perfect harmony

PUTTING THE METAL TO THE PEDAL!

BOSS

A division of Roland (UK) Ltd.
983 Great West Road
Brentford, Middx. TW8 9DN

Telephone: 01-568 4578

5 Year Guarantee
BOSS Pedal

SOHO soundhouse

SOME DAY ALL MUSIC STORES WILL BE LIKE THIS

Unlike our competitors we carry every product from all the major manufacturers on **PERMANENT DEMONSTRATION.** Comparing the bass drum from 11 different drum machines – through 15 different reverbs is routine. Our air-conditioned demo-booths are integrally wired for MIDI-purpose built to enable the rapid set-up and demonstration of complex systems by our highly trained specialists.

Despite what you may read elsewhere, Soho Soundhouse, over the last 6 years have consistently offered the lowest prices WORLDWIDE. We operate our legendary **PRICE SMASH** policy in-store and from credit card telephone callers. Our breadth of product coverage and experience from MIDI hardware and software to recording equipment makes us the No. 1 **PACKAGE** specialist.

We offer demonstrations outside normal hours, equipment installation, studio design consultancy, various trial/rental purchase options. **Instant 0% No Deposit H.P./Part Exchange.** We Routinely Ship Worldwide · VAT FREE EXPORTS a speciality. We welcome Musicard holders

Roland

D50 D550 S55D MT32 TR626 PR100 ALL IN STOCK AND ON DEMO
S220 DT100 PM-16 GP8
FC100 VP-70 S50 Sequencer software DT100 Tablet + all current range eg. JUNOS, JX10 MKS modules. RO pianos, DEP5, MC500, S50 etc.

YAMAHA

QX-3 MSS1 REV-5 TX802 PF85 DMP7 ALL IN STOCK AND ON DEMO
RX5 DX7IID/FD DX7S TX81Z SPX90II MT2X MDFI + all current range eg. DX100, 27, 21 RX17 QX21, QX5, FB01, PF70, PF80, GC2020, GRAPHIC E.Q's, power amps etc.

EMAX

EMAX KBD and rack. Standard and HD. All in stock at all times, Call Nick, Max or Eric to arrange a demonstration (outside normal hours if you wish) CD ROM available

AKAI

CPM-60 by Roger Linn in stock and on demonstration
S-900 | The biggest library
X-7000 | FREE + all
S-700 | accessories
updates, triggers etc.
MG1214 | Soundhouse
MG14D | guarantees
MG614 | heads for 10
YEARS ALL MTR's on DEMO

KORG

DSM1 Multi Timbral Sampler POA
DSS1 Sampler £1,495
DS8 synthesizer £789
DDD1 Digital Rhythm ... £489
DDD5 Digital Rhythm ... £439
ORV-2000 Processor ... POA
ORV-3000 Reverb s/h ... £795
DVP-1 Processor ..... POA
KME56 5ch 7bd. Gr. E.Q £195

Oberheim

DPX1 Sample player now uses S900 disks CD ROM option available
Matrix 6R £695
Matrix 12 ..... POA
DX Drum machine £295

ensoniq

NEW SQ80 SYNTH AND MPV SAMPLER IN STOCK
ESQ – 1 Multitimbral synth + seq ..... POA
ESQM ESQ Module ..... POA
Mirage DSK sampler ..... POA
Digital piano KBD s/h ... £699
STC-8 £59 SQX 10 £75 inc.
P&P WHOLE RANGE on 0% I.F.Cr

KAWAI

K5 additive synthesizer
K5M additive synth module
K3 wave memory synth
R50 digital drum machine
R100 digital drum machine

CASIO

FZ-1 sampler + expansion + huge library in stock £1,499
CZ101 in stock. £218 inc P&P
CZ101 in stock. £218 inc P&P
CZ101 in stock. £218 inc P&P
CZ101 in stock. £218 inc P&P
HZ 600 synthesizer £329
HT3000 synth £369
CZ1 synthesizer £699

SEQUENTIAL

STUDIO 440

PROPHET 3000 16 BIT STEREO SAMPLING SYSTEM IN STOCK AND ON DEMONSTRATION
VS RACK New low price

Cheetah

New low cost range of UK made MIDI instruments
MK5II Mother Kbd £199
MK5V Velocity Sens Mother Kbd £275
MK7VA Weighted Kbd Veloc + Press £399
MD8 Digital Rhythm ... £139
DP-80 Digital Piano ..... POA

MIDI WIND

Our resident MIDI guru Nick T. is also a frustrated tenor player and thus well equipped (?) to show you what is possible with the AKAI EWI1EV1 and Yamaha WX-7. Trial purchase scheme available.

TASCAM

PORTA 05 IN STOCK NOW
PORTA ONE inc FREE mic with cable, headphones, tapes and phono cables POA
PORTA TWO inc same FREE bits as Porta One POA.
PORTA 05 inc same FREE bits as Porta One POA.

Fostex

X15 inc P.S.U. £255 inc P&P. 160 inc P.S.U. see below
E16, M80, E8 Unbeatable deals with or without desks. Whole range inc X30, 260,

Vesta FIRE

MR30 inc P.S.U. . £179 inc P&P
P&P
MR10 inc P.S.U. ..... £289 inc P&P
MR10 Pro inc P.S.U. ... £359 inc P&P
MR1 a few left . £539 inc P&P
RVD9001 16KHZ Dig -Rev £299
SL200 Compressor £249

SOUNDTRACS

Call Nick Thomas to arrange a demonstration of the remarkable PC24 MIDI console. We also have 1 16ch & 1 24ch :8:16 series remaining

SECK RAM RSD

Seck 12:8:2 ..... POA
Seck 18:8:2 ..... POA
RAM10:8:2 ..... POA
RAM 16:8:2 ..... POA
MTR 12:8:2 ..... POA
Studiomaster 16:16:2 ... POA
Studiomaster series 3 ... POA
Studiomaster series 5 ... POA
Studiomaster stellar ... POA
Studiomaster IDP1 ..... POA

TOA

Sunn U.S.A. 4350, 6350 and 8350 mixer AMPS. Effects level per channel, 10 band graphic, balanced. Quality U.S. made product at an unbelievable price. Call us.
Carlsboro 90 Kbd comb. £289
Carlsboro 45 Kbd Comb £199
Marlin P.A. ..... POA
TOA range in stock

ALESIS

HR16 16 BIT RHYTHM and MMT 8 SEQUENCER IN STOCK
HR16 Rhythm . £449 inc P&P
MMT8 Seq ... £299 inc P&P
Micro Gate ... £129 inc P&P
Micro Limiter . £129 inc P&P
Micro Enhancer . £129 inc P&P
MidiVerb II ...
Microverb ...

APHEX dbx Drawmer lexicon

Drawmer LX20 .. £225 + VAT
Drawmer DS201 £295 + VAT
Drawmer DL221 £345 + VAT
Art Proverb £299
Aphex type C exciter ... £225
Aphex type E exciter ... £159
Lexicon PCM 70 ... £1,450 + VAT
DBX 463X Noisegate ... £115
D8X 163X Comp lim ... £115

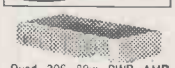
audio-technica SENNHEISER

Sennheiser MD421 ... £120
Sennheiser MO441 ... £179
Audio Technica Pro 22 .. £34
Audio Technica Pro 5. .. £92
Audio Technica ATM41 . £112
Yamaha MZ104 ..... £59
Electrovoice PL80 ..... £POA
Electrovoice PL91 ..... £POA
Electrovoice PL88 ..... £POA
PZM Press. zone electret. £28

Beyer Dynamic AKG SHURE

Shure SM58
SM57, SM10, prologs etc POA
AKG D80 ..... £29
AKG D190E £75
AKG D12 ..... £175
AKG C414 ULS ..... POA
AKG C451 system ..... POA
Beyer M88 ..... £164
Beyer M69 ..... £91
Neumann U47, U87 etc. . POA

QUAD SONY

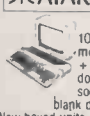


Quad 306 80w PWR AMP £229
Quad 405 ..... POA
MTR SPA 600W fan cooled £439
Auratone reference monitors

TANNOY JBL

JBL TLX3 ..... pair £129
JBL TLX7 pair .. £150 + VAT
JBL TLX9 pair
JBL Control 1 ..... pair £139
Tannoy DTM8 .. pair £225 + VAT
Tannoy D8200 .... pair £245
Tannoy Stratford... pair £150
Tannoy little gold .. pair £785
E.V. sentry 500. ... pair £899

ATARI C LAB



1040 ST + mono monitor + free public domain software and blank disks.
New boxed units ..... £499 inc VAT
520 ST, Mega etc ..... POA
C-LAB 64 track creator and X-alyser on demonstration

STEINBERG DR.T

STEINBERG pro 24 (2.1) Master Score Soundworks: S900, Mirage DMP, MT-32 Synthworks, DX/TX, ESQ1 FB01, TX81Z
DR T KCS sequencer (with PVG) copyist 40P deluxe.
DX-heaven, Esquapade, CZ. Mat 6, D50 editors, midi BS

apple

Macintosh SE with 20 Megabyte hard disk on permanent demonstration
Macintosh plus available
Opcode studio plus interface
Opcode studio plus 2 interface
Opcode professional plus interface
Make an appointment with Eric or Nick

digidesign Opcode Systems

Digidesign sound designer series, softsynth, Q-sheet
Mark of the Unicorn performer (2.0) and composer
Intelligent Music jam "M" upbeat
Opcode sequencer 2.5, DMCS scorewriter, music mouse, cue film music. DX & C2 editors **Passport systems**

JL COOPER BOKSE

SMPTE, Sync, patchbays etc
JL Cooper PPS-1, MS8 + 16/20. midimation
Bokse SM-1 in stock now
Steinberg SMP24 smpte/mai, Time lock
Yamaha MSSI, MJC8
Roland SBX80, SBX10
Akai ME30P, ME25S
DP-2000, DP-3200 patching

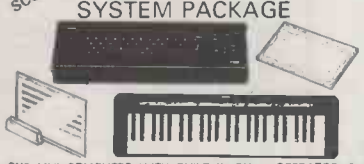
EXECUTIVE AUDIO E! ETC...

Enormous range of accessories and peripherals all available by mail. Pedals, remotes, spools, ampex, cables, stands etc etc
Olscs UK's best prices for bulk. **Executive Audio** ESQ RAM 160 £160. ESQ ROM 320 £160 inc P&P.
Sennheiser HD40 phones £19 + much more. Call for

STOP PRESS...MEGA DEALS...STOP PRESS...SUPA DEALS

SCOOP

YAMAHA CX5 MkII SYSTEM PACKAGE



CX5 MkII COMPUTER WITH BUILT IN DX .4 OPERATOR, 8 CHANNEL MULTITIMBRAL SYNTHESIZER ● FULL MIDI IN AND OUT. i.e. CAN BE PLAYED FROM AN EXTERNAL KBD OR WILL PLAY EXT. SYNTHS ● F.M. VOICING PROGRAM LETS YOU PROGRAM YOUR OWN SOUNDS WITH FULL VISUAL DISPLAY ● MUSIC COMPOSER AND RECORDER PROGRAMS MAKE THE CX5 A POWERFUL SEQUENCER WITH FULL ON SCREEN EDITING FACILITIES. CONTROL CX5 VOICES OR EXT. SYNTHS, DRUM MACHINES etc ● YK20 FULL SIZE KBD OR YK01 MINI KBD CAN CONTROL CX5 INTERNAL VOICES OR OTHER SYNTH MODULES OVER MIDI ● MUSIC PAD, CARD READER AND VARIOUS SOFTWARE ALSO INCLUDED ●● DEMAND WILL GREATLY EXCEED SUPPLY AND WE REGRET THAT ORDERS WILL BE SUPPLIED ON A STRICTLY FIRST SERVED BASIS ●●

PACKAGE INCLUDES	RRP
CX5II inc SFG05 - VOICING PROG	£ 539
YK 20 FULL SIZE KBD	£ 112
or YK 01 MINI KBD	£ 55
YRM 501 COMPOSER PROGRAM	£ 47
YRM 301 RECORDER PROGRAM	£ 47
CMP 01 ARRANGER PROGRAM	£ 70
MMP 01 MUSIC PAD	£ 169
MPS 01 & 02 MUSIC SHEETS	£ 44
CR 01 CARD READER	£ 79
UPA 01 CARD PROGRAM	£ 59
GAR 01 GRAPHICS PROGRAM	£ 59
TOT DEPENDING ON KBD APPROX	£1,200

PACKAGE PRICE
£329
WITH YK 20 KBD
OR **£289**
WITH YK 01 KBD
ALL BRAND NEW, BOXED AND INCOF P&P

FOSTEX-SECK 8Tr. PACKAGE

MODEL 80. Total Microprocessor control. Synchronication capability. Autolocate. Dolby C. Bar graphs etc.
SECK 12:8:2 Standard by which other 8 track desks are judged. Versatile monitoring – Up to 28 inputs on mix down. Up to 6 auxiliaries for a LTD period. We will INCLUDE FREE all cables, Ampex tape, Shure SM58 microphone, headphones and a SMPTE synchronizer
INTEREST FREE CREDIT AVAILABLE

UNIQUE MASTERKEYBOARD/SEQUENCER

6 octave weighted mother kbd • Velocity sensitive (programmable response) • After touch (programmable response and routing • 3 way split • Midi assignable ideal for MT32, 81Z etc • 64 defineable patch mems control all your synths from one kbd • Multi function LED display • 2 octave transpose (10 octave range) • Built in 4 track sequencer (midi) 4000 notes • 8 sequence patterns • Song memory • Real/step time • Quantize • Comprehensive editing • Sync to tape • Save sequence to tape • Midi systems exclusive dump • etc. etc.

UNREPEATABLE OPPORTUNITY. NO UNIT OR COMBINATION OF UNITS FOR LESS THAN TWICE THE COST COMES CLOSE.

RRP £995
LTD OFFER WHILE STOCKS LAST
£379 INC P&P
NEW BOXED

FOSTEX 160 COMPLETE STUDIO PACKAGE

FOSTEX 160 MINI STUDIO. Running at twice normal speed, improves wow and flutter and high frequency response. Sync Capacity. Dolby C noise reduction. Auxilliary per channel four inputs. Bar-graphs etc.
TOTAL PACKAGE PRICE
£499 Inc P&P

Purchase this unit and we will include a pair of powered monitors (BUILT IN AMPLIFICATION), MIC WITH CABLE, HEAD-PHONES, TAPES AND ALL CABLES.

OBERHEIM DPX-1 Sample Player

8 VOICE

NOW INCLUDES FULL OPERATING SYSTEM OF.
● AKAI S900 ● EMULATOR 2
● PROPHET 2000 ● ENSONIQ MIRAGE.
IT THUS DRAWS ON BY FAR THE LARGEST SOUND LIBRARY. WE HAVE AT LEAST 500 AVAILABLE WHICH CAN BE COPIED FREE OF CHARGE BY DPX-1 PURCHASERS. OUR LONG AWAITED CD ROM PLAYER WILL INCREASE OUR LIBRARY TO OVER 2,000 SOUNDS.
RRP £1,695. FOR A LIMITED PERIOD UNPARRALELED VALUE AT...
£1,150 INC CARRIAGE

THIS WEEKS TOP 10 SELLERS

1 OBERHEIM DX DRUM MACHINE RRP £1,595 SALE PRICE £265
2 AKAI MX73 MOTHER KBD + YAMAHA TX81Z £729 INC P&P
3 ATARI 1040 + MONITOR. £499 INC VAT
4 YAMAHA MTIX, REX 50 + MZ101 MIC £699 WILL SPLIT
5 MATTEL SYNSDNICS DRUMS RRP £99 SALE PRICE £49
6 YAMAHA REV 7 RRP £1,419. BRAND NEW, BOXED £599
7 YAMAHA DX21 SYNTHESIZER £459 INC P&P
8 YAMAHA QX5 £299 INC P&P 0% I.F. CREDIT AVAILABLE
9 YAMAHA QX21 £199 INC P&P 0% I.F. CREDIT AVAILABLE
10 EMAX VARIOUS OPTIONS. HUGE DEMAND POA

BARGAIN BASEMENT

ROLAND TR505 used	£169
CASIO CZ 230S	£219
CASIO CZ1	£685
CASIO SK1	£65
KORG DSS1 s/h	£1,199
KDRG poly 80011	£385
KORG OW8000 s/h	£649
KORG DRV2000 used	£369
KORG GR-1 reverb	£129
KORG KPR-77 Rhythm	£79
TASCAM 38 used	£1,399
TASCAM 245 used	£599
TASCAM 244 new	£579
TASCAM Porta One used	£325
TASCAM 234 e.dem	£449
TASCAM 34B e.dem	£699
TASCAM 388	£1,999
TEAC 430C Twin Cass	£129
YAMAHA RX11 used	£299
YAMAHA RX21 used	£149
YAMAHA RX15 used	£159
YAMAHA RX17	£259
YAMAHA DX27	£379
YAMAHA QX21 used	£399
YAMAHA DX100	£259
YAMAHA SPX90	£329
YAMAHA FB01	£249
SHURE SM57 used	£65
SHURE SM58 used	£69
YAMAHA REV 7 ex hire	£599
YAMAHA K222 cassette	£149
YAMAHA S20X monitor	£89
YAMAHA RM8 4 mixer	£399
YAMAHA KS31 cab	£375
YAMAHA DX1 megasynth	£2,895
ROLAND JUNO 2 used	£599
ROLAND S10 used	£569
ROLAND TR505 used	£189
ROLAND OEP 5 used	£489
ROLAND JX10 used	£1,225
ROLAND DR220A/E used	£99
ROLAND JX3P used	£325
ROLAND DEP 3 used	£299
ROLAND DRP 1/2/3	£89
ROLAND RSD10 used	£119
ROLAND RD200 s/h	£899
ROLAND TR707 s/h	£299
ENSONIQ Mirage sh	£699
ENSONIQ Piano sh	£699
AKAI VX90 synth	£299
ALESIS MIDIVERB 1 sh	£199
ELECTROVOICE SENTRY 500	£399
FOSTEX M80 demo	£1,199
FOSTEX M80 + 450 desk	£1,899
FOSTEX 350 desk s/h	£329
VESTA 420 sampler	£149
VESTA RV-2 reverb	£129
VESTA SF100B Chorus	£299
EMU DRUMULATOR s/h	£189
EMULATOR II 3.1 s/h	£2,295
SIEL EXPANDER 80 s/h	£145
MOOG PRODIGY s/h	£79

MAIL ORDER DEPARTMENT

Our long established mail order department documents your order from receipt to despatch. Send cheques, postal orders, Access or Visa orders, Bankers draft, Building Society cheques, Cash in reg. envl to **SOHO SOUNDHOUSE FREEPOST 36 LONDON W1 6QZ. NO STAMP REQUIRED.** (10 day clearance for personal cheques). All other forms of payments – 24 hr despatch. Telephone Orders Welcome.

NAME & ADDRESS

GOODS REQUIRED

CREDIT CARD NO. | | | | | | | | | | | | | | | | TOTAL £

18A SOHO SQ. LONDON W1
(100 YARDS FROM TOTTENHAM CT. RD. TUBE)
TELEPHONE 01-434 1365/6
CAR PARKING AVAILABLE

TELEX 261507 ref 3027

MUSIC technology

EDITORIAL

EDITOR
Tim Goodyer

REVIEWS EDITOR
Simon Trask

FEATURES EDITOR
Nicholas Rowland

PRODUCTION EDITOR
Trish McGrath

PRODUCTION ASST
Debbie Poyser

ART STUDIO

ART EDITOR
Stuart Catterson

DEPUTY ART EDITOR
Sam Masters

ART ASSISTANTS
Lynn Cooper, Elaine Tye, Alan Beeson

PHOTOGRAPHY
Tim Goodyer, Matthew Vosburgh, Lizzy Ellis

ADVERTISING

ADVERTISEMENT MANAGER
Graham Butterworth

AD PRODUCTION
Claire Wiles (Manager), Emma Ambrose (Assistant)

IN AMERICA

EDITOR
Bob O'Donnell

ADVERTISEMENT DIRECTOR
Ce Ce Hernandez

ADMINISTRATION

MAIL ORDER
Cheryl May, Sarah Ludman

PRODUCTION MANAGER
Shaun Barrett

EXECUTIVE DIRECTORS
Mike Marsh
Lester Johannes (Financial)

PUBLISHING DIRECTOR
Dennis Hill

MANAGING DIRECTOR
Terry Day

A MATTER OF FEEL

DID YOU KNOW, it's amazing what you can do with a plank of wood and six pieces of wire. The reason I ask is that, for an assortment of reasons, I've found myself subjected to the playing of a fair number of different guitarists in recent weeks (letters of sympathy should be addressed to: the Editor, Music Technology . . .). But I suppose, when you're limited by a primitive instrument like the guitar you have to become pretty resourceful; that's why guitarists have got all sorts of little effects boxes to modify the sound and little playing tricks like using open strings, harmonics and hammer-ons. I know, it's not quite the same as having a real instrument like a D50 or a Synclavier, but, as I say, quite amazing.

More recently I found myself comparing the playing of some of these guitarists with that of contemporary keyboard players – you try it. Try listening for guitarists producing new sounds and keyboard players developing innovative playing techniques. What I heard was a lot of guitarists getting their fingers around impossible playing techniques and a lot of keyboard players dishing out new sounds from new synths. So I started counting up the guitarists that had managed to establish an identity for themselves in the '80s, people like The Edge, Yngwie Malmsteen, Paul Dunne . . . And then I started counting up the keyboard players who had done the same . . . I'm still trying. So what's happened to all the keyboard heroes?

The problem would appear to be the old one of good sounds – not a lack of them this time, but an excess. As more, better-sounding keyboards have become available, keyboard players have become more concerned with the sounds their instruments are making than the notes their fingers are playing. In effect they've become second-level producers, being more involved with the presentation than the content of their music.

Perhaps we've had it too good for too long. When the Fender Rhodes and Hammond B3/C3 were all there was to choose from, the only way to establish a musical identity for yourself was through your playing style – and there were keyboard heroes up there alongside the guitar heroes (usually making even bigger fools of themselves). Then, in the wake of punk, came the art of keyboard "programming". Suddenly there was an alternative to years of piano study and hours spent practising scales; it was no longer a crime not to be able to play notes because you could play sounds instead. But why does everybody appear to have given up playing altogether? Surely the best musician would combine the two skills and use appropriate sounds with the notes to create music. Have we simply become lazy or have we fallen for the salesperson's talk of user programmability and digital parameter access and forgotten about our music? What about the salesperson's claims about the imitative capabilities of today's samplers – aren't we assured that we keyboard players can now be guitarists, saxophonists and violinists (to name but a few examples) for the price of a sample disk?

I accept that an electronic keyboard isn't as innately expressive an instrument as a guitar, but not that keyboards aren't solo instruments; they certainly were once, why shouldn't they be today – and tomorrow? Unless we rediscover the finer points of playing technique to accompany our vast sound libraries, I fear we will never escape the bland songs and lacklustre performances that presently plague popular music. ■ Tg

MUSIC TECHNOLOGY *is published by Music Technology Ltd, part of the Music Maker Publications Group, Alexander House, 1 Milton Road, Cambridge CB4 1UY. Tel: (0223) 313722 (all departments). (PAN: Musicmaker)*
MUSIC TECHNOLOGY (US) *is published by Music Maker Publications Inc, 7361 Topanga Canyon Blvd, Canoga Park, CA91303, USA. Tel: (818) 704-8777. (PAN: Musictech)*
Typesetting by *Camset, Cambridge.* **Colour reprographics by** *CLE, St Ives.* **Printing by** *Worcestershire Web Offset, Droitwich, Worcs.* **Distributed by** *Magnum Distribution, London, Tel: 01-253 3135.*

THE SALE OF 1988

DON'T MISS IT! — STARTS 9th JAN

RECORDERS

Tascam Porta 01 inc PSU	£319
Tascam Porta 01 inc PSU	£420
Fostex X30	£329
Fostex 160	£499
Tascam 244 Second User	£450
Tascam Porta 02	£525
Tascam Model 38 Ex-Demo	£1,850
Tascam 112 Stereo Master Cassette	£389
Tascam 122 Stereo Master Cassette	£729
Tascam 22-2	£649
Fostex M20	£949
Yamaha MT2X	£499
Fostex Model 80	£1,399
S/H Fostex B16	£2,899
Fostex E16 New	£4,849

EXPANDERS

Yamaha FB01 Second User	£259
Roland MT32 New, In Stock	£Phone
Yamaha TX81Z, New	£375
Roland D550, New	£Phone
Yamaha TX802, New	£1,165
Cheetah MS6 Synth Module	£249

SEQUENCERS

Roland PR100, New	£Phone
Yamaha QX21, New	£159
Yamaha QX5, New	£279

SAMPLERS

Roland S10, New	£689
Casio FZ1, New	£1,399
Emax Ex-Demo	£1,850
Akai S900, Ex-Demo	£1,650
Akai S900, New	£1,750
Akai S700, Ex-Demo	£699
Roland S220	£Phone
Roland S550 Super Sampler, New, In Stock and On Demo	RRP £2,300

MICROPHONES

Electrovoice ND257	£106
Electrovoice ND357	£133
Electrovoice ND457	£190
Electrovoice ND757	£256
Electrovoice ND408	£196
Electrovoice ND308	£158
Shure Prologue 8L	£27
Shure Prologue 12L	£29
Beyer MC300 NC	£95
Beyer M69	£89
Beyer M700	£120
AKG D70	£22
AKG D224e Instrument Mic	£100
AKG D321	£119
Trantec Radio Systems	From £334
Audio Guitar Transmitter, One Only	£349

MONITORS

Electrovoice Sentry 100A	£729
Electrovoice Cristal	£279
JBL 4333B, S/H	£1,125
JBL 4401	£299
JBL 4411, Ex-Demo	£999
Yamaha NS10M	£265
Visionik David 6001, S/H	£88
JBL Control 1	£130
Fostex B301B	£125

RECORDING

Mixers

Soundtracs PC18 MIDI Mixer	£3,250
Aries 18:8:2, Ex-Demo	£1,398
Yamaha MC1804, Ex-Demo	£949
Seck 8:2, New	£399
Seck 12:2, New	£545
Seck 12:8:2, New	£999
Yamaha DMP7 Second User	£2,099
Yamaha DMP7, Ex-Demo	£2,699
MTR SLM 8:2 Key Mixer, Ex-Demo	£199
Tascam M106, New	£348
Yamaha KM802	£245
Yamaha KM602	£179
Yamaha MV802	£328
Tascam 216 18:4:2	£649
Tascam 308 8:4:2	£1,099

PROCESSORS

Peavey DEP 20/20	£200
Dynacord DRP 16 Dig Reverb	£189
Akai ME20 Note Separator	£65
Akai ME20 Dig Delay	£65
Akai ME15F Attenuator	£65
Yamaha MJC8	£189
Yamaha MEP4	£249
Roland MPU104 MIDI Input	£50
Boss RRV-10 Dig Reverb	£189
Alesis Midiverb II	£375
Alesis Microverb	£219
Alesis Micro Stereo Enhancer	£119
Alesis Micro Limiter Stereo	£119
Alesis Micro Gate Stereo	£119
Yamaha REV5	£885
Yamaha SPX90 MkII	£589
Bel BD80 8 Sec Delay	£525
Audio Logic ADM 7.6 Sampler Delay	£339
Art Proverb	£339
Roland SRV2000 Dig Reverb	£653
Roland SDE2500 Dig Delay 64 Mems	£349
Roland DEP3	£345
Yamaha GQ2031 Graphic	£375
Yamaha GQ1031 Graphic	£215
Yamaha GC2028 Comp/Limiter	£279
Vesta Fire Rack includes Two Parametric + One Compressor	£125
Jack 32 Way Patchbay	£33
DI Boxes	£29

POWER AMPS

Yamaha P2075	£289
Yamaha P2250	£489
Yamaha PD2200	£789
Peavey Decca 700, Ex-Demo	£555
Harman Kardon PM635	£149

SOFTWARE

Steinberg Pro 24	£224
Steinberg Pro 16	£98
Steinberg S900 Editor	£224
Steinberg TNS	£84
Steinberg Card 32	£224
Steinberg MS1	£98
Steinberg Pro Creator	£84
Steinberg Interface	£38
C-Lab Creator Sequencer	£248
DrT's MRS 8-Track Sequencer/Editor, Brilliant	£35
DrT's KCS Keyboard Controller Sequencer, Powerful	£248
DrT's Editors for DX7II and D50 In Stock	£149
DrT's MT32 Editor	£119
Various CX5 Software	£20
Yamaha UDCD1	£45
BBC, Commodore + Spectrum Interfaces, Various	From £20
Assorted Software for above	From £20

(Phone Russel for Software Details)

KEYBOARD AMPLIFIERS

Peavey KB15 Combo, New	£89
Peavey KB100 Combo, New	£249
Peavey KB300 Combo, New	£389
Yamaha KS531 Combo, New	£375
Yamaha S300 Ext Spkrs, New	£245

SYNTHESIZERS

Yamaha DX7 MkI, New	£999
Korg DW800, Ex-Demo	£899
Korg Poly 61 Second User, Non-MIDI	£350
Roland JX10, Ex-Demo	£1,800
Roland Juno I, Ex-Demo	£499
Roland Juno II, Ex-Demo	£599
Yamaha DX21, New	£575
Yamaha DX27, Nex	£399
Yamaha DX100, New	£279
Prophet 600 Second User	£350
Casio CZ101, New	£249
Yamaha DX7S, Ex-Demo	£999
Roland D50, New, In Stock	£Phone
Cheetah Mother K/Bds, Full Range	From £149

DRUM MACHINES

Roland TR505, New	£220
Boss DR220E, Half-Price, Limited Stocks	£89.95
Yamaha RX15, Ex-Demo	£189
Yamaha RX5, New	£875
Roland TR626, New	£329
Boss DR220A, New	£149
Roland TR505, Second User	£180
Roland TR727 Latin, New	£280

WIND SYNTHS

Akai EW1 and Expander	£899
Yamaha WX7, Demo Model with TX81Z	£1,050

JONES & CROSSLAND

J&C

PHONE 021-643 4655/7

music unlimited

4-8 Smallbrook, Queensway, Birmingham, B5 4EN

Tel: 021-643 4655

(24-Hr Answerphone 021-643 4657)

VISA, ACCESS, AMEX, MAIL ORDER, LEASING, INSTANT CREDIT, EXPORT

(Detail by Request)

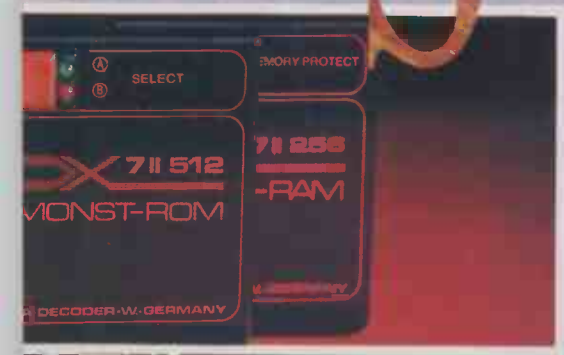
CONT

VOLUME 2 NUMI

APPRAISAL

ENTS

3 FEBRUARY 1988



BRING IT ON HOME

There's a tough hi-tech road ahead for today's musician. Expanding your musical horizons means exploring new sounds but it also means that you need to keep pace with technology, you need to be able to use the latest products to their full potential — you need control.

Now **Elka's** two new Master Control Keyboards have arrived to help you drive forward.

Both keyboards incorporate such advanced features as delay, repeat, loop, polyphonic after touch, release velocity, adjustable dynamics and six split zones.

The MK55 is a touch sensitive 61 note keyboard whilst the MK88 is an 88 note piano-weighted keyboard. Let them help you get your music together, and bring it on home.

Professional **ELKA**

ELKA-ORLA (U.K.) LIMITED
3/5 Fourth Avenue, Halstead, Essex CO9 2SY
Telephone: (0787) 475325
Telex: 987713 Fax: (0787) 474280

NEWSDESK

E!XTENDING EXPERIENCE FOR YAMAHA

London-based Gozen Studios have been appointed sole UK distributors for the E! Board from US company Grey Matter Response.

In addition to the well-established E! Board for the original DX7 (which accomplishes such feats as giving the venerable DX microtonality and "master keyboard" MIDI control features) Grey Matter Response are about to unleash E! for the DX7II series (DX7S, DX7IID and DX7IIFD). Judging by the spec, DX7II owners should find it well worth the wait.

For starters you get Octal mode, which turns the DX7II into an eight-voice multitimbral instrument – allowing you to play eight sounds at once. And what better way to utilise this new-found diversity of sound than an onboard SE!quencer: 20,000 events, 16 tracks, MIDI sync in/out, real-time and step editing, quantisation, and the ability to play tracks internally or over MIDI.

In case you decide to *really* take your DX7II for a spin, GMR have provided the Engine – an onboard MIDI event processor which turns the DX7II into a 16-track MIDI control centre complete with 16-track arpeggios, ostinato patterns and multitimbral chords.

On the memory front you get 256 patches and 128 performances. All of E!'s features can be programmed into the performance memory, so that when you call up a memory it transmits a 16-track "patch map" to your MIDI gear, calls up your DX7II patches for Octal mode, loads a SE!quence and starts the Engine.

Finally there's Voyeur mode, which importers Gozen Studios claim allows you to "skulk around in gardens late at night in a dirty Mac". Leaving aside what Apple might have to say about that, I think what is really meant here is that you can get a peek at all that MIDI data flying around your MIDI setup.

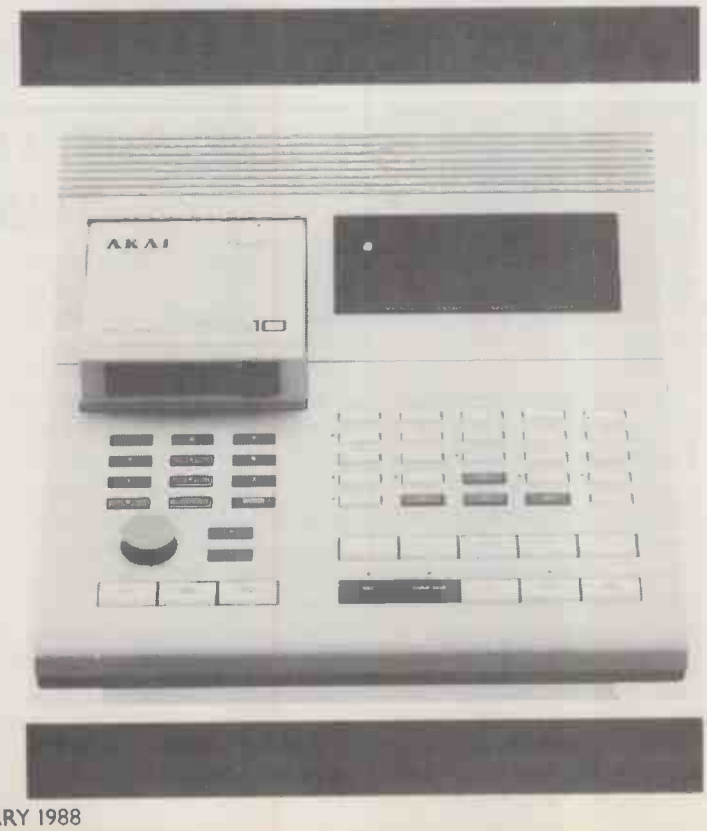
If you need convincing that Grey Matter Response have really managed to do all this to Yamaha's synth, Gozen Studios can be contacted at 86b Endlesham Road, London SW12 8JL. Tel: 01-675 7371. ■ *St*

NEW SEQUENCER FROM AKAI

Forthcoming from Akai is the ASQ10 digital sequencer, the second product in the Akai/Linn range. The ASQ has a 60,000-note storage capacity, which can be divided between 99 sequences of 99 tracks each and 20 songs of 256 steps each. Good news is that tempo changes can be programmed into sequences.

Two independent MIDI inputs and four independent MIDI outputs mean that there's no shortage of MIDI channels for musicians or studios working with large MIDI systems. The ASQ10 also has the ability to play back two sequences at once, so all in all you're hardly likely to run out of tracks either.

Akai have given the ASQ extensive communication facilities, with seven sync modes including SMPTE, MIDI Time Code and standard MIDI clock with song pointer. For ease of use when working to video, the ASQ indicates current position within a sequence in both bar/beat/clock and SMPTE formats.



Akai's sequencer provides a generous 320-character LCD screen, which among other things allows help pages to be displayed for each function.

Record features include the ability to overdub onto an existing track, and to loop a specified portion of a track while in record mode. Additionally Akai have provided full-screen step edit and record modes, while other edit features include include insert, delete, copy, merge and erase.

Quantisation can be either as you record or post-record, and maintains the original note durations. Sequence data can be forward or backward time-shifted, and whole sequences can be transposed.

Two footswitches allow hands-off control of start/stop and punch in/out, while it's also possible to set automatic punch in/out points.

SRP is £1599.

More from *Akai UK, Haslemere Heathrow Estate, Silver Jubilee Way, Parkway, Hounslow, Middlesex TW4 6NQ. Tel: 01-897 6388.* ■ *St*

MCMXCIX: NEW DISTRIBUTOR OR OLD NUMBER?

As unusual names go, the name of a new software and hardware distribution company formed by ex-Take Note man Dean Cook is pretty unusual. Would you believe MCMXCIX? Students of the Roman Empire will of course instantly recognise that this means 1999, which is no less unusual really.

On the software front MCM (as they're bound to become known) have been appointed UK distributors for the following: Dr T's software, Passport Designs, Intelligent Music, Opcode, Mark Of The Unicorn, Digidesign and Southworth. On the hardware front MCM have exclusives on the SRC Friendchip, Axxess MIDI Mapper, Iota MIDI Fader, Optical Media CD ROMs for the Emulator II and Emax samplers, Aarmor flightcases and Twister desk automation.

MCM are handling the full range of Dr T's software, which includes the KCS sequencer and Copyist score-writing program together with patch editors for such instruments as the Roland D50 and MT32, Yamaha TX81Z, Ensoniq ESQ1 and Kawai K3.

The initial multiple programming environment for KCS (v1.5) has now been developed into "KCS Level II", which allows elements of different programs in memory to interact. For instance, with the sequencer and an editing program in memory concurrently you have access to sequences via play and record controls whilst you're editing a sound (allowing it to be edited within the context it's intended for), or alternatively you can record editing movements onto a track of the sequencer. In the latter instance, dynamic changes to a sound can become an integral part of your recorded music.

MCM have dropped the price of KCS v1.5 from £250 to £199, while the new Level II software will retail for £250 and all Dr T's editors (including the new D50 and MT32 editors) now cost £99 including VAT.

Other software includes Intelligent Music's M, Jam Facory and Upbeat, Mark Of The Unicorn's Performer and Composer, Southworth's MIDI Paint and Digidesign's Q-Sheet and Softsynth.

MCM are stocking Amiga software in the form of Dr T's KCS sequencer, Opcode's MIDI Mouse, Electronic Arts' DMCS sequencer, and Soundquest editors for the DX7, DX7II and D50 together with a generic patch librarian.

Recognising that no one company and no one computer calls all the shots, MCM's policy is to stock software from a variety of companies which also runs on a variety of computers. Many US MIDI software houses have already adopted the new MIDI Files standard for sequence transfer. This means that musicians can now readily use a variety of sequencers, drawing on the strengths of each. Or to quote MCM: "Generate an idea in M, save it as a MIDI file, drop into Mastertracks Pro, edit it and combine it with other sequences, save the result as a MIDI file, drop into KCS Level II and add real-time SysEx processing".

One of the most interesting "hardware" products from MCM is Axxess' MIDI Mapper (so called because it "maps" any MIDI commands onto any other MIDI commands). This is a sophisticated MIDI "system integrator" which lets you control your entire MIDI system from a single instrument. For instance, you can touch a button on your keyboard and initialise your system with patch changes, controller positions, volume levels, SysEx messages and any other MIDI information.

The Mapper interprets virtually any performance action as any group of MIDI messages, so for instance you can play notes and hear them transformed into chords or patch changes. And you can use your master keyboard's velocity, aftertouch, mod wheel and so forth to control any MIDI-communicable operations in your system.

For more information contact MCM at 9 Hatton Street, London NW8. Tel: 01-724 7104 or 01-258 3454. ■ *St*

HARROWING EXPERIENCE FOR KORG

After years of bringing traffic in Charing Cross Road to a standstill whenever they received an equipment delivery, Rose Morris and Korg UK have moved to spacious new premises in suburban Harrow. They can now be reached at 8-9 The Crystal Centre, Elmgrove Road, Harrow, Middlesex HA1 2YP. Tel: 01-427 5377. ■ *St*

SHARP SOUNDS FROM STILETTO

Stiletto Sound Systems is the name of a new company offering 160 sounds for the Ensoniq ESQ1 (£40) and Casio CZ101/1000/3000/5000 range (£30).

These are available on datacassette (ESQ1 only), Hybrid Arts' GenPatch ST disk or Stiletto's unique "RAM-filler" service (you send 'em the RAM, they'll fill it for you). If you take up the RAM-filler option you can get 80 ESQ sounds for £20 or 64 CZ sounds for £12.

All Stiletto's sounds are specially created by working programmer/musicians, and the company claim that "you will not be paying for endless variations on a few tedious themes".

Stiletto's next release will be 160 "incredible and exciting" new sounds for the Yamaha DX7, apparently including "many of the sounds which you've been told can't be done on a DX".

Also due for release in the near future are sounds for the Ensoniq Mirage, Roland D50, Sequential Prophet VS, Akai S900, Yamaha TX81Z "and more".

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

SIRIUS SEMINARS

Sirius Music Technology are planning to hold a series of one-day (Saturday) beginner- and intermediate-level open seminars on various aspects of music technology, entitled Secrets of Synthesis.

Each day will be devoted to intensive discussions and demonstrations of a single topic such as analogue programming, FM programming, sampling, MIDI and so on, with the intention of helping the average non-technical musician get the most out of his or her gear.

Initially the seminars will take place in London, but may subsequently also be held elsewhere if demand is high enough.

More from *Sirius Music Technology, 55 Loftus Road, Shepherd's Bush, London W12 7EH. Tel: 01-740 5991.* ■ *St*

FREE SOFTWARE FOR THE ATARI ST

Software for nothing and it's legal? 'Tis true. The idea is that one free piece of software acts as an advert for another more fully-specified program which, of course, you have to buy.

In this instance the free program, DXorganiser, is a fully-functioning patch librarian for the DX7, with the ability to load and save 32-patch banks, send and receive single patches or complete banks, organise patches within banks, and copy patches between banks.

You can get DXorganiser from Five Pin Din for a nominal cost of £4 to cover disk, post and packing (cheques made payable to L Wilkes) and distribute it to as many friends and relatives as you like.

The program which DXorganiser is intended to sell is DXpert, which has all DXorganiser's librarian features plus random patch generation, mouse-based numeric editing of DX7 parameters, and graphic editing of envelopes (complete with mouse redraw), with the ability to send edits to the DX in real-time. The cost of DXpert? A modest £32.75.

Five Pin Din also have a disk of 1500+ public domain DX patches (culled from the User Club, DX/TX originals and so on) which can be yours for £10.

More from *Five Pin Din Software, 37 Acacia Avenue, Owlsmoor, Camberley, Surrey GU15 4YH.* ■ *St*

ALESIS HR16 DRUM COMPUTER
RRP £449
inc VAT
MMT 8
IN STOCK

Philip Rees
V10 MIDI THRU UNIT
IN → THRU
POWER

NOMAD - it's no' bad ye ken
Axxeman Bassman In Stock

CHEAP TO CLEAR

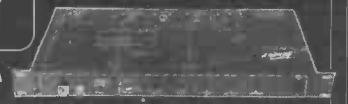
Yamaha CP35 Piano	£299
Rhodes Pianos	From £150
Drumulator	£199
Drumtracks	£289
SC Prophet 2000 (Ex-Demo)	£999!
Roland Juno 6	£235
Korg MR16 Drum Rack	£99
Yamaha DX21	£399
Roland TR505 (Boxed)	£199
Yamaha RX21 and RX44	£P.O.A.

PLUS MUCH MORE ALL THE TIME!

Cheetah

MK5V/MK7VA and now the Cheapest Digital Drum Machine in the Cosmos . . . MD8 RRP Only £139.95. Mail Order Post Free . . .

PEAVEY



SP-4™
Engineered specifically for use with the PCS Processor, the SP-4™ is a high power, 2-way sound reinforcement system.

PCS™
Processor Controlled System
The Peavey PCS™ is a processor-controlled active crossover/preamplifier combination with control parameters optimised for specific loudspeaker systems. By sampling each amplifier output, the PCS processor provides low frequency excursion control, loudness compensation and three-band thermal protection.

It's here! A computerised "Smart" 800W PA System. On demo now! (Price approximately £2,000 including CS800 Power Amp, etc).

CASES MADE TO ORDER

Standard	£42
S/Flite	£58
Mega	£99

ACCESSORIES . . .

X-Type Stands	£22
Lion Three Tier	£72
Liteweight Ally Three Tier	£135
Footswitch (Hold)	£11
Volume Pedal	£18
Stereo Volume Pedal (Roland)	£45
Tuners (All Makes)	£P.O.A.
12 Unit Racks (Ally)	£169
12 Unit Racks on Wheels (Wood)	£199
Kords Leads	In Stock
Hotlicks Cassettes and Videos	In Stock
Korg CD Samples	In Stock

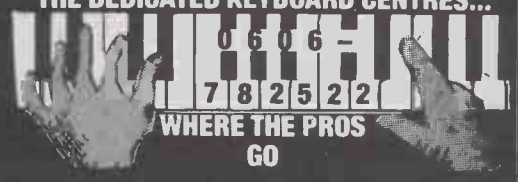
New from Korg — All the features of a DS-8 (And Multi-Timbral) for Only £599.
Nowt to match it in that range . . .

707 Synth
MOST OF KORG RANGE IN STOCK

DOUGIE'S Music Store

1/5/7 CHESTER ROAD, NORTHWICH, CHESHIRE.
TELEPHONE: (0606) 782522/783629
OPEN 10am-6pm, LATE NIGHT THURSDAYS

THE DEDICATED KEYBOARD CENTRES...



WITH 100 ESQ-1's SOLD BY US TO DATE (AND 60 MIRAGE's) WE THINK WE KNOW ABOUT ENSONIQ!

AFTER OUR ROADSHOW IN NORTHWICH INTEREST IN THE NEW SQ80 AND EPS-1 IS INCREDIBLY HIGH.

CALL IN FOR A DEMO -NO APPOINTMENTS NECESSARY.

Roland
D-50

ENSONIQ

PS-ESQ BIBLE ONLY £15 (+ £1 p&p)

Emax DIGITAL SAMPLING SYSTEM
Biggest North-West E-Max Dealer

Imagine the power: 36 banks of sounds and sequences on-board — each bank accessible in just four seconds. These are features formerly found on only the most sophisticated (and expensive) sampling systems. The power of hard disk-based sampling instruments is well known to professional musicians. The ability to store large quantities of sounds and load them instantly has literally changed the process of creating and performing music.

With the Mulator II + HD™, the E-mu was the first to make hard disk systems both affordable and fully portable. Now, E-mu Systems brings you the Emax HD, the first and only instrument in its class to feature this advanced sound storage technology.

20 Megabytes of Sound Storage — The Emax HD allows a rugged internal hard drive that allows you to store 20 megabytes of sounds and sequences, the equalivalent of 36 sound disks. Out Search feature allows you to scroll through all the sounds on your hard drive, selecting the one you want with just the push of one button. That means no more time wasting hunting through stacks of floppy disks.

Fast Access — Another advantage of hard disk technology is its lightning-fast load time. The Emax HD will load an entire bank of sounds in just four seconds. On the stage or in the studio, the Emax HD responds immediately to your creative ideas.

Largest Library — The Emax HD is fully compatible with the Emax Sound Library, the largest, most powerful library available among comparably priced samplers. With the standard 3.5" micro floppy drive, you can load the hard disk with your own samples, sounds from E-mu's library, or any of the many sounds available from third party developers.

All the Power of the Emax™ — Whether you choose the Emax HD Keyboard or its twin, the Emax HD Rack™, you get all the powerful features of the standard Emax: 19 seconds sampling time (at 28kHz), variable sampling rates, 12 bit resolution, on-board sequencer, crossfade looping, programmable stereo panning, flexible assignment scheme (up to 122 samples on the keyboard at one time), individual channel outputs and stereo outputs, extensive MIDI implementation and much more.

E-max Rack £2,049. E-max Keyboard £2,199. E-Max Rack HD £2,799. Keyboard HD £2,949.

25 STANDARD KEYBOARDS SOLD TO DATE.
70 DISKS IN STOCK. CASES AVAILABLE.

ARSKE THE SEXPERTS!

CONFIRMED PRICES
(We Hope!!) (inc VAT)

SQ80	£1,395	
EPS-1	£1,695	
ESQ-1	Price Drop £1,095	
DSK-1 Mirage	Price Drop £899	
S/H ESQ-1	From £750?	(Depending on condition, etc)
S/H DSK-1	From £650?	

COMMUNIQUÉ

Write to: Communiqué, Music Technology, Alexander House, 1 Milton Road, Cambridge CB4 1UY, including full address and a day-time phone number. A free year's subscription if yours is the Letter of the Month.

Dear MT

Distress Signal

letter of the month

First a confession: I'm a pop music addict. Whether it's another tacky edition of Top Of The Pops, another pretentious issue of the NME or a pop trivia quiz hosted by the fatuous Mike Read, I can't leave it alone.

Or should I say couldn't, for recently I came to the conclusion I could no longer stand to listen to pop music on the radio. Could it have been that my first love was leaving me? Could it have been that I'd heard one too many Stock, Aitken and Waterman productions? Could it have been that I was just getting old (by far the worst possibility)? You can imagine my distress.

At the first opportunity I tried playing my current batch of fave singles – fearing the worst. But I was in for a second shock: 'Come into my Life' had me coming back for more, 'Beats + Pieces' had me respraying my bedroom wall and 'Stutter Rap' still made me smile. So what the hell was going on?

I'll tell you. The audio bandwidth of the average transistor radio is atrocious, to be polite about it. The result is that many of the sounds used in a pop record are reduced to a shadow of their former selves: all you hear is the click of the bass drum, the click of the snare drum, the click of the bass guitar/sequence (talk about a click track). Much of the pitch and tonal information just doesn't make the transition from radio wave to sound wave. I reckon all I've been hearing on the radio is a rattle where a song ought to be. And it's driving me mad.

The problem would seem to be one of production. My solution would be to have a different mix of a song for the radio than for the clubs and the lounge – but then aren't 7" singles meant to be a step in that direction already? How can Radio I claim that certain black music is unsuitable for radio transmission and then proceed to "entertain" us with music that sounds more like the top 20 performed on a washboard?

My faith in the pop music game lives on; my faith in transistor radios, and the material that record producers and Radio I programmers deem suitable for reproduction over them, will be sadly missed.

■ "Pes" Peschi
Leicester

Dear MT

Production Time

I read with interest the letter from Anthony Blaine (MT Nov '87). I agree that technology appears to be leaving music behind, and that unless players and composers are prepared to improve their skills as much as possible the situation will not be rectified.

Now, I'm not exactly the world's greatest player but I have passed grade eight piano, so I do know the odd scale or two. The idea that "The days when you could tell keyboard players apart by their playing styles . . . seems to have gone" is for me an awful statement, but one which I feel inclined to agree with each time I turn on Top Of The Pops or listen to other trendy new music. The endless tick-tocking of 4/4 "musical" pieces always begs the question "Where have all the rhythms gone?". And although modern production methods constantly amaze me, what about the actual music?

Everyone seems to be so preoccupied with production as distinct from composition and orchestration. I may be accused of being old-fashioned or of living in a time-warp, but I still sit down at a piano with endless pieces of manuscript paper and rack my brains over a melody line or some interesting time signature. Only when I'm happy with the result do I approach my synths (AX73, TX81Z, Poly 800Mkl). It's the old argument that if it sounds good on a piano/old guitar it'll be amazing when given a full arrangement.

In the future, will the popular music of the 1980s be considered timeless as is the music of Bach and Beethoven? Will composers of the future use the music we are creating now to learn about the art of composition? For centuries, the only way composers have learned their craft is by studying the works of earlier great masters of composition. Mendelssohn and Schumann were instrumental in bringing the music of Bach to the ears of an international audience. Tchaikovsky was a big fan of Mozart, and like him wrote wonderful melodies. Many of today's composers look to Tchaikovsky's music for instruction and inspiration. This is how music evolves and grows. If I can create music with just one percent of the originality and honesty of these composers, I will be happy indeed. I don't feel "the constraints of pop music", as Anthony puts it. I don't feel the need to have verse, chorus, middle-eight, and so on . . . My pieces are as long as they need to be in order to be fully worked out. Trying to find pigeon-holes for music is one of the most pointless exercises I can possibly imagine. It does nothing more than restrict composition, and often leads to a misinformed audience.

■ Graham Dunnington
North Humberside

Dear MT

Money money money

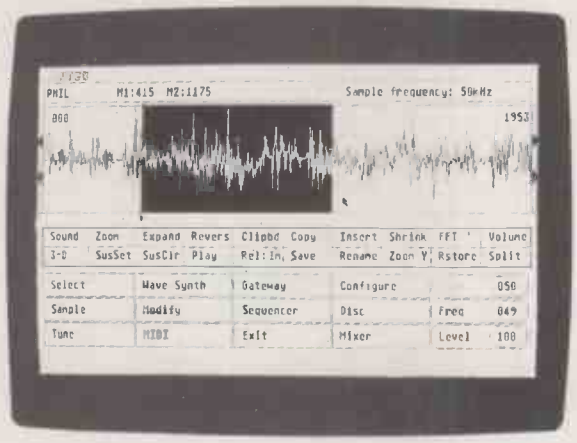
Dear MT readers: thanks for your recent letters of encouragement. I will be buying a keyboard in the near future, but one of the CZ range rather than a DX7S or S50. I'm glad that my letter generated such response, and the advice my fellow readers have given me will be taken into consideration. Thanks once again, MT. Cheers.

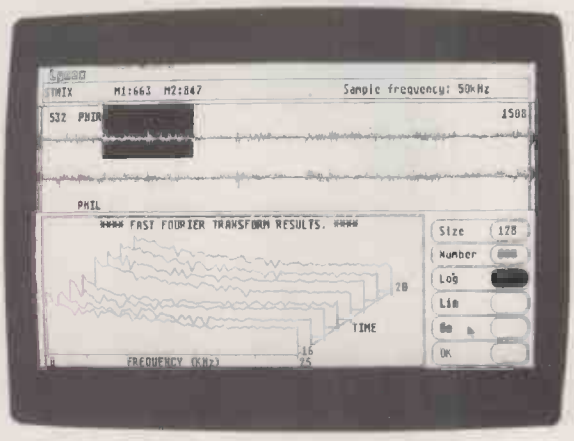
■ Lloyd Blake
Forest Hill
London

Lynex sixteen bit stereo sampling system

"...a British unit designed and developed in Cambridge that could ultimately be as big as the Fairlight!..."

Sound on Sound





A powerful and sophisticated stereo sampling system whose most complicated feature is the power switch! Packaged in a slim 1U rackmount module, it is designed to interface with the Atari range of ST computers.

True stereo 16-bit sampling at 50KHz, 8 or 16-voice polyphony with 8 separate outputs and a built in 8 channel digital mixer. 1Mb RAM expandable to 32Mb. Standard software offers extensive mouse-controlled sample viewing, editing, waveform restructuring, sound creation, and comprehensive MIDI parameter assignment facilities.

Unique design leaves the host computer free to run additional software simultaneously, allowing an already formidable pro quality sampling instrument to be used as a sequencer, studio post processor and digital effects processor on the same computer...in as little time as it takes to load the discs. If you have to ask, you can probably afford it!

For further information contact:

COMMANDER ELECTRONICS LIMITED

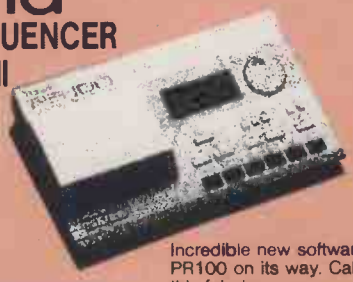
3/5 Fourth Avenue, Halstead, Essex CO9 2SY.
Tel: (0787) 475325. Fax: (0787) 474280. Telex: 987713.

FUTURE MUSIC

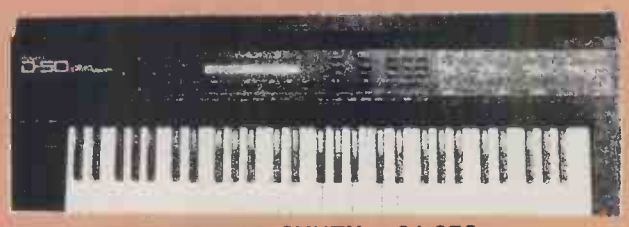
Roland

PR100 DIGITAL SEQUENCER
£399 Our price £Call

Includes free introduction booklet and disk (worth £24.95 when sold separately) Budget version of the famous MC500. 2.8" quick disk storage. 17,000 notes per disk, 4 track MIDI.



Incredible new software for PR100 on its way. Call for info on this fabulous new product.



D50 DIGITAL LINEAR SYNTH £1,350
Our price includes free case and memory card

Roland's Smash Hit New Synth. Roland's new L.A. Technology gives a new outstanding synthesizer which combines new sampling and digital sound techniques. Must be heard. 61 key velocity, 16 note poly, pressure sensitive, 64 memory, built in digital eg: reverb, chorus, split, optional PG-1000 programmer.
New sound cards now in stock! Sustain & decay sounds £55 each.

D550 LINEAR SYNTHESIZER MODULE £1199
New rack mount version of the amazing D-50 "LA" synthesizer!

S-550 RRP £2300 Our Price £PHONE
New rack version of the S-50 sampler. 8 individual outputs plus improved memory capacity

S-220 RRP £975 Our Price £PHONE
16 voice polyphonic sampler with multi-timbre and multiple outputs

GP8 GUITAR PROCESSOR £745 Our Price £PHONE
At last a multi function device exclusively for the guitarist in one box! Featuring eight programmable effects, dymanic filter, compressor, turbo overdrive, distortion, phaser et: digital delay, digital chorus, all storable in 128 patches.

DEP-3 £515 Our Price £399
New budget version of the famous DEP5 digital reverb, delay eg: 16 bit, great value

VP70 VOICE PROCESSOR £1075 Our Price £PHONE
Fantastic new pitch shifter and MIDI convertor, 4 voices from a mono input, 128 memory, many other uses.

GM70 £755 Our Price £PHONE
High speed MIDI conversion, now made possible with the GM70. The compactness of the GK1 means that it can be installed onto almost any guitar, completing the MIDI converter synths.

MT32 MULTI-TIMBRAL MIDI SOUND MODULE
£449 Our Price £PHONE

The outstanding product success of 1987!!
Without a doubt the best value for money ever! Look at these features: 8 built in synth parts, all fully polyphonic and sounding together through MIDI (multi timbral) with individually controllable digital reverb and digital drum sounds built in! Amazing! and all for £449 – call now, they're going like hot cakes and always difficult to get.

TR626
RHYTHM COMPOSER
£350 Our price £349

New version of Roland's best selling TR707.
Far more sophistication and features for less than half the price. Also has direct outputs.

INCREDIBLE ROLAND BARGAINS

RD300 DIGITAL PIANO. SCOOP PURCHASE ALLOWS INCREDIBLE NEW LOW PRICE - WHILE STOCKS LAST. RRP £1600 Our Price £1199!!
88 note fabulously weighted keyboard action with Roland's famous SAS piano sound plus vibes, Rhodes, clavinet etc. and sophisticated MIDI implementation.

TR505 DRUM MACHINE
Roland's best selling drum machine at £199!
WHILE STOCKS LAST

S50 SAMPLER WITH UPDATED SOFTWARE
New SYS503 director software turns the S50 into a MIDI Sequencer with many more features. One ex-demo model available at £1599!
OR with Roland CC141 RGB monitor £1699!
DT100 digitiser tablet for waveform editing, plus 501/4 sound disks now in stock.

ROLAND SPECIAL OFFERS

SYNTH MODULES	
Ex-Demo Roland MKS50 (Juno 2)	£499
Ex-Demo Roland MKS20 (Piano)	£599
New Roland MT32	£449
KEYBOARDS	
Ex-Demo Roland JX10	£1,199
New Roland D50 + Free Ram Card + Case	£1,350
S/H Roland D50	£1,100
S/H Roland JP8 + Flightcase	£799
New Roland D550 (D50 Rack)	£1,199
New Roland MKS7	£399
PIANOS	
Ex-Demo Roland HP600	£799
Ex-Demo Roland HP700	£999
Ex-Demo Roland HP800	£1,149
Ex-Demo Roland HP3000S	£1,299
Ex-Demo Roland HP5500	£1,899
Ex-Demo Roland HP5600	£1,999
New RD300	£1,600 £1,199!
Ex-Demo RD200	£1,299 £899
New RD250S	£1,299
Ex-Demo RD300	£1,099
HP6000	£2,999 £Phone
Ex-Demo RD1000	£1,599
Ex-Demo Roland HD450	£399
Ex-Demo Roland HP20	£199
SAMPLERS	
New S220 (New S10)	£975 £Phone
Ex-Demo Roland S10 + 4 Disc Pack	£699
New Roland S50	£Call
Ex-Demo Roland MKS100	£499
New Roland S550	£Call
Ex-Demo Roland S50 + CC141 Monitor	£1,599!
SEQUENCERS	
Ex-demo Roland MC500	£699
New Roland PR100	£399
Ex-Demo Roland CSQ600	£149
New Software for MC500 Version 2.00	£Phone
DRUM MACHINES	
Roland TR626	£350
Roland TR505	£199
CR1000 Ex-Demo	£375 £199
Pad 8	£490 £Phone
Ex-Demo Roland TR707	£249
Ex-Demo Roland TR727	£199
Ex-Demo Roland TR707, TR727 Package	£399
Roland DR220E	£99
ELECTRONIC KITS	
New Roland Kits — Special Deals	£Call
Ex-Demo Roland Pads	£Call
DR1 6 Digital Sounds Pads	£99
RECORDING GEAR	
S/H DEP3	£349
Roland PV10 Reverb	£179
S/H RE310	To Clear £199
S/H RE501	To Clear £299
S/H RE101	To Clear £149

Future Music, 10 Baddow Road
Chelmsford, Essex.
0245-352490/353878

Future Music, 85 St. Mary's Street
Southampton, Hampshire.
0703-226798/227683

Future Music, 44/46 Preston Road
Brighton, Sussex
0273 675983/675984

Future Music, 125 Albert Road
Portsmouth, Hampshire
0705 820595

CASIO

THE INCREDIBLE FZ1 16 BIT SAMPLING KEYBOARD - IN STOCK - ON DEMO

Casio HZ600 Synth £349
Casio CZ1 ..... £699
Casio CZ230S £295
Casio FZ1 ..... £1,599

CASIO GUITARS

Casio Digital Guitar DG10 ..... £199
Casio Digital Guitar DG20 ..... £249
Casio MIDI Guitar MG500 ..... £499
Casio MIDI Guitar MG510 ..... £499

MIDI GUITARS

DG20
20 voices, digital drums, MIDI

MG510
Professional Guitar
3 Pick-ups,
Tremolo, MIDI

YAMAHA

Yamaha TX81Z Module £399
Yamaha TX802 Module £1,179
Yamaha DX7s £1,099
Yamaha DX11 ..... Due In

THE VERY LATEST DX7 - THE DX7's IMPROVED SYNTH - IMPROVED PRICE

Yamaha DX27 ..... £399
Yamaha DX21 ..... £549
Yamaha DX7 II £1,499
Yamaha DX7 II FD £1,699
Yamaha DX100 ..... £285
Yamaha FB01 FM Module £279
Yamaha PF85 Digital Piano 'New' £1,099

Roland

MAIN DEALER

D-50 - Incredible £1,350

S-10 Sampler £699
M-32 Linear Module £450

Cheetah Marketing

UNBELIEVABLE PRODUCTS . . .
. . . UNBELIEVABLE PRICES

Cheetah MKSII MIDI Master Keyboard 5 Octave/128 Patches/16 MIDI Channels, Incredible £199.95

Cheetah MK5V MIDI Master Keyboard 5 Octave/128 Patches/Velocity Sensitive and more £275

Cheetah MS6 Synthesiser Module 6 Voice/2-DCO per voice/Multi-Timbral Programmable £249.95

Cheetah MD8 Digital Drum Machine Separate Outs/16 Song/64 Pattern, Incredible ... £139.95

Cheetah Computer MIDI Sequencer for ZX Spectrum/Real or Step Time, 8 Tracks £49.95

DRUM MACHINES AND SEQUENCERS

YAMAHA RX5 "The Flagship" £899

64 Voices,
100 Patterns,
20 Songs,
Separate Outputs
. . . Everything

Yamaha RX17 ..... £299
Yamaha QX3 ..... £Phone
Yamaha QX5 ..... £299
Yamaha QX21 ..... £199
Roland TR505 ..... £229
Roland TR626 ..... £350
Roland CR1000 ..... £299
Boss Dr. Rhythm 220 A/E £165
Cheetah MD8 ..... £139.95
Cheetah MIDI Sequencer £49.95
Alesis HR16 ..... £449

KEYBOARD AMPS

Carlsbro Scorpion Keybd Combo ... £147
Carlsbro Colt 45 Keybd Combo £223
Carlsbro Cobra 90 Keybd Combo £332
Peavey KB100 Keybd Combo £251
Peavey KB300 Keybd Combo £418
Marshall 12wt Keybd Combo £96

MIXERS

Dynamix 6.2	£235	Frontline Mini Mix	£21.95
Dynamix 12.2	£350	Boss BX400	£112
Dynamix 16.2	£495	Boss BX600	£170
Frontline X8	£129	Seck 12/2	In Stock Chatham
Frontline 6-Ch Mini Mix	£29.95	Seck 12/8/2	In Stock Chatham
		Seck 18/8/2	In Stock Chatham

HOME RECORDING TASCAM

Tascam 246 ..... £989
Tascam Portatwo inc power supp ... £559
Tascam Portaone inc power supp £449
New Tascam Porta 05 ..... £329

The New Tascam

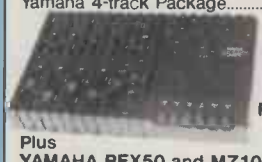
Porta 05 Now In Stock

FOSTEX THE NEW FOSTEX 'X-30' NOW IN STOCK

Fostex 8-Track Centre ..... Chatham
Fostex X-15 inc power supply £285
Fostex X-30 inc power supply £323

YAMAHA

Yamaha MT2X £599
Yamaha 4-track Package .....



YAMAHA MT1X 4-TRACK RECORDER

Plus
YAMAHA REX50 and MZ101 Mike
RRP £963 Package Price £699

Boss MA12 Micro Monitor £95
Boss MA15 Monitor £155
Fostex Powered Monitors ..... In Stock
Yamaha NS10 Studio Monitors £258
JBL Control 1, Monitors £149
19" Patchbay 40 Point £65

PEDALS AND EFFECTS

Boss PS2 Pitch Shifter - Delay £148
Boss RV2 Digital Reverb £175
Boss NS II Noise Suppressor £80
Boss DM3 Delay £135
Boss CE3 Stereo Chorus £99
Boss CE2 Chorus £83
Boss DD3 Digital Delay £170
Boss GE7 Equaliser £83
Boss BF2 Flanger £92
Boss HF2 H Flanger £86
Boss PH2 Super Phaser £105
Boss DC2 Dimension C £130
Boss DSD2 Sampler £180
Boss PSM5 Power Supply £86
Boss RDD20 Digital Delay £185
Boss RCL 10 Compressor Limiter £135
Boss RGE 10 Equaliser £135
Boss RBF 10 Flanger £135
Boss RPH10 Phaser £135
Boss RAD10 Adaptor £20
Boss RSD 10 Sampler £220
Boss RPQ Pre-amp Parametric £137
Boss Rod 10 Overdrive £129
Boss RPS 10 Pitch Shift £225
Boss RRV10 Reverb £199
Frontline Sampler Delay 1 2 ..... £119.95
Frontline Sampler Delay 2 0 ..... £139.95
Frontline Mono Chorus £39.95
Frontline Stereo Chorus £44.95
Frontline Stereo Flanger £49.95
Frontline Stereo Delay £79.95
Frontline Phaser £39.95
Frontline Stereo Graphic £59.95
Frontline 5-way Power Supply £36.20
Roland DEP 5 Multi-Effects £835
Roland DEP 3 Multi-Effects £475
Yamaha SPX90 II ..... In Stock
Yamaha REX 50 Multi Effects £325
Yamaha REV 5 PRO Reverb ..... In Stock
Alesis Midiverb II £399
Alesis Microverb £249

All Pedals Mail Order Post Free

PORTABLE KEYBOARDS

Yamaha PSS170 Voice Bank £89.99
Yamaha DSR1000 and 2000 ..... In Stock
Yamaha PSR80 ..... £499
Yamaha PSR90 ..... £699
Casio SK5 Sampler £99
Casio SK8 Sampler £109
Casio SK1 Sampler £69
Casio HT3000 Synth £399
Casio HT6000 Synth £699

KEYBOARD ACCESSORIES

Single X Stand ..... Mail Order £25
Double X Stand ..... Post Free £35

Mirage 'A' Frame Stand Two Tier £79
Mirage 'A' Frame Stand Three Tier £99
Mirage 'A' Frame Stand Bags £25

Pre-recorded and Blank Floppy Discs, Cartridges and Cards In Stock.
Phillip Rees MIDI Thru Box £1.195

Everything available by MAIL ORDER ★ Access/Visa holders phone for instant despatch ★ Hire facilities also available. Please phone for details

Unisound

BARCLAYCARD VISA

215 Kilburn High Road, London, NW6 7JG. Tel: 01-624 3900
48 High Street, Chatham, Kent, ME4 4DS. Tel: Medway (0634) 44068

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 editorial address.

Q *In your January '88 issue you mention a MIDI-to-CV/Gate interface, the MCV20, made by Cision. Please could you supply their adress and phone number.*

■ **RG Yeldham**
St Albans
Herts

A *We certainly can, and apologies for missing it out of last month's Interface. Cision can be contacted at: St James House, Cheapsides Lane, Gilberdyke, Brough, North Humberside HUI5 2US. Tel: (0430) 440238. Watch out for a review of the MCV20 soon.* ■ *St*

A *On the subject of drop-ins on Yamaha's QX21 sequencer, DJ Davies suggested keeping a 200-bar blank song in the temporary buffer as a means of dropping in near the end of a song. I look forward to trying his method when I get home.*

However, an alternative technique I've been using may be of interest to your readers. As you know, simply scrolling through the bars until you reach the bar at which you wish to start recording won't work if the track is empty. To get round this, simply put the sequencer into step-time record and then scroll to the point at which you wish to start recording, then hit the Stop button. This has the effect of adding in blank bars as quickly as you would usually scroll through an already-occupied track.

I think this is perhaps quicker and simpler than a Save Temporary Buffer operation, and in any case I would have thought your blank song would disappear pretty rapidly if you're in the habit of quantising what you've recorded.

Is there anyone else out there with QX21 tips, as I share DJ's enthusiasm for the machine?

■ **Gareth Hobbs**
Macclesfield

Q *First, can you tell me where I might get information on the Chapman Stick (feature, MT August '87)?*

My other questions concern Korg's DDD5 drum machine. Could you please tell me:

1. Is tuning programmable for each note?
2. Are the stereo positions programmable?
3. How much do the ROM cards cost?

Perhaps you'll be reviewing the DDD5 soon?

I find the standard of articles very good and overall an entertaining read. However, I do rather regret the fact that you seem to have dumped some of the electronic/software articles which used to appear in the Computer Musician section.

Oh, and one more thing: could you tell me where hi-tech musical instrument manufacturers recruit their R&D teams, as this is an area I'd like to get involved in once I've finished my degree (in Micro-electronics Systems Engineering).

■ **Andrew Skidmore**
Mullion
Cornwall

A *Okay, let's start at the start. Information on the Chapman Stick can be obtained from Argent's, who import it. They can be contacted at 20 Denmark Street, London WC2H 8NA. Tel: 01-379 6690. Current list price for the non-MIDI Stick is £799 including VAT; the MIDI version is available to special order from the States.*

We will be reviewing the DDD5 soon, together with the library of ROM cards that is available for it. In the meantime I'll try to answer your questions.

The DDD5 allows you to construct six instrument sets, each of which consists of 14 sounds (one sound to each pad). Each pad/sound can be assigned its own tuning, level and decay values, so it's an easy matter to spread a bass sound, say, over several pads and give each pad a different tuning for bass riffs – but at the expense of the range of sounds you can use wihin a set.

When you record a pattern the DDD5 remembers what pads you've hit rather than what sounds you've played. So your patterns will be played with whatever instrument set is currently selected.

Song mode allows you to assign an instrument set to each song. To change instrument set mid-song you can assign another Song (complete with its own instrument set) rather than a pattern to the relevant song-step.

A function known as "sequence parameters" allows you to record tuning, decay and level settings in real or step time as part of a pattern. In this way you can incorporate a greater number of tunings into a pattern than the instrument set by itself makes possible (the flip side is that you use up memory faster).

Your next question is simpler to answer. Each of the 14 pads/sounds within an instrument set can be panned to one of seven stereo positions.

RRP on the ROM cards is £49.95 including VAT, but if you shop around you can probably get them for less.

As to your last question, if this is your final year then it's time you got writing. The best thing you can do is write to as many instrument manufacturers as possible, telling them the relevant details of your background and what it is you want to do. You can get addresses from adverts and reviews in MT. It's also worth scouring the Classifieds page at the back of MT each month, as companies sometimes advertise for technical people.

Finally, it might be worth your while making contact with Yamaha's R&D studio in London. Write to: Mr H Atsumi, Yamaha Research & Development Centre, 61 Conduit Street, London WIR 9FD.

There are no ready-made paths to the sort of job you're interested in, so you must make your own. ■ *St*

Q *In December's Interface a reader expressed difficulty in getting a TR505 to save to tape. I own a TR505 and have found that a cheap(ish) portable cassette recorder of the type used for personal computers works OK – sometimes a hi-fi deck is just too sophisticiated. The small portable does have a volume control to boost output.*

I hope this is of help as a much cheaper alternative to buying a TR626 if cassette storage is your only problem.

While I'm writing, how about reviews of Cheetah's range of MIDI master keyboards and drum machine/pads. They look interesting . . .

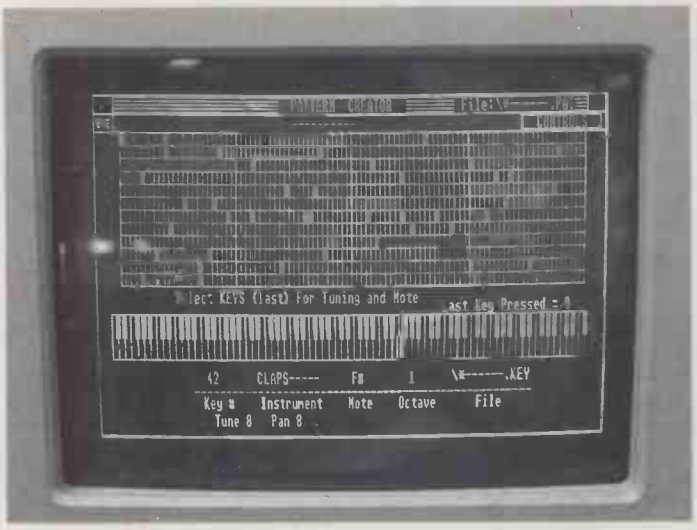
I enjoyed the recent "Sounds Natural" series on programming for the DX/CZ and so on, while the "We Can't Go On Beating Like This" series was so stimulating it made me rush to my equipment to experiment. Great mag.

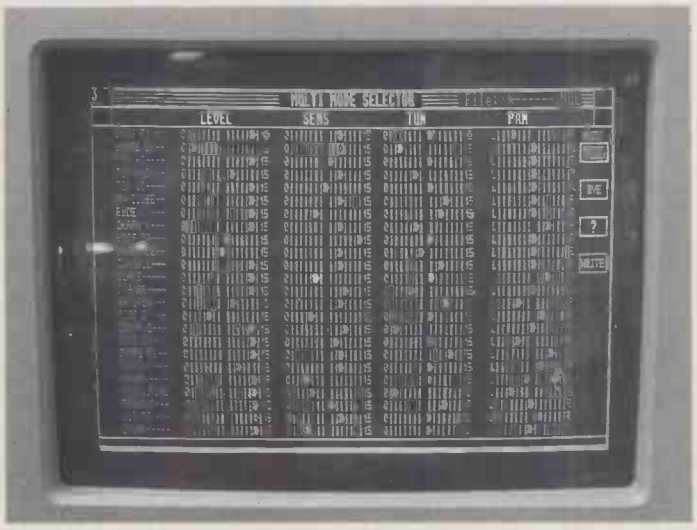
■ **Sean Sanderson**
High Bentham
Lancaster

A *Cheetah's MK5 master keyboard was reviewed in MT, Feb '87. As for new Cheetah gear, we'll be reviewing it as soon as production models become available.* ■ *St*

I·N B·R·I·E·F

Compu-Mates R100 DrumDroid





Photography *Rosemarie Rounseville*

UNTIL NOW PROGRAMS for drum machines have been few and far between. Yamaha had one for their short-lived CX5M computer and Intelligent Music have UpBeat for the Macintosh, but there haven't been too many machine-specific programs which simplify the beat-entering process.

But Compu-Mates, a software company specialising in the Atari ST, have a librarian/utility package for the popular Kawai R100 drum machine called DrumDroid. Whip in hand, I booted up the program and was promptly dazzled by a rainbow of colours. The main screen's title name flickered at me until I recovered from momentary blindness and moved the mouse, stopping the sequence of colours.

As for specs, the R100 DrumDroid gives the user the ability to view drum patterns in a grid that represents MIDI clocks (96); this helps a great deal in the creation of complex drum patterns. DrumDroid can also play and change tunings of the drum samples in the R100 from the computer keyboard. Keys "I-L" represent the three banks of eight drum sounds and keys "Z-?" control the tuning of the last key (drum sound) pressed. Computer key "B" represents normal, unaltered pitch.

The program consists of seven screens: Pattern Creator, Song Library, Chain Library, Multi-Mode, Play Scan, AutoDroid, and MIDI screens. For you MIDI hackers, there's a neat utility package that enables you to monitor MIDI data coming into the ST in hex or decimal numbers.

Let's take a look at the Pattern Creator screen. From here you can create patterns in real time by using the computer keyboard, or by inserting rhythms in step time using the grid. When the mouse is clicked over a piano keyboard displayed onscreen, specific drum samples are triggered, enabling you to hear them. To place a sound on the grid, you select the sound from the keyboard and then click the mouse at the desired point. The sound(s) in each square can be identified by moving the mouse to it; the program will then display the name of that sound at the top of the screen.

By clicking the Controls window you can send the information created on the grid to the R100 or vice versa; the program can receive information from the machine and display patterns programmed on it on the grid.

The next screen is Multi Mode Selector which affords control over pitch, pan, level, and sensitivity of each drum sound (globally or individually). You can create a whole array of presets on the ST and then write them to the R100.

Alternatively, the MIDI Key-In screen enables you to pick one of the R100's drum sounds, choose its pitch and panning, and then assign it to a specific key on your keyboard or drum pad. If you're using Roland's Octapad this can be handy for saving extra drum pad configurations or taking the same drum sound and assigning different pitches to adjacent keys to create a multiple pitched patch.

Both Song and Chain Library screens help you to construct, swap, copy, name, and do the usual piecing together of ideas on the R100. The Play Scan screen shows how to play all 24 drums on the computer keyboard. One useful feature here is that F1 starts the currently selected pattern, F2 stops it, and F3 continues it. DrumDroid also incorporates an artificial intelligence section that will create random drum combinations or random drum fills.

In trying to form an opinion on DrumDroid, the first thing to remember is that it's more of a utility package than an actual editor. The reason for this is that, apparently, you can't gain access to all R100 features through MIDI System Exclusive messages. And because this is a utility package, it's necessary for the user to interact with both the R100 and the ST for the program to be of any use. DrumDroid definitely does what it set out to do, though, and adds a few bells and whistles to boot (ouch).

However, I did have one criticism: even though the grid editor was intended to be a fine tuning tool, I would have liked to see it assign a row number to specific drum sounds instead of randomly placing sounds on any of the squares in the grid.

For owners of the R100 and ST the DrumDroid expands the capabilities of the drum machine and makes those complex drum parts a lot easier to work with. If it were incorporated into a sequencer and made to work with other drum machines, it could be a killer. For the record, the program uses a hardware key and the manual is fairly straightforward, as long as you're familiar with the R100. Remember don't beat it, don't eat it, just read it . . . ■

Scott Gershin

Price *£89 (210 Swiss francs for overseas readers); sterling cheques are acceptable*

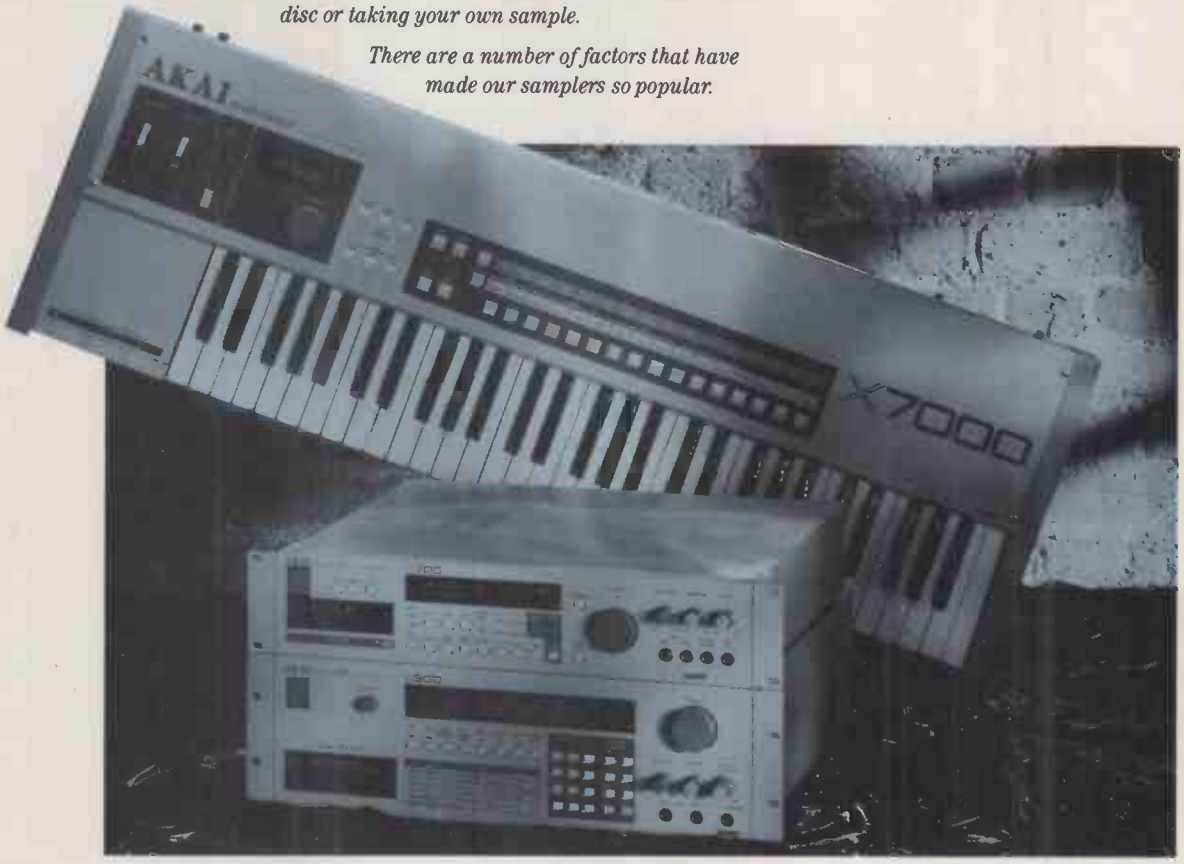
More from *European distributor Diego Zambelli at: "Z", Bernstrasse 129, CH-3052 Zollikofen, Berne, Switzerland. Tel: (010 41) 31/57 50 85. (Mr Zambelli is currently looking for UK distribution, and would like to hear from interested parties.)*

JUST A SAMPLE OF AKAI GENIUS

Sampling is very much an accepted part of the music production process today. Akai have sold more MIDI sampling systems worldwide than any other manufacturer. We've done a great deal to stimulate what has become the Sampling Revolution.

The facility to record any instrument or sound into digital memory and subsequently use it as a musical sound source has brought many advantages for the modern musician. Now you can have real drums, percussion, brass, strings, choir or indeed any sound you like on your recordings simply by inserting the relevant factory disc or taking your own sample.

There are a number of factors that have made our samplers so popular.



They manage to combine affordable prices and operational simplicity with a high degree of creative potential and flexibility.

They offer the possibility of applying many forms of signal processing to your sample including auto or manual looping, filtering, dynamic enveloping, multi sampling, velocity crossfade between samples, pitch transposition and LFO modulation.

Our library of factory sounds is renowned for its quality and variety and is constantly expanding.

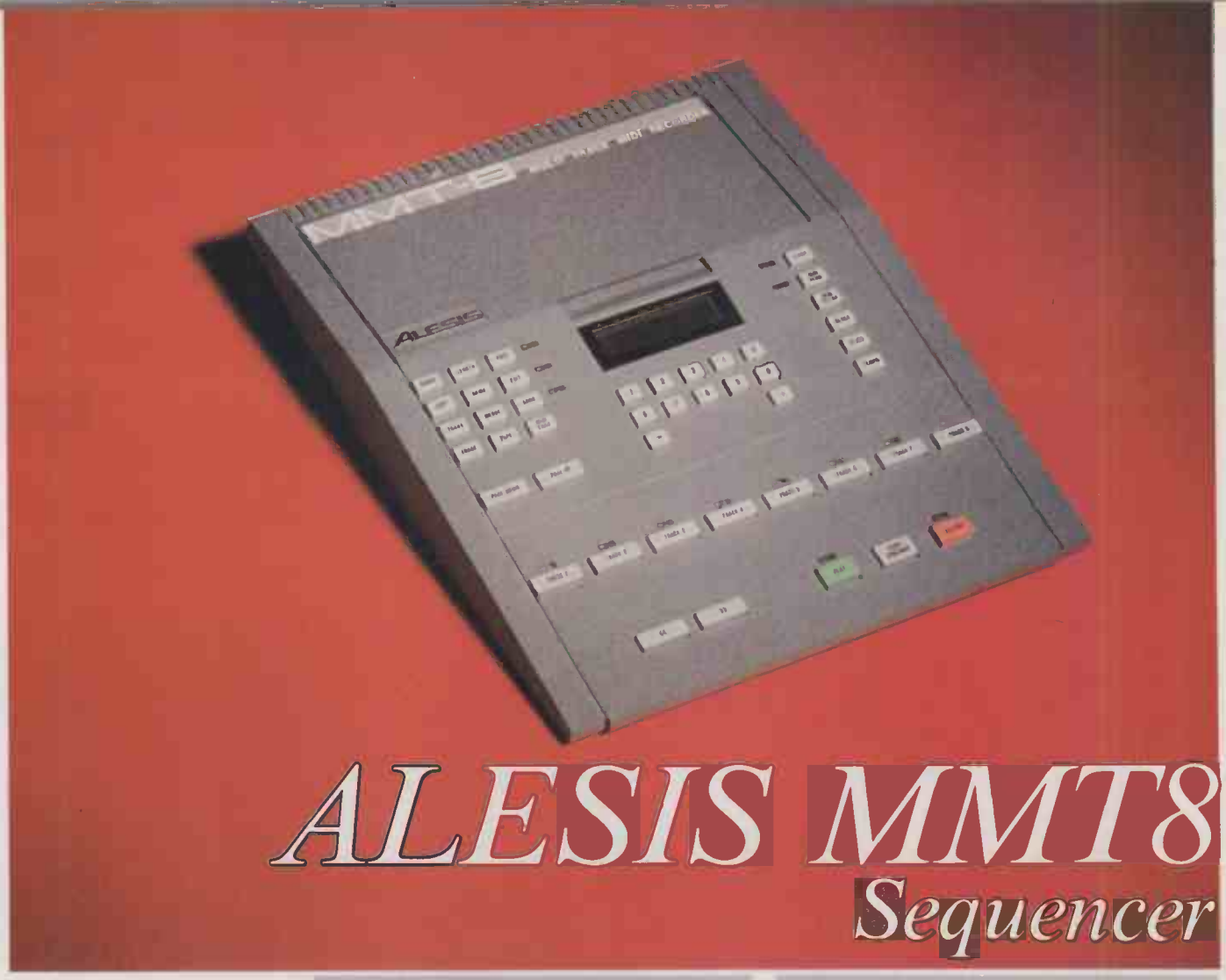
And with a sampling frequency variable up to 40kHz, a very high level of fidelity can be achieved.

There are many very good reasons for the success and high reputation enjoyed by Akai samplers. And many good reasons why you yourself should start to enjoy the creative power they offer.

Phone 01-897 2487 for product information and dealer list.

AKAI
professional

AKAI UK LTD
Haselmere/Heathrow Estate, Silver Jubilee Way, Parkway, Hounslow, Middlesex.



ALESIS MMT8 Sequencer

Photography *Tim Goodyer*

As computer-based sequencing packages become an increasingly common part of modern music-making, does the dedicated sequencer still have a valid place in the market? Text by Simon Trask.

HOW TIMES CHANGE. Where dedicated sequencers once reigned supreme the computer-based alternative has now taken firm hold, in many ways outstripping its rival. Will 1988 see the final vanquishing of the dedicated beast? Alesis obviously think not, for instead of joining the legion of software companies writing MIDI software for the Mac, IBM and ST computers they've opted to produce a dedicated sequencer. Characteristically it's aimed at the budget end of the market.

The Box . . .

THE ALESIS MMT8 (MIDI Multi-Track Eight) is a compact, lightweight unit with a sloping front panel which is sensibly laid out operationally. Alesis have provided plenty of dedicated function buttons, many of which have to be held down while you use the function they reveal – strange at first, but it makes for speedy operation and greater confidence (you can release a button at any time and find yourself back at the Play/Record level). A few buttons (those for Part, Edit and Song modes, Loop and MIDI echo) can be switched on/off, and have red LEDs to display their status.

For buttons themselves Alesis have used the same squidgy rubber as almost everyone else does when they're trying to produce something as cheaply as possible. More encouragingly, on top of the front panel there's a lid which opens to reveal a ready reference guide – nice, even if you do need a magnifying glass to read it.

Beneath the centrally-situated 2X16-character backlit LCD is a numeric keypad and the usual +/– buttons, to the left of these are Page up/down buttons which take you to further displays for certain functions.

In the lower half of the front panel are eight dedicated track buttons, each one sporting its own red LED to indicate on/off status. Below these buttons are the "transport" controls: Play, Stop/Continue, Record, Fast Forward and Rewind.

The dedicated track buttons allow you to mute/demute tracks in real time with the sort of spontaneity that's hard to achieve using a mouse-based sequencing setup. Apart from its more immediate creative applications, this can be a great bonus if you're using multitimbral instruments with stereo outputs, or if your mixing desk simply doesn't have enough channels to handle individual outputs. In practice you can manually switch in/out a maximum of three tracks at a time with consistency.

Unusually the MMT8 "replays" any notes that should be sounding when you de-mute a track. Because MIDI can't start a note partway through its envelope, you get the attack of a note even if it should really be at the release stage. Still, it's a feature which can be put to good creative use.

The rear panel provides 9V DC power input, MIDI In, Out and Thru, tape in and out (for memory storage and tape sync), footswitch input (for sequence start/stop), and click out (for the metronome).

The MMT8 has a familiar organisation: 100 parts (patterns) each of which consists of eight tracks. A part can be from 1-682 beats long (that's a maximum uninterrupted recording time of five minutes 41 seconds at 120bpm). Parts can be chained together in up to 255 steps to form songs, of which there are 100.

The Parts . . .

PART LENGTH IS measured in beats, as the MMT8 doesn't deal in bars or time signatures. Some careful planning of beat and click values is needed if you want to incorporate time signature changes in a part (the MMT8 provides a choice of 10 metronome click values from 1/2 to 1/64 notes including triplets)

The length of a part can be predefined, or else determined by the length of the first track you record (up to 682 beats). However, you can alter the length of a part at any time. Reducing the length will wipe whatever data was in the "chopped off" section, while extending the length inserts blank beats up to the new end point. You can remove from or add to the beginning of a part as well as the end, an invaluable feature when it comes to extracting those few magical beats from an otherwise uninspired session.

Recording can be either from the beginning of a part (in which case you get a count-in of from 0-99 metronome clicks – the default is a sensible four) or else play through the part and hit Record (drop in) at the appropriate moment.

In both cases you can drop out of Record at any time. However, for some reason you can't drop in and out of Record more than once during a single playthrough, unless you Stop/Continue the part before attempting to drop in again. Unfortunately the footswitch can't be used to drop in and out of Record mode, so you've got problems if playing two-handed.

Selecting MIDI Echo allows incoming MIDI data to be echoed to MIDI Out. With the current record track set to "All", data is echoed on the same channel(s) it's received on; if set to a specific channel, data is echoed on that channel. However, if the MMT8 isn't set to Record Ready or isn't recording, the incoming channel remains unchanged.

The Loop function causes the current Part or Song to loop indefinitely. Alesis have missed out by not providing a loop-in-record mode for recording rhythm parts, however.

You can either select a specific MIDI channel or "Unchanged" for each track. If the former, then data on any incoming channels will be recorded on the assigned channel, while Unchanged means that incoming MIDI channels will be recorded unchanged (logical, really).

Holding down the MIDI Filter button and using the page up and down buttons allows you to choose notes, pitch-bend, aftertouch, controllers (globally), patch changes, SysEx, and MIDI channels (all or individual) for selective filtering at the input stage. You needn't bother filtering polyphonic aftertouch or release velocity, however – these are automatically filtered by the MMT8, presumably because Alesis felt they were too memory-intensiye.

If you select "all MIDI channels" then the MMT8 will record all MIDI data that it receives (subject to the other filter options). However, if you select a single MIDI channel then the MMT8 ignores all channels except that one (unfortunately it doesn't echo the other channels to MIDI Out either, which isn't very helpful if you're using a master keyboard).

Recording and storing data on multiple MIDI channels per track is one of the MMT8's great strengths. MIDI guitarists can record in mono mode, keyboard players can record using a multisplit master keyboard, and anyone can play sequences across from another sequencer into the MMT8 (and in some cases vice versa – I was able to transfer sequences in both directions between the MMT8 and C-Lab's Creator sequencer, which also features multi-channel record). With the addition of a MIDI merge box on the front, it should also be possible to indulge in duet recording, though this wasn't something I was able to try out solo.

For many musicians, multi-channel tracks mean that in effect you've got many more than eight tracks at your disposal. If you really want to be extreme about this, 8 tracks X 16 channels = 128 tracks. Just remember you've only got one set of 16 MIDI channels to send them out on.

The MMT8 records to a resolution of 96ppqn. Once you've recorded a track you can quantise it to any value from 1/2 notes to 1/64 notes including triplets. You can also quantise any combination of the eight tracks (press the relevant track buttons and their LEDs will light). As there's no recovery option in case the results aren't quite what you'd hoped for, it's safest to copy the relevant track(s) first.

You get a choice of four quantise types: note start, note start and end, note end, and keep duration. The latter type moves note offs in step with their note ons, so that note durations are preserved.

Copying on the MMT8 turns out to be an extensive feature. Whole parts and individual tracks can be copied. You can copy a part to an empty part or to an existing part, even to itself. In the latter two instances, Copy becomes append as the source part is appended to the destination part. It's a quick way of lengthening a single part, or of drawing together several short parts. Alesis' approach to copying also has the virtue of making it impossible to accidentally overwrite a part.

Individual tracks can be copied to the same or another part, and to the same or another track. Copying a track to itself might seem like a rather pointless exercise, except that the MMT8 allows you to copy selected data. Using the Page up and down buttons in Copy mode you can select one of 22 options: notes, pitch-bend, aftertouch, controllers, patch changes, SysEx data or individual MIDI channels 1-16. So now you can copy notes to the same track and get rid of pitch-bend and aftertouch data, or copy MIDI channel one only and get rid of channels two and three. Copying a particular channel to another track (in the same or another part) allows you to isolate a specific musical part from a multi-channel track so that you can quantise it, shift it to a different MIDI channel, transpose it, or simply use it as the starting point for another magnum opus.

Merge allows you to combine two tracks within the same part, with either of the pair being chosen as the destination track. In this way you free a track for further recording. Merged tracks of course keep their own MIDI channel assignments, so you can mix down any number of tracks onto a single track without finding that, for instance, your percussion parts and double-bass line are suddenly being played on a bass trombone.

However, if you merge a couple of tracks that are assigned to the same MIDI channel, there is no way that you can subsequently change the channel assignment of one because you now want it played on a different instrument. This unfortunate state of affairs could have been avoided by providing a function to define note range when you copy a particular channel to another track.

Erase offers the same range of options as Copy: you can erase any combination of tracks, and select what data you want to erase – particularly useful for erasing a specific channel from a multi-channel track.

The MMT8 allows you to transpose any combination of tracks up or down in semitone steps (0-99). Notes that would be transposed out of the MIDI range are automatically readjusted in octave steps. It's a pity that you can't define a note range for transposition, as this can come in useful where you have several rhythm parts playing on a drum machine within one track and you decide that the conga part should be played on the bongos after all.

If by some misfortune you should fill up the memory (not something you're likely to do in a hurry, I should add), the unlikely message "Bummer, dude! Memory is Full" appears in the display for a few seconds. Awful Californian slang, but you do get the feeling that someone somewhere is sympathising with you (I think).

The Bits . . .

STEP EDITING ON the MMT8 is where you *really* have to get to grips with numbers. To be fair, there's not much else ►

you can do with a limited display, and Alesis' approach is much the same as that used in dedicated sequencers.

Essentially you get one MIDI event per screen display, with the information displayed depending on the type of event. In the case of a note on you get the start position expressed as beat and sub-beat, the note name, velocity value, duration (as beat and sub-beat) and MIDI channel assignment. These can all be edited using the numeric keypad and Page up/down buttons, while the Fast Forward and Rewind buttons step through the individual MIDI events. Fortunately you don't have to know your MIDI commands numerically: the MMT8 will tell you in plain English whether you're looking at a note on or a patch change.

The Event mode can also be used for entering music from scratch in step time. The MIDI event type at each step is selected using the Page up/down buttons. Events can be positioned anywhere within a track to 1/384th-note resolution. It's not the most straightforward of processes, and quite why you have to start by entering an event on the last click of the last beat of a track I don't know.

Unfortunately you can't input MIDI data such as notes and patch-changes from a MIDI instrument, nor is data sent back out over MIDI as you step through it. Both are features which would have lessened the reliance on numbers in favour of the actual sounds.

But it's a definite advantage being able to get to grips with your music at such a detailed and precise level. If nothing else, it can be educational to analyse your timing at "click" level.

The Songs . . .

THE MMT8 PROVIDES 100 Songs, though you're more likely to run out of memory (or inspiration) before you use them all. Each Song can have up to 255 steps (a step contains a single part), and the MMT8 includes the usual step insert and delete editing features.

The good news is that each Song can be given its own tempo, and that track mute settings can be memorised for each step in a Song. The latter feature isn't as flexible as being able to record mute/demute settings at any point in a Song (as C-Lab's Creator, for instance, allows you to do), but you can mute or demute tracks at any time manually while a song is running.

The bad news is that you can't have tempo changes within a Song, nor can you tranpose parts. The latter omission is more of an inconvenience (you'll have to copy

"If by some misfortune you should fill up the MMT8's memory, the unlikely message 'Bummer, dude! Memory is Full' appears in the display."

and then transpose parts in Part mode, thus using up more memory), but there's no way around the former – unless the slight but noticeable pause caused by manually switching from one Song to another isn't a problem for you. Also absent is the ability to program *gradual* tempo changes, though at least you can alter the tempo of recorded tracks manually in real time.

In Song mode the quantisation button takes on a new function: track shifting. This has nothing whatsoever to do with British Rail, though it does have a lot to do with delays. Individual tracks can be shifted by a maximum of 48 384th notes (that's a quaver to you) in either direction. What this represents in actual time depends on the tempo of the music. For instance, at a tempo of 125bpm one 384th note (a 96th of a beat) has a duration of five milliseconds. Values set for each track apply to all 100 Songs.

The MMT8 can sync up to the outside world, with MIDI & Internal, Internal Only, and Tape Sync options. With "MIDI & Internal" selected the MMT8 responds to whichever "trigger" it receives first (MIDI start code or MMT8 Play button). You can also decide whether or not to send out MIDI sync.

The Store . . .

THE MMT8 PROVIDES two means of storing your music: tape and MIDI. Tape storage allows you to save and load all Parts and Songs or individual parts, and to verify a tape for any save errors. Dumping the MMT8's entire memory to tape takes six minutes, after which time it's advisable to verify the tape. All in all, not my idea of fun.

The sane alternative is to transmit the MMT8's contents over MIDI to an external storage device such as Yamaha's MDF1 MIDI Data Filer. Full memory transfer takes a modest 30 seconds, the data being sent as a single SysEx block whose length is determined by the amount of data in memory.

Alesis point out that the MDF1 (the most obvious choice for MMT8 companionship) can only save 85% of the MMT8's memory. Unless you need to use the whole memory for one piece of music, it's probably worth sacrificing that extra 15% of memory for the benefits of disk storage.

DX7IIFD owners are worse off: no more than 25% of the MMT8's memory can be saved to the synth's disk drive. If you're fortunate enough to own Oberheim's DPX1 sample replay unit you'll be glad to know that it will soon be usable as a SysEx storage device too, courtesy of new software from Oberheim. There should be no memory shortage problems there.

With its ability to accept sequences played over MIDI in real time from another sequencer the MMT8 would seem to be a good candidate for live sequencing, allowing your computer-based sequencer to stay safely at home. Alesis' sequencer is certainly portable, if not exactly what you'd call rugged. I'd say a flightcase and a disk-based storage device will be essential accoutrements for the intrepid MMT8 user.

The Verdict

I MUST CONFESS to being more impressed with the MMT8 than I anticipated – not that I mean to cast aspersions on Alesis' competence, but the advantages offered by a setup based around a computer system are so overwhelming. Yet the MMT8 has reminded me that dedicated sequencers can have a charm all their own. There's no denying that the immediacy of the MMT8 is a big point in its favour. Physically punching buttons can be much more satisfying than dragging a mouse around – even when those buttons are of the tacky rubber variety.

Alesis' sequencer certainly scores in operational accessibility, despite one or two annoying quirks; clearly accessibility was a prime objective of the company's design team. If ever there was a sequencer which *didn't* get in the way of making music, this is it.

Although the MMT8 is an entry-level sequencer it has enough power and flexibility to grow with you as your confidence and aspirations grow.

If you'll forgive a journalistic cliche, Alesis are on to another winner here. ■

Price *£299 including VAT*
More from *Sound Technology, 6 Letchworth Business Centre, Avenue One, Letchworth, Hertfordshire SG6 2HR. Tel: (0462) 480000*

THE PORTASTUDIO CENTRE

AKAI FOSTEX Vesta FIRE TASCAM

When we first opened Thatched Cottage Audio we realised that the only way to give a high standard of service and advice was to specialise — after all, nobody can be expected to know everything about recording equipment (although some people pretend to!).

Having become the largest single dealer in eight and sixteen track equipment, it occurred to us that perhaps a similar set up might be a good idea for people venturing into the world of recording for the first time.

Like Thatched Cottage Audio, there would be a number of 'extras' included in a purchase; a money-back guarantee if not satisfied — a free comprehensive four-track book with every portastudio (and a free one-day course with every package) — an undertaking to REPLACE any defective unit within two months of purchase and finally — free delivery!

So all in all, we reckon that there is a great need for a dedicated 'home tech' centre offering unbiased advice, comprehensive stock, good service, free seminars, fact sheets and cast iron guarantees.

SPECIAL OFFERS

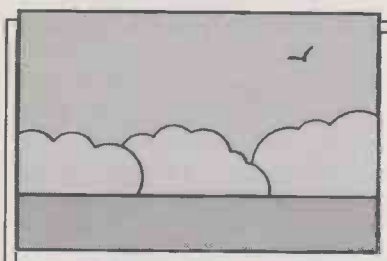
Yamaha MT2X ..... £390 plus VAT
Fostex 160 plus Scintillator ..... £433 plus VAT

OPENING NEW YEAR OFFER
Yamaha MT1X plus Yamaha REX50
plus Mic £699 inc VAT
Free One-Day Course Included

For information and a 'facts pack' write to:
The Portastudio Centre,
The Lodge, Woodland Grange, Old Milverton Lane, Blackdown, Leamington Spa.
Telephone 0926 450435
or tel Thatched Cottage 0223 207952

Thatched Cottage Audio
or Telephone
0223 207979

NORTH ROAD, WENDY, NR ROYSTON, HERTS SG8 0AB
• EXPORT • FULL CREDIT FACILITIES AVAILABLE • MAIL ORDER •



Cloud Line Travel

9 High Street, Olney, Milton Keynes, Bucks, MK46 4EB. England.
Tel: (0234) 713123. Telex: 825944

Frankfurt Music Fair

9th – 13th March

Prices from £195.00 including flights, hotel and entrance.

For details contact: Don or Annie, (0234) 713123
9 High Street, Olney, Milton Keynes, Bucks, MK46 4EB.

Trade and Public Enquiries Welcome

THE HI TECH INSTRUMENT CO!

ensoniq

From the people who brought you the Mirage and the ESQ1 come two new keyboards that will undoubtedly be the sensation of 1988.
EPS 13-16 bit sampling. 20 note poly/multi timbral - polyphonic aftertouch - 80,000 event 8 track onboard sequencer - loads disks while playing - can use any Mirage disk etc., etc.
SQ80 'Cross - wave synthesis' - 3 DCO's/voice - polyphonic aftertouch - multitimbral - 20,000 event 8 track onboard sequencer - built in disk drive for voice/sequencer data - reverb - 5 full drum kits on board etc., etc.

Roland

LA synthesis has revolutionised the sonic possibilities for musicians worldwide. Experience the power with the D50 – synthesizer of the year, and the MT32 – module of the year BOTH MODELS IN STOCK NOW.
TR626 New Roland drum machine with superb specification, Ideal for live and studio use at a realistic price.
THE POWER AND THE GLORY OF ROLAND PIANOS is now even better with the latest 'S' models. Brighter sounds, better keyboard response -Phone for details on this range of superb instruments.
Plus the fullest range of Roland equipment, available from stock now at the lowest prices.

ORDER WITH CONFIDENCE BY PHONE OR MAIL. NO PRESSURE SELLING
Newcastle:- 091 – 232 – 7979
Sunderland:- 091 – 565 – 5168
Middlesbrough:- 0642 – 231446

H.P. BUY NOW – NOTHING TO PAY FOR 3 MONTHS! (Written details on request)

ALESIS

HR16 16 bit rhythm composer £449
MMT8 sequencer £299
Microgate £129
Microlimiter £129
Microenhancer £129
Microverb £199
Midiverb II £339
Free delivery on the above items.

Vesta FIRE

MR30 inc. PSU £189
MR10 inc. PSU £289
MR10 Pro inc. PSU £358
RVD9001 dlg. rev. £299
DIG4128 prog. ddl £380
SL200 dual comp/lim £230
RVD901 dig. rev. £290

YOU WILL NOT BUY CHEAPER - WE DARE NOT PRINT ALL OUR PRICES

Rock City Music

WINTER SALE! BIG BIG BARGAINS!

AKAI

S900 Yes it's still here, over a year later, the S900 still reigns supreme in the sampler stakes. Phone for details of our special packages which include the new 2.0 software and free sounds from our extensive library. S700 Smaller brother of the S900 at a new, incredibly low price of £699 EWI The most significant development in synthesis over the past year. Phone for details – NOW.

The only real alternative in multitrack recording are Akai's superb quality MG1214 complete multitrack system or the MG14D rack mounting recorder. PHONE FOR DETAILS

Plus the fullest range of Akai equipment, available from stock now at the lowest prices.

FOSTEX

We are proud to announce that we are now the only official northeastern Fostex dealer. For eight and 16 track recorders. As such we are offering two extra value multitrack packages that come complete with a high quality wiring loom.
Fostex E16 + Seck 18>8>2 ..... £POA
Fostex Model 80 + Seck 12>8>2 ..... £POA
Also in stock:-
Fostex X15 inc. power supply £264
Fostex 160 inc. power supply £398

Plus

Effects Units
Roland DEP3/5 □ Yamaha SPX90II/REX 50 □ Korg DRV2000/SDD1200 □ Akai Micro Series □ Boss Micro Racks □ Alesis Midiverb II/ Microverb

Software
Steinberg Pro 24 □ S900 □ Soundworks □ Mirage □ MT32 □ DMP □ Synthworks □ DX/TX □ TX81Z □ F801 □ ESQ □ KCS □ DX Heaven □ Etc.,etc. *Plus* Iconix □ C-Lab □ Hybrid Arts □ Digidesign □ J.L. Cooper □ Executive Audio Rams/Roms □ *Plus* full stocks of remotes,cables, looms, spools, etc., etc.

Drum Machines
Roland TR505 □ Yamaha RX5/17 □ Korg DDD1/5 □ Kawai R50 □ Alesis HR16

Four Tracks
Yamaha MT1X/2X □ Tascam Porta 1/2 □ Vesta Fire MR108/30 □ Akai MG614

Mixers
RSD - full range □ Seck 18>8>2/12>8>2

Expanders
Roland MKS7/D550/MT32 □ Yamaha TX81ZTX802 □ Akai VX90 □ Ensoniq ESQ-M □ Kawai K5M

Samplers
Roland S10/S50 □ Akai X7000/S900/S700 □ Korg DSS1/DSM1 □ Ensoniq DSK1/EPS □ Emax

Sequencers
Roland MC500/PR100 □ Yamaha QX21/5 □ Korg SQ8/SQD1 □ Alesis MMT

Synths
Roland D50/Juno 1 & 2 □ Yamaha DX7S/IID/IIFD/DX27/21/100 □ Akai AX73 □ Korg DS8 □ Ensoniq ESQ1/SQ80 □ Kawai K5

WHAT ABOUT DELIVERY? We despatch quickly and free of charge (UK mainland). If there is to be any delay we will be honest and tell you.

ROCK CITY GUARANTEE If any product fails to meet your expectations we guarantee to exchange it!

NEW STORE NOW OPEN!

Rock City
10 MOSLEY STREET, NEWCASTLE UPON TYNE NE1 1DE.
TEL: 091 – 232 4175/7979.

Rock City
5 STOCKTON RD, SUNDERLAND, TYNE & WEAR SR1 3NR.
TEL: 091 – 567 8058/565 5168.

Rock City
44 BOROUGH ROAD, MIDDLESBROUGH, CLEVELAND.
TEL: 0642 – 231346/231446.

360 SYSTEMS
PRO MIDI BASS

The dedicated drum machine may soon find itself accompanied by a dedicated "bass machine" – if so 360 Systems are paving the way with the Pro MIDI Bass. Review by Matt Isaacson.

CONCEIVED TO DO for bass sounds what the dedicated drum machine did for drum sounds, 360 Systems bring us the Professional MIDI Bass. It's a neat concept, but can such a device offer enough to make it a worthwhile proposition to the technology-hungry musician? The Pro MIDI Bass is also the successor to 360's original MIDI Bass, and attempts to solve some of the problems it encountered and to provide a more widely useful and professional instrument.

What It Be

THE PRO MIDI Bass can be summed up as a "Box o' Bass". It gives you real bass sounds, in the form of samples of a full range of acoustic and electric basses – none of the over-used DX7 or mushy analogue synth patches that bombard us from the radio, although a nicely understated Minimoog-type sound has been included, suggesting that the Minimoog has become a traditional bass instrument alongside the more usual stringed ones. Although the sounds are all samples, you don't have to wait for them to load from disk before you can use them. They live in ROM chips inside the box, in finest drum machine style, and the Pro MIDI Bass is ready to cut a groove by the time your finger's left the power switch. Those not impressed by this point may be swayed by considering that the waiting time applies not only to initial power-up but also to sound changes – *all* available sounds are on-line and available for instantaneous sound changes mid-program.

The package is simple, small, clean and familiar – a 1U-high rack-mount box. You won't hurt yourself lifting it or wear yourself out deciding where it should go. A power switch, volume knob, 2X16 character LCD and a handful of programming switches and LEDs are on the front panel. The rear panel is simpler still: MIDI In, Out and Thru jacks, and audio out (plus the obligatory LCD viewing angle adjustment, which probably should have been on the front). On power-up the display informs you of the revision level of the installed software as well as the number of bass sounds you have. This is done because the number is not strictly fixed – ample room has been left for expansion of the internal sounds. The stock unit comes with eight sounds, which use up less than half of the available ROM sockets inside.

Samples *"The Pro MIDI Bass gives you real bass sounds, in the form of samples of a full range of acoustic and electric basses."*

The Pro MIDI Bass is a monophonic playback system capable of generating one sound at a time, but that isn't to say that it only lets you get at one sound at a time. In fact, the basic structure of a preset will hold four sounds. Each preset (there are 30, by the way, in the latest software) allows you to define lower and upper zones which map out areas of a MIDI keyboard over which the instrument will respond. These zones can be anything from one note to over three octaves wide and may adjoin one another or be in completely separate parts of the keyboard. As a result, it's easy to put the sounds where you want them, even if the keyboard you're playing from isn't geared for that sort of splitting. A transpose value can be set separately for each zone, allowing, among other possibilities, the same set of pitches to appear in two different parts of the keyboard at once.

Within each zone, two sounds are selected from the available set – one is a given threshold, and the other is the "normal" sound which plays at all lower velocities. An obvious use for this normal/accent feature is to use a plucked or picked sound normally, with a slap or popped sound on the accents.

Bass-ic Editing

A HANDFUL OF other controls governing the presets are available and are separately adjustable for each of the four sounds in a preset. Volume sets the relative loudness of each sound. Decay and release control the demise of the sound after it is triggered – decay while its key is held down, and release after the key is released – over a range from instantaneous to languorous. A low-pass filter lets you cut some of the high end from a sound to keep it from taking over. The filter has no envelope and is not affected by note velocity, but the cutoff does track note number. Velocity control for the "normal" sound is an on/off switch – velocity either does or does not affect the loudness of a note. (An actual adjustment of velocity sensitivity would have been helpful in cases where there seemed to be too much velocity response.) Velocity control for the accent sound takes the form of a threshold velocity at which playback switches from the normal to accented sound.

In spite of all these features, you can still only play one note at a time. For those nice octave and parallel-fifth effects, there is a second-voice cascade feature. When enabled, the Pro MIDI Bass will respond only to alternating incoming MIDI notes – intervening notes are echoed out to the MIDI out jack, where, budget willing, a second Pro MIDI Bass is waiting to pick up the overflow (you were wondering why a rack-mount box has a MIDI output, weren't you?). This can also produce some interesting effects if the overflow module is something other than a Pro MIDI Bass. (Frankly though, before I'd consider buying two of these, I might start looking around for a cheap sampler instead).

The instrument also provides some options with respect to how it will decide which note to play when presented with more than one playable note at a time. The basic mode is last-note priority, in which the latest arrival always gets preference. This mode is ideal for players who occasionally hit two keys by mistake, as it tends to make such errors less noticeable. Low-note priority gives

Photography *Rosemarie Rounseville*

preference to the lowest note when more than one note is played. Using this mode, the Pro MIDI Bass can be directly layered with another keyboard sound where some combination of bassline, chords and melody are being played. It'll pick out and play the lowest note only, allowing for more flexibility than with a hard split point although this also restricts your choice of chord inversions. High-note priority is similar, but chases the highest note being played at any time. Some players may be disappointed to learn that the voice cascade and note-priority settings are global rather than being part of each preset.

Other non-preset controls include enable/disable of MIDI patch change, main volume and pitch-bend response (+/−3 semitones), MIDI channel setting, master fine tuning, and keyboard transpose interval. The last specifies a transpose amount which operates on both zones of whatever preset is called up. It works in conjunction with a transpose button on the front panel which allows you to instantly switch the transpose on or off (for a quick change of octave in any preset, for example). There's also a memory-protect control and a test note function which allows you to play sounds from the front panel – a helpful tool when a bad MIDI connection is suspected.

The Sounds

THE STOCK SELECTION of sounds includes: Fingered Steinberger, Fingered and Picked Flatwound P-Bass, Rickenbacker, Funk Thumb, Funk Pop, Standup Pizzicato and Minimoog Square Wave. All of them are multisampled to allow them to cover a range of three octaves or more, and all but Funk Pop are looped to allow long decay times. The names describe the sounds pretty well, and the basic character of each sound is also pretty good.

On a more microscopic level, however, the quality of the sounds is a little bit spotty. One problem is a consequence of the limited recording time available for each sound: namely that the loops are quite short, typically only one cycle of the sound. In some cases the sound almost appears to detune slightly upon entering the loop, although in just as many other cases this effect is not very noticeable. Where offensive, this can be avoided only by releasing the note before it enters the loop. Another problem which appears to a widely varying degree is that of abrupt changes in tone of a sound at the multisample splice points. In fairness, this problem afflicts all samplers to some degree when used for multisample playback, because it's pretty hard to record two different things and end up with them sounding the same. For that matter, playing the same note on two different strings of a bass guitar will give you two different sounds, which is *precisely* the problem – or maybe it shouldn't be viewed as a problem . . .

One Standup Bass sample was noticeably noisy, and fret buzz was audible in one of the Funk Thumb samples – again, is this actually a shortcoming? Also, in general, small clicking sounds sometimes accompanied voice stealing. These are things that might complicate a critical producer, but aren't likely to get in the way during performance, unless you are heavily given to bass solos.

Meeting the Pro MIDI Bass on its own terms will enable you to get good results with it. 360 Systems are reportedly at work on a sound library which will include double-length sounds aimed at minimising looping problems by providing more playback time before playback enters the loop. Based on the example sound provided for review (Picked Roundwound J-Bass), they're making big strides in all areas of sound quality.

Zoning *"It's easy to put the sounds where you want them, even if the keyboard you're playing from isn't geared for splitting."*

The Scoop

BY NOW IT may be apparent that in many respects the Pro MIDI Bass has playback capabilities very similar to those of a sampler loaded with bass sounds. Why not just buy a sampler instead, and be able to sample your own sounds? The Pro MIDI Bass is not for everybody. If it's a sampler you really want, don't buy the Pro MIDI Bass. If absolute sound quality and realism at any cost are what you're after, hire a bass player. But, if you want flexible, reasonable-quality, no-fuss sampled bass playback at a reasonable cost – particularly, if you already have a sampler and don't wish to constantly devote a substantial portion of its relatively expensive voice and memory resources to a use which doesn't really demand them – the Pro MIDI Bass may be just the job. ■

Price *£450 including VAT*
More from *Argents Keyboards, 20 Denmark Street, London WC2. Tel: 01-379 6690*

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.

Practically, it gives you creative scope more on a par with professional studios.

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

And linking to SMPTE and MIDI means there's little, in either music or A/V production, that you can't do with the right set-up.

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.

CONFOUNDING THE SCEPTICS

When we pioneered 8-track on ¼ inch, we dramatically reduced the bulk of the machinery and the size of budget needed to buy it.

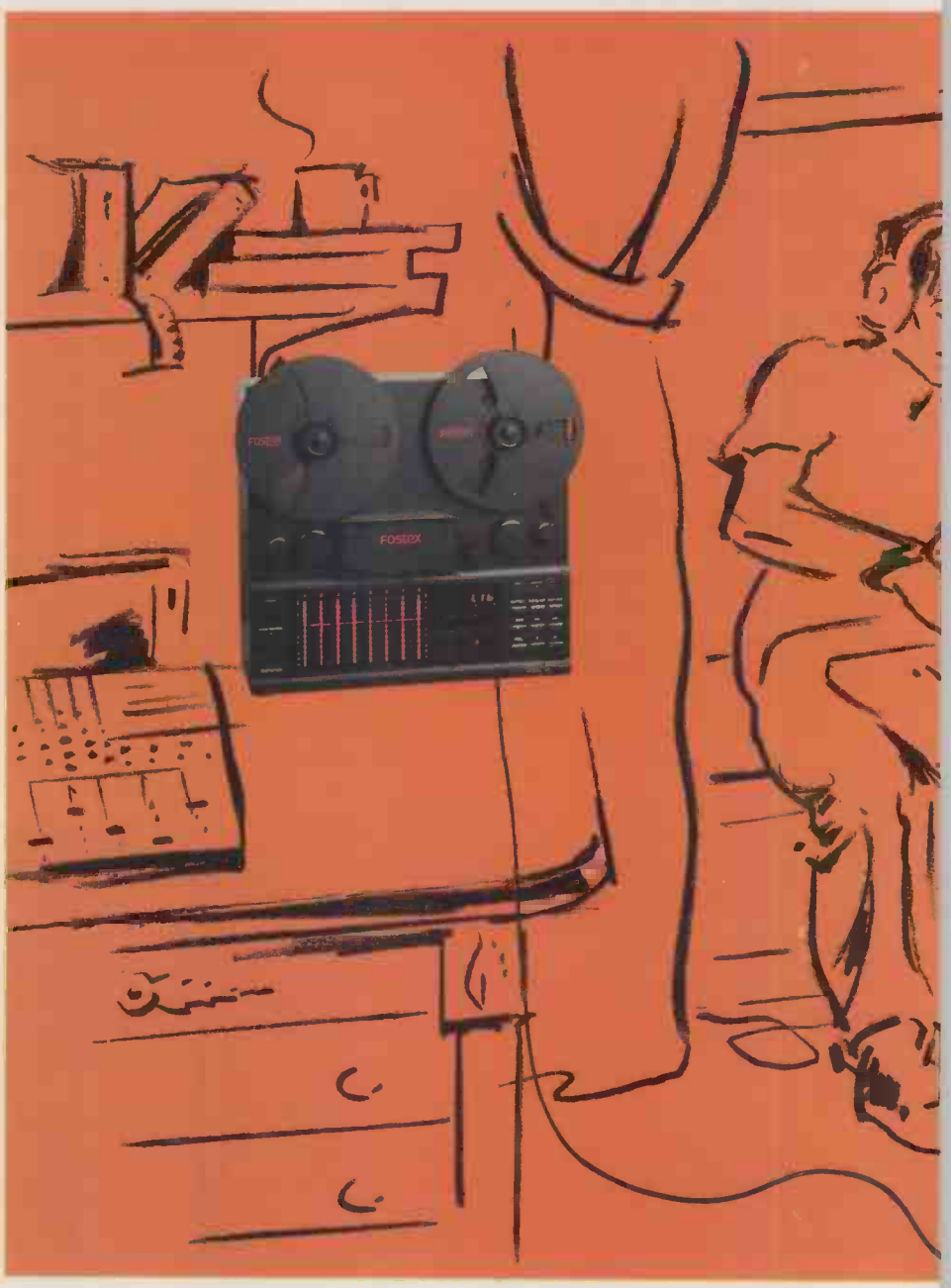
There were those who had doubts about the format, but familiarity soon bred content. It's now totally accepted.

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 ½ inch (or even 1 inch) rivals."

The Dolby C noise reduction system that the Model 80 incorporates, gives supremely tight, clean sound across the whole frequency range. It's the only system specifically designed for narrow gauge tape.

Crosstalk is minimal, even when using the infamous sync code. (For the spec-minded, the crosstalk figure of 55dB at 1kHz is a level that's more normally associated with 1 inch format machines.)

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.



THE LESS TIME YOU SPEN
THE MOR

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.

Because although you've become more

involved in recording, you don't want the process of recording to become more involved.

Internally, microprocessor control and tried-and-tested deck mechanics provide exceptionally fast, stable tape transport.

While fewer moving parts mean greater reliability and optimum use of power.

PLAYING WITH MACHINES, YOU PLAY.

On the outside, everything is aimed at ease of use. A single switch on each channel selects playback, record or monitor status.

A remote footswitch lets you drop in or out when your hands are otherwise engaged.

Highly readable, twelve-segment LED bar graphs and a real-time tape counter give instant access to all the information you need while work is in progress.

And perhaps most useful of all, a miniature autolocator has been built in to provide not only the usual Zero Return, but two memory locations, which can be activated at the touch of a button for infinitely faster cueing.

A TOTAL SYSTEM

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

With the Fostex 450 Recording Mixer and the Model 20 Master Recorder, it makes up a completely integrated, ready-to-run system.

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.

For more information on these products, or a copy of the Fostex 'Cookbook', send the coupon below to: Fostex Multitrack Information, Brent View Road, London NW9 7EL.

Please send me information on: Model 80☐ Model 20☐
450 Mixer☐ Fostex Lock-Up devices☐ Fostex Cookbook☐

Name _____

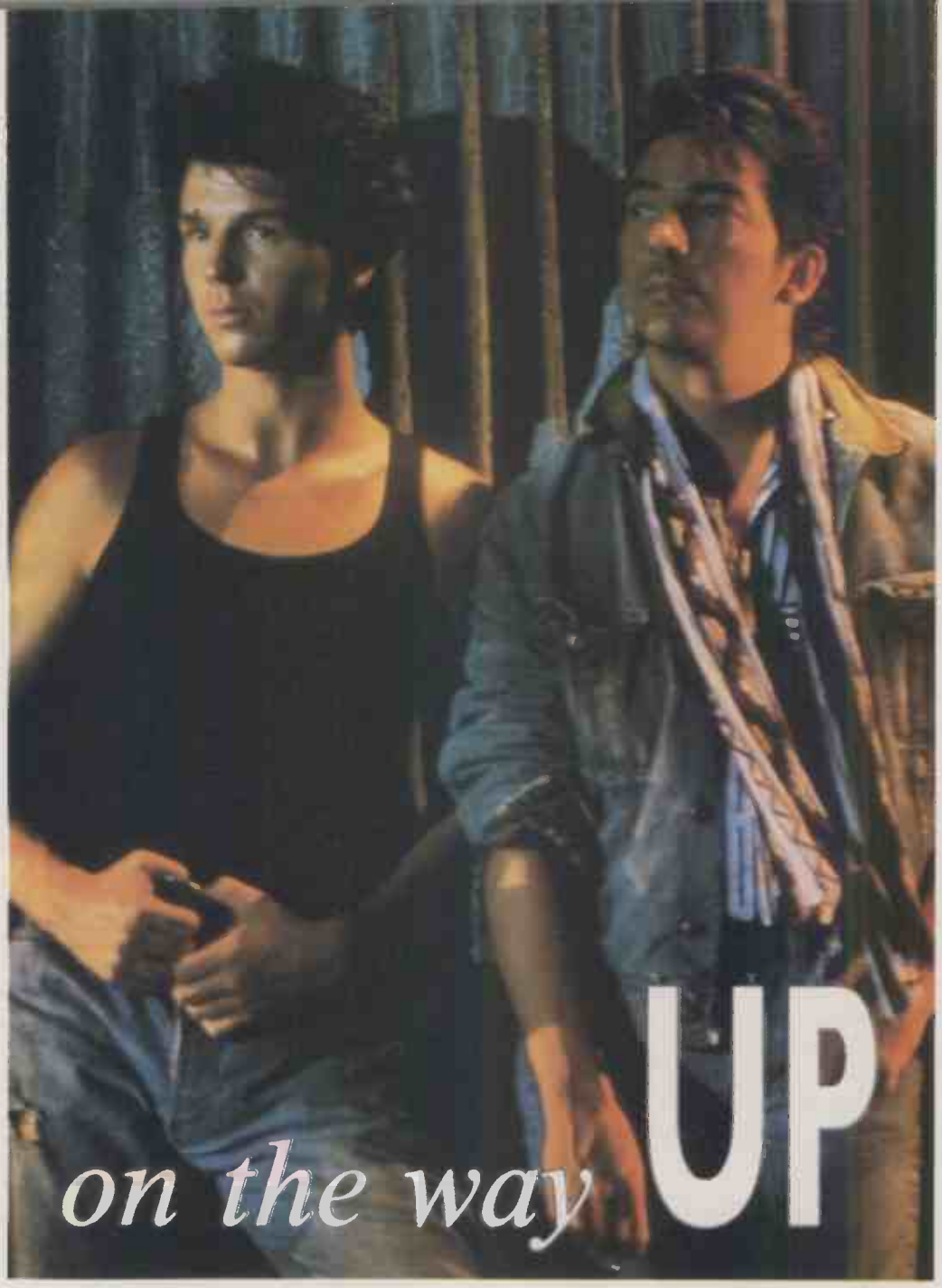
Address _____

_____

_____

FOSTEX

Heard the one about the two Fairlight programmers who also happened to be seasoned songwriters? They got together with a producer from the Stock, Aitken and Waterman school of success and had their first British hit. Interview by Nicholas Rowland.



on the way UP

NOBODY, BUT NOBODY, in the music business likes labels – except the A&R men. They may be convenient, but they prove to be mostly inaccurate and often insulting. Like referring to anything that doesn't have a drum machine on it as "new age". Or categorising anything which is not in 4/4 as "progressive rock". Or bands with shifty eyes and black leather jackets, "gothic".

Which brings us to an act called Climie Fisher – not because they've got shifty eyes, but because of a single called 'Rise to the Occasion' currently doing big things in the British charts. It immediately grabs the attention, and not least because it refuses to file neatly away into the nearest pigeonhole. Over the immutable hip-hop orthodoxy of a TR808-propelled rhythm, pumping bass and hand-me-down samples, there soars not a furious rap, but a captivating ballad, carried on the wings of gospel-like backing vocals and tasteful strings. Time to invent a new term perhaps . . . "electro-ballad" anyone? "Hip-pop"?

Yet don't be fooled into going too far down the hip hop road. The hip hop mix (largely the responsibility of PWL's Phil Harding, whose name you may have heard in connection with Stock, Aitken and Waterman or the Red Ink remix of Sybil's 'My Love Is Guaranteed') is essentially a rearrangment in a hip hop style of a much more conventional ballad. This much you would have discovered for yourself, had you been tempted enough by the 7" of 'Rise to the Occasion' to invest in the 12" whose B side contains not the traditional dub mix, but a "ballad version" of the song. (In fact, this has now been released as a 12" single in its own right.) This time, in place of the scratching and the "Get with the beat" Jungle Book samples, you'll find a supremely mellow arrangement, better suited to the sentiment of the lyrics, but perhaps not as startling on first hearing. Now the bass is much more laid back, while the rhythm is carried by a shaker, congas and a series of interweaved sequences of bright guitar-like synth patches. It's time to dim the lights and grab a partner for that quick smoocher before the last bus home.

Pursuing the story behind both cuts leads us to the door of a certain Simon Climie, singer, and one Rob Fisher, keyboardsman and programmer. ►

KEYBOARDS

Korg DS8	£799
Korg DSS1 ....one only ex demo.	£1575
Korg SG1 Piano	£POA
Korg DVP1	£675
Korg Poly 800 mK11	£425
Korg MR16 computer drums	£149
Korg MEX-8000 memory expander	£150
Akai S900	£1899
Akai ME20A	£99
Akai VX90	£499
Akai X7000 ex demo	£819
Akai ME30P	£139
Akai MPX80 midi mixer	£1299
Ensoniq mirage MK11	£925
Ensoniq mirage expander used	£715
Ensoniq ESQ	£1195
Ensoniq piano module used	£449
Yamaha DX100	£299
Yamaha DX21	£599
Yamaha DX7S	£1099
Yamaha QX21	£269
Yamaha DX711FD	£1699
Yamaha MEP4	£315
Yamaha TX81Z	£399
Roland MC500	£999
Roland Alpha Juno 11	£775
Roland JX10 used	£1350
Roland MKS20	£850
Roland MKS7	£850
Roland S10 inc free library	£699
Roland S50	£POA
Roland D50	£1450
Roland Alpha Juno 1	£POA
Siel EX80	£179
Siel Mono	£75
Dynacord MCC1 midi station	£POA
Roland D-50	£1199
Yamaha strings used	£175
Logan strings used	£129
Korg Poly 61 used	£325
Casio SK200	£215
Yamaha PSS570 used	£95

PORTABLE

Carlsbro Taurus ST4080 Pair	£379
Carlsbro Cobra 90PA	£196
Carlsbro Marlin 150 PA	£264
Carlsbro Marlin 150 xlr	£283
Carlsbro Marlin 300 PA	£370
Carlsbro CP250 power amp. s/soiled	£399
Carlsbro 1 x 12 + horns Pair	£223
Carlsbro 2 x 12 + horns Pair	£353
Dynamix 12 x 2 mixer	£315
Dynamix 6 x 2 mixer	£213
Yamaha P2150 power amp.	£415
Yamaha P2075 power amp	£299
Yamaha S10x monitors Pair	£155
Yamaha S20x monitors Pair	£237
Yamaha S300 Pair	£575
Shure mics in stock	£POA
Sennheiser mics in stock	£POA
Electro voice mics in stock	£POA
Yamaha mics in stock	£POA
Electro voice s200 Pair	£POA
Electro voice stands	£POA
Bose 802 series 11 Pair	£POA
Bose system controller	£POA
Studiomaster 1000 power amp	£699
Studiomaster 500 power amp	£549
Studiomaster 6 x 2 mixer	£297
Tek cab 70w 1 x 10 cabs Pair	£155
H/H Pro 200 w cabs Pair used	£350
H/H Pro 150 mK11 cabs Pair inc stands	£495
H/H 1 x 12 Powered monitor used	£195
Fender Pa4100 Pa head used	£65
Cougar csx 120w power amp	£135
Laney theatre PA amp used	£139
Custom sound power amp used	£75
Wem 1 x 10 monitors Pair used	£190
1 x 12 with bullet Pair used	£129
Selmar collumns Pair used	£69

RECORDING NEW/USED

Fostex 80 8 track	£POA
Fostex 450 mixer	£POA
Fostex 260 Portastudio inc free digital delay	£795
Fostex 160 Portastudio inc free digital delay	£520
Fostex X30 Portastudio inc free digital delay	£320
Tascam Porta one studio inc free digital delay	£449
Tascam Porta two studio inc free digital delay	£559
Tascam M244 inc free digital delay	£699
Yamaha MT1X Portastudio inc free digital delay	£499
Yamaha MT2X Portastudio inc free digital delay	£599
Yamaha GQ1031B Graphic	£229
Yamaha GQ2031 Graphic	£419
Yamaha REV 7 dig reverb TO CLEAR	£POA
Yamaha REV 5 dig reverb	£POA
Yamaha Rex 50 Processor	£350
Roland DEP 3 Processor	£475
Roland DEP 5 Processor	£635
Ibanez DD1000 dual dig delay	£233
Korg KME-56 multi graphic	£POA
Alesis Microverb dig reverb	£199
Alesis Midiverb 11 19" rack	£389
Alesis MPX remote for reverb	£69
Denon DRM07 cassette deck	£POA
Denon DRM20 cassette deck	£POA
BEYER HEADPHONES IN STOCK	
Accessit stereo reverb used	£89
Great British Spring	£99
1st Audio Patch bay	£59
JHS SL5300 reverb	£69
Ibanez HD1000 dig delay used	£199
Korg Signal analog delay used	£69
Celestion DL4 monitors	£POA
Celestion DL6 monitors	£POA
Celestion DL8 monitors	£POA
Akai MPX820 midi mixer	£1195
Tascam M30 8 track mixer used	£499
Tascam 38 8 track	£POA
Tascam MM20 used	£75
Teac 8/2 line mixer used	£99
Tascam DX4D noise reduction	£POA
Studiomaster IDP-1 Processor	£579
Studiomaster 16/4 used	£699
Studiomaster studio 4 used	£489
Studiomaster Series 2 16-16-2	£3359
Studiomaster Series 3 16-4-2	£2326
Studiomaster Series 8 12-8-2	£968

DRUM COMPUTERS

Alesis hx 1 in stock	
Korg DDD1	£POA
Korg DDD5	£POA
Yamaha RX5	£POA
Roland TR505	£POA
Roland TR727	£299
Roland TR707	£POA
Roland TR626	£350
Roland CR1000	£295
Roland Rhythm 77 used	£59
Boss DR220E	£158
Boss DR220A	£158
Oberheim DX used	£225
Sequential circuits tom	£325

Ampex 456 7" tape	
Ampex 456 10" tape	
Teac head cleaning kits	
Tascam remotes	
Korg DDD1/5 sound library	
Korg DS81 sampling board	
Seck 12/8/2	£POA
Seck 12/2	£POA
Yamaha KM802	£265
Yamaha KM602	£189
Azden GX36 graphic	£POA

SPECIALS

Tascam Porta 05 inc free digital delay	£329
Fostex 160 inc free digital delay	£523
Roland S10 sampler inc free library	£689
Yamaha DX7S	£1099
Alesis HR16 drum computer in stock now	£449
Alesis MMT8 sequencer	£299
Roland D50 synth	£1350

ROCK.N.ROLL

Fender switcher combo	£143
Fender Champ 12	£199
Fender sidekick reverb 25	£130
Fender sidekick reverb 35	£148
Fender sidekick reverb 65	£237
Fender sidekick 15 combo	£69
Fender deluxe reverb 11	£311
Fender Princeton 11 combo	£267
Fender super champ combo	£275
Fender Yale reverb combo	£212
Roland JC120 combo used	£389
Roland JC77 combo	£550
Roland super cube 100	£349
Roland keyboard cube 60	£399
Session rockette	£121
Session 1 x 15 bass combo	£330
Sessionette 75w combo	£282
Carlsbro rebel 12 combo	£259
Carlsbro sidewinder valve	£386
Carlsbro keyboard 150 combo	£437
Carlsbro colt 45	£189
Carlsbro cobra 90 key combo	£279
Carlsbro colt 45 bass combo	£175
Carlsbro B-410 E cab	£259
Carslbro B150BG head	£209
Carlsbro stingray lead combo used	£189
Mesia zoom combo valve used	£195
Nolan 2 cann valve head used	£79
Traynoor valve used	£145
Marshall studio 15 combo as new	£249
Marshall JCM 800 50w lead as new	£295
Marshall JCM 800 1 x 12 cab as new	£65
Marshall 2 x 12 cab (4 x 12 size) used	£75
Marshall JCM 800 100w combo used	£365
Sound city 4 x 12 tatty used	£59
Laney K35 twin reverb used	£79
Peavey Deuce 2 x 12 combo used	£229
Ampeg Portaflex head used	£79

ROLL

Washburn G-Jnr	£149
Washburn G3V	£199
Washburn G8V	£299
Washburn EC29 splash finish	£575
Washburn RS8V	£299
Washburn B10 bass	£199
Washburn D24 s maple acoustic	£224
Washburn D30s birds eye maple	£299
Washburn EA20 woodstock elec/acous	£244
Westone the rail bass used	£175
Westone spectrum dx guitar	£145
Westone thunder 1a guitar	£181
Westone x 70 guitar	£145
Westone thunder 111 bass	£347
Rockson guitar	£89
Jackson USA crackle finish bolt	£1300
Charvell mod 3 guitar white	£459
Charvell mod 3A guitar white	£479
Charvell mod 5 guitar wine	£699
Charvell mod 2 bass white	£379
Fender USA standard with case	£399
Fender telecaster deluxe used	£325
Fender precision fretless used	£245
Fender Jaguar custom '60s superb	£POA
Fender Concord acoustic	£95
Fender Catalina acoustic	£157
Fender Del Mar acoustic	£177
Fender Capastrano acoustic	£213
Fender Redondo acoustic	£114
Fender Newporter acoustic	£107
Fender F210 left hand acoustic	£99
Fender Gemini 11 acoustic	£89
Gibson SG standard cherry used	£325
Gibson ES335 left hand nat dot	£1300
Gibson Flying v '80s used	£395
Epiphone jap 2 p/u solid used	£95
Epiphone FB100 acoustic used	£95
Epiphone Sheraton 11	£275
Hohner B2a headless bass	£249
Hohner ST57 guitar left hand	£185
Peter Cook axis bass used	£299
Gordon Smith SG left hand	£215
Aria SB1000 bass used	£375
Jay Dee Mark King used	£585
Jay Dee Supernatural fretless used	£375
Jasmine acoustic/electric	£162
Clanssa 12 string acoustic	£135
Clarissa electro/acoustic roundback	£245
Aria heritage bass used	£185
Hondo small body folk acoustic	£69
Martin sidewinder bass	£125
Martin sidewinder guitar	£149
Yamaha SG2100s used perfect	£395
Suzuki 502 acoustic	£149
B+M infante classic 3/4	£32
Sanchis classic	£99
Granados classic	£155
Levin acoustic'60s used	£265
Boss effects	£POA
Ibanez effects	£POA
Yamaha REX 50 multi effect processor	£350

WE'RE LOOKING TO THE FUTURE — ARE YOU?

"We must be one of the few bands who have had the luxury of producing their home demos using two Series II Fairlights."

► Though their partnership is just over a year old, both names could well be familiar. From 1982 to 1984, Fisher was signed to EMI as one half of a duo called Naked Eyes. Those collectors of might-have-been anecdotes may be interested to learn that this act was originally called Neon, with occasional supplementary members Roland Orzabal and Curt Smith. The Naked Eyes first album, *Burning Bridges*, was largely ignored by the British press and public alike, though it yielded two top ten singles in America and eventually sold around half a million copies there. Consequently, their second album, *Fuel For The Fire*, was only released Stateside and shortly after that the duo went their separate ways. Fisher returned to England accompanied by the Fairlight he'd managed to acquire through Naked Eyes' success and found himself involved in session work.

Simon Climie too has a solid history of session work as a programmer behind him, although his previous success has been more in the capacity of a songwriter working with a variety of partners. An original claim to fame as the son of the English editor of *Mad* has been eventually supplanted by 15 major songwriting credits, including 'Invincible' (Pat Benatar), 'No Time To Stop Believing' (Smokey Robinson), 'Ecstacy' (Jeff Beck) and 'I Knew You Were Waiting For Me' (George Michael/Aretha Franklin).

In 1984, Climie met producer Steve Lillywhite through whom he got into the then fledgling art of Fairlight programming, and made his debut on 'Perfect Way' and 'Small Talk' from Scritti Politti's *Cupid and Psyche* LP.

All this explains why just over a year ago, both Climie and Fisher found themselves in Abbey Road studios involved in a session for some Canadian artist who EMI had taken under their wing.

"I can't remember much about him except he was pretty bad", Fisher explains. "In fact he was so bad that we spent most of the time downstairs in the bar which is where we formulated the idea for Climie Fisher."

"The thing we had in common was the Fairlight", continues Climie. "Rob had bought one and Steve Lillywhite had lent me one for a year, so immediately we thought 'why not link the two together and see what we can do?'. I think we must be one of the few bands who have had the luxury of producing their home demos using two Series II Fairlights."

WITH THEIR POOLED resources of talent, experience and equipment, progressing from demo to deal proved relatively easy. However, breaking into the charts has proved more of a challenge. Their first two singles, 'This Is Me' and 'Love Changes Everything' have not exactly set the British charts aflame (though the latter is a monster hit on the Continent). Which is why they're both grateful to Phil Harding, who may have got them branded as hip hop artists, but has at least brought their name into the public eye. However, they begin to get worried when I asked them why certain samples were chosen.

"The Jungle Book? Really?

"Casablanca? . . . Is that the one with Dean Martin?"

"Does that mean we're going to get sued by the Disney Corporation? . . ."

It's clear then that Harding was given considerable freedom with the song. How do Climie and Fisher feel about letting somone interfere with their work?

Fisher explains: "Well, of course, Phil Harding is not just anyone, he's really brilliant at what he does. And he won't do a track unless he's got some sort of angle on it. I mean, he won't just put a tape on and start messing around for the sake of it. And if we hadn't liked it when he'd finished, we'd just have written it off as a waste of time and money."

"You have to take risks", Climie continues. "We gave him the ballad, told him what we *didn't* want and left him to it. Specifically we wanted the backing track to be compressed separately from the vocals. We tend to do that a lot when we record ourselves and it adds so much to the feel. There's a certain way that you can set compressors so that it makes the beat pump much more. That's how we got the feel when we were writing it, but somehow, that had got lost in the master mix and so we didn't feel that the ballad version was really happening.

"But we love what's been done. I suppose it might be seen as a bit of a gimmick, a bit cheap, compared to what the rest of Climie Fisher is about. What's interesting is that in Germany where our last single has been Top Ten for five weeks, they've actually opted to release the ballad version, which shows that the song stands up on its own without the gimmick element anyway. And Jermaine Jackson and Stephanie Mills have recorded a cover version too.

"We believe that if we get the song right at our end – if we get the feel and the structure right – then anyone with the right instinct is going to get the mix right. On the other hand, if there's something wrong with the basic structure, then there's no way that anyone's going to *make* it great."

Getting the basic structure of each song right is an important part of the Climie Fisher philosophy, and I get the impression that they consider themselves songwriters first, producers second and (possibly) musicians third. Last year, they wrote 40 songs, some of which were then offered to other people, while others were retained to be incorporated into the Climie Fisher repertoire.

Fisher: "We tend to have fortnights where we write a whole batch of songs, then we'll demo them up to quite a finalised stage before deciding whether to keep them or give them away. Most of our final recordings are demos which have been worked on in the studio."

Climie: "To me it's always been important to get as complete an arrangement as possible, even if you're writing for someone else. I mean, publishers have said 'Just give me it with piano and vocal, that's all you need'. But they're wrong. Everytime people have used stuff I've written they've kept very close to the original. The fact is that most people just can't 'hear' an arrangement from a simple idea. There's just too much work to be done. So really, I'd recommend to anyone, give it your best shot."

As far as demos are concerned, the days of the two Fairlight demos are long over, not least because Steve Lillywhite took his back.

"I still have mine in the corner", says Fisher, "but we don't tend to use it much – just for certain sounds, though Page R is still nice to work ►

MASSIVE SAVINGS

Many items on INTEREST FREE CREDIT Please ask for details.

HUNDREDS OF BARGAINS. Many items at LESS THAN COST

KEYBOARDS

ROLAND D50	1350.00
ROLAND JX10 (demo)	1295.00
ROLAND S10	699.00
ROLAND RD200 (demo)	900.00
ROLAND RD300 (demo)	1199.00
ROLAND RD250S	1299.00
ROLAND RD300S	1499.00
ROLAND RD1000	2250.00
YAMAHA DX7IID	1399.00
YAMAHA DX7IIFD	1499.00
YAMAHA DX7S	1095.00
YAMAHA DX21	499.00
YAMAHA DX100	269.00
YAMAHA PF85	995.00
KORG PS707	599.00
KORG POLY 800 II	449.00
ENSONIQ ESQ1	1095.00
ENSONIQ SQ80	1395.00

• 8 voice multi-timbral
• 75 multi-sampled & synth waves
• 5 multi-sampled drum sets
• 8 track sequencer
• Poly-Key™ (poly. aftertouch)
• MIDI

SQ80 CROSSWAVE SYNTHESISER.
Graft attack characteristics of one sound onto another. Create acoustic sounds with startling accuracy

ENSONIQ SQ80

KORG DS8	899.00
CASIO CZ1	699.00
CASIO HZ600	299.00
CASIO HT3000	399.00
CASIO HT700	279.00
CASIO CZ230S	245.00
KAWAI K5	1299.00

SAMPLERS

All samplers come with FREE access to our extensive sound libraries.

ROLAND S10	699.00
ROLAND S50	1995.00
ROLAND S550	2300.00
AKAI S700	699.00
AKAI X7000	899.00
AKAI S900	1699.00
ENSONIQ DSK1 Mirage (demo)	899.00
ENSONIQ EPS *NEW*	1695.00
CASIO SK2100	299.00
CASIO FZ1	1399.00
EMU EMAX Keyboard	2200.00
EMU EMAX Rack	1995.00
EMU EMAX HD Rack	2695.00
EMU EMAX HD Keyboard	2900.00

EMU Hard Disk Emax Keyboard

MIDI WIND CONTROLLERS !

YAMAHA WX7	799.00
AKAI EW1 & Module	1050.00

EXPANDERS

YAMAHA TX802	1199.00
YAMAHA TX81Z	399.00
ROLAND MT32	450.00

ROLAND MT32

ROLAND MKS7	499.00
ROLAND MKS80	1100.00
ROLAND D550	1100.00
KAWAI K5M	849.00
ENSONIQ ESQM	799.00

SEQUENCERS

KORG SQD8 *NEW*	399.00
KORG SQ8	199.00
YAMAHA QX21	199.00
YAMAHA QX3	1100.00
ROLAND MC500	899.00
ROLAND PR100	350.00
ALESIS MMT8	299.00
ICONIX 128 Track ATARI Sequencer	249.00
ATARI ST1040 & STEINBERG PRO 24 (Oxford Branch Only)	750.00

DRUM MACHINES

YAMAHA RX21L	85.00
YAMAHA RX17	225.00
YAMAHA RX5	899.00
ROLAND TR505	199.00
ROLAND TR626	350.00
KAWAI R50	299.00
KAWAI R100	450.00
KORG DDD1	499.00
EMU SP12	1695.00
OBERHEIM DX	295.00
ALESIS HR16	449.00

Full SIMMONS Range Available At Our Oxford Branch

SOUND PROCESORS

ALESIS Microverb	220.00
ALESIS MIDIverb II	339.00
ALESIS Microrack in Stock	
IBANEZ DD1000	199.00
YAMAHA REX50	325.00
YAMAHA SPX90 II	599.00
YAMAHA REV7	749.00
KORG SDD3300 Triple Delay	399.00

Available on INTEREST FREE credit

KORG SDD3300 Triple Delay RRP £849 ABC £399

KORG SRV3000 Reverb	699.00
ROLAND DEP5	550.00
ROLAND DEP3	399.00
ROLAND GP8	699.00

HOME RECORDING

TASCAM Porta 05	329.00
TASCAM Porta One	449.00
TASCAM Porta Two	549.00
TASCAM 246	899.00
FOSTEX X30	349.00
FOSTEX 160	499.00
FOSTEX 260	799.00
AKAI MG614	1195.00
YAMAHA MT1X	449.00
YAMAHA MT2X	599.00
VESTA FIRE MR30	169.00
VESTA FIRE MR10	299.00
VESTA FIRE MR10-PRO	399.00
FOSTEX M80 & SECK 12:8:2	2450.00
FOSTEX E16 & SECK 16:8:2	5500.00
YAMAHA AX300 Monitor Amp	129.00
JBL Control 1 Monitor Speaker	149.00

PROGRAMMABLE MIXERS (With MIDI)

YAMAHA DMP7	2950.00
AKAI MPX820	999.00
SIMMONS MMT8	550.00

Send for our FREE Keyboard Info-Pack with details of all our prices,
BRITAINS BEST MAIL-ORDER SERVICE—Phone your credit card number for next day delivery.

4 SHOPS WITH KNOWLEDGEABLE STAFF WAITING TO SERVE YOU!

ABC music

14-16 High St., Addlestone
☎(0932) 854877/840139
1 mile from JUNCTION 11 M25

56 Surbiton Rd., Kingston
☎01-546 9877

324-326 Farnham Rd., Slough
☎(0753) 822754

44 St. Clements, Oxford
☎0865 725221

BUY NOW-PAY NOTHING FOR 90 DAYS! (Ask for written details-subject to status)

Musicard WELCOME HERE

► with. We were thinking of getting a Series III at one stage, but firstly we can't afford it and secondly, there are other cheaper things around which together can do the same job just as well."

BOTH CLIMIE AND Fisher have their own separate home set-ups. These have Fostex B16's, A&H mixing desks and recently acquired D50's in common, but very little else. Climie works mainly with the Sequential Studio 440 linked to a Macintosh run Performer sequencing program, while Fisher prefers the Atari based Steinberg Pro24 driving a combination of DX7, TX802, Akai S900 and LinnDrum. Between them they also have a full complement of effects including the Roland SRV2000 ("thoroughly recommended") and the Yamaha REX50.

By basing their activities around two different systems, both musicians believe that they've managed to cover just about all their options. After all, as most electronic musicians have discovered for themselves, there's no single piece of gear or software which is capable of doing absolutely everything.

"Sometimes you think it's a conspiracy", says Climie. "Equipment X comes out which involves some great breakthrough, but the designers always forget to build in the feature that made equipment Y a breakthrough too. So, for example, the early version of the Performer software doesn't have looping in Record, which personally I think is really important. Yet there are certain bulk commands you can alter by percentages, like note durations or velocities, which the Fairlight has, but the Steinberg doesn't. So we end up recording things on the Steinberg, editing them on the Performer then bouncing them back to the Steinberg.

"There are similar problems on the 440, though it's a great machine for writing. I've got this songwriting disk with some great drum sounds, a bass patch on MIDI channel four and other things which can be MIDI'd in and out very quickly. It's so compact and I can start a whole feel going, and before I know it I've got something there. But you can't do the detailed work for finished versions on it: the editing facilities aren't nearly so quick or good as the Steinberg. So I usually end up doing a bulk MIDI dump into Rob's Steinberg and editing it from there.

"Another annoying thing is that if you think you're going to sample a really good bass sound into it and run it from an external sequencer, you run into the problem that it doesn't respond to incoming pitch-bend information, which is a serious disadvantage. So we end up using the S900 for bass lines.

"And with all these problems, you usually end up thinking that it's you that somehow got it wrong. Because when you ring up the shop, whether they know anything about it or not, they always say 'Oh, I think you will find it will do that'.

It seems that, despite a few criticisms, the Steinberg software has found considerable favour with Climie Fisher.

Fisher: "It takes a while to get into, but the Steinberg is brilliant for step-time work because it plays back the whole sequence to you every time you put in a new note, so you can hear how its going. We use that for programming in very fast sequences which come across as little stabs but which are actually a whole load of notes. And it's brilliant for time-correcting odd notes here and there, so, when you want to, you can leave timings to drift about a bit."

Climie: "This thing of 'feel' is very important to us. So while we might write around a sequenced bass line, when it comes to recording, we like to put in live 'features'. On 'Love Changes Everything' and 'Rise to the Occasion', we programmed the whole track, then Rob did four takes completely spontaneously and we then put bits of all of them into the final version.

"Yeah", agrees Fisher, "we also did that on what looks likely to be our next single 'I Bleed For You'. I played the whole bass line live from start to finish, but by the end I was a bit out of time, so the bass in the last chorus shifts by half a beat, and it actually sounds really good."

This leads me to the observation that while a working knowledge of new technology is essential, there is a point where it can just go too far. I put it to them and Climie takes up the argument:

"Ultimately, what we're doing is making records, rather than just pushing the technology as far as it will go for its own sake. In fact, we've been through stages where we've got so far into the technology that we've ended up writing some really average songs. All right, so they had killer grooves and all these great effects on them, but there was no room to put the actual song.

"The mistake to make is to spend three days messing around with the track, putting in all the detail. If you're really getting into the bones of what a song could be, you can still mould the track *and* the song. The two of them both remain malleable forms. That's how we are approaching it now and it really works."

Fisher picks up the point: "Of course, you do need to know the machines, otherwise they'll end up programming you. But you don't have to know *everything* about the machine, just what's useful for your situation."

Climie again: "At least with recent equipment, especially from the Japanese side, you know that when it comes on to the market, it's been thoroughly tested, the software's complete and it's not going to give you any trouble. You don't have to waste time learning a machine's idiosyncracies, about how to trick it into doing something or other because the software's not finished or whatever. There are more experimental things like the Linn 9000 which you know you're going to get some interesting results out of eventually, but you have to live with them for a long while before you do. And like a relationship, you know the machine's going to mess you around."

Fisher has the last word: "Of course, a good way of not getting over obsessed with gear, of not buying up everything that comes out every month is not to have too much money."

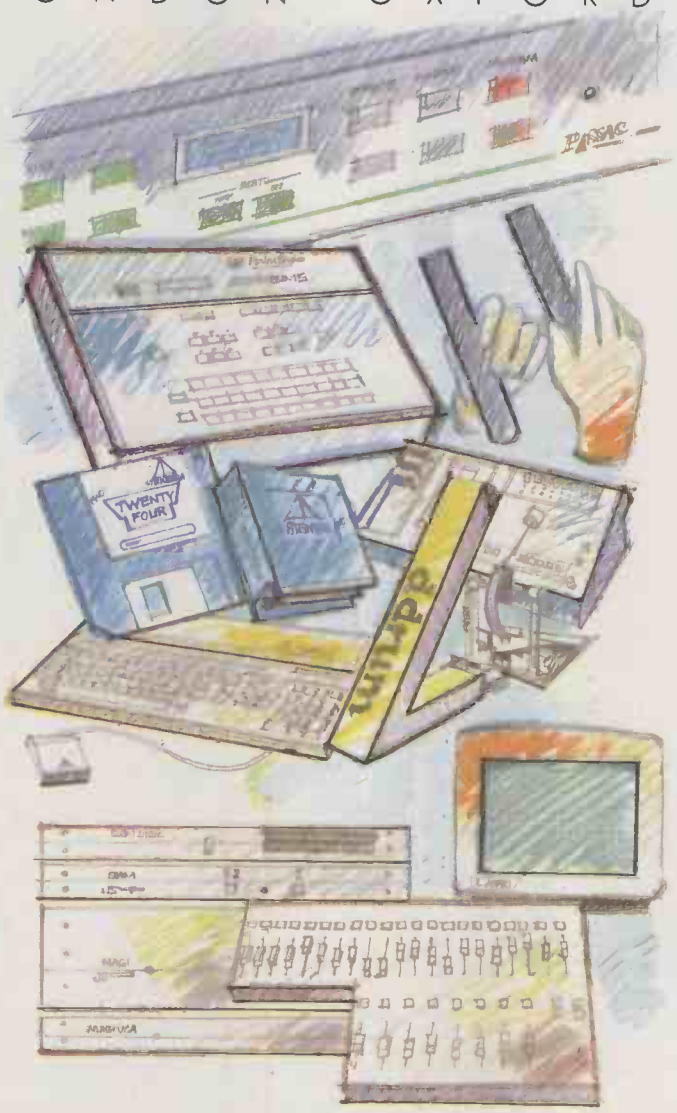
The other way of course is not to have enough time. It doesn't look as though Climie Fisher will get too much of that in the near future if their current success continues. There's an album due out shortly and even the possibility of a tour, but any spare hours will be spent writing music – not necessarily with heads buried in MT reviews of new equipment (except on long train journeys).

Fisher concludes with some evidence of relief in his voice: "It's sometimes good to get away from all that." ■

"If we get the feel and the structure of the song right, then anyone with the right instinct is going to get the mix right."

Artist Impressions

EVENLODE
SOUNDWORKS
LONDON · OXFORD



Passac — Midi guitar controllers from Australia.
The intelligent choice. A working system Incarporating some stunning Innovations. 'Pick Direction' and 'Delay Neutralisotion' are two Passac patented ideas that will change your mind about guitar synthesis. One for the players — and the sceptics.

Airdrums — Kinetic percussion systems from California.
The radical alternative for players and programmers. Feeling rhythms is what it's all about. Supreme dynamic respanse, coptured in a totally intuitive way. A godsend for frustrated drummers.

Steinberg — Computerware from West Germany.
Experience counts. Integrated hard and software with total support. An Industry standard for now and the future. The Steinberg Studio system is your guarantee of electrifying results.

ddrum — Drum computers from Sweden.
A players dream. Interpreting every nuance with total dynamic control. Seven megabits of megasounds. Compelling percussion for those who can play. Swedish engineering and smart software matched in simplicity — the ultimate sophisticotion.

JL Cooper Electronics — Midi solutions from California.
MidiMation console automation. Timecode based, archive to disk, real faders, expandable and affordable. MSB Midi matrix units — easy solutions to the biggest problems. PPS-1, poor persons SMPTE. Unique solutions with engineering excellence.

Evenlode Soundworks — Musical innovations from around the world.
A company full of new ideas. For players and studios. Research and support in depth. Distribution with a difference. Find out more about us and our products. We're on your side.

The Studio, Church Street, Stonesfield, Oxford OX7 2PS
Telephone: (099 389) 228 Fax: (0608) 811323 Telex: 837883 SPEND G

APRS
the professional recording association

Photography *Graeme Dave*

Martin Wesley-Smith and Greg Schiemer

SYDNEY *harbours radicals*

Following our recent investigation into Japan's music industry, we take a look at the activities of Martin Wesley-Smith and Greg Schiemer at the New South Wales Conservatorium of Music, Australia. *Text by Jonathan Puckridge.*

A SHORT WALK up the hill from Sydney's Opera House is a strange old building which looks a little like a toy castle. It was built in 1821 by the then governor of Sydney town, Lachlan MacQuarie, to house his horses and servants. At the time it was suggested that the governor paid more attention to the comforts of his horses than those of his convicts.

Almost a century later the building was renovated and re-opened as the New South Wales Conservatorium of Music. Today it contains a warren of practice rooms, auditoria and lecture halls, where students aspire to become professional musicians. About halfway down the hill from the Conservatorium is a grubby office block. Here, on the second floor, are the schools of Composition and Electronic Music. The Electronic Music

School is run by Martin Wesley-Smith and Greg Schiemer.

Wesley-Smith graduated with his first class honours in music from Adelaide University in 1970. The following year, he went to the UK to complete his PhD at York University. In 1975 he joined the staff of the NSW Conservatorium and has been head of the School of Electronic Music since 1982. Under his direction, the school has become not only a producer but also a promoter of electronic music, staging impressive and occasionally bizarre public performances of its work.

Greg Schiemer joined the school as a lecturer in 1986, after a varied career, which included teaching posts, involvement with various dance theatres, a visit to India and some time employed in servicing mainframe computers for DEC.

Today the Electronic Music School consists of four studios (three sound and one audio-visual). The equipment includes two Fairlight CMI's – series IIx and series III – Voice Tracker, four TFI modules, two Apple Macs, a CX5 and the usual assortment of analogue and digital synthesisers. The school also possesses some more exotic machines such as a complete Driscoll Modular system, a VCS3 and what is reputed to be the second Moog ever seen in Australia. The audio-visual studio sports a Fairlight CVI, computer-controlled slide projectors and video cameras.

Performance

IT WAS THE "FERRY Concert", conducted on and around Sydney Harbour, that first saw Wesley-Smith and Schiemer working together. Staged in 1977, the Ferry Concert was organised by Wesley-Smith in three weeks from a public telephone, on a budget of $700. The bemused audience was loaded onto a hired ferry and transported from place to place where they witnessed various performances (timed to their arrival) on islands or the shoreline. Many acrobats, jugglers, musicians, dancers and audio-visual artists contributed to the event. It's significant that these artists were drawn from both the "serious" and popular music worlds.

Schiemer: "Some of these performances involved sequels at locations several kilometers apart. It was designed to make use of the visual and acoustic features of Sydney Harbour in a way that could not be done anywhere else."

Two years earlier, Schiemer had gained notoriety by going on a TV talent quest called *Pot of Gold*. He, and colleague Ernie Gallagher, performed John Cage's *4'33"*, in which the pianist doesn't play anything, and a piece by Gallagher in which the performer goes around the audience listening to their heartbeats with a stethoscope.

Schiemer: "That performance in the context of a talent show totally annihilated the idea of talent and the exploitation or even the evaluation of it. Understandably, it scored the lowest mark ever on that show."

Wesley-Smith has been involved in quite a few "firsts" of his own. His experience with the Ferry Concert prompted him to organise a series of multi-media electronic concerts in the lush surroundings of Wattamolla in the Royal National Park south of Sydney. The Wattamolla concerts were set up in such a way that the environment itself played an integral part in the performance.

With the Fairlight company virtually on the Conservatorium's doorstep, it's not surprising that Wesley-Smith has been fairly closely associated with the machine since its inception. He sat on a committee that looked at funding applications for Tony Furse's original development work for it and the Conservatorium also bought one of the very first commercial machines available.

Wesley-Smith: "I'm delighted that we bought it because, almost despite themselves, Fairlight designed a machine that's very useful to the serious composer. There are limitations but, within those limitations, we can still do an enormous amount. I mean, the Music Composition Language (MCL) is better than anything I've seen even now."

In 1983, as part of the *Digicon '83* festival, Wesley-Smith took part in the first satellite link-up of three Fairlights – one in Sydney, a second in Tokyo and the third in Vancouver. The other composers involved were Osamu Shoji and Jean Piché.

Wesley-Smith: "What I tried to do was to exploit the time difference between when I played a note and when they heard it. There was a delay of 0.2 seconds by the time it got to Vancouver from me, and for Tokyo to get it was roughly another 0.2 seconds. What I tried to do was set up a global tape echo effect and it worked. I'd send a 'bop' and we'd get a 'bop-bop-bop' back. And conceptually, of course, it had been round the Pacific."

"That performance in the context of a talent show totally annihilated the idea of talent and the exploitation or even the evaluation of it."

Last year, Wesley-Smith delivered the first Fairlight CMI to China, as a gift from the Australian government. He spent several weeks at the Central Conservatory at Beijing installing the machine and teaching staff and students to use it.

Audience Appreciation

WESLEY-SMITH AND SCHIEMER could be classified as "serious" composers, yet as I talked to them, it became clear that the boundaries between "serious" and "popular" music are less well defined than they were, say, a decade ago. To ►

The Unfound Land

Photography *George Gittoes*

► understand how this has come about, we need to look at the history of both forms of music.

During the first half of this century, serious music was undergoing a violent upheaval. Every week, it seemed, the European bourgeoisie were being deliciously outraged by the latest affrontery to Classical Tonality. Composers of the calibre of Schoenberg, Stravinsky, Messiaen and Varèse had created a rich and radical musical language which appeared to abandon all the established principles of melody, harmony, rhythm and structure.

This music was often referred to as atonal and, to those unfamiliar with it, it must have sounded like chaos. All that had happened was that new compositional principles had replaced the accepted ones.

Unfortunately, by the '50s and early '60s, these new, or "avant garde" principles had become more important than the actual sound of the music itself. The results were often sterile, and concert attendances reflected this. The bourgeoisie were no longer shocked – they were simply not interested.

"I set up a global tape echo effect with the Fairlights and the satellite; I'd send 'bop' to Vancouver and we'd get 'bop-bop-bop' back from Tokyo."

The Unfound Land

At the same time, however, another form of music was beginning. This music was rock 'n' roll, and it had the power to emotionally (and physically) move audiences in a way never before seen in the west.

Today, almost 30 years later, we find that the pendulum has swung back and rock 'n' roll is in a state of stagnation. With a few notable exceptions, rock writers are simply recycling old ideas. Even hip hop, which briefly breathed new life into rock has now become predictable.

Despite an unprecedented wealth of new sound-generating technology, financial constraints mean that a commercial studio cannot afford the time to explore the possibilities of the new equipment. In the Age of the Preset,

experimentation is often limited to a studio perfecting a snare sound – or sampling someone elses.

Meanwhile, a revolution has been taking place, once more, in the hallowed halls of contemporary classical music. To start with, many composers have been questioning the relevance of the old avant garde aesthetics. In particular, they are rediscovering the importance of the audience. Compare this with Milton Babbitt, an American 12-tone composer who wrote an article, in 1958, entitled *Who cares if you listen!* This typified the attitude of the avant garde at that time. Today composers care if people listen.

Another area of importance to this generation of composers is technology. Unlike commercial studios, an electronic music studio has much more time to experiment with sound. In fact, that's its major purpose. So the full potential of the latest hardware and software is far more likely to be exploited here than in the rock world. In fact, Schiemer prefers to take this a step further and become actively involved in design.

What all this seems to have led up to is the emergence of a new "middle ground" which draws composers, performers and audiences from both the rock and serious contemporary music worlds. These people share a dissatisfaction with the shallowness of rock music or the dryness of serious music. Instead, they seek the challenge of serious music, but enjoy the pace and excitement of a rock concert.

Wesley-Smith: "Witness the success of the Philip Glass Ensemble. His concert in Adelaide was packed out – he was a star. The audience was partly rock 'n' rollers who thought they were 'stepping up a notch' (laughter) and partly people from the so-called serious world who were able to 'step down'.

"I think it's a very powerful combination, but I think there are people around who can do things better than Philip Glass does them and can get that audience to move on."

Wesley-Smith is acutely aware of this new audience. About 10 years ago, he founded WATT – an electronic/computer music and audio-visual performance group. WATT is a collection of composers and performers centred on the electronic music schools of both the NSW Conservatorium and the University of Sydney. Its success with audiences has been demonstrated by a succession of sell-out concerts over the past three or four years.

Wesley-Smith: "It's not all written to please a rock 'n' roll audience of course, but it has proven successful and that's because we don't put on pieces that are plainly boring – or if they are boring, they're not boring for too long (laughter). We try to put in a lot of variety; if you have a tape piece then it ought to be followed by something with live or audio visual involvement.

"We also make a point of presenting things properly: we start on time, we're in a comfortable venue and we go quickly from one piece to another. In contrast to the electronic music concerts of the '60s which were always in funny little halls. They'd start half-an-hour late, there'd be masses of wires everywhere and some dickhead in a T-shirt and jeans would stumble out after a while and turn something on and then you knew the concert had started. Two hours later, he'd wander off and you knew it had finished.

"We're asking an audience to pay nine or 10 dollars to give us an evening of their time and we ought to look after them, because they could easily have paid less to see the latest fantastic technological American film and got good, plain zapping entertainment.

"I think that people now think, right . . . WATT concert coming up. We know we're not going to be abused. It might be a bit weird and challenging, but it's going to be a good night out."

Manufactured Music

FOR WESLEY-SMITH, computer literacy is an essential part of being a composer today. As well as producing computer generated works, he also utilises the Fairlight to play pieces he has written for traditional instruments.

Wesley-Smith: "The advantages of being able to hear things are immense. I mean, the music I compose is better now than it was when I couldn't hear it; I certainly don't want to go back to the dark ages."

However, the use of computers to write and produce music does have its problems, and our discussion inevitably turned to commercial packages for the serious composer.

Schiemer: "The problem with most of the commercial systems now, is that you buy a completed product, or partially completed product, more often than not. And to complete it to your satisfaction to produce the sort of results you want is very difficult, if not impossible."

Wesley-Smith: "I think we're getting to a point where, unfortunately, the commercial systems that are coming out seem to be closing off the opportunities that could be available. A lot of the commercial software makes decisions that cut off all kinds of possibilities.

"One would have hoped it would be the other way around, since computers are enabling us to do all kinds of things we could never do before, but instead of opening up and giving us the chance to do them, they say – oh well, rock 'n' roll never uses anything more complex than triplets, so we won't bother about all that.

"One of the worst aspects of this whole computer music thing is that it does force people into the rock music way of doing things. The technology is being developed because it has such financial possibilities within the rock industry. But that becomes a vicious circle; they tailor it more and more to the rock industry, and so it goes round and we're left out in the cold."

The constraints of commercial software have prompted Wesley-Smith, almost "against his will", to write his own programs to generate MIDI code on the Apple Macintosh. One of his many current projects is getting the Mac to process MIDI data from live performers to effect program changes on the CVI.

Schiemer takes the issue a stage further: "The question is one of whether the engineer who designs new computer facilities for the creation of music is the real instigator of recent musical developments. If so, composers risk becoming parrots, indiscriminately articulating ideas embodied in the resources created by software and hardware designers. Composers have real options only when they design their own musical resources. Those who don't demand that sort of freedom, have succumbed to the factory system of music production."

Putting his money where his mouth is, Schiemer's most recent project is to modify a small, 6802-based computer, originally designed by the South Australian Institute of Technology to teach assembler language. This computer

"The question is one of whether the designer of new music computer facilities is the real instigator of recent musical developments."

is called the DATUM and Schiemer has fitted it with a MIDI interface and installed several music programs in ROM. A number of MIDI-DATUMs have now been produced for students at the Conservatorium.

The DATUM is a truly amazing machine. Firstly, it only costs the equivalent of around £160. Secondly, unlike conventional sequencers, it is totally open ended, limited only by your programming sophistication.

For example, it could be programmed to produce any microtonal tuning system you may require. It can also be programmed to "improvise" polyphonically, according to whatever limitations you set upon it. But more than that, it can be set up to respond to incoming MIDI data from a live performer, and process this to provide an "improvised" accompaniment to what is being played.

By the time you read this, Schiemer hopes to have released the MIDI-DATUM, complete with demonstration programs installed in ROM and a manual explaining how to use the machine.

Schiemer: "What interests me about the DATUM, is that the development can be done by people who aren't really terribly experienced in programming. Once the demonstration programs are understood, there is enough documentation for a person to write without worrying about whether the machine is being friendly."

And Schiemer doesn't even think he's scratched the surface with the machine yet. Some other planned utility programs include MIDI echo, tape sync, equal powered stereo and quad panning and so on.

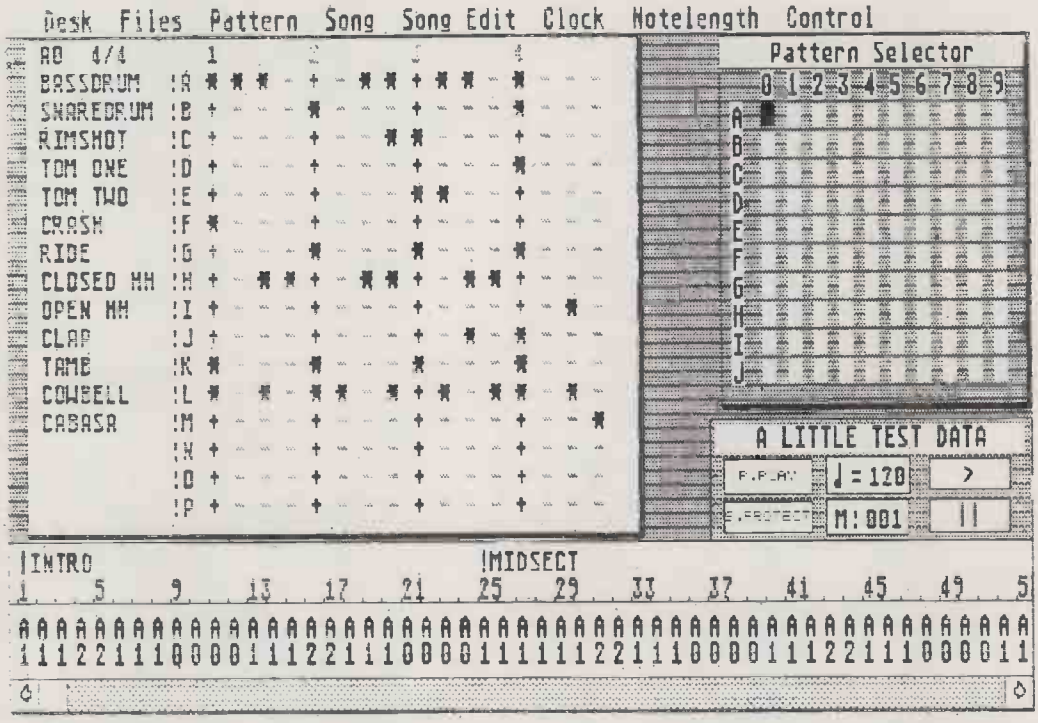
It sounds like the DATUM is worth remembering next time you're considering what the latest marvel of music technology is really worth to *you*. ■

BIT BY BIT MIDIDRUMMER

Software for the Atari ST

The missing link between your MIDI drum machine, your Atari ST and graphic editing of your drum patterns could be this software package from a new British company – and the price is right.

Text by Chris Jenkins.



AS THE MARKET for music software expands, it's good to see that more unusual packages are beginning to appear. One good example is MIDIDrummer from Bit by Bit Software – it's cheap, it's flexible, and just for a change it's British.

Once again the Atari ST is the target machine; already graced with a choice of the best sequencer and patch editing programs from Steinberg, Hybrid Arts, System Exclusive and others, the ST's built-in MIDI ports and 3.5" disk system, not to mention its price, make it the natural choice for musicians and therefore music software developers.

Percussion

SO WHAT'S IT all about? MIDIDrummer is a form of sequencer, but, as the name implies, it's a "vertical" application, meant to solve specific problems which other sequencers aren't designed to handle. Very much like the Fairlight's famous "Page R", MIDIDrummer is a visual composition and editing system for percussion patterns; although, by careful editing of MIDI note values and synthesiser settings, you could persuade it to play "tuned" patterns. The nearest comparison is the $150 Intelligent Music UpBeat package for the Apple Macintosh, but even that doesn't yet seem to be available for the ST.

MIDIDrummer is especially useful in two situations. The first, controlling MIDI drum machines, may seem redundant; after all, drum machines are capable of creating and memorising patterns themselves. MIDIDrummer, though, adds an invaluable visual dimension to the process of creating patterns and songs, and also allows you to safely store the fruits of your labours on disk rather than depending on the drum machine's (limited) memory capacity. A more useful application of MIDIDrummer is in conjunction with multi-point samplers such as the Akai S900. These multiple-output devices are often used to provide percussion effects, but of course lack the pattern and song creation facilities of a drum machine. While any hardware sequencer or software package could theoretically do the job for you, MIDIDrummer is better designed for this specific application.

MIDIDrummer is supplied on a single undongled disk in a simple folder with an uncomplicated manual. The program is fully GEM-based, using all the mouse and menu functions which make the Atari ST so easy to operate.

Operation

LOADING THE PROGRAM (which runs in medium resolution in colour, or high resolution on a mono monitor) brings up a comprehensive main display which includes the function menus, current drum pattern with default instrument names, Pattern Selector Grid, Song Display, and Tempo and Function controls.

Your first task is to assign the 16 software voices, A to P, so they correspond to sounds on your MIDI equipment. Most newer drum machines, for instance, have their individual percussion voices assigned to standard MIDI note values but older machines, such as the Sequential DrumTraks, need a software update to operate in this way. Most samplers can have any sound desired assigned to any required note value.

Under the Control menu is the option Assign Voices. Selecting this calls up a dialogue box which allows you to select a voice, (A-P), enter an instrument name for it, and assign it a MIDI channel and individual note value. Normally you would assign 16 percussion sounds from a

SUPER MAX

CELEBRATING THE REINCARNATION OF THE YAMAHA DX7

Who ever would have thought this dinky little circuit board would breathe such new life into your DX7. Imagine Digital delay (up to 10 seconds), Super arpeggiator, intelligent patch creator, programmable micro tonality, unison voice stacking with two octaves of detune (that means fat like four DX7's), MIDI spec update and wow, up to sixteen banks of memory expansion. Yes that means 512 patches all including function memories. This you simply must see!
Who ever would have thought . . .

Argent's 20 Denmark Street, London WC2 8NA.
☎ 01-379 6690 (sales) 01-240 0085 (service).

Roland

AT NORTH YORKSHIRE'S MAIN DEALER

DIGITAL
The world beating D-50 LA Synthesiser £POA
Plus! 8 Synths in one, Multitimbral, 32 Note Polyphonic Expander - It's the MT 32 of course £450

SAMPLING
Affordable quality sampling Keyboard £699
The Guvnor Sampler - The Roland S-50 £POA
S-220 Multitimbral Module separate outputs £975
S-550 - The S-50 in a box! In stock now!

ANALOGUE
Alpha-Juno One - typical famous Roland sound £POA
Alpha-Juno Two - touch sensitive 5 octave keyboard £925
Hits 50-The Alpha Juno in a box- Instock £560

SEQUENCERS
Powerful Mega sequencer with disc drive MC500 £POA
The most user friendly utility, 2.8" quick drive PR100 £399

RHYTHM PROGRAMMES
TR 707 - ex demo only £475
TR 6Z6 - available ex stock £350
TR505 - a bargain at only £199
Boss DR220E - Now only £135

PERIPHERALS
Ram Cards, Rom Cards, S-10 Sound Library, S-50 Sound Library, 3.5" x 2.8" Discs All in stock
PLUS! Sequencer software (SYS-503) for S50/550 £150
Also available Atari Editors Software for D-50, MT32 etc.

EFFECTS
DEP3 Signal Processor £475
DEP5 Signal Processor £635
GP8 Guitar effects - The Business! In stock
FC100 Foot controller for GP8 etc In stock

PIANOS
NEW! RD 250S SAS Portable Piano. 76 key £1299
NEW! RD 300S SAS Portable Piano, 88 key £1499
Ideal for use as mother keyboards.
PLUS! Roland Contemporary Keyboards - Pianos with the traditional look, feel and sound from £950 up to £2300

OLDIES BUT GOODIES!
Roland SH 101 Mono Synths - second hand £99

Compact effects pedals (Guaranteed 5 years) & Micro Rack Effects by BOSS oc course!

BEST PRICES, QUALITY PRODUCTS, FREE ADVICE AND AFTER SALES' CONSULTANCY FROM FRIENDLY TRAINED STAFF.

Access - Visa - American Express - Diners Card - Musicard - Credit Facilities (Licenced Credit Brokers)

WE PRICE MATCH! ANY GENUINE QUOTE

PEPS MUSIC

VERY FAST . . . .

VERY SIMPLE . . . .

ANIMATION Superimpose recorded rhythmic/ harmonic patterns on live playing or vice versa. **AUTOMATION** Comprehensive management of MIDI synthesisers and outboard equipment. **IMPROVISATION** Spectacular real-time control from MIDI keyboard or other source. **HARMONISATION** Simultaneous, multiple transpositions of recorded MIDI data. **INSPIRATION** New techniques, new sounds, new musical ideas. **EXPERIMENTATION** Combine and manipulate rhythms, chords, phrases, ideas to explore all musical possibilities **INNOVATION** Control facilities found on no other equipment . . . at any price. **INTEGRATION** The MIDI PERFORMANCE SYSTEM . . . integrated MIDI control . . . very fast . . . very simple . . . **INFORMATION** Zyklus Ltd., 88 Golden Lane, London EC1. Telephone: (01) 675 1816

ZYKLUS

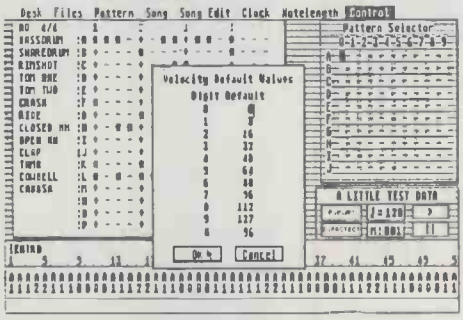
drum machine or sampler, but there's nothing to stop you connecting up any MIDI instrument to supplement the sound selection – anyone still excited by the DX7's Log Drum will be well catered for. The voice assignment process can be a little slow, since you have to return to the main display to test each value. However, if you have the proper documentation, it shouldn't take too long to MIDI everything up and save your setup. If you save it on the program disk as DEF.DRM, it will load as the default file for each session.

Creating patterns is simplicity itself. The pattern display shows the pattern number, time signature, names and channels for each voice. Patterns are built up by clicking on the required beat on each line, marking the point with an asterisk. This can either be done in blissful silence or you can click on the > button to start the pattern playing continuously, and build it up instrument by instrument as you would with a drum machine. The time signature of the pattern can be changed using a dialogue box in the Pattern menu. Triplet timings such as 12/8 are available, and unusable portions of the editing grid are then divided off with a line. You can also erase all pattern data, one pattern, or one voice.

Velocity

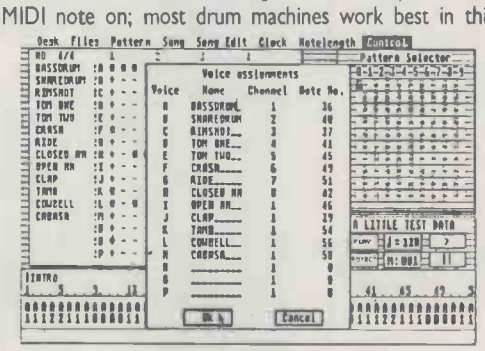
SO FAR SO good, but how about more precise editing? Apart from the fact that you can also enter data in real time (tapping the ST's A-P keys) you have full velocity control over every beat.

Select Velocity Display on the Pattern Information menu, and the asterisks on the box change into figures 0-9.



Each figure corresponds to a velocity which can either be a default value or one you define yourself. The Velocity Default dialogue allows you to assign each value a velocity from 0-127.

Default velocity values (0-9) for each beat can be entered on the grid, or for exact results you can use another dialogue box to enter any velocity value, 0-127 at any beat. You have the best of both worlds, then: quick operation using the default values or precision using the dialogue boxes. By editing the velocity values, I was soon able to build up convincing-sounding patterns which would have taken considerably longer to program on any other system I'm aware of. It's also possible to change the nature of the trigger output, depending on the type of drum machine, sampler or synth you're using. The Trigger option transmits a MIDI note off signal immediately after the MIDI note on; most drum machines work best in this mode. There are also options that turn the note off after one beat (three MIDI clock signals) or sustain it. In this last case, the voice will keep playing until it is triggered again, or retriggered at zero velocity. This is usually the best option to use with synthesisers.



Synchronising MIDIDrummer with other equipment such as sequencers is straightforward, since MIDIDrummer can be driven from an external MIDI clock or from its own clock, the tempo of which can be changed using the mouse. The program transmits MIDI start, clock and song pointer information, and receives them when in external clock mode.

Building up a song is equally easy: select S.PLAY on the desktop and MIDIDrummer will play a sequence of patterns, updating the display accordingly. Eight songs can be held in memory at once; you select your song from another dialogue box. The name of the song you have selected is displayed on the desktop.

The sequence of patterns forming the song is shown at the bottom of the screen. Up to 100 patterns can be created, and songs up to 1024 patterns in length are put together by going into Song Edit mode, and clicking on each pattern (A-J, 0-9) in the pattern selector box in sequence. Using the S.PLAY button, you can then play the song from any point, either once, or, using the Set Repeats option on the song menu, any required number of times. Song editing options are pretty comprehensive. You can insert or delete a single pattern, or define a block to be deleted or copied any number of times. MIDI song pointer information is automatically incorporated into the songs. Patterns and songs can of course be saved to disk, and reloaded even while a pattern is playing. Recent work towards a MIDI disk filing standard indicates that you will soon be able to create patterns with MIDIDrummer, then transfer them for use in sequencer packages such as Steinberg Pro24, Iconix and Hybrid Arts MIDITrack. This is remarkably good news, since, good though MIDIDrummer is, you might not want it tying up your ST while you have more complex sequencing to work on.

Verdict

SEVERAL OTHER UPDATES to MIDIDrummer are in the pipeline, and will be supplied free to registered users. These include an increase in the number of voices available, to 32.

The main drawback to the existing version of MIDIDrummer is its lack of fine timing resolution. While most drum machines and sequencers will resolve at least 96 beats to the bar, MIDIDrummer, partly due to the nature of the visual display, is limited to 32 beats to the bar. Improving this would mean major changes to both the display and the data structure, so it will probably be presented as a more advanced version of the program rather than a free update to the existing one.

The programmer also plans to incorporate in future programs a "humaniser" feature, which would imitate the facility on many drum machines to offset alternate beats by random amounts, in order to escape from the metronomic precision of the rhythm.

While bearing in mind the resolution limitation, MIDIDrummer is flexible, easy to use and remarkably inexpensive. Already in use in several studios, it's fun, and it's a valuable addition to the computer musician's range of software tools. ■

Price *£39.95 (currently available only by mail order)*
More from *Bit by Bit Software, 13 Spencer Street, Lincoln LN5 8JH. Tel: (0522) 40205*
Square Dance Audio, The Bakery, Bayer Street, Derby DE3 3TD.

LIVING IN THE PAST

Photography *Tim Goodyer*

With a playing history that reads like a potted history of rock – Colosseum II, Gary Moore, Ozzy Ozbourne, Rainbow, Whitesnake – Don Airey is one of the most sought-after session keyboard players around. What has his time behind the keys taught him about music and musicians? Interview by Tim Goodyer.

INSIDE, THE BAND are going through their soundcheck; outside, tickets are changing hands for around 60 quid apiece. A healthy scenario for a band currently at the height of its career, I hear you think. But this is 1987 and the band is Jethro Tull.

In their late '60s/early '70s heyday Jethro Tull were selling out concert halls with the best of 'em. Now, with a colourful 20 years behind them, Ian Anderson's merry men could be forgiven for falling record sales and dwindling audiences. Yet nothing, it seems, could be further from the truth. Tull's London Hammersmith Odeon gig sold out in two hours. No wonder the ticket touts can ask £60 outside the doors.

"The whole tour's sold out except for Paris", comments Don Airey.

Airey is the latest in a line of distinguished keyboard players who have worked with the band over the years. And in keeping with the tradition he's presently only a guest for the duration of the tour – but then John Evan was only a guest before he became Tull's first regular keyboard player in the early '70s. Evan was joined on keyboards by David Palmer after he'd served his apprenticeship as arranger for their recorded works.

Most recently it was Peter-John Vettese who held court until guitarist Martin Barre, bassist Dave Pegg and writer, vocalist, flautist and *character* Anderson, put together their most recent (21st) LP, *On the Crest of a Knave*. Back on the road the line-up has swelled to five to include Airey and drummer Doane Perry.

In the course of Tull's career to date, Anderson has taken rock and folk roots through capricious time signatures and pastoral lyrics into the realms of hi-tech sequencing. In contrast to technology and titles like 'User – Friendly', *On the Crest of a Knave* marks a return to mid-era Tull – with a dose of Dire Straits for that 'contemporary' feel. And so the set played at Hammersmith is a mixture of old and new.

"I think they felt that they were going out with all the sequenced stuff, and it wasn't happening with the fans", Airey explains, "so they picked some of the best old numbers, some good new numbers and some of the obscure numbers from the old albums that they've never played live before and it's been going down well.

"I think the band had found itself at a crossroads. They'd had all this sequencing and stuff that Peter (Vettese) had been doing – in a way Peter had been dominating the band to a great extent. He hasn't said this, but I surmise Ian had taken a hard look at the feel of Dire Straits and ZZ Top – people of the same kind of age – who just play and come across as a band. And that's what he tried to do on the record."

Whatever the reasoning behind it, the move ►

COMPUTER CENTRE

53 RUGBY ROAD, WORTHING,
WEST SUSSEX, BN11 5NB.

ATARI ST SPECIALISTS

BUY THE MUSIC EXPERT'S COMPUTER FROM THE COMPUTER MUSIC EXPERTS.

Full range of Music Software including:
Dr.T, Steinberg, Hybrid Arts, Passport, ICONIX, etc, etc.

Demonstration facilities available.

We buy, sell and part-exchange all popular computer systems.

AVAILABLE NOW Atari ST MIDI Sampler only £99.95 inc. VAT. PHONE FOR DETAILS.

SAVE THE COST OF A MONITOR!!!
Buy an Atari 1040STF from us and we'll add an internal modulator, (so you can use your TV), at no extra cost! RING FOR DETAILS.

YOU CAN REACH US ON (0903) 40509 (24-HOURS)

"How can I get echo without going to the wall?"

Ask REX.

From the Grand Canyon to a tin can, the new REX50 multi-effects box will give you the echo you need – in stereo. Not only echo, there are 30 superb effects: from pitch change to reverb to distortion. All fully programmable, with 60 user-memory locations.
For affordable, portable, digital effects, ask REX.

YAMAHA

YAMAHA-KEMBLE MUSIC (UK) LIMITED, MOUNT AVENUE, BLETCHLEY, MILTON KEYNES MK1 1JE. (0908) 649222.

TIME SQUARE

CHISWICK 01-994 1288 **LONDON**

WE ARE MAIN FOSTEX 16-TRACK DEALERS —WE STOCK THE WHOLE FOSTEX RANGE, PHONE FOR DETAILS
E16, M80, E8, M20, 460, 260, 160, X30, X15, etc. 450 Mixer, 4050 Autolocator, M80/20 Remote, Footswitch, Self-powered Monitors, Headphones, Line-up Tapes, etc.

SECK — We carry the whole range in stock —

Seck 1882 Including PSU	RRP £1,599	£1,320
Seck 1282 including PSU	RRP £1,249	£1,033
Seck 24-2 Including PSU	RRP £1,199	£992
Seck 12-2 including PSU	RRP £625	£517
Seck 6-2 including PSU	RRP £450	£373

YAMAHA Phone for any information!

DMP7 Digitally Automated Mixer 8-2	£2,600
QX5 MIDI Sequencer	£260
TX802 FM Tone Generator 8 DX7's	£982
REV5 Professional Reverb, Full Bandwidth	£1,043
SPX90 II Multi-FX Studio Standard	£520
REX50 Digital Reverb	£283
TX81Z FM Tone Generator	£347
FB01 FM Tone Generator	£243
QX21 MIDI Sequencer	£173
NS10M Studio Monitors	
MSS1 MIDI System Synchroniser	
PORTASTUDIOS	

STUDIOMASTER WE ARE MAIN STOCKISTS OF FULL RANGE

Series II 16-16-2, MIDI Muting, Excellent Desk	£3,681
12-8-2 Stellarmix, Lots of Features	£1,062
Series 5, 16-8-2	£1,475
12-2C, Brilliant Live Desk, Very Popular	£740
6-2-1, A Great Keyboard Mixer — Expandable	£299
Series III, Very High Quality, Totally Modular	PHONE
IDP1 Professional MIDI Com/Lim, but Much More	£599
FET1 Mosfet Power Amp, Very High Spec	£265

PHONE FOR A FULL DEMONSTRATION OF ANYTHING!!!

NOMAD WE CARRY THE FULL NOMAD RANGE IN STOCK

AXXEMAN, Best Guitar Effects Unit on Market	£260
SMCL:0 SMPTE-MIDI Reader and Writer	£299
P2M MIDI Generator, Generate MIDI from Anything	£125
BASSMAN. This is the Ultimate for the Bassist!	£399

TIME SQUARE STUDIO (01-994-1288)

CASIO WE CARRY THE FULL CASIO RANGE IN STOCK

FZ1 This must be the Best Sampler Available. Brill	£1,350
CZ1 A Great Synth with Lots of Features	£779
DG20 Digital-MIDI Guitar with Drum Machine	£215
DG510 Professional MIDI Guitar, Amazing	£449

A SELECTION OF SECONDHAND BARGAINS

Quad 405 flash 2	£180	Lexicon PCM60	£490
RSD S2, 32-24-16	£4800	TC 2240 4 ch, P.Eq.	£325
Fostex B16, Immaculate	£2600	Casio + IT700 Synth	£195
Casio FZ1	£1250	RSD 12-2C Mint	£595
Atari 1040 STSM	£395	Fostex A8 Mint	£790
RSD S3 18-16-2	£2850	TBL 4312 Monitors	£499
Midiverb II	£290	Seck 1882 Mint	£1145
Revox B77 Excellent	£645	Korg DDD1	£420
Casio MG510	£415	Casio CZ1 Brilliant	£595
MTR DNG1 gate	£195	RSD 6-2-1 Mint	£265
Drawmer LX20	£195	Symetrix 4 ch. Gate	£295

A SELECTION OF OUR RECORDING PACKAGES

16 Track, Fostex E16, RSD 16-16-2, Yamaha SPX90 II, Drawmer LX20, Art Proverb, MTR Stereo Noise Gate, RSD FET1 Amp, Yamaha NS10M, Microphone + Stand + DI + Free Patchbay + Free Headphones + Full Wiring, etc ..... £8,370 + VAT

16 Track, Fostex E16, Seck 1882, Yamaha SPX90 II, LX20, Art Proverb, MTR Gate, RSD FET1 Amp, NS10M, Mike + Stand + DI + Free Patchbay + Free Headphones + Full Wiring, etc ..... £7,330 + VAT

8 Track, Fostex M80, RSD 12-8-2 or Seck 1282, SPX90 II, LX20, Art Proverb, MTR Gate, RSD FET1 Amp, NS10M, Mike, Stand, DI + Free Patchbay + Headphones + Full Wiring, etc ..... £4,050 + VAT

PORTASTUDIO RECORDING — PHONE US FOR DETAILS OF OUR 4 TRACK PACKAGES —X15, X30, 160, 260, 460 + MIKE, STAND, HEADPHONES

★★

WHATEVER YOUR PACKAGE REQUIREMENTS, GIVE US A CALL — AS WELL AS BEING ABLE TO OFFER COMPETITIVE PRICES WHERE ELSE CAN YOU FIND SUCH A COMPLETE SERVICE — EXPERIENCED, HELPFUL STAFF, GOOD ADVICE, TOTAL INSTALLATION AND A FIRST-CLASS TECHNICAL BACK-UP

★★

► has filled concert halls across Europe and put a single, 'Said She Was a Dancer' into the British charts. But the lot of a session player is never an easy one – and in this case it's exacerbated by Tull's complex music and the long history of the band. How do you combine the digital sequencers of 'Steel Monkey' with the sound of a pipe organ?

"I spent a lot of time trying to make everything sound exactly as it did on the record", Airey comments. "On 'Hunting Girl' David Palmer used to use a pipe organ that he used to carry around so I've got a sound on the Memorymoog that's very, very close. Then there's the harpsichord which I've got the RD300 MIDI'd up for. On 'Songs from the Wood' I've got quite close to the original sound too. I've tried to make the band sound as it used to.

"First I listened to all the original tracks and tapes of the live stuff Peter did. I'm a different kind of player to Peter; he's very much one of the new breed whereas I've tried to put a rock feel into it. I've tried to play a lot simpler than Peter did and to stay out of Martin's way.

"Ian kept copies of all the stuff he'd done on an FB01 for the album, although I'm using an MT32 triggered by an MC500. It's not as though the whole show is sequenced – only one number is actually sequenced – and there are two little bits I do on my own and they use a bit of sequencing. There's nothing on tape, no cheating at all, everything's for real. Whatever's on the record I've had to find a way of doing."

Airey describes his live instrument line-up as being "something old, something new, something borrowed . . .". Looking around the keyboard riser just before the show reveals the Roland MT32, MC500 and RD300 (acting as a master keyboard) keeping the company of a JX10, Memorymoog, Minimoog and a current favourite, the Casio FZ1.

"In studios I usually hire samplers in – whatever's flavour of the month. I've been using the Emax a lot which I like, but I didn't like it enough to buy. The Casio is something different; the actual quality of the sound is so good and it has a musicality to it. It's a very functional keyboard. I've already made some of my own disks: there's a doctored, layered, merged thing that I use in the keyboard solo that simulates the end of the world or something, and we've made lots of flute samples which are all the different things Ian does – they're the best flute samples I've ever heard – so I play quite a bit of 'flute'. I'm really just starting to discover what the FZ1 does but, to me, it's a real instrument."

Impressed though he is by the quality of the FZ1, Don Airey is one keyboard player who still appreciates the sound of acoustic instruments over samples.

"You can only sample a tiny portion of a sound", he elaborates. "It's alright to do a vague impression of something. I mean, you *can't* really sample a cello, you *can't* really sample an orchestra. You don't even get close. And people who think they are getting close are really deluding themselves. I've just done an album with the London Symphony Orchestra; God, the sound is awe-inspiring. All those really great musicians playing together. It's a very humbling experience, it makes you realise what a lot of old women rock 'n' roll people can be."

AIREY HAS A passion for what he calls "real instruments" – even if they do spend a fair amount of time imitating their acoustic counterparts. When he was interviewed in E&MM in February '84, the old Yamaha CS80 was in favour. Curiously, there's no sign of it tonight . . .

"They wouldn't let me bring it on the road", protests Airey. "I pleaded with them but apparently they had terrible experiences with Eddie Jobson's two CS80s always going wrong. I don't have any trouble with mine, I've got the good one. I found it on the road in Hollywood in a hire shop. It was the best-sounding one I'd ever heard so I had to have it. Every time I get a new keyboard I compare it to the CS80 and, so far, the CS80's always won. The JX10 is a pretty good keyboard but it doesn't come close to the CS80."

Continuing our tour of the older instruments on the stage brings us to the Memorymoog.

"Aah, now we're talking", exclaims a grinning Airey. "I was involved with the prototype. They were asking a lot of keyboard players – like myself, Jan Hammer and Larry Fast – for ideas. In fact, I put the church organ sound in the first one. They were trying to build something with the capabilities of the Minimoog but polyphonic. They tried but what they got was something else. The actual sound of the Memorymoog is so rich. And there's no end to what you can do with it; the only limits are your imagination and your aptitude for synthesis. Everyone goes on about

"Everyone goes on about Synclaviers, but you listen to Walter Carlos' first album – that's all Moog modular analogue synthesis."

Synclaviers and what you can do with DX7s, but you listen to Walter Carlos' first album, *Switched On Bach*, the sounds on there are quite amazing, and that's all Moog modular analogue synthesis. You have really to look into these machines; it takes a long time to learn how to use them. Some of the sounds I've got now have got a depth to them you'll never get out of a DX7, I'm afraid. I tried the D50, which is wonderful, but it doesn't have that musicality. I don't know what it is."

But wasn't the Memorymoog cursed with problems of unreliability?

"It's cost me more to maintain than it cost me to buy it. I have trouble all the time with it. It seems to take the piss out of me. It doesn't go out of tune in the corner of a number where it doesn't really matter; it works perfectly until you get to the big Memorymoog break then it goes . . . There's a bit in the show where I start with a little bit of 'Toccata and Fugue' and I've got about a minute in the dark where I can check the Memorymoog and tune it – get the 'Six Tuned' message up and then you get *this sound* coming out. And it happens with alarming regularity; I'm starting to think it's got a mind of its own and it's pissing me off. But I love it, I don't know where I'd be without it. It does so many great things."

And the Minimoog?

"Aah, now we're *really* talking. I keep putting it away and going back to the piano but it keeps on coming back. I started taking it down to sessions and the young engineers would go 'ha, ha, ha'. But as soon as you turn it on and do anything . . . I did some work with Fastway recently where they wanted me to do an intro. So I did it with the Minimoog and the engineer said I should sell all the samplers and just use this."

An impromptu demonstration of the instrument in question involves the use of some form of oscillator cross-modulation that's not possible on the standard Minimoog Model D. A brief inspection of the rear panel confirms my suspicions – two additional jack sockets marked 'Osc 1' and 'Osc 2' have been added which allow a footpedal to introduce some stunning harmonic modification to the instrument's sound. A form of modulation I'm sure, but exactly what's going on is destined to remain a secret.

"It's more complex than that", says a bemused Airey, "there is modulation in there but there are other things too. Moog modified that Minimoog around 1978-79 to my own specifications. I actually took some of the ideas from the ARP Odyssey and improved on them. Every day I play that instrument I find out something new, and that's the way an instrument should be. It's personal to me, of course."

IF THERE'S ONE topic of conversation that's closer to Don Airey's heart than keyboards it's that of music itself. After all, he argues, what use is the technology if it's not used to make music?

"Music is about having fun, it should make you feel good to be alive. Playing in a group is a real privilege to me, I can't imagine anything better. I've learned a lot about people and music, and music without people isn't music.

"The secret of rock 'n' roll is the guitar. I don't try to be a guitarist on the Minimoog. No matter how hard you try with keyboards, you're not going to get close to the beauty of the sound of Eddie Van Halen, John Sykes or Gary Moore. I've been with these people and I know there's a certain limit to electronic keyboards past which you cannot go. They're simply not that expressive.

"We've got a generation of musicians that's missing out because all it knows is FM synthesis. There's a new keyboard being released every week and it's immediately obsolete. We haven't evolved; the music hasn't changed because of computers. You can't compute music – music is still people spending time learning to play their instruments and getting together. You can't get a sequencer to do it. All these bands that use sequencers are very successful for a couple of years. People say 'that was good, I enjoyed that', but they don't come back again. It's true – so many bands now have a two or three-year career, there's no longevity to them.

"It's all very mystical, it's to do with 'the moment'. Music's very strange stuff that I don't really understand. Where does it come from and what is it? Obviously synthesisers have their part to play but I find people often become dominated by the technology – I know people who make albums on their arses. They sit on their arses for a whole album – it's true – they put their feet on the desk, run the sequencers and say 'Yeah, that felt quite good. Let's run it again but slow the SMPTE down by a couple of frames'. There's this terrible atmosphere of 'we've got it sussed with these machines'. I'm horrified by all that.

"You've got to ask yourself 'Is it going to mean anything in 10 years?'. I got this *'60s Mix* album and my little boy of eight said 'Dad, why don't they write music like this any more?' He thinks the Beach Boys is music from the heavens, he's never heard anything like it. I think it's why all those Levi's adverts were hits – records made in half-an-hour. Tell me, did Eddie Cochran need a Publison?

"I was in a studio in Memphis a few years ago and there was a studio log there from one week in 1956. It says in one week in this studio were made the following singles: 'Heartbreak Hotel', Elvis Presley. Next day: 'Great Balls of Fire', Jerry Lee Lewis, 'Blue Suede Shoes', Carl Perkins . . . Some of the greatest records in rock 'n' roll were made in this little hole in the wall in one week on two-track. How do you explain that?

"Nothing's changed with all these computer instruments and instant sound. It's still as hard as it always was to be a musician and there's more competition than ever – there are some absolutely staggering players around. Due to the fact that music is being taken away from people and automated, there's no grass-root level of learning. People instantly become 'brilliant' but they haven't become brilliant through working with their mates."

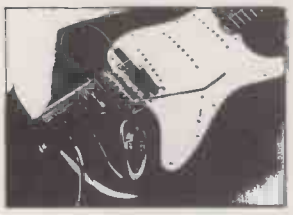
Airey's "honest" northern accent adds to the disconcerting ring of truth in his words. Tull's concert has people on their feet from the first number, and an unlikely mixture of people at that. Where've they all come from and what is it that's brought them out of the woodwork for a show that could almost be 10 years old? If Don Airey's right, what hope have we for the future?

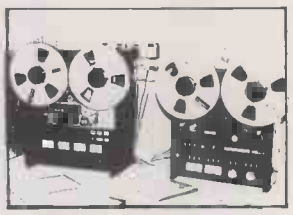
"Personally I hope people come out of their rooms full of computers and sequencers, and go down the village hall with their mates and form a band. Out of the bedroom into the street."

Well, what are you waiting for? ■

"Some of the greatest records in rock 'n' roll were made in this little hole in the wall in Memphis on a two-track recorder, how do you explain that?"

"straight from the horse's mouth."

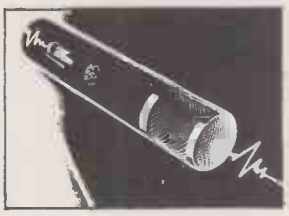


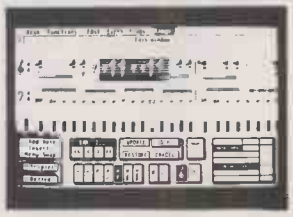


ROCKSCHOOL II

THE BOOK OF THE SECOND BBC TV SERIES.

COMING SOON FROM MUSIC MAKER PUBLICATIONS.





WHY JUST INTONATION?

When treated as more than just a novelty, just intonation can change the way you think about music and the way you play your instrument – but what is it?

Text by Robert Rich.

ONE OF THE boasts of the Yamaha DX7II was its ability to accommodate alternative tunings or "microtonality". No they're not the result of years of secret research in Yamaha's R&D labs, they're simply alternatives to the familiar western tuning system we're used to hearing music played in. Apart from ethnic tunings – involving such exotic delights as quarter-tones – the most common alternative tuning is just intonation. But what is it, and where did it all begin?

The American composer Harry Partch may have instigated the present interest in tuning in 1949, when he published his book, *Genesis of a Music*. Since then, composers like Terry Riley, Lou Harrison and LaMonte Young have been writing and performing music in just intonation, and Wendy Carlos has done a great deal recently to publicise the issue. Jon Hassell, Michael Brook and many others have also worked with just intonation. That such a large company as Yamaha should start supporting microtonality shows that something must be happening.

It seems that there's renewed interest in just intonation. Up until this point; however, most of the interest in alternative tunings has come from the avant-garde community – which has perhaps led to the popular impression that alternative tunings sound, well, strange.

In reality, whether a tuning system sounds strange or not depends mostly upon what you do with it. A random tuning *does* sound strange, but a real tuning system is not random; real tuning is logical, it makes sense. (The scales that we all know and love are based on logical systems too, although musicians do not always understand these systems when tuning their instruments.)

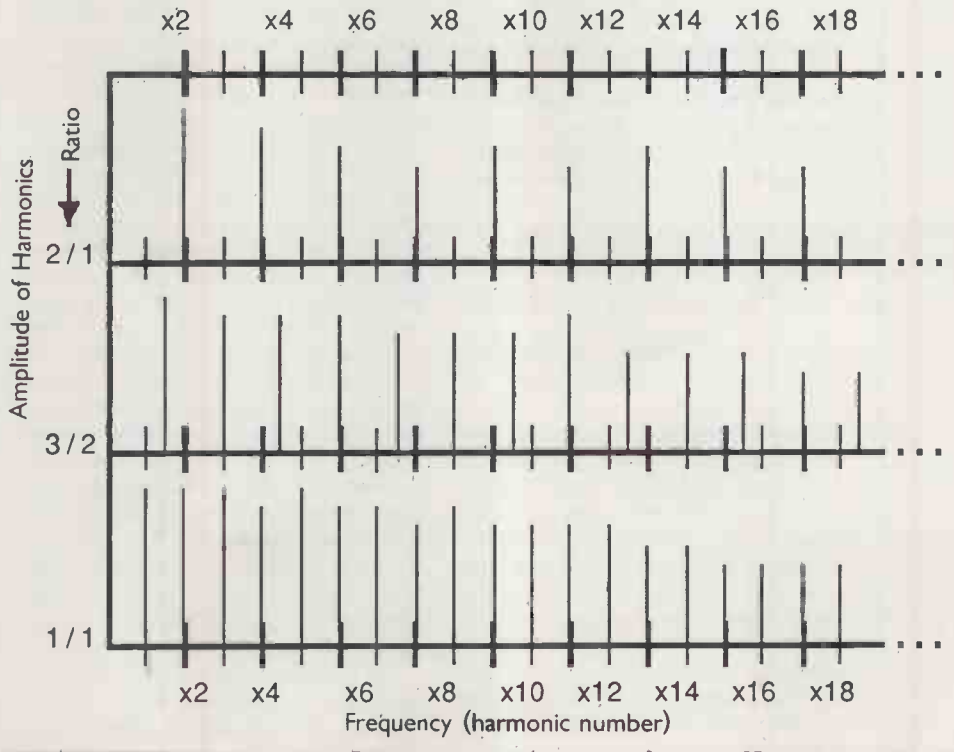
Just intonation is defined as any tuning system whose frequencies all relate to each other in whole numbered ratios, with a preference for ratios expressible in small numbers. For example, if the tonic (or unison) is defined as 1/1, the fifth is 3/2. This means that the frequency of the fifth note of the scale is exactly 1.5 times the frequency of the tonic.

The use of these whole-numbered ratios results in scales whose intervals coincide with the way the ear naturally hears harmony. Unlike equal temperament, just intoned intervals are not equally spaced, but then neither is the natural harmonic series. The commonly used equal tempered system (which is based on an exponential series of incremented multiples of the $^{12}\sqrt{2}$) only approximates natural harmony but, because it adopts a standard semitone interval, it has the advantage that all harmonic keys sound equally in tune. In contrast, a just intoned instrument will only be perfectly in tune for one key. It's no coincidence that equal temperament became common when musical structures began to make use of modulations between keys.

"Just intonation has been around since the beginning of formal music – at least since Pythagoras, possibly since the ancient Babylonians."

So what makes a tuning system sound good or bad? The logic behind it involves overtones, and how they align. (Note that ▶

Figure 1. Examples of Harmonic Alignment.



► there is some disagreement over this. Some composers feel that overtones play only a minor role. These differences in opinion only really enter the picture when many enharmonic overtones are present, such as in bell tones.)

When two notes sound together in a harmonic relationship (an interval), some of their overtones will match, and some will not. Matching means that the frequency ratio between two notes is expressible in small whole numbers. In general, when lower overtones in the harmonic series align, a greater number of higher overtones will match as well. The lower overtones are also generally louder, so their coincidence will be more evident.

Another point to bear in mind is that once a ratio has been reduced to prime numbers, the smaller those numbers are, the "better" the ratio sounds as a chord. So the chords in which lower overtones are aligned will sound better than those in which only the higher overtones coincide.

For example, in the octave (2/1) – which we all know sounds good – all the

"Unlike equal temperament, just intoned intervals are not equally spaced – but then, neither is the natural harmonic series."

harmonics of the higher note will match every second harmonic of the lower note. In fact, the second harmonic itself is the octave (see Figure 1). In the case of the fifth note (3/2), the third harmonic of the lower note matches the second harmonic of the upper note. Other intervals are more complex in their alignment, but the process is the same.

The History

JUST INTONATION HAS been around since the beginning of formal music – at least since Pythagoras, possibly since the ancient Babylonians. Just intoned ratios are, in fact, the basis for all harmonic theory. In contrast, equal temperament was developed by contemporaries of Bach (his *Well-Tempered Clavier* codified the new tuning system, although it was written for well-temperament which is slightly different from the scale we now

"The biggest difficulty in playing with just intonation is that not many fretted or keyboard instruments are retunable."

call equal temperament) and consequently has only been around for about 300 years.

So why are musicians starting to revive just intonation after its 300-year absence? Well, most importantly, a just intoned scale can sound better than an equal tempered one. I say can, because where it provides more natural harmony than equal temperament, it can also create much harsher dissonances. But these dissonances are only part of a wider harmonic vocabulary. For instance, you can choose between at least two good sounding major thirds (using either a ratio of 4/5 or 7/8).

Figure 2. TX81Z/DX7II Tuning Preset #2 "Pure Major".

Note	Cents*	Ratio
C	0.0	1/1
C#	70.7	25/24
D	203.9	9/8
D#	315.6	6/5
E	386.3	5/4
F	498.0	4/3
F#	568.7	25/18
G	702.0	3/2
G#	772.6	25/16
A	884.4	5/3
A#	1017.6	9/5
B	1088.3	15/8

*Cent values are theoretical Actual cents.

A composer can obtain fantastic special effects, too. How about a melody line that plays hide-and-seek around the harmonics of another note? At last, harmony and timbre can merge. Indeed, one of the most satisfying aspects of just intonation is the fact that harmony suddenly makes sense. This is not the result of intellectualising, but the feeling produced by the music itself. The mind and the senses can work together without conflict.

Before I get too carried away, I should mention that tunings don't always conform to their abstract ideal when converted into music. In acoustic instruments especially, physical tuning does not always fit the theory but, because of its natural basis, it's much easier to tune to just intonation than equal temperament. String players naturally approximate just intervals in their playing, as do horn players, singers and others who have fine control over the pitch of their instrument.

Why, then, did theorists bother to create equal temperament in the first place? It all has to do with that wonderful invention, the keyboard. At the time that black and white ivories were starting to replace the levers on the front of organs, composers were devising ways to make more complicated music. One of the major complications involved key changes.

Just intonation does not accommodate key changes very easily; you need either 20-40 notes per octave, or a way to redefine the frequency of each key on the keyboard whilst playing; effectively, the ability to bend notes. Note-bending poses no problem with fretless string or wind instruments – players do it naturally – nor should individual note-bending or flexible octaves present a problem to electronic keyboards, although designers have rarely bothered to include these capabilities. On a mechanical keyboard, though, the problem was nearly insurmountable. The solution was to adapt the scale. Since all the notes in equal temperament are the same distance apart, it doesn't matter what key the music is played in – it all observes the same harmonic relationships.

The inventors of tempered scales didn't claim that they sounded better – they admitted that tempered scales were compromises – but equal temperament works pretty well. In fact, equal temperament is so convenient that not everyone who uses it would benefit from changing to just intonation. A musician has to learn new playing techniques for just intonation, and composers must take care when creating harmonies, as a misplaced just intoned chord can sound pretty painful. Key changes pose a special challenge, but not an insurmountable one.

Theoretically, electronic keyboards promise freedom of intonation at last, but in practise only a few companies have seen fit to stray beyond the confines of equal temperament. The rest of you, take heed.

Play in a Day

THE BEST WAY to learn about something is to try it, and the same is true of just intonation. Microtonality is a feature of the TX81Z as well as the DX7II, though the DX's pitch resolution of 1.2 cents leaves a lot to be desired and the TX's is even worse at around 1.6 cents. Other retunable instruments include the Prophet 5 (rev. 3.0 to 3.3, starting at serial number 1300 around 1980), the Synergy, Kurzweil and Synclavier.

On a DX7II or TX81Z, you need to go into Performance Memory edit and call up tuning preset 2. The manual doesn't give the ratios for this or any of the tunings, so they appear here in Figure 2. Now pick a thin, bright, sustained sound with no vibrato (thin sounds are more transparent to tuning differences). Holding down the C (1/1), play one note at a time slowly up the scale. To get a direct comparison with equal temperament, you'll have to lift up on the keys, then switch the tuning preset to 1 – equal temperament – before holding down the keys again. Because of the poor tuning resolution, you will hear slow beating in the harmonics of some of the just intoned chords. But if you listen to the approximations of these chords in equal temperament, you will notice that this beating is usually so pronounced that it gives indistinct harmonics. A good just intoned chord will "lock" into the harmonics so well that subharmonics are clearly audible – actual phantom harmonies whose overtones are the very notes you are playing.

It takes a while to learn the capabilities of just intonation, but its beauty can be immediately appreciated. Thinking in terms of true harmonic relationships can open the mind as well as the ears to the logic hidden within musical structures. And with luck, the capabilities of our instruments will soon match the abilities of our ears and minds to hear and enjoy harmony. ■

Further Reading:

On the Sensation of Tone, Helmholtz, Hermann; Dover, New York, 1954.

Intervals, Scales and Temperaments, Lloyd, Lloyd S.; Boyle, Hugh; MacDonald & Co., London, 1963.

Genesis of a Music, Partch, Harry; DaCapo Press, New York, 1949.

1/1 – Journal of the Just Intonation Network (published quarterly). 535 Stevenson St, San Francisco, CA 94103.

SOUND CARD™

PROFESSIONAL COLLECTION

THE FIRST SOUNDCARD COLLECTION OFFERS YOU A POWERFUL VARIETY OF CONTEMPORARY STUDIO DRUM-SOUNDS.

EACH SOUNDCARD IS PROGRAM-MED WITH THE MAXIMUM OF 64K SOUND DATA AND STORES UP TO EIGHT DIFFERENT INSTRUMENTS.

THE COMBINATION OF UNIQUE SOUND QUALITY WITH MOST USEFUL AND SAFE DATA STORAGE TECHNOLOGY MAKES THE SOUNDCARDS BECOME AN INNOVATIVE AND INDISPENSABLE TOOL FOR YOUR CREATIVE MUSICAL WORK.

THE SOUNDCARDS ARE CONCEPTUALIZED FOR THE KORG DDD-1, DDD-5 and DRM-1.

SC-01	SC-02	SC-03	SC-04
LINN ACOUSTIC SET	LINN ELECTRONIC SET	LINN PERCUSSION SET	LINN PERCUSSION II
1. BASS	1. BASS	1. CABASSA	1. CONGA
2. SNARE	2. SNARE	2. TAMBOURIN	2. CONGA SLAP
3. SIDE	3. SCRATCH (L)	3. COWBELL	3. BONGO
4. TOM (H)	4. SCRATCH (H)	4. FISH	4. SAMBA WHISTLE
5. TOM (L)	5. TOM	5. WOODBLOCK	5. AGOGO
6. CLAPS	6. FLANGE	6. QUIJADA	6. GUICA (H)
7. HI-HAT	7. METAL	7. SNAP	7. GUICA (L)
	8. CLAPS	8. TRIANGLE	8. TIMBALES

SC-05	SC-06	SC-07	SC-08
SPECIAL EFFECTS I	SPECIAL EFFECTS II	SIMMONS	TR-808
1. UNGH	1. FLASH	1. BASS 1	1. BASS
2. HEY	2. SHOT	2. SNARE 1	2. SNARE
3. DOOH	3. DOG	3. BASS 2	3. RIMSHOT
4. TANJA 1	4. WATERDROP	4. SNARE 2	4. CLAVES
5. TANJA 2	5. HORN	5. TOM 1	5. COWBELL
6. TANJA 3	6. ORCH-HIT	6. TOM 2	6. BONGO
	7. BROKEN GLASS	7. HI-HAT	7. HI-HAT
		8. SIDE	8. CLAPS

SC-09	SC-10	SC-11	SC-12
JAZZ SET	CYMBALS	INSTRUMENTAL I	INSTRUMENTAL II
1. BASS	1. RIDE	1. FUNK BASS (L)	1. SYNTH BASS
2. SNARE	2. CRASH	2. FUNK BASS (H)	2. SYNTH CLAVINET
3. SIDE		3. FUNK GUITAR	3. SYNTH BLOCK
4. TOM (H)		4. BRASS SECTION	4. SYNTH BRASS
5. TOM (L)			
6. JAZZ HI-HAT			
7. HI-HAT			

STUDIOSAMPLES

THE NEW GENERATION OF SAMPLING TECHNOLOGY

THE STUDIOSAMPLES ARE AN EXCLUSIVE ASSORTMENT OF PROFESSIONAL SAMPLE SOUNDS FROM THE METRA-SOUND STUDIOS, RECORDED AND PUT TOGETHER WITH THE MOST MODERN DIGITAL TECHNOLOGY, PLACING SPECIAL DEMANDS ON THE QUALITY OF SOUND.

THE STUDIOSAMPLES ARE CONCEPTUALIZED FOR ALL POPULAR SAMPLING SYSTEMS.

STUDIOSAMPLES

ARE NOW AVAILABLE FOR THE FOLLOWING:
AKAI S-900, KORG DSS-1, HOHNER HS-1,
OBERHEIM DPX-1, ROLAND S-50 (V. 2.0),
PROPHET 2000/2002, CASIO FZ-1

ACOUSTIC SAMPLING

SS-01	STEINWAY & SONS GRANDPIANO
SS-02	JAZZ "SPECIAL" BASS & PIANO SPLIT
SS-03	SUPER BASS
SS-04	SPANISH GUITAR & VOCALS
SS-05	FENDER RHODES
SS-06	BRASS SECTION
SS-07	SAXOPHONE
SS-08	PANFLUTE & SHAKUHACHI
SS-09	KURZWEIL STRINGS
SS-10	SEX DISK "TANJA"

ELECTRONIC SAMPLING

SS-11	BEST OF "JX-10 P"
SS-12	Best of "SYNCLAVIER"
SS-13	BEST OF "PPG"
SS-14	BEST OF "PROPHET-VS"
SS-15	BEST OF "MATRIX-12"
SS-16	SYNTHIE-BASS
SS-17	DX-7 "STANDARDS"
SS-18	DX-7 II "SPECIALS"
SS-19	SOFTSYNTH "I"
SS-20	SOFTSYNTH "II"

DRUMS & PERCUSSION

SS-21	DRUMS OF "SP-12"
SS-22	DRUMS OF "LINN-9000"
SS-23	DRUMS OF "TR-808"
SS-24	PERCUSSION OF "LINN-9000"
SS-25	PERCUSSION OF "TR-727"
SS-26	PERCUSSION OF "E-MU-II"

SOUNDTRACK SUPPORT

SS-27	SOUNDTRACK "I"
SS-28	SOUNTRACK "II"
SS-29	SPECIAL EFFECTS "I"
SS-30	SPECIAL EFFECTS "II"
SS-31	SPECIAL EFFECTS "III"
SS-32	4-D MULTI MIX

ALSO AVAILABLE

Professional Studio Sound Collection I for the Yamaha DX-7 II — 64 brand new Sounds and 32 Performances (Dual/Split), available on RAM pack or 3 · 5" diskette. — Also available for TX-802.

MEGA ROM on disk. 3 · 5" floppy disks for Yamaha DX-7 II FD containing all 1024 sounds from MEGA ROM.

CZ RAM pack for Casio CZ 101, 1000, 3000 and 5000. 64 new sounds in each of two sets. Four banks of 16 sounds, each bank with touch-switch and LED bank indication.

SoundCards for Korg DP 2000 and DP 3000 Digital Pianos. 30 sounds from DX-7 II on each card:
PSC 01 Acoustic Samples of Pianos, Organs, Clavinet, Bass.
PSC 02 Includes Electronic Synth Sounds, Brass, Strings, etc.
PSC 03 Mix of Top Ten U.S. Studio Sounds from New York and L.A.

Roland D-50 Sound Cards. Coming soon — watch out for prices.

STUDIOSAMPLES demo tape now available @ £2.50 Inc. P&P

+++ +++ DEALER ENQUIRIES WELCOME +++ +++

MEGA ROM™

- 32 banks with 32 sounds
- useful sound-combination
- detailed documentation
- display switch
- control leds
- gold plated contacts
- solid and handy casing

1024 DX-STUDIO-SOUNDS

The super memory chip for Yamaha DX-Synthesizers. The ideal tool for professional musicians, producers and sound engineers.

In the MEGA ROM 1024 of the best studio sounds of the METRA-SOUND library are installed. For example:

Brand new Top-Ten-Sounds of the American charts, electronic synth sounds, acoustic nature samples, more than 100 acoustic & electrical pianos, drums and percussions, sound effects and the mayor exotic supersounds from Japan.

The MEGA-ROM — 1024 reasons to jump at.

PRICE LIST AND ORDER FORM

____ MEGA ROM for Yamaha DX-7 or DX-7 II .....@£175.00 each £_____
____ MEGA ROM on disk .....@ £49.50 each £_____
____ Professional Studio Sounds 1 DX-7 RAM .....@ £95.00 each £_____
____ Professional Studio Sounds 1 DX-7 Disk .....@ £39.50 each £_____
____ Professional Studio Sounds 1 TX-802 RAM .....@ £95.00 each £_____
____ STUDIOSAMPLES for Casio/Hohner* .....@ £19.50 each £_____
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 *
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 *
____ STUDIOSAMPLES for _____* ....@ £14.50 each £_____
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 *
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 *
____ CZ RAM pack for Casio Set 1/Set 2 * .....@ £75.00 each £_____
____ SOUNDCARDS for Korg DDD-1/5 or DRM-1 .....@ £55.00 each £_____
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 *
____ SOUNDCARDS for Korg Digital Piano .....@ £55.00 each £_____
01 02 03

Name.....

Address.....

.....

Postcode.....

Please print clearly, and allow 28 days for delivery

Post and Packing £ 1.50

Total enclosed £_____

*Delete as applicable, enter sampler make and model and ring numbers required.

Send your order and Cheque/Postal Order or Cash by Registered Letter to:
Metra Sound Marketing U.K.,
46a Marlborough Road,
London, N22 4NN.

YET MORE SOUND TECHN

C-LAB

The best in music software for Atari

OBERHEIM

The best in synthesisers.

ALESIS

The best in digital machines and effects.

BOKSE

The best in SMPTE and Midi hardware

SYMETRIX

The best in signal processing.

APHEX

The Aural Exciter

AUDIO LOGIC AND DOD

The best in digital delays
and graphic equalisers.

We brand new products from Alesis to add to our outstanding range of professional equipment

Like the rest of our range, technically brilliant at a price that will astound – with results that will meet the most stringent demands.
Sample some very sound technology at major retail outlets now

FROM THAT VERY SOUND

Sound Technology plc, 6 Letchworth Business Centre, Avenue One, Letchworth, Herts SG6 2HR. Telephone: 0462 480000. Fax: 0462 480800. Telex: 826967.

OLOGY ▶▶▶▶

Micro Gate.

MMT-8 Multi-Track MIDI Recorder.

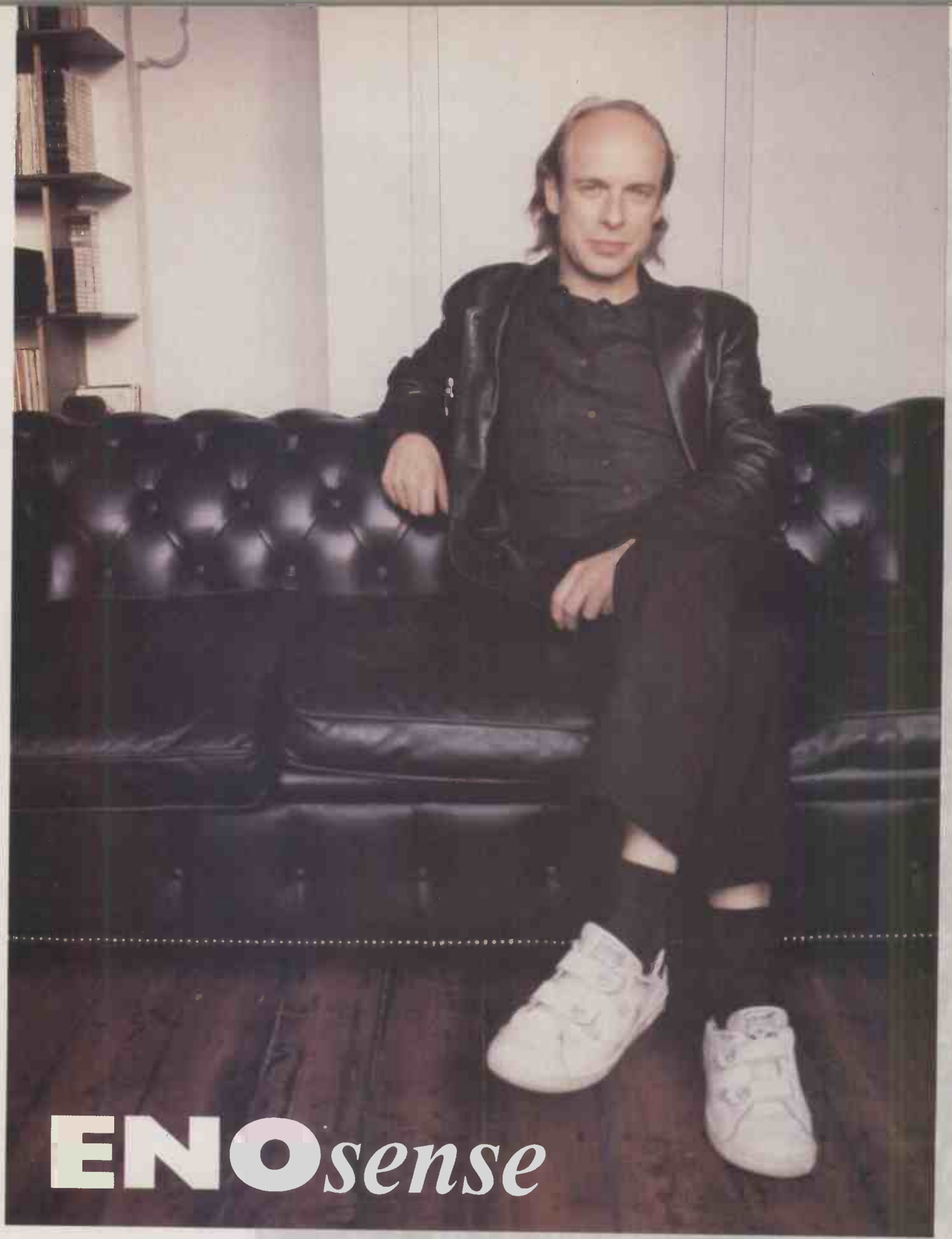
Micro Limiter.

Micro Enhancer.

HR-16 High Sample Rate 16 Bit Digital Drum Machine.

COMPANY ▶▶

SOUND
TECHNOLOGY
▶ plc ◀



ENOsense

Musician, producer or philosopher? Brian Eno's involvement in music spans all three, from his successful production of artists like David Bowie and U2 to the introspection of a very serious composer. Interview by John Diliberto.

"THE QUESTION, 'WHAT does it mean?' really asks, 'What does it symbolise?' Well, my notion is that art *does* something, not that it means something. Its meaning is what it does."

Those don't sound like the words of your average Top 10 record producer, and in many ways they aren't, although Brian Eno has certainly produced his share of popular albums,

including two by U2, three by Talking Heads and a few by David Bowie. But producing hit records isn't what makes Eno one of the most compelling figures in music today.

Brian Eno is a new kind of musician treating technology with philosophy; sounds as music. As well as his own "ambient" music, he's produced the avant-garde recordings of John Adams, Michael Nyman and Gavin Bryars, and the new wave of Ultravox and Devo. Eno organises elements of minimalism, rock and electronics into his own perception of music.

In the last 16 years he's cut a swathe across most major trends in music. As an original member of Roxy Music he extolled sexual ambiguity and future shock, making music for Orwell's 1984, in 1972. One famous photograph of the era depicts surrealist painter Salvador Dali having tea with an androgynous Eno, in make-up and shoulder-length hair – the epitome of *A Clockwork Orange* decadence.

Drinking tea in his management offices it's difficult to believe this charming, articulate man is the one who snarled the lyrics to 'Needle in the Camel's Eye', 'Dead Finks Don't Talk' and 'Baby's on Fire', from his first album, *Here Come the Warm Jets*. "Nearly everything I did before last week seems like it was done by another person", says Eno with bemused detachment. "There are so many voices in you all the time, and circumstance calls one of those people to the fore. I think of myself like a 48-track tape where the mix is always being adjusted within me.

"I still recognise some of that person, but the emphasis has shifted. He was a very extreme mix of the possibilities that make me. He was one extreme mix."

That person left Roxy Music after their second album and embarked on a solo career that has been nothing if not diverse. His first solo recordings, *Here Come the Warm Jets* and *Taking Tiger Mountain (By Strategy)* employed an all-star cast of musicians playing songs that ranged from whimsical to demonic.

By 1975's *Another Green World*, Eno had changed again. No longer the decadent artist, he had become a philosopher. Robert Fripp, one of the guitarists on *Another Green World*, says:

"Brian doesn't really have a strong musical background in terms of the craft of music but he does have a perception of what's right that very, very few musicians have. It's refreshing to hear a few notes, but right, rather than the many, many, many that are wrong from most musicians of my acquaintance."

On *Another Green World*, Eno became what he called a "non-musician" claiming his medium to be the manipulation of sounds and instruments through synthesisers and the recording studio.

"I certainly never meant to imply that musicians were therefore uninteresting", explains Eno, "what I meant to imply was that there were new possibilities which required new talents, and they were not traditional musical talents. Use of the studio was one of those things. That time was really the beginning of the 24-track studio and extensive processing and all of the things that we now regard as standard studio practice. Well, those were technologies and techniques that really weren't anything to do with traditional musical skills but were, of course, of great interest to musicians."

For most of the '70s Eno worked with the new technology on his own albums and in collaboration with other musicians, notably Robert Fripp, who was then the guitarist with King Crimson. They recorded two albums of tape loop duets *No Pussyfooting* and *Evening Star*.

"When I worked with Fripp we became one musician", recalls Eno. "It wasn't a case of two musicians playing together, it was a case of me hearing what he was doing and somehow extending that by the things that I knew were possible with the studio and with synthesisers."

Eno pursued this direction, finding more musicians open to his new approach to sounds in music. With American pianist and composer Harold Budd he made the albums *Plateaux of Mirror* and *The Pearl* where Budd's processed piano became a haunting audio illusion.

"It's a nice position for the musicians to be in because they are responding to what I'm doing at the same time as playing. It's not 'you play your bit and then I'll tart it up in the studio', it doesn't happen like that. What usually happens is that they're playing and I am doing something with the sound at the same time, and they're hearing that and their playing is then a response to that. So the circuit is a live circuit, if you see what I mean. That's why I say it's like one musician rather than two."

BUDD WAS PART of Eno's Ambient Music, a series of records concerned with environmental sound which grew out of his enthusiasm for minimalism and his own album, *Discreet Music*. Eno placed two Revox tape recorders side-by-side, recorded a synthesiser onto the first, threaded the tape to the second, which played back the music and fed the signal back to the first deck in a continuous cycle. It was a variation on the processes used by Terry Riley on *A Rainbow in Curved Air* and Steve Reich on *It's Gonna Rain*.

Brian Eno claims always to have been influenced by minimalism. The first work he performed in public was "X for Henry Flynt", an hours-long piece by LaMonte Young, where the player's forearms are pounded on the piano keyboard.

"*It's Gonna Rain* was very, very important to me", says Eno with deference. "Both those albums had a lesson for me that I've never forgotten, which is that the relationship between input and output is a very complex one within a piece. *It's Gonna Rain* uses a very, very small amount of original material but it produces a very complex shifting output. It interested me that an artwork could be a system of amplifying detail, amplifying by analysis in a way. And for me what's interesting about minimalism is not that people use very few elements, but that very few elements can mean a lot.

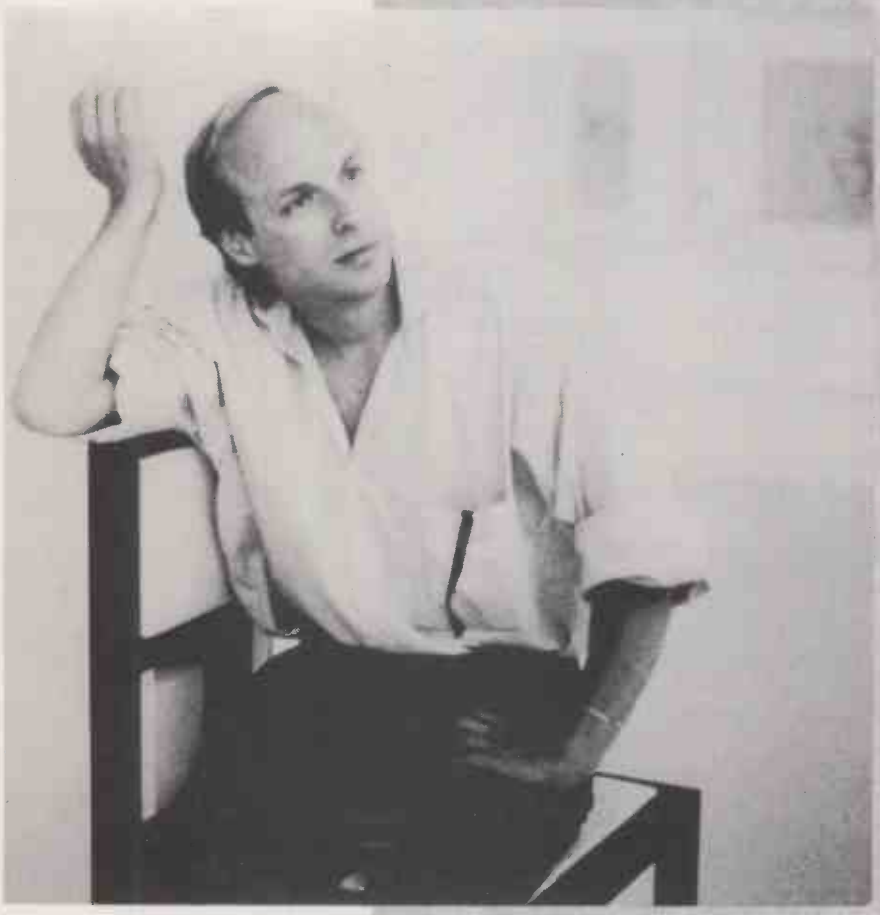
"Minimalism makes it very clear that listening is not only a very active process, but it's a very creative process as well. When you're listening to *It's Gonna Rain*, if you're enjoying it, what you're enjoying is your own perceptual processes. They're reconfiguring that material; they're making constructions out of it; they're comparing this moment with that moment; they're filtering things; they're amplifying other things. So really a lot of what's happening with minimal music is not so much to do with you looking at a work operating outside of yourself, it's to do with you looking at your brain operating on something and that's a very fascinating process.

"Now, to a composer like myself of limited technical resources, this is good news because it ►

"There were new possibilities which required new talents, and they were not traditional musical talents."

► means that not only do I have the technologies that I'm used to using, like recording studios and synthesisers, at my fingertips, I also have this big device, the human brain, which I can also somehow make use of as part of the work."

The result of these musings was a series of records made with pianist Harold Budd and zither player Laraaji. Ambient music was a collection of environmental sound pieces that could be used as background sound (the *original* musical wallpaper), or listened to closely for their subtle changes. *Music for Airports*, *On Land*, *Day of Radiance* and *Plateaux of Mirror* were all harmonically simple, melodically refined albums that created an environment of sound.



"I meant it to be a prescription for composers to think of their own sound as environmental sound", says Eno. "Composers were still making music as though people were buying the record, rushing home, putting it on and sitting in front of their stereo with their ears glued in the way that one watches a film or something like that. I'm sure you'd agree that that isn't the common experience of people listening to music any more; music has become part of the tapestry of your life, like lighting or like the environmental background sounds that you hear anyway. I was excited by the idea of making music that acknowledged that and said 'here's a music especially for that, here's a music that is intended to merge into the environment'."

You might ask why Eno didn't directly record environmental sounds. Well, he often did.

"On nearly every track of *On Land* there are environmental sounds, but quite often they're so processed that they aren't obviously environmental. For instance, they're slowed down a great deal or treated or mixed in with electronic sounds.

"Another way of using environmental sounds I worked with was recording things through specially constructed microphones. An ordinary microphone with a big tube on the end, for example, and sometimes the tube would go out through a car park and back into the studio. So there would theoretically be some resonance from the outside world affecting the sound as it went down. These experiments were limited in scope and not all that successful", he laughs.

"I have this big device, the human brain, which I can also somehow make use of as part of my music."

TALK OF TAPE loops and repetition brings one of Eno's Oblique Strategies to both our minds: "Repetition is a form of change".

In 1975, Eno and artist Peter Schmidt developed Oblique Strategies, a series of over 100 cards, each with an epigram printed on it. Whenever Eno reached an impasse in the recording studio, he selected an Oblique Strategy card. These cards bore directives such as "Discover the recipes you are using and abandon them", "Make a sudden destructive, unpredictable action", "Honor thy error as a hidden intention", or "Tape your mouth", and carried an obligation to do whatever they said.

"Oblique Strategies were really a way of getting past panic by reminding myself that there were broader considerations than the ones I could remember at that moment in the studio", explains Eno, "so when I got into a panic of some kind, thinking, 'where is this going? It's not going anywhere . . . this sounds like what I was doing two years ago' – all the things that frighten you – I'd pull out one of those strategies and it would tell me something and I was quite religious about them. I used to absolutely drop everything and follow that course of action, so I didn't pull them out lightly because I knew it could mean jettisoning whatever I was doing at the time to do something completely bizarre, like take a long walk or something – the last thing you want to do if you're panicking about not doing anything that day."

Eno doesn't carry the cards with him any more; they're embedded in his consciousness. But *Another Green World* was heavily influenced by their use. Oblique Strategies are similar to the *I Ching* as used by Cage, in that they took the decisions out of the composer's hand. Eno describes how one piece on *Another Green World*, 'Spirits Drifting', was shaped inadvertently by an Oblique Strategy.

"When I started making that piece I was really at the end of my tether. I'd been working on it for the whole day; it seemed that we had almost nothing on tape and it sounded like a piece of crap to me at the time. I was – this is the truth – I was standing at the synthesiser crying as I was playing it because I thought 'I don't know what I'm doing', and I took out an Oblique Strategy and it said 'Just carry on'." He rocks back in his chair, laughing at the recollection. "And I pissed myself laughing because it was such a low level answer to what I was expecting. I was expecting something that would have me sitting down and scratching my head and it said 'Just carry on', so I just carried on. In the next half hour or so that piece suddenly gelled into something, and in fact it gelled into something that I still like very much."

Over the years, Brian Eno has been surrounded by musicians and artists of like mind, who look at music as an adventure, not a calculated product. At first, he worked with lesser-known musicians, often on their debut recordings. In the late '70s he produced the *No New York* anthology, Devo's *Are We Not Men? We* ►

PATCHBOX 32

ATARI ST
EDITING PACKAGE

TOTAL CONTROL OVER YOUR ROLAND MT32

- Easy access to all areas of the MT32 memory – edit 128 preset voices, 64 user voices, 30 rhythm voices, 128 patch memories, 64 user memories, 64 rhythm memories and the System control area.
- Special graphic editing environment designed to ensure maximum clarity and ease of use on both TV and monitor systems. Compatible with all Atari ST computer systems and both mono and colour systems.
- Built-in "Soft Keyboard" containing real-time sequencer – allows synth and drum voices to be played using the mouse during editing.
- Special configuration function – allows the MT32 to be set up to your own configuration with a single procedure.
- GEM-style environment featuring pull-down menus and icons. Most features only require pointing and clicking with the mouse.
- As a limited edition only the Patchbox 32 package will include free a copy of our specially-commissioned guide to programming the MT32 – so order now from your local music retailer.

PATCHBOX 32

TOTAL CONTROL...FOR £85.95

TIGRESS DESIGNS

01-946 7870

25 BURMESTER ROAD, LONDON SW17 0JL

XRI SYSTEMS

SMPTE SYNCHRONISERS

SMPTE RACK XR300

Iu 19 inch rack mounted SMPTE to MIDI converter. Auto locates MIDI sequencers and drum machines to a recorded SMPTE audio track.

- *Generates SMPTE at 24, 25, 30 Fps and DF*
- *Full SMPTE read out and user prompts*
- *Any MIDI start point and up to 10 tempo changes programmable*
- *MIDI delay or advance to ½ms resolution*
- *Merges its timing information with MIDI input*
- *All parameters dumped to MIDI seq./audio tape*
- *Built in power and battery back-up*
- *DIN syne for older drum machines*
- *Upgradeable software, expandable system*

SMPTE UNIT XR03

Stand alone version of XR03 with similar features. Requires external power

ALSO AVAILABLE IN THE XR SERIES

SYNC BOX XR01

Easy to use tape synchroniser for MIDI or DIN syne drum machines and sequencers. Incorporates auto start, 1 MIDI in, 2 outs, DIN sync.

MIDI MERGER XR02

Merges two MIDI outputs together. Incorporates 2 MIDI ins, 2 merged outs, 1 thru.

MORE POWER TO YOUR EXPANDER

Play your multitimbral expander from 2 keyboards together, or 1 keyboard and sequencer.

EDITING FROM COMPUTER

Edit your expander from computer, play it from keyboard - at the same time.

PRICE LIST

XR01 — Sync box	£59.95
XR02 — Midi merger	£64.95
P. Pack XR01/2	£5.95
XR03 — SMPTE unit	£169.95
P. Pack XR03	£9.95
XR300 — SMPTE rack mount	£299.95

- Prices include VAT
- Telephone orders/enquiries welcome
- Add carriage XR01/2 ..... £2.00
  XR03/300 ..... £5.00
- Full specs available from:

XRI SYSTEMS Tel: (021) 382 6048
390-394 Birmingham Road, Wylde Green, Sutton Coldfield, West Midlands B72 1YJ

► *Are Devo!*, Ultravox's *Ultravox!*, and John Cale's *Fear*. Towards the end of the decade he began working with more established artists, notably David Bowie during his controversial *Low* period in West Berlin. They recorded a trilogy of albums together, *Low*, *Heroes* and *Lodger*, that sank Bowie deep into Eno's thickly textured sound-pieces. The second sides of *Low* and *Heroes* were dense atmospheres orchestrated by Eno in the studio. The opening sides, however, were a new kind of rock with sharp, angular rhythms, chopped guitar chords and fragmented lyrics. Listen to the drum sound and you'll hear the origins of the Phil Collins gated drum sound that has since become so popular.

"Both sides of that record are new directions in a way", says Eno reflectively. "On a purely technical level, the drum sound on the first side of *Low* became *the* drum sound for the next 'x' years, it still is now to some extent, but the rhythm section feeling altogether was rather a new feeling for rock music. It was an industrial extrapolation of what was going on in soul and funk records. It had a much more European feel than those things had.

"On the other side of the record was another direction. It was one that I think I had already taken; it was very much the landscape direction. One side was urban and industrial, the other side was suburban", he laughs again.

In 1978 Eno teamed up with David Byrne and Talking Heads for their second album, *More Songs About Buildings and Food*, their collective interest in African and funk rhythms and unusual studio ambiences creating the most exciting rock music of the early 1980s. In a different area of rock music, Eno's work with U2 has helped re-popularise the rock guitar in the wake of the early '80s synth pop.

"I use the DX7 almost as much as a research tool for seeing how a sound is made as a synthesiser."

WHETHER PRODUCING FOR the avant-garde Obscure label or the African group Edikanfo, Eno has maintained a lingering reputation as a wizard of the synthesiser – and it's a reputation Eno really doesn't want.

"The problem with synthesisers has always been that the sound that you hear is a direct result of the movement of a very small number of electrons", he explains, "therefore the regularity and the evenness of the sound are awe-inspiringly boring. The sound of a grand piano is the result of the interaction of so many factors – environmental, climatic and physical factors – in fact, a piano never sounds the same twice."

Eno's whole approach to synthesis is textural. In fact, that's his sole aim in the studio, using everything from tape manipulation to signal processing he seeks to create a particular presence of sound. But, although he uses a Yamaha DX7 extensively, he still won't use samplers even though they reproduce acoustic sounds.

"I'm not very interested in samplers", confesses Eno, "conceptually, synthesisers interest me much more. A sampler is a tape recorder as far as I'm concerned, and it isn't conceptually very much more interesting than a tape recorder. Synthesisers, however, interest me for two reasons. One is because they do introduce new sounds into the world, and the other is because in working with them, I learn a lot about how sounds are made up. The DX7 has been very useful for that, I use it almost as much as a research tool for seeing how a sound is made. What happens when this hits this? Why does this sound like that? You find that a very specific relationship between two operators produces something that sounds like a grand piano. And you think 'I wonder what it is in the physical make-up of a grand piano that demands precisely this relationship for its imitation'. I'm not interested in imitating grand pianos per se, but I am interested in finding out how sounds work.

"My solution has been to make the equipment unreliable in various ways. I used to like the old synthesisers because they were like that. My first synthesisers – the EMS, the AKS and the early Minimoog – were all fairly unstable and they had a certain character. Character has really to do with deviations, not with regularity, they were very Latin in that sense. And then, of course, I used to feed them through all sorts of devices that also had a lot of character: that were themselves in various ways unpredictable. The interaction of a lot of these things started to create sounds that had an organic, uneven sound to me."

Although it's not easy in computerised, digital synthesisers like the DX7, Eno has found a way to introduce character into modern synthesisers as well.

"I've found ways to de-stabilise the DX7 a little bit to create interactions between it and other instruments that are more interesting", he says with a gleam in his eye. "I don't have very good voltage supply, for instance. Within the patches, I build in certain elements that don't repeat. For instance, there's something wrong with the programming of envelope generator four on the original DX7 and you can use that to create non-repeating patches. If you have that set to a value under 50, you'll find that the synthesiser behaves unpredictably. Unfortunately they've sorted this out on the second generation of DX7s, so I still use the first one, and that's an important element of quite a few of my patches."

So far, all these experiments and the resultant music coming out of Eno's new 24-track home studio have been heard by very few people. Presently, the only place to catch them is at his video exhibitions – Brian Eno is bored with making records.

"Records haven't got quite that *frisson* of novelty that they had for me 15 years ago, or even 10 years ago", he admits.

Consequently he's been spending his time on multiple-screen video installations set in unusual locations like botanical gardens or churches. But he still makes music for them, using multiple auto-reverse cassettes. He has from eight to 48 channels of sound and music, running non-stop in random synchronisation. Coincidentally, one of Eno's early influences, John Cage, is currently working with a similar system.

"This is so much closer to the feeling that I wanted in ambient music", says Eno. "I want the notion of something that was always reliably similar, but never exactly the same. A little bit like any natural process. Like watching a river – it doesn't pull many really big surprises on you, but at the same time it never repeats itself perfectly. I wanted to make music that had that homogenous but ever changing character to it."

A curious quest but one that seems suited to this charming eccentric. I am left with only one nagging question: where will Eno's river lead him next? ■

Philip Rees

MODERN MUSIC TECHNOLOGY

MIDI CAN BE FUN

5X5
MIDI SWITCH
Easy-to-use MIDI patchbay for only £85.95 inclusive.

Explore new routing configurations, and realise the potential of your MIDI gear.

The *5X5* has five INPUT SELECT rotary switches, one for each output. Each switch can independently select any one of the five inputs or the off position.

The case is 1U high and half rack width. An expansion socket is provided for connecting additional switches. The power supply is built-in.

The handy V3
MIDI THRU UNIT
— 1 in to 3 thru for just £11.95 inclusive!

You can use the *V3* to set up a small MIDI 'star' system, and cope with devices without MIDI-thru connections, or avoid MIDI timing errors caused by 'chain' connections.

The *V3* is compact — 58mm x 69mm x 23mm. It can be powered by a PP3 battery (not supplied), which gives a very long life, or via an external mains adaptor (available separately.)

These fine products come with a three year parts and labour guarantee. We give good service because we aim to succeed.

See your dealer, or order your MIDI solution now, direct from the manufacturer. Fill in the coupon below, and send it off with a cheque. Allow up to 21 days for delivery. Money back if not satisfied — just return the goods undamaged in their original packing within seven days for a full refund.

Dealer enquiries very welcome.

The *5X5* and *V3* are made in England by Philip Rees (Modern Music Technology), Unit A, Park End Works, Croughton, BRACKLEY, Northants NN13 5LX. ☎ (0869) 810830 or (0865) 250709.

Philip Rees
MODERN MUSIC TECHNOLOGY

Name_____

Address_____

I wish to order:

__ *5X5 MIDI switch(es)* at £85.95 each £____

__ *V3 MIDI thru unit(s)* at £11.95 each £____

__ *AAC3 mains adaptor(s)* for *V3* at £6.95 each £____

(prices include carriage and VAT)

I enclose my cheque for (total) £____

☐ Please send me more information on your MIDI products

Send to: Philip Rees (Modern Music Technology) FREEPOST, BRACKLEY, Northants, NN13 5BR. *NO STAMP REQUIRED*

STATEMENT OF FACT

AS THE UK DISTRIBUTOR OF MIDI-FILE COMPATIBLE SOFTWARE FOR THE ATARI ST, WE OFFER YOU

FREEDOM OF CHOICE

■ FACT

THE D.R.T. SEQUENCERS WITH THEIR MULTI-PROGRAMME ENVIRONMENT, ALLOW YOU TO RUN UP TO 4 D.R.T. EDITING AND SCORING PROGRAMMES AT THE SAME TIME. MAKING IT THE MOST POWERFUL PACKAGE AVAILABLE.

■ FACT

INTELLIGENT MUSICS' M PROVIDES A COMPOSING AND PERFORMING PROGRAMME TO STIMULATE YOUR IMAGINATION AND MAGNIFY YOUR SKILL.

■ FACT

YOUR PASSPORT TO SUCCESS. THE MASTER TRACKS PRO 64 TRACK SEQUENCER FROM PASSPORT DESIGNS. WITH ITS UNIQUE GRAPHIC DISPLAY AND USER-FRIENDLY INTERFACE, CREATES THE NEW STANDARD FOR OTHERS TO EQUAL.

■ FACT

D.R.T.

KCS 1·6 £199 KCS LEVEL 2 £250

MT32, D50, DX/TX, ESQ EDITORS £99

INTELLIGENT MUSIC

M £135

PASSPORT

MASTER TRACKS PRO 64 £250

FOR YOUR NEAREST MCMXCIX DEALER PHONE.

01 724 4104/01 258 3454

■ MCMXCIX

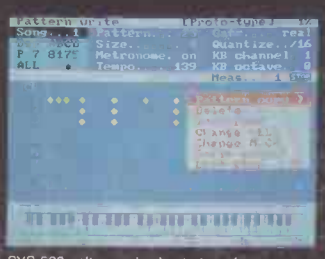
SPEND YOUR FUTURE WITH US


THE LEAD
Roland S-50 DIGITAL SAMPLING KEYBOARD
Please send me more information on Roland Digital Sampling Technology
Name
Address
MT/2/88
Roland
Roland (U.K.) Ltd.,
983 Great West Road,
Brentford, Middx. Tel: 01-568 4578.

ING EDGE.

Roland Digital Sampling Technology

Rack Mounted Version: S-550 Digital Sampler



SYS-503 software display to transform S-50 into a MIDI sequencer.

Any sound has potential for the creative musician. That is, if the musician knows how to use it. Enter sampling. Sampling gives electronic instruments the freedom to create sounds that accurately reflect the musician's feelings and emotions–sounds with the power to move an audience. The synthesis of source material becomes the prime factor in the development of electronic musical instruments as well as in opening up new musical worlds. All becomes possible through sampling technology.

The Roland S-50 Digital Sampling Keyboard delivers pure and clean sound because it employs 16-bit data processing. With S-50 circuitry totally in the digital domain, sound quality is fully on a par with compact discs. Features like sixteen-voice polyphony, a sixty-one key velocity and pressure-sensitive keyboard, sixty split points, sixteen sampled sound assigning/storing ability, a 3½" micro floppy disk drive, and direct CRT monitor connection give you a potential for musical expression and playability that verges on perfection.

Roland digital sampling technology makes sure all future expansion possibilities are taken care of, starting with the upgraded S-50 (Ver. 2.00). Offering a performance level more advanced than the S-50, it lets you draw waveforms and envelopes on a digitizer tablet (DT-100). And to turn your S-50 into a "Super MIDI Sequencer", and the SYS-503 sequencer software turns your S-50 into a super MIDI sequencer.

Roland digital technology sets the pace for tomorrow's electronic instruments. It's the kind of technology that leaves the leading-edge behind.

16-BIT DATA PROCESSING DIGITAL SAMPLING KEYBOARD S-50

The Art Of LOOPING

part three

If you want to give your old synths a new lease of life sampling could be the key. Here are some guidelines on applying the theory to the real world. *Text by Chris Meyer.*

Illustration *Clive Goodyer*

IN THE FIRST two parts of this series I covered the basics of looping sampled sounds. Now it's time to discuss putting those practices to some constructive use. Rather than provide you with hard and fast rules about how to do things though, I'll try to explain what works for me, after two years of practice, and hope that it helps you establish your own methods.

I usually do things in batches – set up all the memory, do all the samples, trim them all and so on. Aside from it being a strange kink in my personality, this approach gives me the opportunity to keep comparing different samples of a sound side by side, and ensures that I don't miss a step in the process on any one of them. So I'll be covering all the various topics associated with sampling in the order I'd actually do them.

What to Sample

BEFORE WE DELVE any further into the actual sampling process, it's as good a time as any to talk about sample sources. One angle is to try to recreate traditional instruments, such as cellos, pianos, and horns. This usually requires getting hold of the instrument in question (and preferably someone who can play it), a microphone and a good recorder. University music departments tend to be good sources of the former, if you can gain access to them, but the latter are items to spend your time and money on. The process guarantees unique samples, and is ultimately more satisfying than using sample CDs or tapes. If you do want to take the easy way out there are more CDs of sounds intended for sampling appearing on the market all the time.

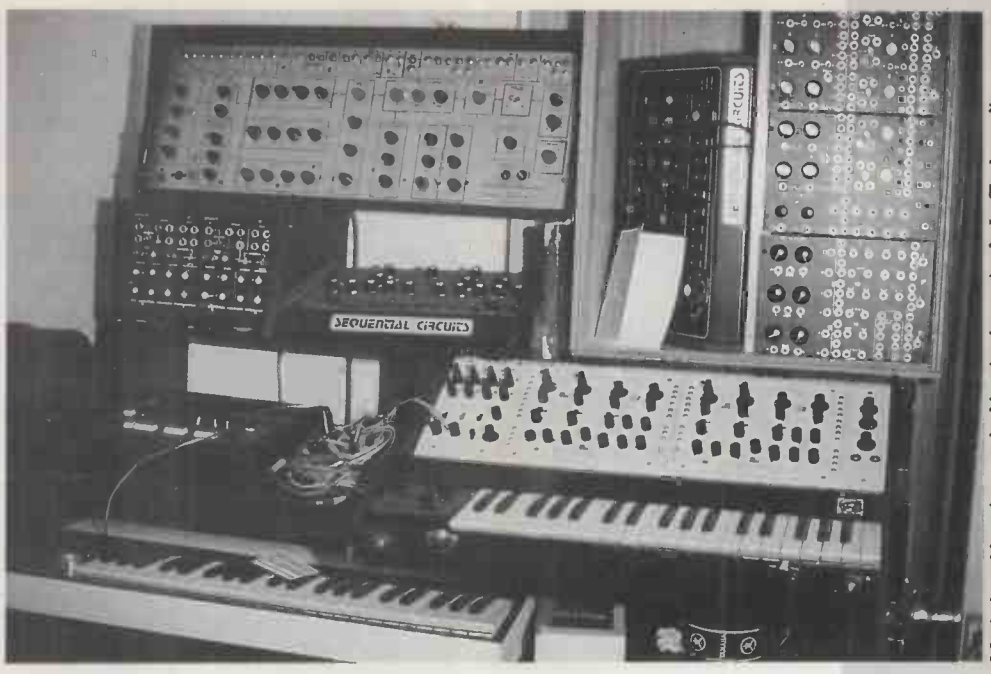
For those intending to record acoustic instruments for the first time, try recording your own voice sustaining a vowel sound – it's as good a place as any to start making mistakes, and sampled vocals and choirs always seem to be in vogue.

Another source of samples (particularly percussive ones) is anything lying around the house that sounds promising when struck, bowed, caressed, or whatever. I personally think *anything* dropped an octave (slowed down to half speed) or farther sounds great. There's a greater margin for "error" here too because it's unlikely anyone will accuse you of having a lousy biscuit tin sample – uniqueness is on your side. No doubt you're terminally bored with the phrase "Sample that!" by now. Well, I've got news for you; since I started doing sound effects work, that phrase has become an important part of my philosophy.

The sample source I'm most fond of is other synths. Part of the large turnover in synths is due to the eternal quest for new sounds, but there's another side to it. As

it's financially impractical to have one of every synth around just for the handful (or less) of sounds it really does well, it makes a lot of sense to sample them and sell off the original instrument. Throw in the lack of programmability and polyphony and the drifting oscillators of early analogue synths and it becomes a more attractive proposition still. Of course you'll never have the full flexibility of the original, but it still makes a lot of sense.

And synths are great to sample, because they're easy to play and record, and are generally easily borrowed from music shops or friends with a passion for collecting gear. You could even invest a few pounds in hiring anything you can't borrow.



Myriad prehistoric gear lurking in the author's IsoTank studio.

Preparation

BEFORE MAKING A sample, you have to decide if there's a way to play it that should be used or avoided. A lot of this has to do with what facilities you have for changing the sound after making the sample. Is there a handle rattling on that saucepan you're about to hit? If it's in a frequency range anywhere near where the rest of the sound is, wrap it up or tape it down – no filter in the world is going to get rid of it later. The same goes for the hisses and hums of a synth – try to cure it now. Any other equalisation at this point is fair game too, but while it may be tempting to equalise everything to death before sampling, I prefer to be more cautious and get the straight sound down first. The third option is to take at least two samples – one dry, and one "dosed" with EQ.

Does your sampler have an adjustable filter or one that can be altered with an envelope? If so, sample an overstruck version of the sound (hit it a bit harder, or open the filters a bit more on the synth). You can always calm it down later, but you can rarely beef it back up.

What type of vibrato, tremolo, or other washes to the sound exist? Remember that they will become a permanent part of the sample, and transpose along with the pitch of the sample. Things such as a Leslie or the even wash of a phase shifter on a string synth don't transpose well; natural, random, and/or complex modulation (such as oscillators beating slightly) do. What sort of memory and looping facilities do you have? Sounds other than pure, vibrato-less tones are hard to loop without crossfade looping, and the more complex the modulation, the longer the ▶

►loop required. You may be best advised to get rid of it first.

This same rule applies whether you're thinking about sampling a solo instrument or a whole ensemble – the more instruments playing at once, the more complex the beating, and the harder it will be to loop. Some samplers even have chorus, layer, or detune facilities to thicken sounds up later. If you have crossfade looping and/or lots of memory, however, sample the best sound you've got now – it'll only come out better later, and will be far more complex and natural than you could recreate with your sampler's own facilities.

"There's a greater margin for 'error' with unusual samples – it's unlikely anyone will accuse you of having a lousy biscuit tin sample."

Two special notes to those sampling other synths, and whose samplers have synthesiser-like envelopes and the like: 1) remember that you can recreate amplifier and filter envelopes with your sampler, and 2) be wary of trying to recreate many of your amplifier and filter envelopes with your sampler. Well, this one deserves a bit more attention. Keep in mind that transposing your sample all over the place will also change how long it takes to play back. Consequently, your envelope rates will be sped up and slowed down along with the sample's pitch. Dropping a sample an octave cuts the speed of all the envelopes in half; raising it an octave doubles them. If they are simply amplifier envelopes or gross filter envelopes (like an exaggerated wah or sweep), keep them wide open when you sample and use your sampler's facilities to recreate them.

On the other hand, keep in mind that your sampler's envelopes and filters may not sound like the synth's own, or may not do things that the synthesiser's would. You don't hear people rhapsodise about the Minimoog's oscillators; they rhapsodise about its unique filter. Many older synths have dedicated envelope-generating hardware that produces exponential curves which sound a lot more natural than the linear ones on the majority of current samplers. Some older synths have unusual features like inverted envelopes that just don't appear on most samplers. In this case, it's better to use the synthesiser's envelopes and filter(s) when sampling, and on playback, and make the sampler's as neutral as possible.

Before creating too many raw samples, try the following experiment: program a sound on your synth that has a fairly interesting and complex oscillator setup and a slow, full filter sweep up and down with a touch of resonance. Sample that and play it without using an envelope on the sampler itself. Next, sample an equal length of the raw oscillator sound with the filter and resonance off. Then try to recreate the original sound with the sampler's envelopes and filter. This will give you an idea of how close you'll be able to get. Chances are you'll find that the envelopes are fine but the resonance doesn't sound right. In any case, you'll find out what you can and what you can't get away with.

"Envelope rates change with a sample's pitch; dropping a sample an octave cuts the speed of the envelopes in half, raising it an octave doubles them."

If you can get by with using the sampler's own analogue (or digital) processing, you'll have a little more work to do, but you'll use less memory and will end up with samples that are more consistent across the keyboard. I'm personally very particular about a synth's sound and am usually not offended by transposing envelopes in order to capture a sound as accurately as possible.

Finally, remember that you never hear the natural release of the sound from your sampler. Most samples tend to remain in a loop and use their own envelopes to fade them out. Using a sustain-only loop (see *The Art of Looping Part I*) with the sound's natural release occurring afterwards is an alternative, though this eats up more memory, but unless you release a key precisely at the end of the loop, the remainder of the loop will play before the note releases.

Sample Rate and Length

FAIRLY BASIC SAMPLING topics these, but here are a few tips to help you on your way.

The higher the sample rate, the greater the bandwidth – that is, the greater the range of frequencies in the signal after sampling. The first cost of narrow-bandwidth sampling is the upper frequency content of the sample. This economy is normally made in the design of the sampler to keep costs down, or in the bandwidth/sampling time wars in the interests of getting the required length of sample albeit at the cost of quality. Most samplers have a nominal sampling rate of around 30kHz, which translates roughly to a bandwidth of 12kHz – bright enough for old subtractive synthesisers; perhaps not so for some of the newer digital demons. Because higher sampling rates do eat up memory, I quite often sample all but the highest notes around 30kHz, and occasionally the highest one at 40kHz or so – it saves a bit of memory for looping. Simple, no?

But now it's "exception to every rule" time, again: if you transpose a sound downwards, you're transposing its bandwidth down, too. Playing a sound sampled at 30kHz down an octave drops the bandwidth to a dull 6kHz. Low note samples are the ones that are most commonly stretched the furthest down, so some consideration must be paid to sampling these around 40kHz instead.

The real issues are how much memory you have, how much of the keyboard range you plan to cover, and how long the sound is. Very few natural instruments or synthesiser patches sound good over five octaves, but there is a constant impulse to fill the whole keyboard regardless. If you know you're only going to use a sound over the two bass octaves (or whatever), you can balance the decreased number of samples off against longer ones. In most cases, though, the sampler's transpose range won't gracefully cover those two octaves and more than one sample will have to be taken. Tuck it into the back of your mind right now that samples tend to transpose down better than they transpose up (the old chipmunk effect), and remember this when it comes time to pick which pitches to sample.

As I mostly play in a studio environment I don't mind having only one or two different sounds on a disk, so I listen to how long a sound takes to evolve from its attack to a steady state (for looping), and decide then if I'm going to try to fit it into half of the memory or if it's going to require all of it. Also, the evolution of the sound and its loop is more important to me than how well the seams between samples match up because I play more sustained chords than quick runs.

As for the number of samples I need, I try to use four or five in five octaves – four if the sound has a particularly long evolution that I want to capture. For four samples, I divide the memory into quarters, place the lower three samples at the three Cs centred around middle C, and the fourth around the high F or G to try and lessen the transposition problems. For five samples, I divide the available memory into fifths, place them at the five As – one sample to each octave. Those who want to hide the seams and transposition effects between samples will have to take more samples placed more closely together.

Two last adjustments are often necessary. If the sound seems to evolve more slowly at lower notes than higher ones (the envelope tracks the keyboard, or the beating is slower), I'll make the lowest sample about 20-25% longer and the higher sample that much shorter. Second, I always take a bit more sample than I think I'll need – it'll come in handy for crossfade looping (see Part II), and acts as a general safety margin.

Sampling and Trimming

DECISION MAKING OVER, it's time to actually start sampling. Whatever you do, keep an eye on your recording levels. Digital clipping is far nastier than you might imagine and certainly nastier than anything you'd want to hear anywhere other than with the click at the start of a drum sound. Listen to the sample after you've taken it, if it's not right, resample it – you won't get the chance later. And don't rely on editing – much as I like visual editors, I haven't been able to convincingly smooth out a clip yet.

There are several other good reasons to listen to a sample right after you've taken it. An obvious one is checking for crackling or broken cables. Another is to check the sample length and bandwidth are up to the job (or if they're doing it too well, in which case you can save some memory). Make sure that enough of the attack of the sound is present – improperly set up auto-triggering can cost you irreplaceable attack transients. Also, strangely, not every identical keystroke on a►

JUST ONE PHONE CALL COULD SAVE YOU £££'s

ENSONIQ SQ80

CROSS WAVE SYNTHESISER

RRP **£1,395**

IN STOCK NOW!

ENSONIQ EPS

ENSONIQ PERFORMANCE SAMPLER

RRP **£1,695**

IN STOCK NOW!

UNBEATABLE DMP7 DEAL

Two Yamaha DMP7's used for one album session only, in immaculate condition and fully guaranteed. These two units linked together offer the ultimate 16-track digital mixer/effects package, and are available at an unbeatable package price of only

£3,295 (+ VAT) THE PAIR!

(Will Split, Ring for Price)

SCOOP PURCHASE - AKAI S700

A limited number of these superb samplers are available now at the low, low price of only **£699**

YAMAHA SHS10

MIDI REMOTE SHOULDER KEYBOARDS

On-Board Sounds. Rhythms and Sequencer **Only £99** *While Stocks Last*

ROLAND D50 + MT32

IN STOCK NOW! NO KIDDING!

ALESIS HR16 + MMT8 *NEW IN STOCK*

STEINBERG PRO 24 VERSION III

Many new features including: Drum Editor, Real Time Controller, Simultaneous 4-Track Recording + Much More.

DR.T. EDITORS Mostly only £99 (inc MT32)

HYBRID ARTS Full Range In Stock

RING FOR DETAILS OF OUR ATARI/SOFTWARE DEALS

BARGAINS - S/HAND + EX-DEMO

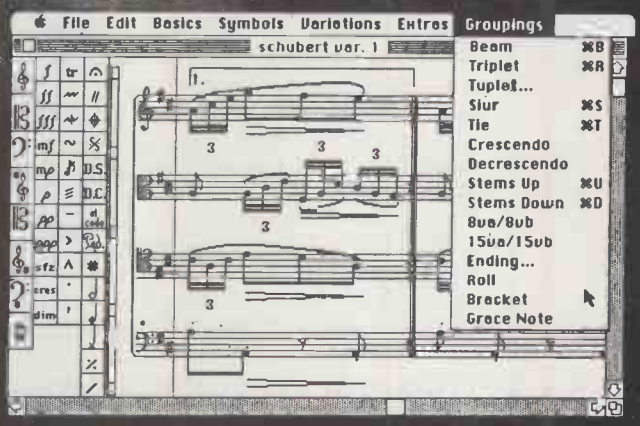
Akai S612 Sampler + Disk Drive **£349**
Roland DEP3 ..... **£325**
Akai MPX820 Prog, MIDI Mixer **£799**
Akai ME15F MIDI Dynamics Controller **£49**
Korg DRV2000 Dig Rev Delay **£349**
Roland MPU104 MIDI Input Selector **£59**
Korg SDD2000 MIDI Sampler/Delay **£325**
Korg DDD5 Five Drums inc Rom Card **£375**
Ensoniq Mirage Mkl **£699**
Ensoniq DSK1 Mirgae **£799**
Ensoniq Piano **£699**
Oberheim Matrix 6 ..... **£899**
Roland CR1000 ..... **£275**
Crumar Stringman Synth **£125**
Roland PG300 Alpha Prog **£99**
Sequential Multitracks **£475**
Roland Juno 106 (inc Flightcase) **£475**
Akai AX73 Synth **£75**
Prophet 2000, 512K Version **£1,199**
COMMODORE 64 SOFTWARE
Steinberg Pro16 Sequencer inc MIDI Interface **£69**
Steinberg CZ Editor **£20**

BONNERS

31 GROVE ROAD, EASTBOURNE, EAST SUSSEX

☎ 0323 639335/645775 (CLOSED WEDNESDAY PM)

Mac Music!



Interfaced to any contemporary MIDI keyboard your MAC becomes the ultimate music recorder. We have COMPOSER programs for the written score, PERFORMER programs for tape-deck style recording. Bridging these two programs means you can score your improvisations. JAM FACTORY and 'M' take this step further allowing computer intelligent interactive performance. We've got sound designers for detailed editing of sampled sounds and a range of interfaces to suit your needs – including the new ARGENTS MIDI communicator.

Basically if you have access to a MAC you have access to MUSIC.

Argent's

20 Denmark Street, London WC2 8NA.
☎ 01-379 6690 (sales) 01-240 0085 (service).

NETWORK

HI-TECH SUPERDEALS

HYBRID ARTS SOFTWARE

SMPTETRACK 60 TRACK MIDI SEQUENCER £499
SYNCTRACK 60 TRACK MIDI SEQUENCER £299.95
EZ TRACK SEQUENCER £59.95
DX ANDROID £179.95
OASIS £179.95
GEN PATCH £129.95
CZ ANDROID £84.95
ATARI 520STFM + SM125 MONO £449.99
ATARI 1040STF + SM125 MONO £599.99

ALESIS HOT NEW PRODUCTS
IN STOCK SELLING FAST

HR16 DIGITAL DRUM MACHINE (16 bit, 48 sounds) incredible price £449.00
MMT 8 MULTITRACK MIDI RECORDER £299.00
MICRO-ENHANCER STEREO ENHANCER £129.00
MICRO-LIMITER STEREO COMPRESSOR/LIMITER £129.00
MICRO-GATE STEREO NOISE GATE £129.00
MICRO-VERB STEREO DIGITAL REVERB £229.00
MIDIVERB II STEREO DIGITAL REVERB RACK MOUNT £399.00
MICRO-RACK ADAPTOR £12.00

16 TRACK SPECIAL OFFER
B16 S/H WITH NEW MIXER ..... ONLY £3999

CHEETAH AMAZING NEW PRODUCTS - IN STOCK

MK5V MIDI MASTER KEYBOARD (with velocity) £274.95
MK7V MIDI MASTER KEYBOARD (with velocity) £399.95
MD 8 MIDI DIGITAL DRUM MACHINE £139.95
DP5 POWERPLAY ELECTRIC DRUM KIT (inc. frame) £159.95
MS6 MIDI SYNTH MODULE £249.95

SIMMONS
FULL RANGE IN STOCK
FOSTEX MAIN DEALER
BITS & PIECES
MIDIVERB II EX-DEMO £349.00
MIDIVERB I S/H £199.00
ART PROVERB £329.00
YAMAHA DX7 ..... £799.00
YAMAHA RX5 S/H £749.00
ROLAND SH09 ..... £49.00
CLOUD 300 + 300 SLAVE £399.00
CLOUD 500 + 500 SLAVE £499.00
AMCRON DC300A £399.00
DOD DIGITAL DELAY £199.00
DELTA LAB DIGITAL DELAY £199.00
PEAVEY DIGITAL DELAY £249.00
TR505 S/H £219.00
BEL RACK FLANGER £189.00
VESTAFIRE MR30 ..... £189.00
TOA MONITORS £79.00
TASCAM 244 S/H £469.00
TANTEC RACK AND FX £99.00
19" RACK £50.00
FRONTLINE RACK MIXER £139.00
CASIO FZ1 EX-DEMO £1499.00
CASIO CZ1 EX-DEMO £799.00

NEW PRODUCTS ARRIVING EVERY WEEK FROM OUR NEW HI-TECH DEPARTMENT

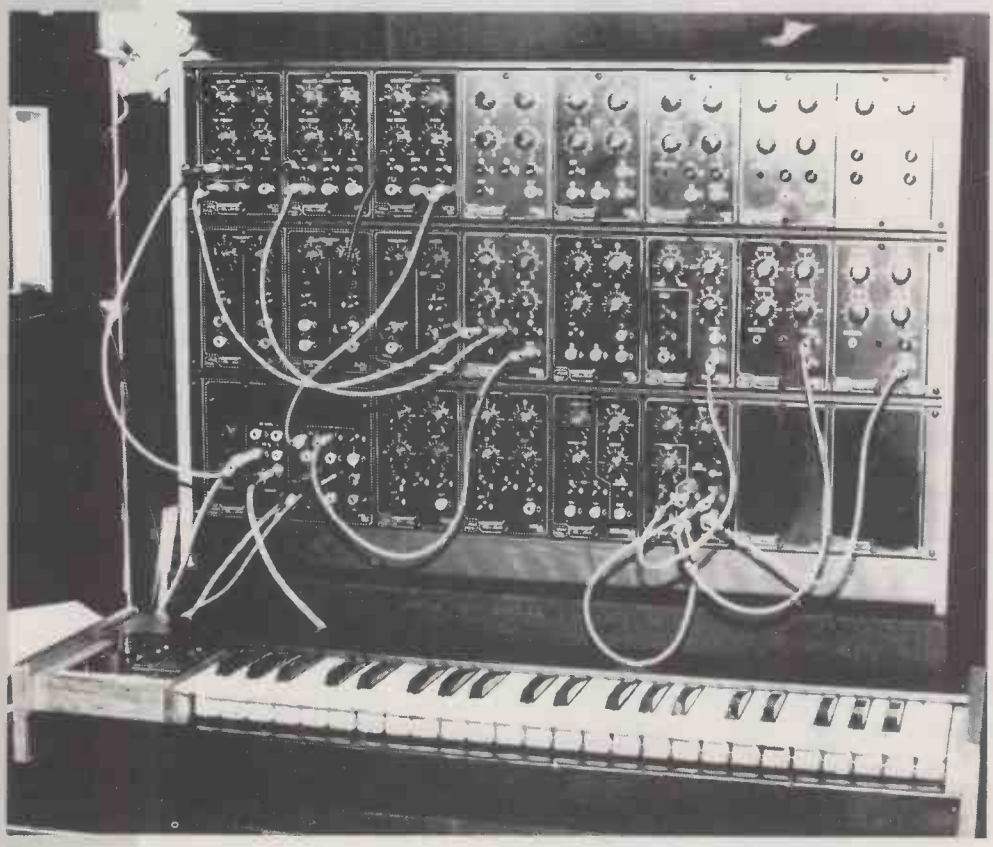
Mail Order, Access, Barclaycard, HP, Instant Credit, Musicard, Part Exchange and friendly helpful staff.

NETWORK
YOUR GUIDE THROUGH THE MUSIC MAZE

NETWORK MUSIC
DAVYGATE CENTRE · YORK YO1 2SU · TELEPHONE (0904) 29192

►synthesiser sounds the same. The oscillators or LFO's may have been out of phase at one particular moment, or a weak voice in the synth may have been triggered. In all cases, if you're not happy with it, take it again. Trust me.

Trimming at this point means getting rid of any sound that I don't intend to use. If it was a struck or plucked instrument, find where the sound fades to silence, go a few hundred samples beyond that and throw away the rest. Many samplers allow their zero-crossing detectors (see Part I) to also be used for finding start and end points. I always trim at least the start to a zero crossing, to eliminate any unwanted click (just like you do for loops). If your sampler doesn't have this facility, set up a temporary loop point at the start of the sound, and use its zero crossing detector. Next, butt the start point up against the loop point, and throw away what's left at the start. If you foresee playing the sound in reverse, do the same to the end point – it becomes a start point when it's played backwards.



"Digital clipping is far nastier than you might imagine and certainly nastier than anything you'd want to hear other than at the start of a drum sound."

If you triggered your sample by hand, or if your auto-triggering didn't work very well, some additional trimming may be needed. In the latter case, you may find that sampling started later on a couple of the samples than on others. You can compensate for this by trimming away part of the beginnings of the other sounds, until they all sound the same at the attack. If you want to trim away the silence and noise at the start before the sound actually begins now's a good time to do it. To do this transpose the sound as far down as it will go as any silence becomes a long delay between key on and the sound starting. This is a particularly good technique to use for percussive sounds. (Beware Emulator IIs without the Attack Mod need about 5 to 15msec of silence at the start of the sound in order not to miss the attack; DPXI's up to version 1.4 also need a couple of milliseconds.)

Looping and Envelopes

LOOPING HAS ALREADY been covered in detail in this series, but here's where we really get stuck in. So far, I've talked about whether to sample envelopes with a sound or use the sampler's own envelopes after sampling. Aside from that, there are a few other tips that can be learned. One is slowing down the attack rate on the amplifier to smooth out any remaining clicks at the start of the sound. Another is adding punch to the sound by setting a fast attack, a moderate decay, and a sustain level of around 60-80%. This makes the attack portion of the sound louder (relative to the sustain) than it was in the original, and is very similar to using a compressor with a slow attack rate to allow the attack of a sound to punch through while attenuating the rest. Proper release times go a long way toward making a sound more believable; I've heard at least one factory piano disk that had the release set to instant off. Pianos just don't do that – it takes at least a few milliseconds for a note to die down.

These are things that can be fixed with a short-decay reverb in the mix, or by spending an extra couple of minutes listening to and tweaking the sample. But don't forget the tricks we mentioned in the first instalment about using envelopes to hide loops by continuing the evolution of the sound, and don't forget to apply the same basic envelope to all the samples that make up a sound.

Mapping and Matching

AFTER THE SAMPLES are prettied up, it's time to make them work together. It's time to determine where and how to switch from one sample to another.

The first detail I worry about is clock noise. This comes in whenever a sample is transposed so far down that the sample rate is audible. In the case of a 30kHz sample transposed down an octave, there will be clock noise at 15kHz. Some samplers have filters that track well enough to hide this; most do not. This noise can be hidden by switching to the next lowest sample when the clock becomes noticeable and, if your sampler has it, routing keyboard position (tracking) to the filter cutoff to cut the offending notes (I almost always have to do this on the lowest sample).

At this point, I spend quite a bit of time deciding where the seam between samples will be. Eliminating clock noise tells you how far down a sample can be safely transposed. Next, I check how far a sample can be safely transposed up before chipmunk effects and rapidly repeating loops begin to offend. If you're lucky these points overlap, if not, more filtering will be needed to remove clock noise from the upper sample (a dull sample is less offensive than a warbling one). Then, I lower the seam between it and the next highest sample until the transition becomes smooth. Some samplers also have positional crossfade, which means the samples overlap a bit on the keyboard – this obviously helps hide seams, too.

Chances are, however, things are still not perfect. The highest notes of the lower sample are probably brighter than the low notes of the upper. Here's where the really delicate balancing act begins: try lowering the filter cutoff so that the high notes are dulled to match at the seam. Then adjust the filter tracking to compensate for the fact that the low notes are dulled too. Start at the top of the keyboard and work your way down. One danger here is that you end up so intent on filtering the seams that you filter the high end out of your samples. Either reselect the seam or give up. But remember, for most types of playing, you won't notice the seams anyway.

Now – Play

I'VE COVERED GETTING sounds from source (quite often a synthesiser) to usable samples. Now you can apply whatever performance parameters your sampler has to your liking – vibrato, velocity and so on. These are details that take time but may make a sample into a sound.

One other point you should be aware of is the need to keep a stack of formatted blank disks and labels handy, and save as you go – it's far better to re-cover a little ground than lose a good sample.

And that's about it – apart from a trick I have for making orchestral samples from sheet music, but I can't go telling you all my secrets now, can I? ■

STREETWISE
NEW PRODUCTS IN STOCK

ENSONIQ SQ80

This new cross wave synth features 75 multi sampled and synthesized waveforms including five complete multi sampled drum kits. On-board 20,000 note 8-track sequencer with 3.5" disk drive for storage of sequences, sounds and system exclusive data. Individual after-touch and cartridge slot.

OUR PRICE . . . £1,395

ENSONIQ EPS:

This is a new 16 bit data storage multi sampler. It features 480k internal memory expandable up to 2.1Meg. Max sample rate 52.1kHz 20 voice polyphonic. Plays Mirage disks with improved fidelity. On-board 80,000 note sequencer with 3.5" disk drive for storage of sequences, sounds and system exclusive data. It also features individual after-touch. Optional extras include 8 output conversion.

OUR PRICE . . . £1,695

ALESIS HR16:

New 16 bit sampled drum machine featuring 49 sounds, touch sensitive and tunable pads. 100 pattern and 100 song memory. Two assignable stereo outputs. Possibly the drum machine of 1988!

OUR PRICE . . . £449

ALESIS MMT8:

8 Track sequencer capable of 16 simultaneous MIDI channels on each track therefore 128 tracks available. 100 parts and 100 song memory. Easy to use. Functions include quantize, length, part, copy, name, edit, transpose, merge, song, erase, tape, MIDI. Possibly the sequencer of 1988! **OUR PRICE . . . £299**

LYNX: **What is this I hear you say?** All of you Atari 520 and 1040ST owners out there, how would you like a sampler of this quality? 50kHz sampling rate, 16 bit stereo samples, 1Mb storage expandable up to 16Mb, 3d waveform display, waveform drawing, echo reverb and chorus built in, sampling on every note, 40-track sequencer and score editor, reading of other disks, eg. Roland, Prophet and more to come. No memory is used on the computer therefore enabling other software to be used simultaneously. AVAILABLE NOW. **OUR PRICE . . . £1,495**

OTHER NEW PRODUCTS IN STOCK INCLUDE . . . Elka MK88 . . . MicroGATE . . . MicroENHANCER . . . MicroCOMPRESSOR . . . and much more besides.

GET WISE, GET TO . . .

STREETWISE

Tel: 061-835 2127

275 Deansgate, Manchester, M3 4HF

Open: 6 days a week, 10.00am-5.30pm

(Late night until 8.00pm Thursday)

music

MAIL ORDER · EXPORT · CREDIT FACILITIES WE NOW ACCEPT MUSICARD

livewire

DOMINIONS ARCADE, QUEEN STREET, CARDIFF (0222) 373576

EPS

16 bit sampling . . . 2meg expanded RAM . . . 20 note poly . . . multitimbral . . . poly pressure sensitivity . . . individual poly voice out option . . . loads disks while playing . . . SCSI . . . on-board expert systems for looping, digital processing . . . etc . . . 127 samples on keyboard . . . 8 track real/step sequencer with full editing and 80,000(!) note capacity and any sample group on any track . . . converts Mirage disks into EPS sounds and greatly increases quality . . . etc . . . etc . . . Price ‡1,695.

SQ80

3 DCO's per voice . . . 72 multisamples per DCO . . . Poly pressure sensitivity . . . 8 track sequencer with full step time/real time editing, autolocate, punch in/out, mixdown, etc . . . totally multitimbral . . . 20,000 note sequencer memory . . . disk based - each disk holds 1,000 sounds, 200,000 seq notes, 64k of Syst. Exclusive from any machine . . . reverb . . . 5 full drum kits on board . . . Uses ""Cross Wave Synthesis'' - better than LA, FM, analogue or anything else . . . individual voice out option . . . and loads more. Price ‡1,395.

DELIVERY IMMINENT - Phone for leaflets, etc.

SEE IT
HEAR IT
PLAY IT
BUY IT

ENSONIQ
&
ALESIS

AT TSC WE SPECIALISE IN PROVIDING OUR CUSTOMERS WITH THE PERFECT PRODUCT AT THE PERFECT PRICE. WE WANT YOU TO SEE/HEAR/PLAY AND BUY THE VERY LATEST EQUIPMENT FROM ENSONIQ AND ALESIS –

ENSONIQ EPS 16 BIT PERFORMANCE SAMPLER	£1470 EX VAT.
ENSONIQ SQ 80 CROSSWAY SYNTHESIZER	£1213 EX VAT.
ALESIS HRIG	£390 EX VAT.
ALESIS MMT8 MIDI SEQUENCER	£260 EX VAT.

0 1 2 5 8 3 4 5 4

THE SYNTHESIZER COMPANY
9 HATTON STREET LONDON NW8

ENSONIQ SQ80

Cross Wave Synthesiser

Ensoniq's latest synth is an upmarket version of their popular ESQ1. Does it have enough new features to establish itself as a "new" synth or will it become the ESQII? Review by Simon Trask.

IN THE FIELD of sound synthesis it is no longer the Americans but the Japanese who make the running. Many once-great American companies are no more, and Yamaha's take-over of Sequential is only the latest nail in the coffin of the Great American Synth Manufacturer. Now only Ensoniq are carrying the US flag – interestingly they are carrying it into Japan, where they've become the first American manufacturer to set up a distribution operation in the land of the rising sun.

The company's latest synth is an enhanced version of their well-established ESQ1, complete with onboard eight-track sequencer. Costing around £300 more, the SQ80 is set to compete with Roland's D50 and Yamaha's DX7II.

Overview

MAJOR IMPROVEMENTS OVER the ESQ1 are 43 extra waveforms, pseudo-reverb, polyphonic aftertouch, generic SysEx storage, an onboard 3.5" disk drive, and twice the number of sequences and songs. There are also small but useful additions like MIDI Thru and a headphone output.

ESQ1 owners will have no trouble getting to grips with the SQ80, as the panel layout is virtually the same; Ensoniq have retained the generous 80-character fluorescent display of the ESQ1, with its "soft" buttons for selecting up to 10 parameters or patches.

Also like the ESQ, the SQ80 stores 40 patches internally and a further 80 on cartridge, giving instant access to 120 sounds. The internal patches are organised in four groups of 10, with one group at a time being called into the display.

The SQ80's 3.5" disk drive can store 40 patch banks (sets of 40 patches), 128 individual patches and 10 sequencer/SysEx blocks on one double-sided double-density disk. That's 1728 sounds per disk, which seems pretty economical compared to the 80-sound capacity of the SQ's cartridge. Loading a bank of 40 sounds from disk takes a mere five seconds.

To build a keyboard with polyphonic aftertouch as economically as possible, Ensoniq have designed their own system. The result (which is also fitted to Ensoniq's new EPS sampler) has a distinctly odd touch, clunky and with a shallow action which offers no feeling of substance. After an uneasy beginning I got used to it, but I wouldn't call it one of the instrument's strong points.

On the plus side, there's a choice of 16 velocity/aftertouch response scales ranging from soft to hard. You can also select channel or polyphonic aftertouch, which is useful when playing a MIDI instrument that doesn't have polyphonic aftertouch capability (most instruments). It's also useful as a means of economising on sequencer memory, as poly aftertouch eats up the bytes.

The SQ80 offers no increase in polyphony; eight voices is the order of the day. But, as on the ESQ1, dynamic voice assignment helps to make this number seem greater in practice – it's particularly useful when you're recording with the onboard sequencer or using the SQ80 as a multitimbral expander.

A further advantage of the SQ80's voice allocation is that selecting a new patch doesn't cut short any notes that are currently playing (as happens on many synths). In fact any notes held when you select a new sound will "overlap" into that sound, a feature which can be put to good practical use.

You can also select Split, Layer and Split/Layer keyboard modes. The latter allows you to split and layer at the same time and, like Layer, reduces the onboard polyphony to four voices.

Sounds and Programming

THE SQ80 STORES 75 different "waves" in 256Kilobytes of ROM. The first 32 of these are the same as those found on the ESQ1, providing classic synth waveforms such as

sawtooth and square waves, together with sampled waveforms such as bass, piano (multi-sampled) and voices, and other waveforms derived from additive synthesis and a process called "time-domain formant wave-function analysis" (I don't know what it means, either).

A further selection of sustain waveforms (a mixture of sampled, synthesised and resynthesised) includes three Grits and two Glints. The Grit waveforms are raw noise sounds "not recommended for polite company", while the Glints are high harmonics useful for adding a glassy shimmer to a sound. Other sustain sounds are the Inharmonic Loops, composed of sampled segments of sound longer than a single wavecycle: breath, voice, steam, metal and chime.

Eleven Transient Attack waves most closely resemble the D50 in concept – being the initial attack transients of a number of instruments – yet some are created using additive synthesis and resynthesis. Here you get bowed cello (multi-sampled), electric and steel-string acoustic guitars (multi-sampled), vibraphone, slap bass, several "plinks" (one of which started life as two wine glasses being struck together), flute chiff, piano hammer "thump" and a click (ideal for Hammond organ impressions).

Finally, Ensoniq have provided five individual drum samples and five multi-sampled drum kits offering various combinations of those sounds. More specifically: log drum, bass drum, snare, tom-tom and hi-hat. Not exactly a comprehensive kit, but the real value of these sounds is that they can be used to create a basic rhythm track within the SQ80 – though of course at the expense of internal voices for other tracks.

Essentially there are two types of basic sound material on the SQ80: attack and sustain waveforms. The term Cross Wave Synthesis refers to the SQ's ability to mix or crossfade these waveforms. Although there are some similarities to the D50, in practice the quality and range of the SQ80's sounds are quite different from those of Roland's flagship.

The SQ80's basic voice architecture is straightforward enough: three DCOs per voice, each with their own DCA, are fed through a single analogue four-pole low-pass filter to a master DCA and finally through a panner. In addition, oscillators one and two can be hard synced, and oscillator one can be set to amplitude modulate oscillator two.

The SQ80 also has 15 modulation sources: three LFOs, four envelopes, velocity (linear or exponential), aftertouch, keyboard tracking (two types), mod wheel, footpedal and external controller. Each of the DCOs and DCAs can be assigned two modulators, as can the filter; DCA4 and the panner get one apiece. This sort of modulation flexibility is akin to that found on Oberheim's Xpander and Matrix synths.

The possibilities are many, but for instance, you could set velocity to modulate DCA1 and the filter cutoff frequency, and aftertouch to modulate DCO2, so that a harder keystrike brings in the DCO1 wave and at the same time brightens the overall sound, while changes in key pressure alter the pitch of DCO2. Each modulation has an associated depth parameter (+/−63), allowing you to control the degree of the effect. For instance, the DCO1 wave may make a dramatic entrance or it may subtly underpin the other waves, while the DCO3 wave may fluctuate slightly in pitch or it may leap up an octave.

The filter has been given frequency and resonance settings. You can also set a keyboard tracking parameter which determines how (or if) the filter cutoff will follow the keyboard, while two modulators may be assigned to control the filter cutoff frequency dynamically. You could, for instance, choose velocity and aftertouch as modulators, resulting in dynamic control of brightness. It's a shame that, while adding so many other features to the SQ80, Ensoniq didn't provide a filter for each DCO/DCA pair.

After filtering, the sound signal is passed through DCA4, which is the master volume envelope control which Ensoniq have "hard-wired" to this DCA – a sensible move.

The final sound stage is the panner, which allows the sound to be placed at one of 15 positions in the stereo field. This is particularly valuable when you're using the SQ80 multitimbrally, as you can introduce a spatial organisation to the sounds emanating from the synth's stereo outputs. It's also possible to create dynamic spatial effects by using any one of the 15 modulation sources.

Each LFO offers four waveforms: triangle, sawtooth, square and noise. Additionally you can set frequency, initial level, delay, output level modulation source (for some interesting modulation "chain" possibilities), reset, and human feel. When manufacturers talk of "human feel" they usually mean random operation (how many random people do you know?); Ensoniq are no exception.

"Selecting a new patch doesn't cut short notes that are currently playing – notes held when you select a new sound will 'overlap' into that sound."

The envelopes each offer three levels and four times. Unusually, changes in level take place in absolute time, this means that the same time applies whether a change in level is small or great. There are 63 different time values available, of which the longest is 20.48 seconds.

For added flexibility there's a velocity attack control (higher velocity values decrease the attack time) and keyboard decay scaling (times two and three are decreased as you move up the keyboard). Additionally there's the pseudo-reverb feature mentioned earlier, which is actually a second envelope release stage: instead of fading to zero volume during time four, the envelope drops to a low level, after which it fades to zero at a fixed rate. With careful setting of levels this can be quite effective, though still no substitute for digital reverb. On the other hand you can give each sound its own "reverb" setting in multitimbral mode.

Photography *Lizzy Ellis*

Sequencing

THE ONBOARD SEQUENCER is an integral part of the SQ80, offering eight polyphonic tracks each of which can store data on a single MIDI channel. Ensoniq have doubled the ESQ's number of sequences and songs to 60 and 20 respectively, though the amount of memory (64K or 20,000 notes) is the same as an ESQ1 with maximum memory expansion. I found the SQ's sequencer remarkably easy and quick to use.

Each track within a sequence can be assigned its own MIDI channel, patch number and volume level. Additional- ►

TASCAM DEALERS

722027 (LIGHTING AND SOUNDING EQUIPMENT) **OXFORD**
A B C MUSIC **ESHER, ADDLESTONE, SLOUGH, KINGSTON, OXFORD**
A1 MUSIC CENTRE **MANCHESTER**
ALPHA MUSIC **LEEDS**
ANDERTONS MUSIC COMPANY **GUILDFORD**
ARMSTRONG SMITH **WALLASEY**
AUDIO SERVICES **STOCKPORT**
AVENUE PARADE RECORDING **ACCRINGTON**
AXE MUSIC **COLCHESTER, IPSWICH**
BLACKPOOL SOUND CENTRE **BLACKPOOL**
BOOTLEG MUSICAL INSTRUMENTS **EPSOM**
BRISTOL LIGHTING **BRISTOL**
C E HUDSON & SON LIMITED **CHESTERFIELD**
CANTERBURY HI FI **CANTERBURY**
CARDIFF SOUND CENTRE **CARDIFF**
CARLSBORO SOUND CENTRE LIMITED **DERBY, MANSFIELD, LEICESTER, SHEFFIELD, NOTTINGHAM, NORWICH**
CASCADE **LONDON**
CHAS. J FOX (ORGANS) LIMITED **DONCASTER**
CITY ELECTRONICS LIMITED **PLYMOUTH**
CITY MUSIC **TRURO**

THE CHOICE OF TRULY EFFICIENT MIDI CONVERSION EQUIPMENT HAS PREVIOUSLY BEEN LIMITED TO VERSATILE BUT EXPENSIVE SMPTE . . .

MUSIC MAKER LIMITED **DUBLIN**
MUSIC VILLAGE **ROMFORD, CAMBRIDGE, BARNET, PETERBOROUGH**
MUSIC WORKSHOP **HULL**
NICHOLL BROTHERS LIMITED **BALLYMENA**
NORTHERN SOUNDS **WORKINGTON, BARROW IN FURNESS**
PEPS MUSIC LIMITED **YORK**
PERCY PRIOR (ROSEHILL INSTRUMENTS) **HIGH WYCOMBE**
PROJECT ELECTRONIC MUSIC **HOUNSLOW**
RAY'S UNDERGROUND MUSIC **WREXHAM**
REIDY'S HOME OF MUSIC **BLACKBURN**
RICHER MUSIC **LONDON**
ROCK EXCHANGE **DARLINGTON**
ROUTE 66 **STOKE ON TRENT**
RUSHWORTH'S MUSIC **LIVERPOOL**
SALOP MUSIC CENTRE **SHREWSBURY**
SESSION MUSIC **BELFAST**
SOHO SOUNDHOUSE **LONDON**
SOUND BUSINESS **LONDON**
SOUND CENTRE **CARDIFF**
SOUND CONTROL MODERN MUSIC STORES LIMITED **DUNFERMLINE, KIRKCALDY, GLASGOW, EDINBURGH, DUNDEE**
SOUNDS GREAT **CHEADLE**

CITY OF LONDON MUSIC STORE **LONDON**
D G C MUSIC **DURHAM**
DAWSON'S MUSIC LIMITED **WARRINGTON**
E M S **INVERNESS**
E S E MUSIC **MAIDSTONE**
EDDIE MOORS MUSIC **BOURNEMOUTH**
ELECTROMUSIC SERVICES **DONCASTER**
FRANK HESSY LIMITED **LIVERPOOL**
FRET MUSIC (SOUTHERN) LIMITED **SOUTHAMPTON**
FUTURE MUSIC **PORTSMOUTH**
FUTURE MUSUC (CHELSEA) LIMITED **LONDON**
FUTURE MUSIC SOUTH **SOUTHAMPTON**
GIG RIGGERS **REIGATE**
GIGSOUND LIMITED **LONDON**
GUITAR CENTRE **LANGLEY**
GUITAR WORKSHOP **BRISTOL**
H G RAPKIN **NORTHAMPTON**
H POOLE LIMITED **GRIMSBY**
H W AUDIO LIMITED **BOLTON**
HOBBS' MUSIC **LANCASTER**
HOLIDAY MUSIC LIMITED **LONDON**
HONKY TONK MUSIC **SOUTHEND ON SEA**
J G WINDOWS LIMITED **NEWCASTLE UPON TYNE**
J S G MUSIC **BINGLEY**
JOHN HOLMES MUSIC LIMITED **SWINDON**
JOHN SAVAGE MUSIC CENTRE **KING'S LYNN**
JONES & CROSSLAND LIMITED **BIRMINGHAM**
K G M STUDIO SPECIALISTS **WAKEFIELD**
KEMPSTER & SON **SWINDON**
KENNETH JOHNSON OF SHETLAND **LUTHIERS LERWICK**
KINGFISHER MUSIC COMPANY **FLEET**
LONDON ROCK SHOP **LONDON**
MARGIN MUSIC **MACCLESFIELD**
McCORMACK'S (MUSIC) LIMITED **GLASGOW**
MOVEMENT SALES & HIRE LIMITED **OAKFORDBRIDGE**

. . UNTIL WE LAUNCHED THE

MTS-30

MIDI TAPE SYNCHRONIZER

. . THE PERFECT LINK BETWEEN MULTI TRACK AND MIDI WITH OUTSTANDING FEATURES YOU WOULDN'T BELIEVE POSSIBLE FOR ONLY

£150.00

INCLUDING VAT

SOUNDWAVE MUSIC CENTRE **CWMBRAN**
STAG MUSIC **TROWBRIDGE**
STRINGS GUITAR CENTRE **PORTSMOUTH**
STUDIOSPARES LIMITED **LONDON**
TAPE SHOP LIMITED **BRIGHTON**
TEMPO MUSIC **LONDON**
THATCHED COTTAGE AUDIO **WENDY, Nr ROYSTON**
THE MUSIC CENTRE **HAMILTON**
THE MUSIC SHOP (ASHFORD) LIMITED **ASHFORD**
THE PORTASTUDIO CENTRE **LEAMINGTON SPA**
THE TURNKEY SHOP **LONDON**
TIM GENTLE MUSIC **NEWPORT PAGNELL**
UNDERGROUND SOUNDS LIMITED **TUNBRIDGE WELLS**
UNISOUND **LONDON, CHATHAM**
VROOM **WATFORD**
WING MUSIC **SIDCUP**
WOODS MUSIC STUDIO **BOLTON**
YAMAHA MUSIC CENTRE **SWANSEA**

TASCAM

TEAC UK Limited
5 Marlin House, The Croxley Centre, Watford, Herts WD1 8YA. Tel: 0923 225235. Telex: 915417 Teac UK G. Fax. 0923 36290

► ly you can set track status to local, MIDI, both or sequence – essentially defining what combination of internal and MIDI voices the track will play on. Along with the eight tracks there is also the "straight synth", which is the patch allocated to the SQ's keyboard when no track is selected; this has its own MIDI channel.

Sequence length can be predefined or else defined by the length of the first track recorded, though you can shorten or lengthen a sequence at any time (from the end only). Additionally you can append and copy sequences.

Punching in and out of a track is done manually using the sequencer footswitch. Whenever you change a track, the SQ80 gives you the opportunity to audition both versions before deciding which one to keep. There are five track edit functions: Transpose (+/– up to one octave), Remove Controllers (non-selectively), Quantise (up to 32nd-note triplets), Erase and Merge. Merging two tracks puts them both on the MIDI channel of the destination track, as the SQ80 only allows a single channel per track. Tracks can be muted and demuted manually at any point, but these actions can't be stored. The SQ80 also provides step editing, with the ability to punch in/out on a single clock beat if required.

Songs can be up to 99 steps each, with a maximum 99 repetitions specifiable for each step. The tempo and time-signature assignments given to each sequence are retained in Song mode, and sequences can be transposed for each step.

Well-specified the SQ80's sequencer may be, but it's certainly not the be-all-and-end-all of sequencers. I hope that any ROM software update for the SQ will see it adopt the new MIDI Files standard, as the ability to transfer sequences to and from a computer-based sequencer can only be a good thing. At present, you have to play tracks over one at a time.

Of course the SQ80 can equally well be a slave sound source for an external sequencer or other MIDI instrument, providing access to up to nine sounds at a any given moment (eight tracks plus the "straight synth"). The synth's dynamic voice allocation can make its eight voices seem like a good deal more. Additionally, each track responds independently to controller and patch information.

Ensoniq have also designed the SQ80 to be suitable for MIDI guitarists, with mono mode and global controller channel implemented. However, anyone wanting to use the SQ's sequencer will either have to switch their guitar to poly mode or record one string at a time.

The SQ's sequences can come in useful even if you haven't recorded anything in them. Each time you call up a sequence its associated internal and MIDI assignments for each track will also be selected. In this way you can call up patch changes and volume levels for up to eight MIDI channels, together with associated track status assignments which allow you to decide the combination of internal and external sounds that you want to use. By selecting different Sequences and different tracks within each Sequence you can quickly call up a completely new texture. If you chain "silent" Sequences together into Songs (remember that the SQ80 can store 20 Songs of up to 99 steps each) you can automate your texture changes. Yet another option would be to dedicate some tracks to changing patches on any MIDI'd signal processors you may be using.

Exclusive Storage

THE SQ80 CAN also be used as a generic SysEx storage device, in which case its 64K sequencer memory becomes a transmit/receive buffer for SysEx data. This setup only works for instruments which don't require any handshaking to initiate transfer, which rules out such popular instruments as Casio's cheaper CZs and Roland's MT32.

As you can only store 10 sequencer or SysEx files on a disk, no matter how much or how little data there is in each file, it makes sense to cram as much data as you can into a single file. The SQ80 automatically queues SysEx files in its sequencer memory, so it's an easy matter to accumulate several files and then save them as one file to disk.

ESQ Compatibility

PATCHES AND SEQUENCES can be transferred over MIDI individually or as a bulk dump to another SQ80. Ensoniq have also ensured MIDI-transfer compatibility between SQ80 and ESQ1 in either direction. However, if an SQ80 patch uses waves not found on the ESQ then you're going to get unpredictable results, while some adjustments may be needed on the ESQ1 to sounds which use the new synth's pseudo-reverb feature. Sequences can only be transmitted individually from SQ80 to ESQ, due to the former's greater number of sequence locations, but ESQ owners who have availed themselves of a Mirage for disk storage of ESQ sequence data will be pleased to know that this data can be transferred to the SQ80.

Compatibility is the name of the game, which is presumably why Ensoniq have given the SQ80 a tape storage option – ESQ owners with a library of sounds and sequences on tape can load them into the SQ80.

Finally I must mention the SQ's manual, which is so good that it wins my Manual of the Year award, despite missing out on an index and a troubleshooting section. Required reading for all manual writers.

Verdict

"THE FIRST STUDIO synthesiser designed for live performance", is how Ensoniq see the SQ80, and it's easy to see how it will go down well in both environments with its wealth of well thought-out features.

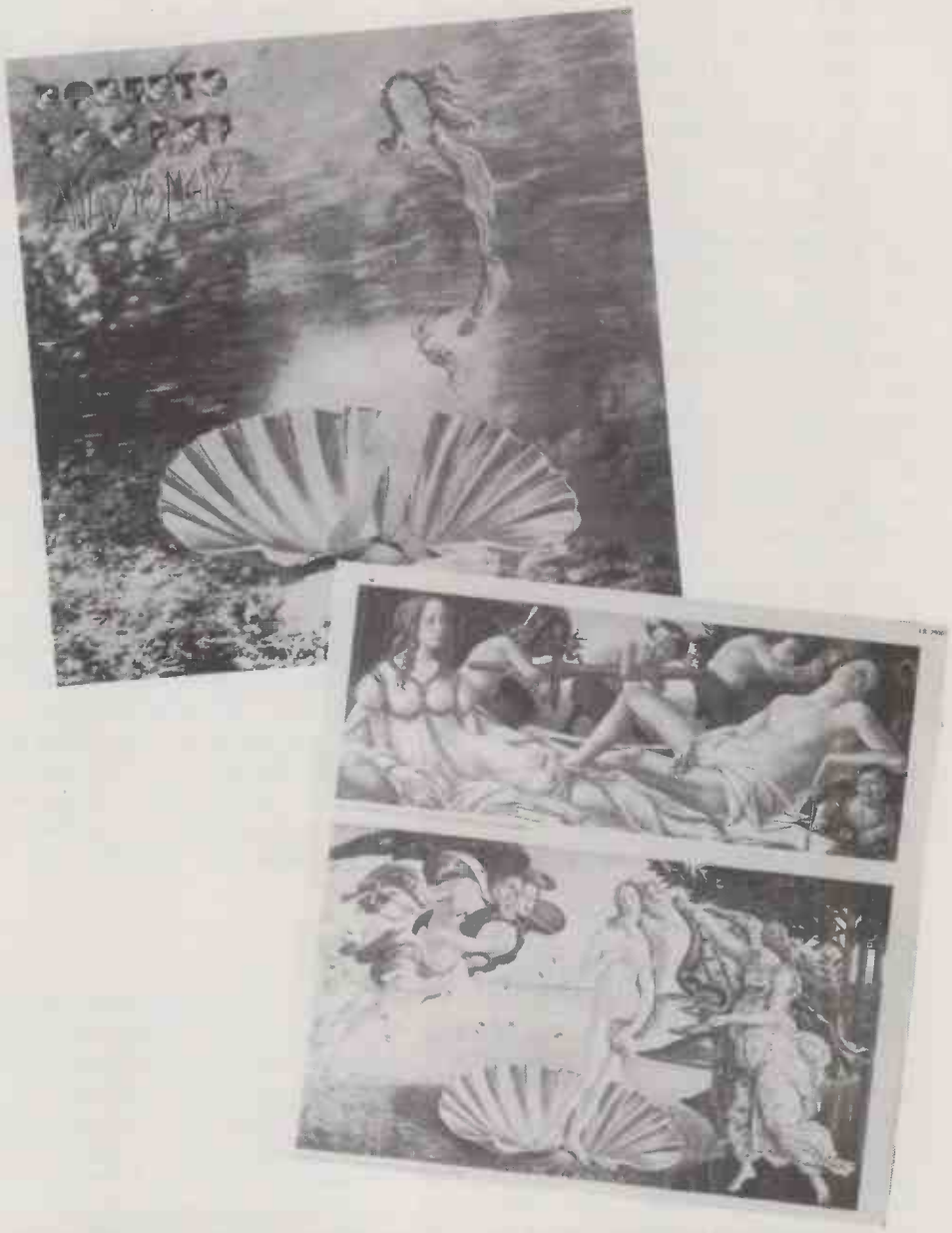
There are enough extra features on the SQ to make it an attractive alternative to the ESQ1 for those musicians who have the extra money. And while its vocabulary of sounds is greater than that of the ESQ1 (courtesy of those extra waveforms), ultimately it has the same sonic character as the earlier synth. If you like the ESQ1 then you won't be disappointed by the SQ80, which offers more of the same; conversely, if you prefer the sounds of a D50 or a DX7II then the SQ80 is unlikely to tempt you.

"The SQ80's Transient Attack waves most closely resemble the D50 in concept . . . yet some are created using additive synthesis and resynthesis."

While the Japanese concentrate on developing synths which aim to sound as *natural* as possible, the SQ80 is a synth in the grand American tradition. It doesn't have the clarity and sparkle of Roland's D50, nor that instrument's sense of realism. What it does have is a grittiness and warmth, and a "synth-like" quality in the tradition of Oberheim and Sequential, that make it distinct from the DX7s and D50s of this world. I'd say that's no bad thing. ■

Prices *SQ80 £1395; STC8 RAM cartridge £64; CVP Foot Pedal £27.60; ESQ1 Voice Cartridges £46.30; all prices include VAT*
More from *Ensoniq UK. PO Box 806, London NW3 1HL. Tel: 01-439 8985*

Roberto Laneri
Anadyomene
ISMEZ LP



Roberto Laneri is a man with many strings to his bow. Jazz improviser, European composer, music-ethnicologist, he has worked with the likes of Charlie Mingus, Peter Gabriel and Lejaren in America, his native Italy and all points in between.

This record takes as its central theme the image of the goddess Aphrodite stepping from the waves. The ancient Greek word for this picture, which has its most enduring form in Sandro Botticello's 15th century masterpiece *The Birth of Venus*, is "Anadyomene".

The object of the work is to examine the roots of Mediterranean music, which represents just one aspect of the historic confrontation between European, Middle Eastern and North African cultures. *Anadyomene* seeks to extend this conjunction of diverse musics, by adding ingredients to the melting pot, namely modern music technology and recording techniques. Laneri's avowed intention is to try to create a thoroughly contemporary East-West Renaissance musical form, in which synthesisers and samplers are used to revive ancient musical practices.

Each of the 11 pieces takes its form from texts by the 15th century Italian poet, Angelo Poliziano, sung by soprano, Lee Colbert. Around this, Laneri has woven a remarkable, living tapestry of sound which involves, Tibetan monks, Persian drummers, Dahomey talking drums, bird noises and a conch shell orchestra. These, along with sequenced synth voices and electronic "noises", go to make up a series of compositions whose scales and harmonies are inspired by the sacred and secular music of the late Medieval/Renaissance. The total effect veers somewhere between the court of Henry on the razzle and Carmina Burana with constant radio interference and Battle of the Influences. But it's always compelling and also throws up an interesting point: that the future of modern technology might well lie in re-exloring the past. ■ *Nr*

The Hafler Trio
A Thirsty Fish

Take a classical guitarist, an acoustic scientist and an ex-member of Cabaret Voltaire with an interest in natural history recordings, and you've got yourself The Hafler Trio. Their aim is to explore the possibilities inherent in the use of sound as energy.

With so much aural information currently flowing from the radio and TV transmitters, sound has become a palliative which we are now conditioned to accept. It may soothe the brain, but it doesn't provide it with any stimuli. Andrew McKenzie, Dr Edward Moolenbeek and Chris Watson have taken upon themselves the task of reversing this trend. What they do is not music, nor would they like it to be called art; Uncompromising is the word.

A Thirsty Fish is a double album containing some 93 pieces of work inspired by the way that the world's religions and philosophical modes of thought communicate themselves to the outside world. It takes the form of a constantly shifting montage of acoustic and electronic sounds which have been treated and cut-up to become at once both unrecognisable yet faintly familiar.

This continuous cut and paste job is an experience in itself, though it's one that demands a willingness to respond to the material in whatever way you think fit. The trouble is that the pseudo-scientific base of modern Western culture has robbed us of the ability to react positively to anything we don't understand – one of the Hafler Trio's points, I'm sure.

Reactions to *A Thirsty Fish* will be mixed and highly personal and so you'll often find yourself nursing conditioned responses. On one hand, the low tones of chanting, massed choral sounds or monotonous incantation soothe with their inferences of holiness and peace. On the other, imperative speech, however garbled, creates the effect of news bulletins in a foreign tongue. You can guess from the tone that it's important, but the frustration is not knowing what it's about.

I also found that, although all the sounds are thrown at you in a disjointed fashion, the brain strives to find a sense of coherence in the material. It constantly attempts to associate one sound with the next to create an artificial logic to the sequence of events.

You might end up wishing you were back in territory where conventions are observed, but sometimes it's refreshing to spend time in parts of the map beyond the line "civilisation stops here".

A Thirsty Fish is available from Touch Records, 13 Osward Road, London, SW17 7SS. Price is £10 including p&p. ■ *Nr*

Chris and Cosey
Exotica
Play it Again Sam LP

The front cover of Chris and Cosey's latest offering proclaims, "This album leads you into the world of Exotic music. Each track pulsates with the vigour of the uninhibited, fulfilling the esoteric and titillating

Affordable Excellence

from Cheetah

The **Cheetah** range of musical instruments has been designed to offer facilities which have, until now only been available in the most expensive equipment. All products are built to the most exacting standards. All carry a full 12 month warranty. All prices will blow your mind!

CHEETAH MK5V MIDI KEYBOARD

- Velocity Sensitive Keys.
- 61 Full Size Keys.
- Pitch Bend Wheel.
- Fully Polyphonic.
- Modulation Wheel
- 128 Patches can be recalled from the chosen sound module.
- Direct Access Patch Change Buttons.
- Hold Footswitch Socket.
- Program Change Increment Footswitch Socket.
- Octave Shift Function.
- LED Display. ● MIDI Out.
- Assignable to any one of 16 MIDI Channels. ● Rugged Steel Case.

R.R.P. £274.95 inc. VAT

CHEETAH MK5 MIDI KEYBOARD

- 61 Full Size Keys.
- Fully Polyphonic.
- Pitch Bend Wheel.
- 128 Patches can be recalled from the chosen sound module.
- Direct Access Patch Change Buttons.
- Hold Footswitch Socket.
- Program Change Increment Footswitch Socket.
- Octave Shift Function.
- LED Display. ● MIDI Out.
- Assignable to any one of 16 MIDI Channels.
- Rugged Steel Case.

R.R.P. £199.95 inc. VAT

CHEETAH MK7VA MIDI KEYBOARD

- 7 Octaves.
- Fully Poly-phonic.
- Velocity Sensitive.
- Aftertouch (pressure sensitive).
- Weighted Keys.
- 3 Split Points.
- Programmable.
- MIDI IN, OUT & THRU.
- 4 MIDI OUTs.
- Pitch Bend Wheel.
- Modulation Wheel.
- Patch Change Keypad.
- Hold & Program Change Foot switch Sockets.
- LED Display. ● Rugged Steel Case.

R.R.P. £399.95 inc. VAT

CHEETAH MD8 MIDI DIGITAL DRUM MACHINE

- Digital Drum Machine.
- Extensive library of extra sounds available at very low cost.
- Real Time Programming.
- Step Time Programming.
- Seperate Sound Outputs.
- MIDI Compatible.
- Interchangeable Sounds.
- User Friendly 2 line LCD Display. ● Pad Bus for connection to Cheetah DP5 Electronic Drum Kit.
- 16 Song Capacity. ● Stereo Audio Out.
- Mono Audio Out. ● Headphone Socket.

R.R.P. £139.95 inc. VAT

CHEETAH DP5 ELECTRONIC POWERPLAY DRUM KIT

5 electronic pads complete with stand.

R.R.P. £159.95 inc. VAT

(excluding cymbals, cymbal stands and drum pedal)

Cheetah

CHEETAH MARKETING LTD
Norbury House, Norbury Road,
Fairwater, Cardiff CF5 3AS.
Telephone: Cardiff (0222) 555525
Telex: 497455 Fax: (0222) 555527

Cheetah products available from all good music retailers or direct from Cheetah

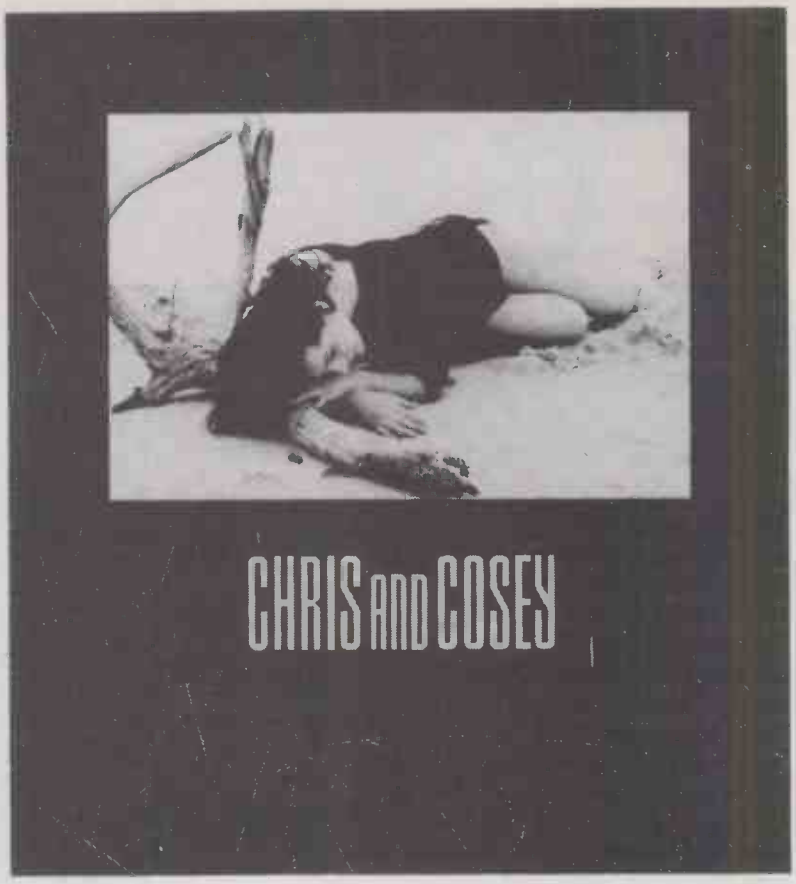
the uninitiated. A stimulating musical adventure." On the flip side, small print warns: "some sounds on this album are at a subconscious level".

Duly cautioned I clamp pith helmet to head and tiptoe to the edge of the vinyl darkness . . .

Initially, however, the kush proves to have more bark than bite. The spikey backbeats of 'Confession' and 'Arcade' have their feet stuck in the squelch of synth bass, and no end of sampled shouting or Cosey's unenthusiastic vocal delivery can attract anybody's attention to their plight. However, the third track, 'Exotica' hits a much happier native-groove à la Talking Heads *Remain In Light*, with ethnic clatterings and timbales akimbo. And as the track plays out, the lazy buzz of a fly is heard. I subconsciously reach for the elephant swat.

Sadly, one loses the trail almost immediately on side two. 'Vengeance', 'Dancing On Your Grave' and 'BeatBeatBeat' are in the main unremarkable, despite promising moments (usually the intros). But, as the mists clear, there's a happy ending after all in the form of 'Dr John (Sleeping Stephen)' – an atmospheric arabesque with sampled choirs and insidious spoken vocal on the cheery subject of mass murder.

Like many of Chris and Cosey's previous offerings *Exotica* leaves you with the impression that here is a collection of good ideas which have just not been taken far enough. Certainly C&C are capable of squeezing a big sound into those tiny grooves, but all too often the startling effects they conjure up are buried beneath the snappy whiplash of the snare. Perhaps they need a dose of the altruistic objectivity which only that necessary evil, the producer, can provide. ■ *Nr*



*demo*T·A·K·E·S

The first demo package to be exhumed from the "OK Box" this month bears a Tokyo postmark although its perpetrators are two Englishmen (Michael Yeomans and Michael Potter) who, having met their respective Japanese girlfriends in Winchester, followed them home and settled permanently in Japan. By day they work as English conversational teachers: by night they trade as **Blow By Blow** making good use of the fact that musical and recording gear is considerably cheaper than back in good old Blighty.

The equipment list reads: Ensoniq Mirage, Roland JX3P, Casio CZ1000, Roland **TR505** . . . All these are driven by a Steinberg Prol6 and effected by an SPX90, though interestingly enough, recorded direct to an ordinary stereo cassette. So, as they used to say on the less enlightened LP covers, No Overdubs.

The three tracks are of excellent quality. 'Rippongi Boys' (sic) is a hard driving, joyous synth funk track which successfully sends up the sort of muzak-ality we have come to expect from the land of the rising 'Y'. The title track, 'Blow By Blow' is described as an "attempt" at jazz/rock . . . sounded pretty convincing to me.

Best of the three though is 'Animation', a neat, throwaway hurdy-gurdy sequence, inspired by those wonderful old Betty Boop-style cartoons. The effect is all the more delightful for being played with a distorted bottle blown sample accompanied by sampled and looped vinyl surface noise.

Blow by Blow obviously have a lot of fun together – that much communicates itself in the music – and are sensibly aware that while technology is important, one good idea, strongly expressed, is worth possession of the latest gear 10 times over.

Musically, **Nigel Hills** ploughs an altogether different furrow. His *Romeo and the Beast III* cassette is an impressive collection of instrumentals which conjure up different moods and atmospheres, occasionally to startling, not to say frightening, effect. For example, 'Sly Legion' begins and ends with a darkly distant massed choral sound which is one of the most genuinely evil noises I have ever heard. On 'Dark Satanic Hills', what sounds like a cross between a whistling wind and furiously sawing violins slowly metamorphoses into a massively reverbed church organ march.

The synthesised sounds are achieved with Yamaha CS80, ARP Solina and OSCar, proving once and for all that supposedly old-fashioned technology is far from redundant. Sitting among the electronics are some unusual acoustic instruments – glass bells and amazingly asthmatic pan pipes – which make their most effective contribution to 'Macumba', an exotic eastern piece which sounds as though it could well accompany the ritualistic beheading of llamas.

However, it doesn't always work so well. Occasionally things get a little out of proportion, like the 20 minute meandering on side two where the melodic ideas and the sounds themselves tend to wear a little thin. However, where Hills has concentrated on creating unusual rhythmic textures and exercised the supreme virtue of conciseness, the results are extremely listenable.

Incidentally, Hills has combined some of this demo material with a couple of other extra tracks, in a self-financed LP. At £1.99 (plus £1 p&p) it is well worth a listen for 'Sly Legion' alone. It's available from Gothique Electronique at 18 Claygate Lane, Esher, Surrey.

Conciseness is not the virtue of self confessed singer-songwriter, **Jim Redgewell** who has submitted no less than 17 songs for our delight. Believe me, this is only one of the many bizarre mysteries surrounding this man. Why, for example, should he choose for his demo persona the not too dissimilar name 'Jimmy Redge'? What is the true story which connects 'What Do You Do? (a song about divorce) with the tracks 'Madeline', 'Jane', 'Wendy', 'Angela', 'Karen' and 'Julie'? Can the drum machine be saved from its attack of the DT's?

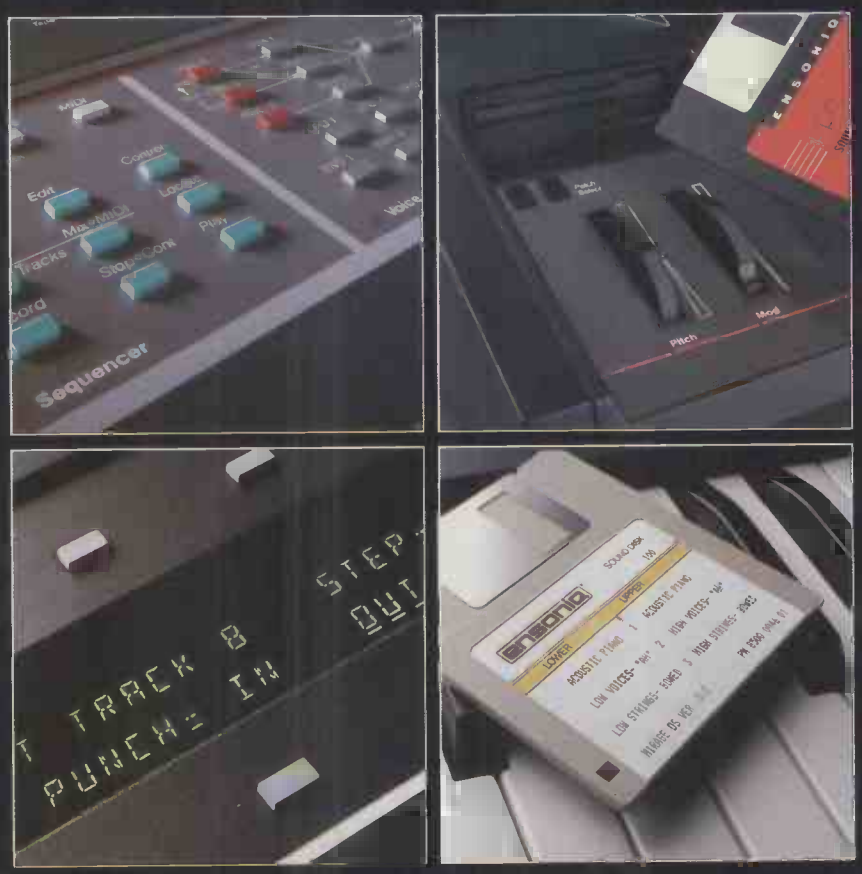
What Do You Do With Jimmy Redge? is a curious listening experience. OK, so you've to come to terms with Redge(well)'s uncertainty about the notes he's singing and programming which has successfully transformed the potency of a CX5MII, TX81Z, RX17, SPX90 and Teac 4-track into the definitive imitation of a 1957 'Cheertone Dial-A-Song Swingalonga BandBox'. But despite the technical imperfections, it would be churlish to deny there's a spirit of bravado at work here which is really quite infectious. It's certainly kept the entire Music Maker Empire entertained for the best part of a week. And, there are four or five genuinely catchy songs just waiting for an opportunity to surrender themselves to better treatment – notably 'DJ' (". . . the sun shines from my bum . . .") and 'Canvey Island' (". . . where fuel tanks glisten in the sun . . .").

Jim's covering letter had a little more humility than that penned by Ashley Elsdon who together with Spike Calnan goes under the moniker **Self**. After a page-and-a-half of self-promotion, I was a little sick of reading about Ashley's "sweet vocal tones", "smooth harmonies" and "inspiring" songwriting. I prepared to damn them on principle – but ended up being impressed by their use of budget equipment, notably Drumatix, a couple of Syndrums, a Casio SK1, a Spectrum RAM Music Machine and an E&MM harmony generator (!). The instrument most prominent in the arrangements is the CZ101 and I have to admit that some of the patches were really rather excellent, in particular a 'Flight of the Bumble Bee' sound on the last instrumental, 'Blood Metal'.

And musically . . . well, file under off-beat/pretentious pop, but as Ashley has already made it quite clear that he thinks it's brilliant, there's no need for me to say more, is there? ■ *Nr*

Send your demo-tape, along with some biography/ equipment details and a recent photo if you have one, to: DemoTakes, Music Technology, Alexander House, 1 Milton Road, Cambridge CB4 1UY.

NO, THIS IS NOT



THE NEW MIRAGE

VISIT YOUR NEAREST AUTHORISED ENSONIQ DEALER . . . NOW!

ABC Music, 56 Surbiton Rd, Kingston
ABC Music, 44 St Clements, Oxford
ABC Music, 324–326 Farnham Rd, Slough
ABC Music, 14–16 High St, Addlestone, Surrey
Andertons, 91 Haydon Place, Guildford
Bootleg Music, 5–7 South St, Epsom, Surrey
Bonners, 31 Grove Rd, Eastbourne
Carlsbro Sound, 11–13 Hockley, Nottingham
Carlsbro Sound, 182 Chesterfield Rd North, Mansfield
Carlsbro Sound, 23 Humberstone Rd, Leicester
Carlsbro Sound, 2 Sovereign Way, Norwich
Carlsbro Sound, 720 City Rd, Sheffield
Dawsons Music, 65 Sankey St, Warrington, Cheshire
Dougies Music, 5–7 Chester Rd, Northwich, Cheshire
ES Electronics, 2 Upper Fant Rd, Maidstone, Kent
Future Music, 202 New Kings Rd, London
Future Music, 10 Baddow Rd, Chelmsford, Essex
Future Music, 85 St Mary's St, Southampton
Future Music, 46 Preston Rd, Brighton
Future Music, 125 Albert Rd, Southsea, Portsmouth
Gigsounds, 22 Rushey Green, Catford, London
Gigsounds, 86 Mitcham Lane, Streatham, London
Guitar Workshop, 157–159 St Michaels Hill, Bristol
Guitarzan, 23–27 Middlesbrough Rd, Middlesbrough
Holiday Music, 579 High Rd, Leytonstone, London
Honky Tonk Music, 108–110 Southchurch Rd, Southend, Essex
Jack White Organs, 92 Fore Hamlet, Ipswich
JSG Music, 104 Main Street, Bingley, Yorkshire
Ken Astin, 45 Kings St, Blackpool
Keyboard Shop, 135–136 Shepherds Bush Centre, London
Kingfisher Music, 20 Kings Rd, Fleet, Hampshire
LiveWire, Dominions Arcade, Cardiff
London Rock Shop, 26 Chalk Farm Rd, London
McCormacks Music, 33 Bath St, Glasgow
Monkey Business, 276 Broadway, Bexleyheath, Kent
Monkey Business, 66 Victoria Rd, Romford, Essex
Music Maker, 29 Exchequer St, Dublin
Musical Exchanges, 89 Old Snow Hill, Birmingham
Omega Music, Underhall, Naworth Castle, Brambton, Cumbria
Pep's Music, 2–6 Blossom St, York
Project Music, 71 Salisbury Rd, Hounslow, Middx
Rock City Music, 10 Mosley St, Newcastle upon Tyne
Rockbottom, 68–70 London Rd, West Croydon, Surrey
Rod Argent's 20 Denmark St, London
Rose Morris, 11 Denmark St, London
Rose Morris, 71a High St, Hemel Hempstead, Herts.
Rushworth's 42–46 Whitechapel, Liverpool
Session Music, 81–93 York St, Belfast
Soho Soundhouse, 18a Soho Square, London
Sound Control, Elgin Rd, Dunfermline, Fife

ensoniq®

THE TECHNOLOGY THAT PERFORMS

THIS IS THE NEWLY EXPANDED RANGE OF FINE KEYBOARDS BY ENSONIQ

The first studio synth designed for live performance is at your ENSONIQ dealer . . .

The new Ensoniq SQ-80 Cross Wave Synthesizer.

The only sampler that can play and load at the same time will be at your ENSONIQ dealer . . .

The new ENSONIQ EPS Performance Sampler.

The keyboard that's an all-in-one personal recording studio is at your ENSONIQ dealer . . .

The award winning ENSONIQ ESQ-1 Digital Wave Synthesizer.

The most popular sampler with the most popular sounds is at your ENSONIQ dealer . . .

The tried-and-true Mirage DSK Digital Sampling Keyboard.

ensoniq®

THE TECHNOLOGY THAT PERFORMS

YAMAHA RX7
Drum Machine

Photography *Linda Law*

Yamaha's latest beat box offers both a lot more and a fair amount less than its predecessors, is it a winning compromise? Review by Howard Massey.

NUMEROLOGY: THE STUDY of numbers and of their supposed influence on human affairs. The numerologists on the Yamaha marketing team have obviously made a connection between the name of their best selling FM synthesiser and its massive sales. And so we have a new Yamaha drum machine called the RX7.

The general philosophy behind the RX7 seems to be to fill the gap between the low-priced, no-frills approach of the RX17 and the comprehensive features (and price) of the RX5. To a certain degree, it succeeds but, as we shall see, Yamaha have added so many new features – not to mention great sounds – to the new instrument that, despite the major limitation of having only stereo outputs, the RX7 seems to surpass the RX5 in many areas.

The Sound, The Look

FIRST THINGS FIRST: what does it sound like? Well, put it this way: the RX7 has no less than 100 16-bit PCM sampled sounds to work with. Of these, there are around 50 sounds that will be familiar to RX5/RX17 users including electric bass, DX7 clavinet, marimba, brass and orchestra, and several reversed drum and cymbal sounds (because the RX7 doesn't have the "reverse" feature that the RX5 does). Then there are about another 10 that are, shall we say "expendable" – such gems as vocal "Ha"'s, "Uh"'s, and "Get funky"'s – and then another 40 or so that are nothing short of terrific.

This last group includes well-recorded ambient snare drums, bass drums, toms and tom flams, along with a crystal clear bell tree, a beautiful steel drum, power and muted electric guitar notes and chords, and, for all you Kraftwerk fans out there, a number of cheesy-but-wonderful "rhythm ace" samples, camera shutter clicks, car door slams, and a strange Euro-rock "Bon" vocal sample.

And if you intend to use the RX7 for standard drum kit sounds, you have lots of choices: nine different bass drum samples, 10 different snare samples, two rim shots, 17 toms, four cymbals, and four hi-hats.

The RX7 looks very much like a scaled-down RX5, with the same 20 dedicated command keys, 10-key keypad, and 24 instrument keys. While the instrument keys themselves are not velocity-sensitive, the RX7 voices do respond to velocity if it comes in the form of MIDI data. There's also a backlit two-line 32-character LCD, along with a series of status lights (for Pattern/Song mode, internal/external clock and so on). And, of course, there are the usual Stop/Continue, Start, and accent keys, along with four front-panel sliders for overall volume, click volume, tempo adjustment, and data entry.

On the rear panel, you'll find a single cartridge slot (for standard Yamaha RAM4 cartridges only; the RX7 doesn't accept ROM "waveform" cartridges), left/mono and right line audio outputs (on standard ¼" jacks), a headphone output, and a separate click output. There's also a footswitch input, MIDI In, Out, and Thru, and a cassette interface for data storage and retrieval. No input is available for external FSK clock signal because the RX7 can only be externally synchronised to MIDI timing signals.

The Operation

FOR THOSE OF you used to programming Yamaha drum machines or sequencers, getting around on the RX7 is simple. For those of you who aren't, you'll have to learn the Yamaha approach of selecting a main function, and then selecting one of several sub-functions, called Jobs (these are all labelled clearly on the front panel, so you don't need to consult the manual constantly). At this point, data can usually be entered with either the Yes/No, Increment/Decrement keys or with the data entry slider, though occasionally you'll be asked to press Enter (which doubles as the Start switch). On displays which show more than one parameter, you move the cursor around with the accent keys.

It sounds a bit convoluted, and can be the first few times around, but it's easy to get used to and effective. Besides, once learned, it'll enable you to get around the programming of all the RX and QX instruments with a minimum of re-learning.

Like the RX5, the RX7 allows you to program in either real or step time. Events can be quantised to a resolution of within a 32nd note triplet, or, with quantisation off, within a 96th of a beat. You can store up to 100 patterns, with each being anywhere from 1-99 bars in length (though, obviously, you'd run out of memory long before you were able to store anything close to 100 patterns of 99 bars each). All the standard time signatures are supported, and quite a few weird ones as well (99/32, anyone?). Patterns can be edited extensively, with each individual event within a pattern completely adjustable in terms of level, pitch, decay, or pan position. A helpful Compare

mode, along with an edit recall command, make life really simple here.

Once you've got the patterns sussed, you link them together into songs. Each RX7 Song can contain up to 999 patterns, played in any order you like. In Song Edit mode, you can insert, copy, or delete patterns at will, or you can enter in repeat signs (any number of patterns can be repeated up to 99 times, and you can "nest" repeat signs on up to 10 levels). Tempo change and/or volume change commands can also be entered here, allowing you to create accelerandi, ritardandi, fade-ins, and fade-outs within your song. Various points can be specified within the song with user-named markers, and a clever search function allows you to quickly locate any area of the song by marker name or by step number. Having completed all your song manipulations, you can store up to 20 songs in memory, and can create up to three Song Chains, allowing you to play various songs in succession – a useful feature for live work.

Simple programming operations allow you to assign any one of the hundred ROM voices to any one of the 24 instrument keys – or to more than one instrument key. Once you've set the voice assignments for a particular application, you can store them in any one of five user-created "drum sets". Five factory-created sets are also available in ROM. Individual voices can be extensively edited – you can, for example, adjust the pitch of any sample up and down over a ridiculous five-octave range, or you can use something called Multi-voice mode to put a single voice over the entire top row of (12) keys and then assign a different pitch, level, and/or pan position to each key. Because there are only stereo audio outputs, there are panning controls built into each instrument, and voices can even have different pan positions at different points within a single pattern. This allows you to create complex stereo images, with sounds changing position constantly – if that's the kind of thing you're into (I, for one, certainly am).

The RX7 also offers up to 16-note polyphony (depending upon specific voice assignments), as well as dynamic voice allocation, a feature not often found on drum machines. This allows you to play a sound repeatedly without incurring the abrupt cutoff normally associated with drum machine samples. You can actually assign up to eight-note polyphony for any one voice, so that you can have that sound appear up to eight times in rapid succession – and hear it cycle through its complete envelope eight times. Thus, only playing a ninth note would cause the abrupt ending to the sound that you experience with a static allocation.

If you specifically want those "choked" sounds, you still have the option of assigning a single note polyphony to any voice, or of using the Damp feature, which allows you to cut off any voice in real time during the programming of a pattern.

Speaking of envelopes, the RX7 doesn't really provide much of an envelope at all for individual voices, just a variable decay time. On the other hand, there is an onboard LFO for each voice (an LFO on a drum machine? I love it). As you might imagine, this is useful more for the longer samples than for the percussive sounds. The LFO signal can be used for pitch or amplitude modulation or both, with variable depth control. What's more, the voices on the RX7 respond to external MIDI pitch-bend data as well as the onboard pitch envelope associated with each voice.

RX MIDI

IN ADDITION TO being able to respond to pitch-bend data, the RX7 also works with external MIDI clock, Song Select and Song Position Pointers, and can perform bulk dumps of voice and sequence data, and also Setup data (like the MIDI configuration). Each individual sample can transmit on any MIDI channel – and this is *very* useful if you're using the RX7 as a quasi-sequencer.

There's also an ingenious system that allows you to reconfigure the MIDI reception of the RX7. It works like this: any incoming MIDI note number data on a specific channel can either control the pitch of the voices assigned to that channel or individual RX7 voices according to their note number assignments. Or reception can be turned off altogether. Any or all channels can be set for pitch control, but only one can be assigned for voice control. What this means is that, in the former instance, any RX7 voice can be played with varying pitch over a five-octave range (with eight-note polyphony) from an external controller or sequencer. In the latter instance, different keys played on a keyboard controller, or different note numbers issued by a sequencer, will play different RX7 voices according to their programmed assignments.

Sounds *"Of the 100 16-bit PCM sampled sounds, 50 will be familiar to RX5/RX17 users and another 40 are nothing short of terrific."*

It's worth pointing out that two special MIDI features found on the RX5 are not available here. The first of these allowed for EG bias control of the amplitude and envelope characteristics of a voice. This made it possible, for example, to expressively "play" the RX5 voices from a wind controller like Yamaha's WX7. The second RX5 MIDI feature that's missing is the ability to selectively transmit MIDI note-off commands at specific time intervals following a voice's note-on. In other words, you could effectively assign a gate time for each voice, making the RX5 much more suitable for sequencing operations than is the RX7. Ah well, you can't have everything (wherever would you put it all?).

The limitation of stereo audio outputs is in the amount of outboard signal processing they allow you to do since any treatment will affect all voices panned to that output. However, Yamaha Giveth and Yamaha Taketh Away, so in partial compensation, the RX7 provides something called "effect" for each voice. Essentially, this is a built-in programmable digital delay. More specifically, this is a MIDI delay, meaning that it causes no signal degradation. Controls here allow you to specify the number of repeats (up to four), the delay time between repeats (10-500 milliseconds), the pitch difference between each repeat and the original sound (plus or minus six octaves), the level of each repeat, and, perhaps most impressively, the pan position of each repeat. For those of you out there who are stereo fanatics, this is a truly wonderful feature that allows you to really give each sound an unusual and individual image.

Editing *"Individual events within a pattern are completely adjustable in terms of level, pitch, decay and pan position."*

These pre-programmed "effects" can be brought in and out in real time with a dedicated effects on-off switch, and the use of this switch during real-time recording is memorised, too. Thus, voices played with the effect on during pattern recording will be played back that way regardless of the current status of the on-off switch during playback.

As we mentioned earlier, there is only a single footswitch input on the rear panel of the instrument, but there's practically nothing that single footswitch can't do, thanks to a virtually open-ended footswitch assignment function. This allows you, quite literally, to link the ►

► footswitch to any front panel switch. In other words you can do the predictable thing and assign it to either the start or stop/continue switch, or you can get a little more adventurous. You could, for example, assign it to an instrument key, so that the voice assigned to that key will sound each time you step on the switch. Or you could assign it to the Damp control or the "effect" on-off switch, or the real-time or single step write switches. You could

Panning *"Extensive panning controls allow voices to have changing pan positions at different repetitions within a single pattern."*

even assign it to the voice assignment job that assigns you to the voice assignment job that assigns it to the voice assignment job that . . . Talk about a hall of mirrors.

Finally, the RX7 comes with eight demo songs that show off the capabilities of the machine. These can be loaded into RAM from the internal ROM at any time. The Doo Wop demo, in particular, wins the MT Funniest Drum Machine Demo of the Century award hands down. Even if you never buy an RX7, make a point of listening to this one at a nearby music shop – you'll love it.

Verdict

WHAT CONCLUSIONS CAN we come to? Clearly, the RX7 offers a number of unique and interesting features that, coupled with the overall quality of its voices and moderate price, make this a very attractive instrument. In fact, the RX7 is certainly one of the best stereo output drum machines currently available. On the other hand, having only stereo outputs is a major drawback especially in professional or studio applications.

Unfortunately, this also leads to a couple of annoying design features. For example, because you don't have a physical mixer onboard to balance individual voices, you need to go into Voice Edit mode to adjust them. The problem is, you can't get into that mode while a pattern or song is playing back, so you can't make real-time modifications to a mix. Similarly, you can't adjust pan positions while a pattern or song is playing back. Limitations like this can really get frustrating, especially if you're used to having the luxury of individual voice outputs, where both level and pan are readily adjusted in real time at the mixing desk.

Another major limitation is the fact that the RX7 will not accept ROM cartridges, meaning that unless Yamaha or a third party manufacturer gets into the sound chip business (and Yamaha have never done this in the past), the 100 voices you get when you buy this machine will be the same 100 voices that will be in the machine when either it or you eventually leaves this mortal plane. Moreover, there's a real lack of RAM space in the internal memory for the storage of voice data – an edited voice can only be saved over the original voice. True, you can always get the original unedited voice back with a simple initialisation command, but you can never have the original and the edited versions available to you simultaneously.

For the money there's no question that the RX7 delivers excellent sound and a number of exciting features but it also possesses several major limitations, so you'll need to deliberate carefully before disturbing the sleeping moths in your wallet. ■

Price *To be announced*
More from *Yamaha, Mount Avenue, Bletchley, Milton Keynes, Bucks MK1 1JE. Tel: (0908) 71771*

STUDIO by design

There are now a number of studios that have been built specifically to take advantage of the MIDI integration of equipment. London's Orinoco studio is one of the latest – and possibly most sophisticated. Report by Dan Goldstein.

THE AREA OF LONDON in which Orinoco recording studio lies is almost as mysterious (and comparatively uncharted) as the South American river from which the studio gets its name. It's just south of the Thames, somewhere between London Bridge and the Elephant & Castle, in an area sometimes known as Borough and sometimes known as nothing at all. The only other thing this part of London is famous for – apart from a notoriously underused tube station, some horrendous '60s housing estates and a bit of recent yuppie-inspired gentrification – is another recording studio, PWL. And that, in case you weren't aware, is where Messrs Stock, Aitken & Waterman 'make records' for (as opposed to with) the likes of Rick Astley, Sinitta and Bananarama.

But this piece is not about PWL or Stock, Aitken & Waterman, though they may be mentioned 'between the lines', as it were.

No. This is the story of a fairly new recording studio, one that has been built with high artistic and technical ideals and meticulous attention to detail, and which also happens to be one of the most tastefully decorated recording facilities this writer has ever seen.

You enter Orinoco through massive double doors, and what greets you could be one of three things: the interior of a new Covent Garden menswear shop, the bar section of a trendy Italian Soho restaurant, or the atrium of a fashion-conscious foreign exchange dealer's office block somewhere on the outskirts of the City. It could never in a million years lead to a recording studio, but it does.

There are none of the interior eyesores that bug so many studios whose desire to be 'exclusive' results in a proliferation of spotlights, deep shag pile carpeting, and glass coffee tables. Instead, the whole thing looks as though it was designed from a clean sheet of paper, and indeed it was.

Orinoco's owner, Tom Astor, used to own a rehearsal studio complex in Covent Garden. When the menswear shops edged that out of existence, Tom decided the time was right to realise a long-standing ambition – to become more involved in recording. For a few months he scoured London looking for a suitable site, approaching designers and architects, and seeking out engineers.

In the end, he found a '30s building that looks inside as though it might have once been a municipal indoor swimming pool and has been, among many other things, a meat warehouse. He also found a firm of architects that were willing to take on the task of making a studio look entirely unlike a studio, while also (and here comes the difficult bit) ensuring that every detail of design had a specific job to do, and did that job well.

On his travels, Astor also bumped into Ken Thomas, producing an album at Musicworks studios in North London. Thomas liked what Astor was up to and joined him as house producer and consultant, and brought with him Gerard Johnson as house engineer.

IT IS JOHNSON who gives me a guided tour of Orinoco before we sit down and talk turkey. Incredibly, the portholed doors that met me as I entered led on to such modern studio necessities as a video post-production

room, a tape machine room, and a lavatory. Another pair of them eventually (the place is labyrinthine, to say the least) led to a massive, concrete-clad control room, which was a car park when Johnson arrived during the Christmas of 1986.

"The project has been through several stages", the engineer reveals, leaning back in his high-backed leather chair as engineers have a habit of doing. "At one stage it was going to be a huge SSL facility, then it was going to be a tiny recording studio with a large video facility, then it was going to be a big programming suite, and it finally ended up being a compromise between all those things. The building took about 18 months, and when I arrived it was still very much a building site."

This, of course, is what puts Johnson in such an unusual, perhaps unique, position for a studio engineer, and one that he has exploited to good effect.

"I was able to watch the walls being built, the tape machines and desk being installed, and perhaps most important, to become heavily involved with the wiring up, which can make or break a studio. I wanted to make sure that everything could be connected up to everything else, and also to ensure that if we wanted to do anything new at a later date, the wires would be there to enable us to do it."

Well, there's nothing like a bit of 'upward compatibility', as the Americans say . . .

"It's not just a case of future upgrades", Johnson interrupts. "It's also a case of what we can do now. Take the MIDI gear; all the instruments in our MIDI rack are linked directly to a patchbay, and from there they can be routed directly to the input channels on the desk – in total we could have 48 MIDI voices being patched into their own individual inputs on the desk, using just three patchbay connectors. I like the idea of just being able to plug something in, instead of spending half a day scrambling around with leads at the back of racks."

Hands up all those who'd agree with that sentiment. Yes, I thought there'd be a lot of you.

Anyway, after much planning, designing, building and rebuilding, Orinoco finally swung into action last summer as, among other things, one of the first London recording studios to offer digital multitrack recording as its staple diet. The tape machine room houses a Mitsubishi 32-track digital recorder, which Johnson prefers over its Sony 24-track counterpart, partly for technical and sound quality reasons but mostly because it has, er, more tracks. However, Orinoco have an agreement with hire company Hilton Sound which enables them to swap the Mitsubishi for a Sony at any time, should a client desire it. They also have a 24-track analogue machine permanently wired in, and this can be synced to the Mitsubishi for 56-track recording, or even used in its own right without any interference from the digital department. All in all, Orinoco is one of the first recording facilities to offer a choice of three competing recording formats at the drop of a hat – and hats off to them for not letting technological hysteria get in the way of their pragmatism.

"Recording techniques are being used to make up for bad songs, but that's better than having bad songs and *dull recordings."*

BUT THAT, AS they say, is only the beginning. MIDI came to Orinoco when Johnson came to it, and came to it in a big way. Among other things, there's the obligatory Akai S900 sampler and Atari 1040ST running Steinberg Pro24 sequencing software. But there is also a fair smattering of some less common gear, including a Kurzweil MIDIboard as master keyboard and a Korg DVP1 digital voice processor.

This is no purpose-built, dedicated programming suite, mind you. Instead, it's the result of a realistic appraisal of what MIDI can do for modern recording artists and producers – at various different levels of operation. The engineer explains.

"To make the most sophisticated use of it you can do a full SMPTE-locked, Steinberg 24-track multi-sequence job, and get everything down on tape in one go. At a level below that, you can use the system as simply a means of doing some keyboard overdubs – though you can still do those in quite a sophisticated way because we have a number of sound modules linked up to a MIDI master keyboard. Or, at a level below that, you can forget about keyboards altogether and just use, say, the Akai S900 to trigger samples for drum replacement – which is a very quick and easy way of doing things, and also happens to give you access to the entire Akai sample library.

"The MIDIboard was my own choice of master keyboard, and it was chosen really on the basis of its feel. We toyed with the idea of getting a real grand piano in here, because there are always some parts which benefit from being played on a real acoustic keyboard. In the end it seemed a good idea to get a keyboard which could provide a piano-style feel, while also giving us access to much more than just a piano sound. The Kurzweil is simply a joy to play, and that's the main thing.

"The reasons for choosing Pro24 above, say, Dr T's KCS or the Iconix, were simply that it is the most popular system around. There are so many of them in use – even the Style Council are using one. So despite the fact that the software has one or two things that aren't that easy to do, it made sense for us to get something that would enable people to come with a song file disk they'd already compiled, plug in, and go – with the minimum amount of patching and cabling for their own MIDI modules, too."

So, it's back to the old pre-production scenario again. You know the theory: you buy a computer and some software, hook it up to your MIDI gear at home, record a rough (well, maybe not so rough) version of a song onto disk, and then take your disk along to your friendly local multitrack studio which happens to have a computer music system the same as yours. Bingo. But Johnson has reservations.

"This theory about pre-production is all very fine, but in my experience as an engineer, the music gets changed in the studio every time. It's not just a question of adding some live percussion – that's the sort of thing people come in for anyway – it also comes down to changing the basic program: there's something about having a load of big studio gear in front of people that suddenly makes them question the value of what they've done at home or in a smaller studio. I can scarcely remember engineering a session that has gone exactly as the programmer originally planned it – and if I have, the music has turned out to be very boring. Apart from anything else, I think it's vital that a certain amount of spontaneity is maintained in the studio, and in most cases it crops up in one form or another."

Johnson looks around him at some monolithic concrete panels which turn out to be acoustic screens (efficient ones at that), and then goes on

to mention that since Orinoco is equally well geared up to record a five-piece R&B combo as it is the Depeche Modes of this world, he expects the studio's client list will be a varied one. Glancing at the vast, open playing area, carefully mapped out 'live' and 'dead' ends and gargantuan monitoring system (shells of defunct power amps, deemed too weedy for the job, litter one shelf in the control room), I'm inclined to agree with him.

And within a few weeks of the studio becoming operational – before many of the finishing touches had been brushed in – the Orinoco team had written, recorded and shot a video for a theme song for *TV '87*, last year's tactical voting campaign which came to prominence just too late to keep Mrs Thatcher out of No 10 for another five years. Yet although it was an abortive scheme, the studio's client, fashion designer Katherine Hamnett, must have been impressed with Orinoco's almost unique ability to tie together audio and video recording with such speed and convenience.

FOR THE FINAL, winning element in the Orinoco formula is just that – what Johnson calls "the meshing together of audio and video technologies, in the studio as well as in the living-room".

With CD video already upon us, sales of music videos remaining steady and the hardware companies making great play of their new integrated 'audio-visual' replay systems, the men at Orinoco believe their facility to record music and visuals simultaneously – or at least in the same location – will prove irresistible to many clients.

Next-door to the audio recording studio lies the vast, open rectangle of nothing that is the Orinoco video recording space – big enough to house a band, all their equipment, 200 or so 'fans' and even a few token bouncers. You could actually put on a gig here, set up a half-dozen video cameras, record all the music directly onto that Mitsubishi, and still be able to overdub some 'audience participation' if the extras didn't make quite enough noise. Or you could cheat a bit more, recording the music in advance in the audio studio, and then getting the band to mime to the tape in the video hall, TOTP-style, in front of the mob from Rent-A-Crowd.

In Johnson's eyes, the bringing together of audio and video in this way can only be to the benefit of both forms – especially video, which has suffered terribly from that modern media virus known as Afterthought's Disease.

And as it turns out, this particular engineer has more than a few thoughts on why the music industry is currently in intensive care, labouring under a seemingly incurable malaise of non-creativity. His thoughts, not unnaturally, have turned to the new technology that he works with every day . . .

"One of the very funny paradoxes that we've seen is that we've had sound sampling thrust upon us, with the promise of giving us the ability to make every record sound different, and it's actually had the opposite effect – it's narrowed the field of sounds that we're hearing. Now, that's partly because people are using too many preset sounds, and partly because people are sampling things from other people's records.

"But I don't think this is happening because the equipment is too difficult to use; in fact, I think the reverse may be true. I'm worried that because so much of this technology is really quite friendly to operate, the people who are influencing the music we listen to have a more commercial interest than a musical interest. It's all very well having the best intentions of turning non-musicians into musicians, but when the non-musicians don't actually *want* to be musicians at all, when all they want to do is make money, than I think something has gone very wrong.

"It used to be that you paid your dues by spending 10 years learning to play your instrument, and when you finished that, you had a vested interest in making sure that you put your experience to good use by making good music. Now you pay your dues by being a band manager or a record company executive, learning to program a Steinberg, putting down a bassline and a drum machine part in no time, and then pulling some nobody in off the street to sing some bland pap over the top of it. There's just so much of that music around – I know, I've engineered some of it."

Which is an important point, when you consider that as an engineer, there must be a limit to what Johnson can do to change the course the music industry is taking. Or is there?

"It's actually surprising how much influence you can have over the way a record sounds. You play each session as it comes, of course, but as the engineer you're probably the one person without whom nothing would happen at all, so the way you go about doing your job has a crucial effect on the way the finished product sounds.

"For example, I place a lot of emphasis on creating a sense of perspective in a piece of music. Today, with all the various digital reverb systems that are around, you can create a series of different ambient spaces around each set of instruments in a mix, putting the drums in quite a big space, say, and then have another instrument appearing in a much smaller one, so that you get that feeling of excitement as the music suddenly constricts or spreads out around you. As an engineer, you can now take the listener through a number of aural environments as a track goes on.

"It's no substitute for a good song, of course, and it could be that techniques such as that are being used to try to make up for a bad song. But that's better than having a bad song *and* a dull recording. It's a step in the right direction.'

Have no doubts. Orinoco are taking a big step in the right direction, and the studio will benefit from having this man aboard. And in all likelihood, the music industry will benefit from having Orinoco, too. ■

"We could have 48 MIDI voices being patched into their own individual inputs on the desk, using just three patchbay connectors."

Still afraid of mice ?

OK – you never expected to be running your studio from a computer screen, but revolutions have a way of sneaking up on you. Funny thing is – you're going to love it!

Steinberg's PRO-24 is the most powerful, comprehensive, flexible software package you could pick for the ATARI ST, in fact for any personal computer. Steinberg now lead the world in MIDI recording, sequencing, editing and score-writing systems as well as being the first name in SMPTE/MIDI processors and synchronizers. So don't waste your time with "iffy" substitutes.

Combining Steinberg's PRO-24 with suitable MIDI equipment you can use the 24 tracks (more if you like) as a digital tape machine. You get all the sequencer functions you could conceivably want, and stunningly clear on-screen editing.

With the PRO-24, there's no more flinging yourself round the studio like a squash player. Just stroke your mouse into calm, deliberate action. And what better way to visualise what's happening at any instant than to be able to see every aspect on the ATARI's high definition monitor. Forget those glorified calculator-like displays.

Professionals agree that the test of any MIDI recording system lies within the scope of its editing facilities, in fact, why use a MIDI recorder at all if you aren't going to utilise some form of editing? The PRO-24 offers two working environments: Score Edit, for those who wish to work within the standard music notation framework (let's hear it for minims and crotchets!); and Grid Edit, a graphical representation of each track, which can be manipulated extremely efficiently.

When editing, many powerful quantization facilities are available, including the unique "Over-Q" intelligent quantization. This is the first such feature that actually cares about musical style — not just timing. And that's what it should all be about.

Steinberg

TAKE THE MOUSE BY THE HORNS.

EVENLODE SOUNDWORKS The Studio, Church Street, Stonesfield, Oxford OX7 2PS Telephone: (099389) 8484

Exclusive UK Distribution

patchW·O·R·K

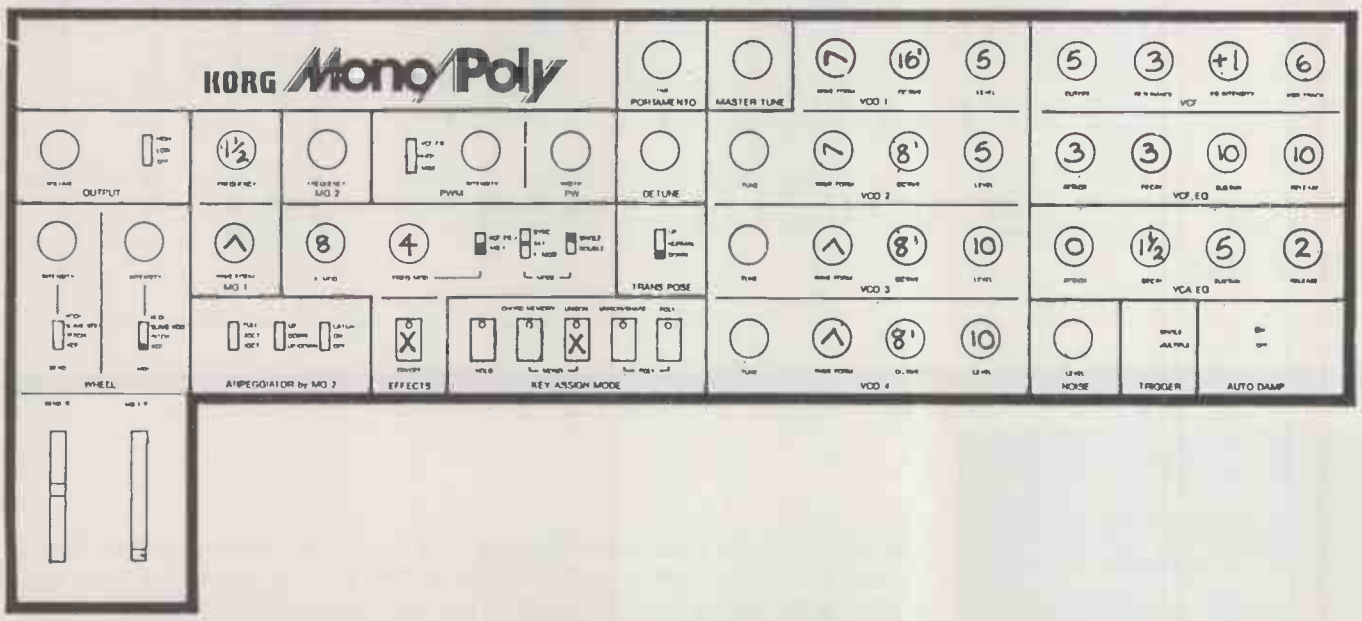
If you're still waiting to see *your* particular synth featured in these pages, then why not be the first to submit some sounds?

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

The address to send sounds to: Patchwork, MUSIC TECHNOLOGY, Alexander House, 1 Milton Road, Cambridge, CB4 1UY. ■

Korg Mono/Poly
Porky
MG King, Canada

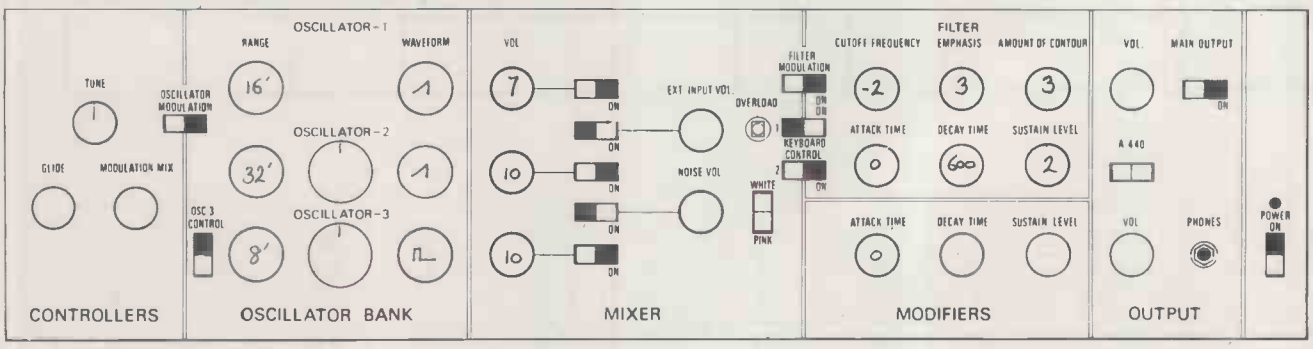
A good old-fashioned fat analogue bass sound, this (hence the name). Keep it in the lower register for maximum impact, and it's especially effective for fast sequenced bass lines. Try it with the Mono/Poly's on-board arpeggiator. Who says musicians don't dance? ■



Minimoog
Ringlet
Ron Bacard, Orpington

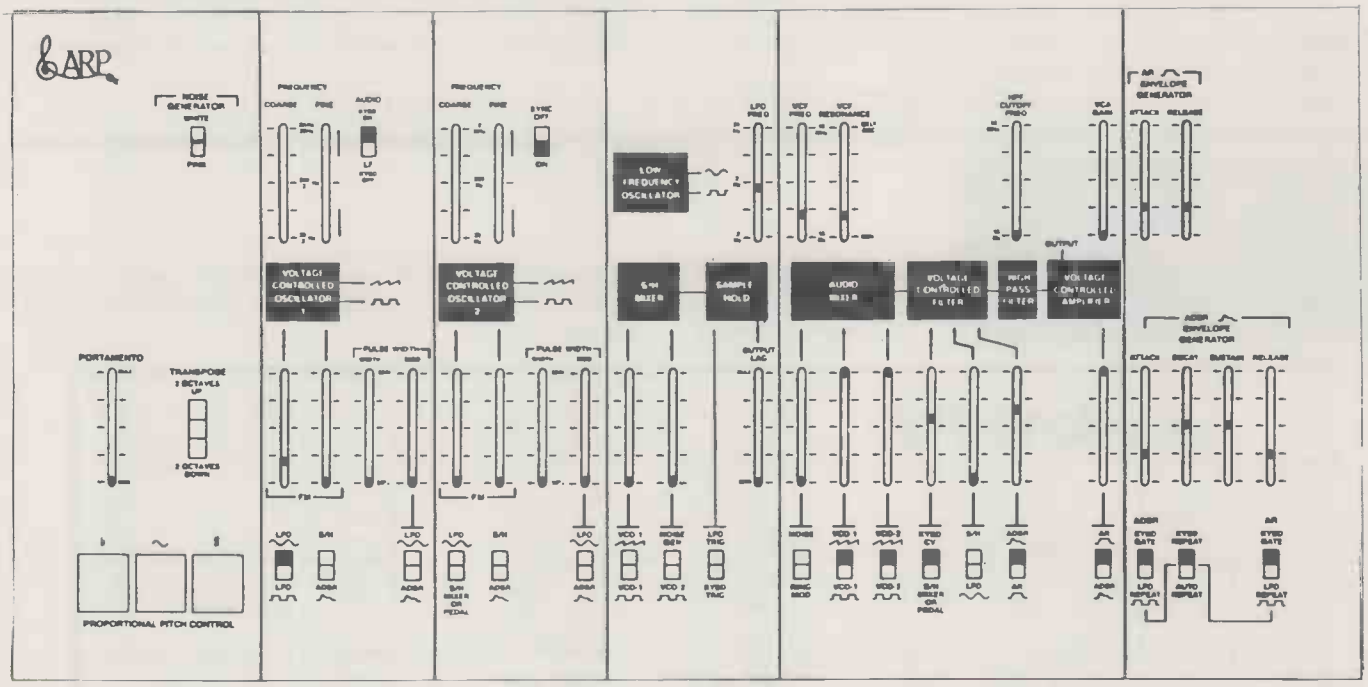
Ron says his patch is so called because "It employs a little ring modulation". Cute.

He also tells us that the patch is best suited to slower echoed passages where the modulation can be introduced where required using the mod wheel. The pitch of the note played may be made to either rise or fall with the modulation according to the modulating waveshape. ■



ARP Odyssey
Solo Brass
Gordon Reid, Cambridge

Gordon tells us this patch forms the basis of many recognisable Odyssey sounds. A range of evocative brass voices can be obtained - experiment with the tuba in the bottom register (with the octave selector 2 octaves down), or with the Bach trumpet (with lashings of reverb) at the top of the middle register. Experimentation with the VCF and ADSR of your own instrument should yield some realistic results. ■



Yamaha DX27
Sweep
Thomas Kunze, Newport

Thomas stays in the mood of this month's Patchwork with a sound which attempts to create an analogue atmosphere. He suggests it could be used for lead parts or "beef bass", and hints at more than a slight resemblance to the beginning of Vangelis' 'Chariots of Fire'. A pretty good stab at recreating the mood. ■

										AME			OP
3	7	TRI	41	6	27	78	OFF	2	0		0	0	4
											0	0	3
											0	0	2
											0	0	1
ALGORITHM	FEEDBACK	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		

OP												
4	2	+3	8	31	15	0	0	70	1	30	C=C1	
3	4	0	6	31	15	0	3	65	1	46		
2	6	-3	10	31	15	0	1	63	1	35		
1	4	-3	26	31	15	0	3	92	1	12		
	FREQ RATIO	DETUNE	AR	D1R	D1L	D2R	RR	OUT LEVEL	RATE	LEVEL	TRANSPOSE	
	OSCILLATOR		ENVELOPE GENERATOR					OPERATOR	KEYBOARD SCALING			
	13	14	15	16	17	18	19	20	21	22	23	24

POLY/MONO	PITCH BEND RANGE	PORTAMENTO MODE	PORTAMENTO TIME	FOOT SW ASSIGN	WHEEL RANGE PITCH	WHEEL RANGE AMPLITUDE	BREATH RANGE PITCH	BREATH RANGE AMPLITUDE	BREATH RANGE PITCH BIAS	BREATH RANGE EG BIAS
POLY	4	FULLT	3	SUS	50	0				

PA-Decoder Supra-RAMII and Monst-ROMII

For the Yamaha DX7II

Everyone knows (or thinks they know) how difficult the DX7 was to program. We've all heard the horror stories: "no knobs to play with, such a ludicrously small display" and so on. Hence the immediate popularity of sound cartridges as an alternative to those distinctly overused factory presets.

Although the DX7II offers more and better organised programming facilities, it still doesn't

quite conform to the "hit-and-miss" programming of the old analogue synths. So the two cartridges under review here should prove a blessing in disguise for those who like others to do their thinking for them.

The Monst-ROMII and Supra-RAMII are distributed by Executive Audio, though they are actually the product of a German company, PA-Decoder, who were responsible for an excellent series of cartridges for the original DX7 a while back. Both cartridges contain sounds specially programmed for the DX7II, making use of its various features, including split and layering.

The Monst-ROMII has a total of 512 single sounds organised in two groups of four banks, each of 64. A button on the ROM itself switches between the two groups (A and B) with a green and red LED telling you which one you've selected (handy when you're on a dark stage). Within each bank there are 32 performance memories, which basically pairs sounds from within that particular bank and presents them in either split or dual mode.

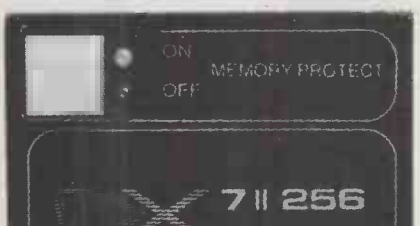
As seems to be accepted practice, sounds are organised in "families". About half the memory is taken up with sounds which are meant to approximate to recognisable acoustic timbres, in other words, groups labelled piano, organ, strings, bass, guitar and brass. The other half is taken up with what might roughly be called synth sounds, that is, those which are overtly electronic. These groups have labels such as "polygroup", "PPG", "Synth", "Syneffects", "Upmix".

Almost without exception, the individual voices are excellent, with quite a number of really inspirational ones lurking around. The bass group was particularly notable, especially the 'Kalimbass' and 'Pastorius' patches as well as the more funky, slap sounds. Acoustic guitar patches were also extremely realistic. Other personal favourites were the ethereal 'Stratotro' and the super smooth 'Orchestra Strings' (actually a "Dual" performance memory).

Nostalgia buffs might note that a number of patches in the synth section carry the titles of older synths: 'Poly 800', 'Juno 60', 'Prophet 2' and 'Oberheim'. Although names are often misleading, being decided upon once the sound has been created rather than as the goal of the programmer, it was interesting to see just how well the DX7II is able to imitate the characteristic timbres of these other synths. It certainly goes a long way to show that FM synthesis is not just good for harsh, metallic sounds as its critics all too often suggest.

The Supra-RAMII contains only 256 sounds, these being the same as the first four banks of the Monst-ROMII. Hence the groups covered are PPG, polygroup Melodic (ie. "synth" sounds), guitar, bass, brass and strings. Being RAM though you have the luxury of being able to modify the sounds yourself and then store the results back on the cartridge. (You can of course store any other sounds on there as well, meaning that you can fill the cartridge with sounds you actually use rather than having spare space). Before you can do this, you need to turn off the memory protect, a small matter of pressing the button at the top of the cartridge. Once again those coloured LED's come in useful to prevent accidents.

Even if you don't want to modify the voices themselves, this cartridge comes in useful for



organising a total of 128 performance memories. As well as simple split and layer information, you can also store microtuning and fractional scaling data: useful if you regularly gig in mosques.

There's no doubt that both these packages are well worth investigating. Cartridges may not offer the infinite open-endedness of a computer-based editing or patch storing sytem, but they are, in many ways, much more convenient for the working musician. ■ *Nicholas Rowland*

Prices *Monst-ROMII and SupraRAMII, £160 each, including VAT, and postage and packing where applicable*
More from *Executive Audio Ltd, 159 Park Road, Kinston Upon Thames, Surrey KT2 6DQ. Tel: 01-541 0180*

MASSIVE
– MEMORY –

Ever run out of space on a floppy disk or filled the time it takes a slow drive to save and load files with expletives? A hard disk could make your life a lot easier. *Text by Stefan Lipson.*

Photography *courtesy of Micropolis*

YOU'VE PROBABLY READ or heard enough references to hard disk storage to start wondering what it is and whether or not you would benefit from investing in one for your computer. If you're using your computer on a regular basis and regularly save a lot of sampled sounds, sequences, and/or documents, then the answer is likely to be a resounding yes. A hard disk is the one piece of hardware which seems to be an unnecessary convenience until you pluck up the courage to buy one – then it becomes a necessity you can't imagine being without.

What is a hard disk? In short, it's another storage device for computer data and also referred to as a Winchester disk, fixed disk, or hard drive. A hard disk has two primary advantages over the more common floppy disks: greater storage capacity and easier file access. For regular computer users, the flexibility that a hard drive affords really is a necessity. Aside from shorter disk access times (the amount of time required to retrieve data from a disk), a hard disk offers you the opportunity to get yourself organised in a way that a floppy disk simply cannot.

To get an idea of how much easier it is to work with hard disk storage, consider the following analogy: imagine that you live in a small flat (the flat represents your computer) which has no cupboard or storage space (no hard drive). The flat is so tiny that you have to keep all your personal belongings in packing cases (a file is one of your precious belongings, a packing case is a floppy disk). You are so incredibly cramped that you can only open one packing case at a time and have one of your possessions out at any given time (if you don't believe people live like this drop in on Hong Kong sometime). Now, let's try to get through some everyday job: you decide to take a shower. First you must find the box that contains your soap (locate the right floppy disk with the right files). Then you must remove the soap from it in readiness for the big hose down. Now, you can take a shower.

You enter the shower and wash off the caked-on mud and chicken feathers you collected during the course of last night's "entertainment". After the shower, you step out and you want to dry yourself, but first you need to find the packing case to put the soap away again (remember, you can only have one item out of a case at any given time – your mother/wife/husband comes to the apartment every day and tidies up after you, so don't even think about leaving anything on the floor). Once the soap is safely stashed away, you need to find the case that has your towel in it. After that, you might want to put on some deodorant – but not before you've

Seagate Technology's ST4192N, a full-height 5¼" high performance hard disk drive with embedded controller, SCSI interface and 160Mbytes of formatted capacity. The drive has an average access time of 17msec.

put away the towel (don't ask me when it dries out, there's limited mileage in this analogy).

But do you start to get the drift? While my girlfriend considers that my observing the above lifestyle would suit her down to the ground, it's bad news when it comes down to managing your computer files. It's incredibly

> *"Hard disks are also a safer storage medium than their flexible friends and are consequently unlikely to meet the fate of many a floppy – death by Coca Cola."*

time consuming, tiresome, and a slip-up in the procedure inevitably leads to lost or destroyed – overwritten – files.

Enter the hard disk to a synthesised fanfare of trumpets. Offering anywhere from 10 to 300 Megabytes of memory, a hard disk gives you plenty of computer "cupboard" space for your files. That means no more swapping floppy disks in and out of disk drives. A hard drive with DOS (Disk Operating System), your programs, and your samples/sequences installed on it lets you get on with the job without ever having to touch a floppy disk.

Having a hard disk also means that you have less to worry about when managing large files, such as sample data. With a floppy disk you have constantly to keep your eye on available disk space for fear of running out – and may even have to delete old files to accommodate your new ones. Granted, you can run out of space on a hard disk as well, but it takes considerably longer. And speaking of samples, one other important use for hard disks is as a mass storage device for samplers. By connecting the SCSI ports that are to be found on many popular samplers to a hard disk, you can quickly load and store samples.

Hard disks are also a safer storage medium than their flexible friends. They either live inside the computer itself or are housed in a separate box that usually sits alongside the machine (or somewhere nearby). They tend not to get tossed around in the way most floppy disks do and, consequently, are unlikely to meet the fate of many a floppy – death by Coca Cola, by Marmite or by weighty behind of human being.

Of course, no technology is perfect and so hard disks have their vulnerabilities too. One of the main fears of the hard disk owner, for example, is the disk crash in which the disk stubbornly refuses to give you read or write access to your information. In less technical terms, it dies. Another problem is the accidental "format" in which you mistakenly reformat the disk, removing all of your data from the disk – get out of that.

As terrible as these problems sound they're certainly no more oft occurring than those that befall floppies, and you can minimise them by backing up your data onto floppies and having recovery utilities (such as Mace for the IBM) on the hard disk drive. Tape backup is another, albeit more expensive and less speedy, possibility. And none of the potential hazards reduce the convenience of hard disk storage.

So, before you rush out and buy a hard disk unit without reading the rest of my story, let's take a more specific look at what hard disk options are available to you, their advantages and disadvantages, and the associated costs.

– **Internal Drives:** An internal drive is a hard disk that is built into a computer and you wouldn't even know was there if it wasn't for that small light on the front panel which blinks when the drive is engaged. Internal hard drives make life easier if you're constantly moving the machine around or if you have limited desk space. Note: not all machine types have the capacity for an internal hard drive.

– **The Hard Card:** IBM (and compatible) users also have an option known as a hard card. Just like other peripheral cards, a hard card fits into an expansion slot inside the computer and works just like any other hard disk drive. A 20Mbyte hard card costs around £300, but another £50 will get you 32Mbyte, depending on the manufacturer.

– **External Hard Drives:** As I mentioned earlier, most hard disks are "add-on" components, sitting outside the machine. These vary in both storge capacity and price but for example, a Macintosh 20Mbyte external hard disk unit can be picked up for £995.

Which to buy?

FIRST OF ALL you're going to need a disk that will handle the quantity of data you're working with. Do a little calculating with your floppy files to see how much disk space your programs and sounds consume – and then try to estimate how much more storage space you think you're likely to need. If you're looking at a particular drive, be sure to check the cost of the next largest drive: the difference may not be much, and it could save you some heartache later on, to have additional disk space.

While no technology stays around forever, you won't have to worry about hard drives becoming obsolete for a while. They're still the industry accepted storage medium – as demonstrated by their presence in the new generation IBM PS series of machines and the monster Mac II – so don't concern yourself unduly with thoughts of impending obsolescence (that at least should make a pleasant change). If you work (or want to work) with a lot of programs and files, and you want to increase your productivity, take my advice, look over a hard disk system for your computer. ■

KORG DRM1

Digital Rhythm Module

A new multi-purpose rack mount drum module from Korg combines onboard 12-bit percussion sounds, a pad-to-MIDI converter and a basic sequencer in a cost effective package. Review by Matt Isaacson.

IMAGINE YOU'RE A drummer or percussionist who wants to make use of electronics alongside, or instead of, acoustic instruments. You aren't satisfied with the inferior sound quality and limited sound range of most drum machines, but you haven't budgeted for a sampler *and* a pad-to-MIDI converter, and you'd like to do a little sequencing besides. Where do you turn? Quite possibly, to the Korg DRM1 Digital Rhythm Module.

It's a slick-looking single rack-space black box which contains drum pad and other inputs, a sound-generation system based on sampled (ROM) drum set and percussion sounds (23 built in) and a sequencer which records and plays back sequences of these sounds. It also speaks MIDI in both directions and has a stereo mix and eight monophonic audio outputs, four front panel card slots for adding sounds or program/sequence memory, a 2X16 LCD for parameter display, a hand-held remote control and *no* AC adapter – the power supply is built in. Quite a bit for the money, really.

Sounds, Voices, Programs

THE BUILT-IN SOUNDS of the DRM1 cover the standard range of beat box drum kit and percussion sounds, and all sound pretty good. In fact, this is one of the DRM1's major strengths. They're claimed to be recorded in 12-bit format, and I have no reason to doubt it. To run down the sounds, there are: four snare drums (a "fat" studio/drumbox snare; a tight high-pitched snare; a piercing rimshot; and a deep, solid gated-reverb snare); four bass drums (a tight, punchy acoustic bass; a deep acoustic bass; one which borders on electronic; and a gated-reverb bass); snare side-stick; closed/open hi-hats; crash/ride cymbals; high/mid/low toms; cowbell; handclaps; high/low/muted congas; and high/low timbales.

I especially liked the assortment of snare and kick sounds, which helps to keep things interesting. The crash cymbal was recorded with a somewhat flat EQ for my taste and lacks brilliance when taken out of the stereo mix, but shows some real sparkle when brought out separately and EQ'd to emphasise the top end. Being ROM-based, none of the sounds are extremely long, but the critical sounds – cymbals, open hi-hat, mid and low toms – have been dealt with generously as far as recording time goes.

In addition to the internal sounds, all four of the front panel card slots can accept ROM cards available for Korg's DDD1 and DDD5 drum machines. Each of these cards may contain as many as eight sounds, adding up to a grand total of 55 sounds on line at once – although as you are about to see, you can't actually get at all of them at the same time.

The sounds are accessed via the 16 drum kit programs. Each program consists of 16 "voices", which can be thought of as cells which each hold a single sound, along with info which controls its response. For example, in program 5, voices 2-4 can all be assigned the hi tom sound, each with a different tuning, while in program 6 these voices may be doing something completely different. (These program voices are distinct from the actual *physical* voices, or voice channels, that play the sounds, of which there are twelve according to the manual.) To understand voices is to understand programs, so let's have a look at what a single voice can do.

First, each voice gets assigned one sound, either from the internal selection or from any of the cartridges. Arbitrary combinations are possible – thus, while no more than 16 sounds can be accessed from within the confines of a single program, you can create a program using the same sound in all 16 voices if you wish. Next, there are controls over the sound itself: tuning (127 steps covering a range of about an octave), amplitude decay time (15 steps), and overall sound level (15 steps including zero). You can also control where each voice goes (seven positions across the stereo output, or one of the eight individual outs). Each of these – tuning, decay, level and panning if the stereo output routing is used – can be set up separately for modulation by velocity, MIDI note number or an external pot pedal. The number of gradations of modulation sensitivity matches the number of increments in the basic setting (like the 15 for level response), and modulation can be applied in either a positive or negative direction.

I found in most cases that to achieve a full-range ►

SONUS

INNOVATIVE MIDI PRODUCTS

Atari 520/1040 ST:

Masterpiece	£150
SST	£99
MIDI + Port 'B'	Normally £50
When purchased with MP/SST	Only £35
Sonic Editor (Ensoniq Mirage)	£99
SuperScore (available very soon)	£165

Commodore 64/128:

GlassTracks	£44
SuperSequencer	£99
Standard MIDI Interface	£47
Interface with Tape Sync	£80
DX-TX 7/216/816	£80
DX-TX Digital Disks	£35
DX21/27/100 Support	£95
RX11/21 Librarian	£30
MidiTech	£60
MidiProcessor	£60
Casio P&L	£60
Casio Digital Disks	£30
Personal Musician	£60

More Products Available. Discounts on two or more.

MacIntosh Products:

MacFace (MIDI Interface)	£199

Apple Products Available.

IBM PC/XT/AT Compatibles:

DX-TX Design	£120
CakeWalk Sequencer	£99

MIDI Peripherals:

MT70 Thru Box	£50
SMX2000 (available very soon)	Around £300

No Carriage to MT Readers with this Coupon

Please send me free leaflets on:
☐ Atari ☐ Comm ☐ Mac ☐ IBM ☐ H/Ware
Please send me:

..... qty.....

I wish to pay be cheque/Access/Visa/Amex
I enclose my cheque for/Please debit my Credit Card:

No: .....£.....

Expiry Date: .....

Name: .....

Address: .....

.....

Signed: .....

Send to: Sonus International Ltd., PO Box 18,
Wokingham, Berkshire, RG11 4BP, England.
Tel: (0734) 792699.

STUDIO TECHNIQUE

Studio Technique are proud to present an entirely new library of sampled sound for the AKAI S900, EMAX, EMU II, PROPHET 2000 and MIRAGE.

Each 3½" or 5¼" disc is filled with sound painstakingly created and recorded by professionals.

THE SAMPLEMANIA I LIBRARY

SM01 Band Sounds 1
SM02 Band Sounds 2
SM03 Strings
SM04 Choirs
SM05 Clarinets
SM06 French Horns
SM07 Percussion
SM08 Drums 1
SM09 Drums 2
SM10 Drums 3
SM11 Drums 4
SM12 Oohs/Aahs
SM13 Bass Guitars
SM14 Electric Guitars
SM15 Marimba

WARNING
These are completely new and original sounds, professionally engineered by Samplemania and are not to be confused with any others available anywhere else.

SM16 Chimes/Bell Trees
SM17 Saxes
SM18 Harps
SM19 Flutes
SM20 Recorders/Wind
SM21 Trumpets
SM22 Plucked Strings
SM23 Timpani
SM24 Sound Effects
SM25 Percussion 2 (Ethnic)
SM26 Congas/Bongos
SM27 Brass
SM28 Accoustic Guitars
SM29 Keyboard Basses
SM30 Fretless Basses

PRICE £7.95 Each **FULL LIBRARY £199**

SPECIAL OFFER

BUY TEN LIBRARY DISCS GET FIVE BLANK DISCS ABSOLUTELY FREE

BLANK DISCS ALSO AVAILABLE

	1-9	10-49	50+
3½" DBL SIDE/DBL DENS	£2.49	£2.25	£1.99
5¼" DBL SIDE/DBL DENS	95p	85p	75p

ALL DISCS FULLY GUARANTEED. **ALL PRICES INCLUDE VAT.**
POSTAGE & PACKING £1.50 PER ORDER. FREE WITH ORDERS OVER £35.

SEND CHEQUE OR P.O. TO STUDIO TECHNIQUE,
27 STAMFORD NEW ROAD, ALTRINCHAM WA14 1EB.
State quantity, order ref and format required. Allow 14 days for delivery.

☎ 061-941-7025 (9am-5.30pm) FOR ACCESS OR BARCLAYCARD
ORDERS · DESPATCH WITHIN 48 HOURS · DEALER ENQUIRIES WELCOME

THE FUTURE IS SOFTWARE THE COMPUTER IS ATARI

THE SEQUENCERS

(We realise choosing a sequencer is difficult, therefore if you buy one from us and then decide you've made the wrong choice we will exchange it for a different one. Phone for details).

HYBRID ARTS SMPTE TRACK. Extremely Friendly 60 Track Sequencer Complete with SMPTE Synchroniser ..... R.R.P. £499.95
HYBRID ARTS SYNC TRACK. As Above But With Tape Synchroniser ..... R.R.P. £299.95
STEINBERG PRO 24 V3.0 Now with Simultaneous Four Track Recording, MIDI Remote Control and More ..... R.R.P. £285.00
C-LAB CREATOR. Very Musical And Well Designed Multitasking 64 Track Sequencer ..... R.R.P. £285
SYSTEM EXCLUSIVE ICONIX. Extremely Flexible 128-Track Sequencer With An Excellent Graphic Editor ..... R.R.P. £249.95
DOCTOR T K.C.S., Neat And Powerful 48-Track Sequencer. Up To 16 Songs In Memory At Once ..... R.R.P. £199.00
PASSPORT MASTER TRACKS PRO. The Famous Macintosh Sequencer. Now At Last, Available For The ST ..... R.R.P. £199.00
MICRODEAL SUPERCONDUCTOR. Simple Yet Effective 16-Track Sequencer, With Editing Facilities ..... R.R.P. £49.95

THE EDITORS

(We have editors/Libranans for all of the following, by various companies including Steinberg, Hybrid Arts, Dr T, Soundbits and Drumware. Phone for Prices).

ROLAND MT32	ROLAND D50	ROLAND ALPHA JUNO	KAWAI K3	OBERHEIM MATRIX 6
YAMAHA DX7 MkII	YAMAHA DX7 Mk I	YAMAHA TX816	YAMAHA TX802	YAMAHA TX7
YAMAHA TX81Z	YAMAHA DX21	YAMAHA DX27	YAMAHA DX100	YAMAHA FB01
YAMAHA DMP7	AKAI S900	AKAI S612	AKAI S700/X7000	PROPHET 2000/2
ENSONIQ MIRAGE	ENSONIQ ESQ1	CASIO CZ RANGE	EMU EMAX	

THE REST

HYBRID ARTS ADAP. 16 Bit Stereo Sampler 44.1. KHz. Over 1 Minute Of Sampling On A 4 Meg ST ..... R.R.P. £1,999.00
HYBRID ARTS MIDI SCORE. Up To 60 Stave Pro Scoring, Hybrid Arts Sequencer Compatible ..... R.R.P. £229.95
HYBRID ARTS EZ SCORE. Sophisticated Scoring And Editing, Hybrid Arts Sequencer Compatible ..... R.R.P. £84.95
HYBRID ARTS GENPATCH. Can Save And Load Voices To And From Most MIDI Instruments ..... R.R.P. £129.95
STEINBERG MASTERSCORE. Music Transcription And Score Writing, Steinberg Pro 24 Compatible ..... R.R.P. £373.75
STEINBERG SMP 24. Sophisticated SMPTE Synchroniser/MIDI Processor ..... R.R.P. £919.00
STEINBERG TIMELOCK. SMPTE Synchronisers For The Steinberg Pro 24 ..... R.R.P. £399.00
DIGIDESIGN SOFTSYNTH. 32 Oscillator Additive and FM Synthesiser Compatible With Most Sampler ..... R.R.P. £295.00
MIDI-DRUMMER. Turns The ST Into The Brain Of A Sophisticated Drum Machine ..... R.R.P. £39.95
DOCTOR T COPYIST. Scoring Package Compatible With Dr T Sequencers ..... R.R.P. £175.00
INTELLIGENT MUSIC 'M'. An Intelligent Aid To Music Creation. Whatever Next? Atari's On TOTP! ..... R.R.P. £135.00
IS DIGITISER. MID Sampler And Sample Editor With Looping, Etc ..... R.R.P. £119.95
ROLAND SBX-80. Industry Standard SMPTE Synchroniser ..... S/H £499.00
ROLAND MC500 SEQUENCER. The Best Stand Alone Sequencer Available ..... S/H £599.00
XR300. SMPTE/MIDI Tape Synchroniser ..... R.R.P. £199.95
XR02. MIDI Merge. 2 Ins 2 Outs 1 Thru ..... R.R.P. £64.95
XR01. Tape To MIDI And DIN (Roland) Synchroniser ..... R.R.P. £59.95
KAHLER HUMAN CLOCK. MIDI Humaniser. Make Your Sequencer Follow You For A Change ..... R.R.P. £499.00
JL COOPER MSB PLUS 8X8 MIDI Patchbay/Processor/MIDI Thru ..... R.R.P. £459.00
STAR SAMPLE CASSETTES. Drums/Percussion/Piano/Brass/Sax ..... From £25.00
3½" DS/DD Disks. Pack Of 10. Complete With Labels And Plastic Library Case ..... All For Only £15.00

ATARI COMPUTERS/MONITORS etc . . . All At The Very Best Prices
UNPRINTABLE PRICES FOR PACKAGE DEALS
AND REMEMBER *WE WON'T* BE BEATEN ON PRICE

SQUARE DANCE AUDIO

THE BAKERY, BOYER ST., DERBY, DE3 3TD.
Tel: (0332) 385021

DEMO'S BY APPOINTMENT IN OUR 24-TRACK STUDIO.
Phone for demo disks, leaflets and brochures. Mail Order Available. Send Cheques/Postal Orders to the above address or Phone with Access/Visa
Personal Tuition on any of the above Software £10 per hour.
PHONE FOR DETAILS OF OUR 24 and 16 TRACK RECORDING RATES

► modulation effect spread evenly across the full range of the modulation source itself, I had to stay in the first 10-20% of the sensitivity range. For example, with note-number modulation of tuning set to 12, a sound plays in a normal chromatic scale tuning from a MIDI keyboard over the maximum one-octave range. The remainder of the sensitivity range up to 127 quickly compresses the modulation to a point where only the lowest and highest tunings are heard. Subtle modulation effects are particularly hard to achieve where modulation sensitivity is set in 15 or fewer steps.

Rounding out the sound controls is the phase parameter, which imposes a slight time delay on a voice. This produces no audible effect on its own, but when two otherwise identical voices are layered together, the time delay results in a phase-shifted sound, which becomes a flanging effect if one of the voices is also detuned slightly. Sorry – no modulation of the phase setting is available.

Sadly, the tuning system of the DRM1 is not up to the quality of the sounds themselves. Evidently it uses the drop-sample method in which increasing numbers of data words in a sound are skipped over in a periodic way during playback in order to raise the pitch. Sounds are played back without sample-dropping and its attendant distortion only at the very bottom of the tuning range. This distortion is scarcely detectable in snare, kick and related sounds. On cleaner sounds, such as toms and congas, it appears as a ringing not unlike the clock noise heard on samplers at the bottom end of the transpose range. It's more or less subliminal except when one of these sounds is played in isolation. So, for these sounds it works passably well to have the "natural" pitch near the middle of the tuning range.

With cymbals however, any amount of transpose creates very noticeable distortion – beyond the first quarter-tone or so, the sound is only usable as a special effect, and is in sharp contrast to the clarity of the untransposed cymbals. Not surprisingly, the natural pitch of all cymbal sounds is at the bottom of the transpose range, and the factory programs are almost totally devoid of transposed cymbals. The unfortunate outcome is that your ear becomes jaded to these basically very nice but unvarying sounds. Also, the lack of any pitch-bending effect on the DRM1 is probably a result of the way in which it would highlight drop-sample distortion.

Dynamic filtering and reverse playback of sounds, features commonly found on samplers, are not present here, although the DRM1 provides control over voice channel allocation to a degree which puts many samplers to shame and is indeed another of its strong points. As mentioned above, each voice can be directed to any of the

Programs *"The programming scheme allows effortless mapping of voices to MIDI channels, or arranging of multiple sounds across a keyboard."*

eight monophonic outs, in which case it disappears from the stereo mix out. If routed to the stereo mix, however, each voice can be separately set up in poly, mono or exclusive mode. These labels are confusingly reminiscent of MIDI terminology, but in fact accurately describe the way each mode works.

In mono mode, a voice appears only once at any time in the mix. If you play a mono voice twice in rapid succession, the sound of the first hit will be cut off and replaced by the sound of the second. In poly mode, on the other hand, both hits (up to 12, in fact) would be allowed to play at the same time. When applied to cymbals, toms and snare drums (or almost any percussion sound when played rapidly enough) poly mode eliminates one of the most irksome limitations of drum machines. Finally, exclusive mode functions like a mono mode that extends across all voices set up for that mode, such that only one of these voices can play at any one time. This is typically used to cause the closed hi-hat to cut off the open hi-hat, or the muted conga to cut off one of the other conga sounds.

Voice Triggering

HAVING SET UP all other aspects of the voices, the creation of a program is completed by setting up the details of voice triggering. The MIDI side of this is simple and powerful: for each of the 16 voices in a program pick a MIDI channel and a base note number, then set an upper limit note number which can be anywhere from 0-12 semitones above the base note. That's it. The upper limit determines how many different note numbers (or keys) will trigger that voice. For example, at the maximum setting of 12, any note between the base setting of C3 (MIDI Note 60) and the upper limit of C4 (MIDI Note 72) could trigger a snare sound, with different note numbers creating different modulations.

This programming scheme allows effortless mapping of voices to different MIDI channels, or arranging of multiple sounds in any desired fashion across a single keyboard, including zone overlaps and very deep layers, and almost any sort of velocity or positional crossfade you can imagine. Remember that note number is a variable modulation source for tuning as well as other parameters, not a hard-wired semitone stepper as is the case with most samplers. Across a dozen note numbers or keys, a sound can play at the same pitch or at very gradually increasing or decreasing pitches, as well as the more familiar chromatic steps. By layering four voices onto the same set of keys, it can even do all of these things at once.

And pads. For each voice you can select a pad input which will trigger that voice. Each assignment of a voice to a pad is either as a main voice, which the pad will normally trigger, or as a sub voice, which the pad will trigger instead of the main voice when footswitch or velocity-switch options are activated. Optionally you can have many main and sub voices per pad, subject to the limit of a total of 16 voices for each program. A modest two main voices on a pad allows for flanged sounds (as described above), layered sounds and velocity crossfading. Naturally, none of these effects can be used through a single mono output. There are only seven pad inputs, so you may find yourself using these multiple assignments more than you might expect. Voices can also be assigned to no pad – so that they are only triggerable over MIDI – or else just to get them out of the way.

Overall, the pad/voice system of the DRM1 is flexible and powerful, particularly in that the MIDI channel and note number settings for each voice are also used to generate MIDI output from pads – including layering and main/sub switching in response to footswitch or velocity (although other voice modulations are not echoed over MIDI). The presentation of pad assignment as a parameter of each voice, however, rather than the other way around (voices assigned as a parameter of each pad), although logical, can be confusing when program editing. There's no way to see at a glance which voices are assigned to a given pad, or which voices are not assigned to any pad. You see this information for but one voice at a time, and despite the size of the display, you must switch to a different screen to confirm which sound that voice is playing. Because there is no fixed number of voices that can be assigned to a pad, there is no way that the DRM1 can allow you to select a voice for editing by merely hitting its pad – you have to select that voice by hand. But if the same sound is assigned to multiple voices in the program, you ►

► will also have to step through all the pad assignments to make sure you're working on the voice you wanted. The possibilities are great, but it is neither quick nor easy to set up.

The Sequencer

THE DRMI'S SEQUENCER is aimed fairly and squarely at the drummer, *not* the programmer/composer. Although called patterns, sequences are clearly meant to be dealt with as complete pieces – there are only 16 with no provision for chaining them together. Recording takes place on a single track, as with drum machines, with input accepted from either pads or MIDI. Events are time-

Converter *"The pad/voice system is particularly flexible in that MIDI channel and note number for each voice are generated from the pads."*

corrected as they are recorded, with resolution selectable in 10 steps from quarter-notes to 1/48th of a quarter-note. The position counter counts up in absolute quarter-notes, not bars and beats. Apart from copying an entire sequence, all editing is done while the sequencer is rolling. When you get to the desired point, you hit Yes to start erasing selected voices or deleting quarter-note pieces of the sequence, then hit No switch to stop. Mid-sequence tempo changes are inserted and erased in a similar way. To make this quicker, it is possible to hand-cue to the desired point. Unfortunately, there is no visible indication that the edit function is active.

While recording, an optional metronome counts off quarter-notes, with optional accenting every 2-8 beats. By stepping the position counter down into the negative range, a pre-recorded count-in of arbitrary length is set up – an irritation is that it must be re-specified each time recording is started. A separate tap-tempo footswitch input lets you control tempo while record/playback is in progress by tapping it out with your foot, and can also be used to tick off the record count-in manually, establishing the initial tempo in the process.

Interestingly, the sequencer records voice events, not sounds. If you select a new program after recording a sequence, it'll sound different when you play it back. While this does permit you to retune, replace and otherwise modify the sounds of a sequence through program edits, it also means that sequences cannot use more than 16 sounds at once, and that you cannot sequence one set of 16 sounds while playing live from a different set of 16. This being the case, it would be nice to be able to record program changes into the sequence but, alas, this is not possible. The sequencer refuses to record or play back MIDI events corresponding to keys on which nothing is mapped in the current program, but you can create a dummy voice for this purpose by mapping in a sound from an empty card

Sequencer *"The sequencer is not suited to serious recording or composing, but to rhythm pattern experimentation or rhythm accompaniment."*

slot, and thereby be able to sequence external MIDI gear without doubling the external part with the DRMI's own sounds.

Although it's not mentioned in the manual, the capacity of the sequencer seems to be about 2300 events – not a generous allocation, although patterns can be looped. Overall, the sequencer is not well-suited to serious recording or composing use, but it is just fine for rhythm pattern experimentation, rhythm accompaniment, or giving the drummer a chance to get out from behind the pads and do something else for a spell.

Other Controls

SENSITIVITY, TRIGGER THRESHOLD level and trigger inhibit time are adjustable per pad input – the DRMI is compatible not only with any type of pad, but with audio signal triggering as well. Each pad can also be set to switch between its main and sub voices at one of 16 velocity thresholds. While useful, this would have been much more so had it been included as part of each program instead of being a fixed property of each pad, especially as you'll have to program around it in all the presets where you don't want it. As a bizarre twist, each pad can also be programmed for sequencer start/stop, continue/stop, or pattern up or down – this is strictly for those who are satisfied with actually playing six pads or less, although most drum pads are rather expensive to be dedicated to what is essentially a footswitch function.

The footswitch can do a number of useful things: sequencer start/stop, continue/stop, pattern up or down, program up or down, momentary or alternating main/sub switching on a single pad (although not all pads at once), triggering of a single voice (not pad) at a fixed velocity, and execution of sequencer real-time edits. It's really a shame there aren't two or more footswitch inputs, although as with pad inputs, there simply isn't any empty space left on the back panel for more.

The pot pedal can be used either as a tempo control for the sequencer or as a modulation control for one voice (don't be fooled by the ability to set up pedal control in each voice – only one voice gets it at a time). It affects only live voices, not sequenced ones, a helpful touch when playing along with a sequence. Finally, there is Omni on/off and base channel select for MIDI program changes, transmit and receive enable/disable for program changes, notes messages, system real time (start, stop, clock), system common (song position pointer and song select), as well as a global gate time adjustment of 0-512msec for transmitted note messages, obscurely referred to as Distance Time. Patterns and programs can be named, and can be saved and loaded using MIDI system exclusive transfer, or to and from an optional RAM card which can be plugged into card slot 1 – but which the manual claims is "not available". Puzzling.

Verdict

IN SPITE OF its flexible programs and voice modulation capabilities, the DRMI has many imperfections. The major ones have been discussed – to this I will add, at risk of repetition, that the editing screens are not structured as well as they could be, and this brings a substantial fatigue factor into the programming process. Along these lines, I really don't consider a hand-held remote control with three-dozen tiny buttons to be the ideal front panel, especially since you really can't read the display from across a big room, and if the remote is lost or crunched (which could happen on the road), there's no way to control the DRMI. However, it is one of the keys to the size and low cost of the system though I'm sure that many users would have appreciated the inclusion of a large two-digit LED readout for drum set program numbers.

All in all, though, the DRMI is a fairly full-featured unit which sounds good, is reasonably priced and is particularly well pitched for the drummer or percussionist taking those first steps into the realm of MIDI and electronics. ■

Price *£749 including VAT*
More from *Korg UK, 8/9 Crystal Centre, Elmgrove Rd, Harrow, Middlesex HA1 2YP. Tel: 01-427 5377.*

VESTAFIRE MULTI-TRACKS

FIRST CHOICE FIRST TIME . . . FIRST CHOICE SECOND TIME

Whether you're buying your first personal 4-track or up-grading your system, VestaFire must be your first choice.

The MR-30 is the lowest priced 4-track on the market, its ease of use makes it the perfect machine on which to start multi-tracking.

The MR-10B on the other hand, with its comprehensive mixer section and large range of input/output options, is a machine on which you can unleash your production skills.

The MR-30 *The MR-30 features*
Dolby B noise reduction
3-band graphic equalizer
$1\frac{7}{8}$ inches/sec tape speed
(compatible with standard stereo recorders)
4-channel mixer
Includes 15v power adaptor

The MR-10B *The MR-10B features*
DBX noise reduction
Pitch control
Remote punch-in/out
4-channel mixer with 4 VU meters
Aux-in with pan and level controls
Includes 15v power adaptor

series MR

Vesta FIRE

For detail of your nearest Vestafire stockist contact exclusive distributors:
J & I Arbiter Ltd., Unit 8, Eldonwall Trading Estate, Staples Corner, Priestly Way, London NW2 7AF
Tel: 01-208 0022
Send SAE for brochure of the full Vestafire range.

SELL IT FOR NOTHING

with a free classified ad in Music Technology

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

AKAI MX73 mother kbd, 6 octaves, semi-flight case, £395 ono; Korg KMS30 MIDI synchroniser, £100 ono. Tel: Manchester 061-861 9927.

ARP PRO SOLOIST, analogue classic, £75 ono. Tel: 01-582 5496, eves.

CASIO 230S, multitimbral MIDI synth with drum machine, £195; JHS reverb, £50. Tel: (0634) 65271 (Kent).

CASIO CT202, 49 presets, boxed, £90; Roland MC202, mint, £90; Jen SX1000, £60. Simon, Tel: (0707) 323028.

CASIO CT6000, stand, MIDI, digital seq, 5-oct, chord memory, auto-accompaniment, £425 ono. Tel: 01-591 0866.

CASIO CZ1 and stand, £650 ono; Korg DDM110, £90 ono; SCI Pro One, £120 ono, immac, ungigged. Matt, Tel: Aylesbury (0296) 625564.

CASIO CZ1, Yamaha DX100, Roland TR505, mint and boxed, £1100 or offers. Tel: Scunthorpe 869552.

CASIO CZ101, good cond, manuals, adaptor, £130. Kevin, Tel: Bracknell (0344) 481309.

CASIO CZ101, perfect cond, boxed, manuals, leads, psu, as new, forced sale, hence £199. Tel: (0279) 31337.

CASIO CZ101, boxed, manuals, psu, home use, £170 ono. Matthew, Tel: 01-446 4528, after 5pm.

CASIO CZ3000, SZ1 seq plus cartridge, perfect cond, boxed, £420. Simon, Tel: (0375) 67444.

CASIO CZ3000, as new, boxed, manuals, £320. Tel: (086 96) 6617, eves.

CASIO CZ5000, as new, kbd stand, combo amp, extras, £650. Mark Price, Tel: 061-794 1195 after 7pm.

CASIO CZ5000 multitimbral MIDI polysynth with 8-tr seq, £400 ono. Tel: Leeds (0532) 589449.

CASIO CZ5000 multitimbral synth, 8-tr seq, boxed, as new, manuals, £475. Alan, Tel: 01-654 7472.

CASIO HT700 mini synth, boxed, manuals, swap Casio CZ230S (only), or sell £250. Michael, Tel: 01-859 1623.

ENSONIQ ESQ1, latest software, E2PROM cartridge, perfect cond, £850. Dave, Tel: Nottingham (0602) 507033.

ENSONIQ ESQ1 2.3 plus cartridge, £900; Tascam Porta One, £300, as new. Tel: (0272) 730730.

ENSONIQ ESQ1, home use only, seq expansion cartridge, STC-80 RAM, Executive Audio ESX-320 ROM, f/case, cost £1564, accept £925. Tel: Bristol (0272) 629068.

ENSONIQ ESQ1, f/case, RAM, £875; Prophet VS, £999; 8-tr equipment, drum machine, etc. Tel: (0494) 448457.

FENDER RHODES Stage 73 Mk1, £195. Tel: Haverhill (0440) 61258 (Suffolk).

JEN SYNX508 programmable polysynth, on-board seq, £250 ono; Yamaha DX27, psu, £350 ono, £550 for both. Exc cond. Tel: (0742) 757757.

KORG DW6000, very versatile, mint cond, £415. Tel: 01-855 5854.

KORG DW8000, £650, as new, manuals, etc, or part exchange for CZ1. Tel: 01-388 9265, eves.

KORG DW8000, £595 ono; Yamaha TX7 module, £350, home use. Tel: 061-429 9323.

KORG DW8000, exc cond, boxed, manuals, ungigged, £680. Tel: Westbury (0343) 864029.

KORG DW8000, £680; Casio CZ101, psu, 64-voice RAM, £230; Yamaha CX5, large kbd, SFG05 16-tr seq, £299; Yamaha RX11, £299. All home use. Tel: (0280) 815594.

KORG MS10 monosynth, patchbay, £75; Powertran DDL expanded to 0.8 secs, £75. Tel: (0323) 31467.

KORG MS20, perfect cond, patch leads, manuals, £150 ono. Tel: Cardiff (0222) 495949, 4-7pm.

KORG MS20, £100; Optonica Hi-fi rack, £70 or possible p/x digital delay, CZ100 or Poly 800. Tel: (0256) 87294.

KORG MS20/MS50, exc cond plus patch leads, £190 or £100 each. Steve, Tel: (0923) 33412.

KORG POLYSIX, custom-built hard f/case, £280; Crumar electric piano, dynamic, exc cond, velocity sens, £140. Tel: Tyneside 2521662.

KORG POLYSIX, £280; Sequential Pro One, in case, £120; Yamaha RX21L, boxed, £110. Tel: (0257) 452303.

KORG POLY 800, exc cond, boxed, manuals, on-board seq, ideal starter kbd, £225 ono. Peter, Tel: 01-607 3471.

KORG POLY 800 synth with built-in seq, manual, psu. Tel: Glasgow 041-776 4975.

KORG TRIDENT MK2, 8-note poly, powerful sounds, split kbd, home use, stand, £300. Tel: (0227) 262771.

MEMORYMOOG, vgc, extras, reluctant sale, £900 ono. Andy, Tel: (0440) 704368, eves only.

MINIMOOG MODEL D, good cond, rare, black case, recently serviced, £375 ono. Tel: (0452) 26910.

MOOG OPUS III, polyphonic strings and synth. Darren, Tel: 01-648 8713.

MOOG PRODIGY monosynth, good lead sound, £65. Tel: Colchester (0206) 867863.

PPG WAVE 2.2 version 4 with 2.3 updates, sampled waveforms, real time additive synthesis, £1100 or p/x sampler. Tel: (03917) 2937 if serious.

ROLAND ALPHA JUNO 1, boxed, as new, home use, perfect cond, £465. Tel: 01-455 1224.

ROLAND ALPHA JUNO 1, £300; Roland TR707, £280; Yamaha QX21, £150; Scholz Rockman, £150. Jacques, Tel: 01-278 2639.

ROLAND ALPHA JUNO 1, boxed, manuals, home use, ungigged, £400. Tel: Westbury (0373) 864029.

ROLAND D50, immac, guarantee, quick sale, £1100 ono. Frank, Tel: 051-644 6842.

ROLAND JUNO 6, home use, immac, £260 ono. John, Tel: Gravesend (0474) 323404.

ROLAND JUNO 6, Yamaha DX21, breath controller, manuals, sounds, stand, £650, can split. Tel: (0243) 375475 (Hants).

ROLAND JUNO 6, home use, £225 ono; Torque reverb unit, 19" rack, £60. Steve, Tel: (0904) 54282, after 6pm.

ROLAND JUNO 60, £299 ono; TR808, manual; MC202, £95 ono, as new. Tel: (0908) 661174.

ROLAND JUNO 60, immac, MIDI retrofit, £499 ono. Tel: (0909) 486971.

ROLAND JUNO 60, ungigged, £265; Roland VK1 Drawbar with Leslie attachments, £150; SPA 120, £120. Tel: Southend (0702) 337817.

ROLAND JUNO 106 plus £150, swap for Roland S10. Tel: (0325) 465812.

ROLAND JUPITER 6, MIDI, great sounds, just serviced, vgc, cased, £595 ono. Vince, Tel: (0296) 22859.

ROLAND JUPITER 6, f/case, £700; JX3P, £400; Pro One, £150; DDM220, £80. Lewis, Tel: Cardiff 24770, after 4pm.

ROLAND JUPITER 6 with flight case, in very good condition, accept £500 or will swap for Yamaha DX7 synth with a cash adjustment. Tel: (0727) 57251.

ROLAND JX3P polysynth with PG200 programmer, £290, you collect. Kev, Tel: 01-274 9487.

ROLAND JX3P with PG200 programmer, cased, immac, £450 ono. Stuart, Tel: Gosport (0705) 527532.

ROLAND JX3P, £400; Prophet 600, £400 or swaps CZ1? Tel: Dewsbury (0532) 453174.

ROLAND MC202, mint, with manuals, home use, £75 ono. David, Tel: 051-427 1251.

ROLAND MKS30 synth module, £250; Yamaha YMC10 MIDI converter, £65. Tel: 01-994 9415.

ROLAND PG1000 programmer (for D50 synth), complete, boxed. £250. Mark, Tel: Eastbourne (0323) 22272.

ROLAND SH101, built-in seq, perfect working order, £90, can post COD. Darryl, Tel: (0656) 720321.

ROLAND SH101 synth, exc cond, £90 plus Roland MC202 seq, £80. Tel: Camelford 770482.

ROLAND SH101 with handgrip and strap, good cond, £80. Ian, Tel: (0635) 68428.

SEQUENTIAL PROPHET VS, the ultimate synth, no serious offer refused. Julian, Tel: (0773) 712664.

SEQUENTIAL PROPHET 600, exc cond, boxed, manual, £560. Tel: Manchester 061-223 0239.

SHARMA 900 LESLIE, exc cond, 100W plus leads, quick sale, £185. Tel: (0706) 30271, eves.

SIEL DK80 programmable poly, MIDI, keysplit, velocity sens, cash crisis forces sale, £300. Jon, Tel: (0794) 23178.

SIEL DK80 polysynth, 2-track seq, home use, boxed, £340. Gary, Tel: 01-523 0414.

TECHNICS PX1 grand piano, wooden keys with hammer action, stand, pedals, f/case, £1500 ono. Tel: 01-866 2491.

TECHNICS SXK700, brand new, includes own seq, drums, edit, speakers, stand, £750. Tel: 01-254 0678.

TRANSCENDENT DPX, polyphonic, touch sensitive, £100; synthesiser, 5-oct kbd, seq, amp, speakers, £250. Tel: (0842) 62236.

VOX CONTINENTAL 2 double manual and DX7, offers, or swap for kbd sampler. Chris, Tel: 01-681 6736.

YAMAHA CP80B electric grand piano, immac, home use only, £1000 ono. Tel: 01-267 5861, eves.

YAMAHA DX7 Mk1, mint, ungigged, pedal, ROMs, £800; Wanted, Polymoog/Multimoog. Tel: Reading (0734) 668709.

YAMAHA DX7, 2 ROMs, 1 RAM, immac, home use, plus 6-ch mixer, 5mths old. Tel: (0908) 315898.

YAMAHA DX7, 2 ROMs, 1 RAM, home use only, £695. Tel: (0582) 597462.

YAMAHA DX7, aluminium f/case, breath controller, ROMs, sustain pedal, plus TR505, MSQ100 and £100 for E-mu Emax kbd. Paul, Tel: (0759) 72094.

YAMAHA DX7 with f/case, home use, £699. Tel: (0980) 611043 (Salisbury area).

YAMAHA DX7, boxed, as new, £675; CX5M, kbd, ROMs, £190. Tel: (0959) 77203, after 7pm.

YAMAHA DX7, manual and breath controller, 2500 voices, editing programmes, £700. Tel: (0458) 31444.

YAMAHA DX21, beautiful condition, boxed with manual, absolutely mint, 1yr old, home use only, £450. Tel: (0223) 314561, eves or weekends.

YAMAHA DX21, superb cond, boxed, manuals, never gigged, includes f/case, £425. Tel: Westbury (0373) 864029.

YAMAHA DX21, mint, boxed, manuals, hardly used, £450. Tel: (044 46) 47017.

YAMAHA DX21, £425; Casio CZ101, £160; Korg SQD1, £290; Roland TR505, £160, perfect. Tel: Leeds 638965.

YAMAHA DX21, CX5M, Casio CZ101 plus cash, swap for Ensoniq ESQ1. Tel: 061-231 6254.

YAMAHA DX21, £349; Yamaha RM602 mixer, £99; Roland TR505, £149; SX5 MIDI switch, £45. Tel: 01-777 2372.

YAMAHA DX21, mint, £420 ono; Casio CZ101, psu, RAM, £200 ono; CX5M, with SFG05, 3 carts, £250. Tel: 01-977 9531.

YAMAHA DX21, mint cond, hard case, manuals, leads, tape, only £450. Tel: Leeds (0532) 612105.

YAMAHA DX100, home use only, guaranteed, boxed, manuals, adapter, £220 ono. Tel: (0253) 712404, after 6pm.

YAMAHA DX100, 4 operators per voice, 192 presets, 24 user, MIDI, £200 ono. Glenn, Tel: (039 17) 71265. Whenever!

YAMAHA DX100 and adaptor, hardly used, need money for travel, £250 ono. Tel: (093 287) 4405 (Surrey).

YAMAHA FB01, 8-voice multitimbral FM expander, exc cond, £150. Steve, Tel: (0784) 253475.

YAMAHA KX76, Akai S900, Roland MT32, Roland DEP3, Atari 1040 ST with Steinberg Pro 24, Yamaha TX81Z, MT2X, all boxed. Tel: (0273) 562925.

YAMAHA MB50 multi-organ, immac, £775 ono; Roland Alpha Juno 2, boxed, immac, £560. Tel: Preston (0772) 323303.

YAMAHA PSR70 kbd, home use, mint, manuals, boxed, £440. Geoff, Tel: (0924) 271101.

YAMAHA PSR6300, exc cond, still boxed, cost £1295, accept £900. Tel: Hull (0482) 42461.

YAMAHA TX802 tone generator, new,

NOMAD BASSMAN

A totally new product. Designed 'by' Bass Guitarists 'for' Bass Guitarists. A rack-mounted processor containing the best octaver for bass ever designed (tracks down to bottom F). We have built in a compressor, variable gate, chorus, flanger, phaser, active cross-over (frequency selectable) with separate outputs for both. All this and more in a noise-free, studio spec unit. 4,000 people saw, heard and felt the bass from the Nomad Bassman at the Guitarist Show. **£399 + VAT.**

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.

SOME OF THE CURRENT BEST SELLERS

AKAI S900, AKAI S700, AKAI MG14D, YAMAHA SPX90II, YAMAHA RX5, YAMAHA RX17, YAMAHA MT2X, DRAWMER LX20, ALESIS MICROVERB, ALESIS MIDIVERB II, FOSTEX E16, TASCAM 38, FOSTEX MODEL 80,DIGITAL MASTERING SONY PCM501, STEINBERG PRO 24, AND ATARI 1040, YAMAHA DMP7, FOSTEX X30, YAMAHA REX50, YAMAHA REV5, ALESIS DRUM MACHINE.
CASIO FZ1 SAMPLING KEYBOARD.

THE AXXEMAN'S HERE! AT LAST A FULL STUDIO SPEC. RACK MOUNTED GUITAR PROCESSOR WITH CHORUS, OVERDRIVE, COMPRESSION, GATE, ADT, PLUS FILTERS, ALL IN GLORIOUS STEREO. GUITAR AND LINE INPUTS. IT NEEDS TO BE HEARD TO BE BELIEVED. ONLY **£260.**

SPECIAL OFFER COMPUTER PACKAGE

LIMITED OFFER
Atari 1040 plus monitor plus Steinberg Pro 24 or C-Labs plus Nomad SMPTE MIDI Generator ..... £799 + 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 will be 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 will 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)

For anyone interested in producing, these classes will present a unique opportunity. Tickets are £35 + VAT each, details of dates and timetables are available from the organiser — Paul Tingen on 01-249 1876 or from 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 as 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 Model 80	£999
Fostex B16 inc New Heads fitted by us	£2,700
Sony PCM 501 Digital Mastering, New	£495
Seck 12-8-2 Mixer	£750
Fostex A80 8 Track (Mint) with Remote	£1,125
AHB Keymix, 16 Track Computer System, Automates Any Desk	£750
Seck 18:8:2	£1,150
Bel BDE3200 32 sec/.99 Window Sampler, silly price	£900
Audio Logic 1900 Millisecs, Full Band Width DDL	£160
32-way Patchbays, New	£30
Boom Stands, New	£18
Sennheiser Headphones	£17
Microverb	£175
Icon 6/2 mixer — mic/line, send/return plus EQ, ideal sub mixer, for drums/effects, etc	£99
Drawmer DS201/Dual Gates	£250
Yamaha RX5	£699
8-Track DBX Noise Reduction	£325
Akai ME30P MIDI Patchbay	£99
MXR 31 Band Graphic	£150
Alesis Midiverb II	£299
Nomad Audio to MIDI trigger unit (triggers any sampler or drum machine)	£99
Fostex A8 plus 350 Mixer	1,199
Fostex E16	£3,500
ART Pitch Transposer	£450
ART Flanger Doubler	£175
Tascam 38, Mint	£1,199
Drawmer Multi-Tracker	£225
Fostex Spring Reverb	£75
Linndrum (LM1)	£499
Tascam 48, As New, Silly Price	£1,599
Yamaha R1000 Digital Reverb	£125
Dynacord Digital Reverb	£135
Oberherm DPX1 Sampler Player	£950
Sony PCM701 Digital Mastering	£699
Tascam DX4D Noise Reduction (X2)	£150 each
Yamaha SPX90 II	£475
Fostex Model 80 (new heads) plus Ram 10-4-8	£1,500
RSD Series II 16-16-2	£2,750
Tascam 225 Syn Cassette	£150
Tascam 3340	£399
"Escape from New York" — And the Alesis Drum Machine Gets Through	

SPECIAL NEW YEAR DEALS

Fostex Model 80 plus Seck 12-8-2
Plus Scintillator £2,085
Tascam 38 Plus Seck 12-8-2 £2,450
All Prices Exclude VAT

Thinking of buying a Porta Studio? See Page 21

(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 £3,999 + 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!!

It's nice to see so many other retailers copying our style of ads. (What they don't realise is that the service is what makes us the best — not white boxes on a coloured background!)
How many look-a-likes can you spot in this issue. Score one point for every one. (Similar colours count double!)

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.

• FULL CREDIT FACILITIES AVAILABLE • MAIL ORDER • INSTANT CREDIT (UP TO £1,000) •

Thatched Cottage Audio

Telephone (0223) 207979 VISA

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

boxed, guaranteed, £900, no offers. Tel: (0206) 41356.
YAMAHA TX816, £1750; Yamaha QX21 sequencer, £600; DX7 and 4 RAMs plus 500 sounds. Tel: 01-567 5336 or 04946-3984. **YAMAHA VSS100**, £110; Casio MT60, £60; Yamaha CS01, £35; Drum machine, £25. Tel: (0621) 860726.

Sampling

AKAI S900, £1299; Casio FZ1, £1199; Yamaha CP80 and f/case, £999; Yamaha DX7, £649; KX1, £749. Tel: 051-722 6084.
AKAI S700, 6mths old, offers. Delivery possible around Manchester. Paul, Tel: 061-303 2915 or 061-338 8105.
AKAI S700, £625; Microverb, £165; Roland TR505, £165; Roland MC4B sequencer, £120 ono; Roland Bassline, £45. Tel: (025 76) 2609.
AKAI S612 and MD80 plus disks, very little use, £320. Tel: 01-997 0549.
AKAI S612 sampler, new, boxed, £425 ono, 20 disk library. Stuart, Tel: Gosport (0705) 527532.
AKAI S612, £340; DX100, £215; Spectrum plus Specdrum, £45. Laurence, Tel: 01-950 5543 (work) or 01-434 1365/6.
AKAI S612 sampler, £350; Carlsbro Cobra 90W kbd combo, £150, both exc cond. Tel: 061-705 2534.
AKAI S612, £400; Cheetah kbd, £50; Yamaha RX15, £185; Ibanez HD1000, £130, perfect. Geoff, Tel: (0634) 48165.
CASIO FZ1, month old, software, £1150; Roland SH2, £95; Vestafire MIDI/CV converter, £65. Tel: (0202) 427901.
CASIO SK100 sampler, £135; Korg KPR77 drumbox, £85; Fretless bass, £55 ono. Dave, Tel: Leeds 691532.
ENSONIQ MIRAGE, updated operating system, f/case, £720; Roland Super Jupiter, £520 ono. Tel: (0342) 87498.
ENSONIQ MIRAGE rack unit, 20 disks, home use, £750. Tel: (07875) 3450.
EMULATOR 2, £2995; Prophet VS, £995; E-mu SP12, £1095; Atari 1040, monitor, £475. Tel: 01-462 6261.
E-MU EMAX kbd, £1625; Alesis drums, £370; Alesis seq, £240; Barcus Berry Enhancer, £220. Tel: 01-229 2723.
ENSONIQ MIRAGE, MASOS, plus 25 disks, mint, £690 ono, or swap for VS plus my cash. Tel: (0294) 823691.
ENSONIQ MIRAGE rack unit, guaranteed, plus library, £795; Roland MKB200 mother kbd, £330. Tel: (0286) 77205.
GREENGATE DS:3 sampler/seq, MIDI, looping software, Apple IIE, disk drives, exc cond, bargain, £575. Tel: (0602) 411185.
GREENGATE DS:3D sampler/seq, Apple II+, drives, monitor, MIDI, latest software, library, £695. Ashley, Tel: 01-723 5842, eves.
KORG DSS1, disks and semi f/case, £1195. Mike, Tel: 01-470 7612.
ROLAND S50 sampler, software updated version (2.00), 20 disks, home use, £1400. Tel: (0324) 482348.
ROLAND S10 and rack S10 (MKS 100, great combination, 100 disk library! £990. Tel: Southend 529745.
SEQUENTIAL PROPHET VS, f/case, perfect cond, £1600 ono. 01-724 4955.
SEQUENTIAL PROPHET 2000, updated memory and d/drive, f/case, 40 disks including Fairlight, sounds, perfect, £1800 ono. Craig, Tel: 01-348 4761.
SWAP MY PROPHET V for your DX7. Dan, Tel: (0424) 422721, after 6pm.

Sequencers

CASIO SZ1 seq, exc cond, boxed, manual, psu, £110. Tel: 01-281 4498.
EMS-KS with step-time/full transpose/ clock input modification by EMS, £150 or offers. Tel: (0670) 854680.
KORG SQD1 seq, 10 disks, £350 ono; TR707 drum machine, £325 ono. Jeff, Tel: 021-373 8964.
KORG SQD1 MIDI recorder, 15000 notes, disk drive, £300; Revox B77II HS, £900. Tel: Darlington (0325) 466826.
ROLAND MC202 microcomposer, cheap but cheerful, useful, boxed, manual, demo tape, psu, £80. Tel: (0223) 314561.
ROLAND MC202 microcomposer, bargain, £70 inc UK p&p, must sell urgently. Mark, Tel: (0663) 43388, after 5.30pm.
ROLAND MC202 2-track micro-composer, built-in SH101 synth, inc manuals, £70 ono. Russ, Tel: 061-799 5382.
ROLAND MC202, exc cond, boxed, manuals, offers? Also Boss PC2 percussion synth, £20. Tel: 01-946 1644.
ROLAND MSQ700, perfect, £300; TR707, studio use only, £300; Sequencer plus III, IBM compatible. Tel: Wakefield (0924) 366754.
YAMAHA QX5 seq, immac, £350. Rob, Tel: (0272) 732211, X2202 days, or (0272) 562329, eves.
YAMAHA QX7 MIDI seq, £120 inc delivery in London if required. David, Tel: 01-769 8284.
YAMAHA QX7 MIDI seq, boxed, manual, mint cond, £130 inc p&p. Mark, Tel: (0663) 43388, eves.

Drums

E-MU DRUMULATOR, 64 song, separate outputs, mint, £250; Yamaha RX21, mint, £120. Kris, Tel: (0256) 20455.
KAWAI R50, used once, 4mths old, immac, boxed, as new, £240 ono. Tel: 01-889 6892.
KORG DDD1, exc cond, under guarantee, band split causes sale at £550. Tel: Westbury (0373) 864029.
KORG DDM110 digital drums, manual, exc cond, £80. Tel: (0223) 314561.
KORG DDM220 digital percussion, psu, stereo outputs, perfect, boxed, as new, £65. Tel: 01-552 2951.
MPC DRUM MACHINE and pads, stands, leads etc, Spectrum interface, immac, £325. Andy, Tel: 051-647 3272.
MPC PERCUSSION COMPUTER, ZX81 interface, £100; Powertran Vocoder, needs attention, offers. Tel: Crowborough (0892) 663838.
PEARL MAXWIN 5-PIECE plus rototoms and Pearl cymbals, exc cond, £280 ono. Tel: 061-789 1833.
ROLAND TR505, as new, manuals, leads etc, £190. Tel: (0734) 782408.
ROLAND TR505, perfect cond, home use, boxed, leads, manuals, £200. Mike, Tel: 01-948 5763.
ROLAND TR505, mint, £175. Jon, Tel: 01-734 4257, days or 01-603 4907, eves.
ROLAND TR505, exc cond, £180 or exchange for Carlsbro 45W kbd amp. Tel: 01-204 7981.
ROLAND TR606, exc cond, inc case, batteries, offers? Rob, Tel: Eastleigh (0703) 615903, eves.
ROLAND TR606, programmable, manual, carry case, home use, £60. Paul, Tel: (0732) 356612, eves
ROLAND TR707, exc cond, manuals, £325. Ric, Tel: Edinburgh 031-668 3911.
ROLAND TR707, immac, £275; Tannoy Stratford monitors, mint, £125; MIDIVerb, £245. Tel: Bristol (0272) 777345.
ROLAND TR707, exc cond, home use, boxed, with manuals, £350 ono. Jason, Tel: (0865) 770669.
ROLAND TR707 drums, £250; CZ101, SZ1, £250; VHS Hi-fi, superb machine, £450; Ampex ¼" used reels, £4 each. Tel: (052 55) 5126.
ROLAND TR707, £280; Equaliser pedal, £30; Roland Juno 1, £300; Telecaster 1969, £250. Jacques, Tel: 01-278 2639.
ROLAND TR707, home use only, £325. Tel: (055 385) 497.
ROLAND TR707, £325 ono; Korg DDM220 percussion, psu, £70 ono. Both mint, boxed. Kevin, Tel: (0353) 87498.
SEQUENTIAL DRUMTRAKS drum machine, manual, £275. Tel: Tonbridge (0732) 364881, eves.
SIMMONS SDS9 with rack, used once, cost £1300, will sell for £950. Tel: (052 55) 5126.
SOUND CHIPS for Linn, Oberheim, DrumTraks, Simmons, £8 each; Simmons SDS IV, £120; Roland Juno 106, £375. Tel: (0342) 23094.
YAMAHA MR10 drum machine, swap for HH Multiecho, WEM Copicat, anything considered, or sell for £35. Tel: (0642) 552179.
YAMAHA RX21 digital drums, boxed, as new, £110. Tel: Tyneside 2521662.
YAMAHA RX21, perfect cond, manuals, psu, £100. Martin, Tel: (0473) 827680, eves.
YAMAHA RX21, manuals, leads, psu, exc cond, £125. Tel: 01-658 7251.
YAMAHA RX21, boxed, manuals, psu, leads, superb, £100. Tel: (0903) 773904 (Sussex).
YAMAHA RX21L latin percussion drum machine, home use, MIDI, stereo outputs, mint, £125. Tel: Bristol (0272) 629068, after 6.30pm.
YAMAHA RX21L, as new, boxed, £95 ono. Dave, Tel: (0908) 648945.
YAMAHA RX17 and **TX7**, £500 ono the pair, or swap for TX816 rack or similar. Jason, Tel: (0706) 217260 (Lancs).
YAMAHA RX15, £199, exc cond. Mark, Tel: (0734) 412017.
YAMAHA RX15, enthusiastic, highly presentable, looking for new horizons/ studio work, £190 ono. Andy, Tel: 01-748 6744.
YAMAHA RX11 drum machine, home use, Redplanet RAM cartridge, separate outputs, 533 patterns, stores to tape and MIDI, £325. Tel: Bristol (0272) 629068, after 6.30pm.
YAMAHA RX11, £250 ono, boxed, manuals. Andy, Tel: Dorchester (0305) 69446, eves.
YAMAHA RX5 drum machine, exc cond, £790. Tel: Carterton (0993) 841586. (Oxford area).

Computing

AMIGA SEQUENCER: Soundscape Pro MIDI studio uses sampled sounds and MIDI, £100. Mike, Tel: 01-948 5763.
APPLE MACINTOSH PLUS with £1000 plus worth of software, £1300 the lot, can deliver. Tel: (0706) 50897.
ATARI 520 ST plus £150, swap for MC500 or offers. Write: Marc Helliwell, 61, Lyndhurst Road, Luton.
ATARI ST MUSIC software for sale, various titles. Wanted, sounds for ESQ1. (Swaps?) Robert, Tel: (0758) 613721.
BBC B, EMR MIDI interface and performer, £50 ono; Spectrum RAM music machine, £30. M.Mistry, Tel: (0788) 73910.
BBC B, disk drive, colour monitor, EMR programs, Disk Doctor, View 2.1, data cassette, £575 ono. Tel: (040 24) 46019.
COMMODORE SOFTWARE: Quill, Enigma, plus loads more, 10-15 cassettes, £25; Prism modem, £75 ono. Mark, Tel: (073 73) 50302, eves (Surrey).
COMMODORE 64, software, carrying case, joysticks, introductions to Basic I and II, books, C2N, immac, £135. Tel: (0252) 877260.
COMMODORE 64, 1541 drive, 10 disks, C2N cassette, joystick, assembler, games, books, £370 or swap for Akai S612/Juno 106/Teac 3340/TX81Z. Tel: 061-223 0239.
COMMODORE 64, disk drive, Steinberg Pro 16, edit kit, RMS-2H interface, cassette, £300 worth of games, all for £300. Tel: (0977) 42659.
COMMODORE 64, disk drive, Pro 16, MIDI Interface, extra software, DX/FB01 Editors etc, datacassette, £225. Tel: 01-552 2951.
COMMODORE 64, disk drive, £220; Ludwig super-sensitive snare, £99; Rototoms, £75. Tel: (095 289) 804.
DR T'S Keyboard Controlled Sequencer for Atari ST, original disk, manual, latest version 1.5, £125. Ron, Tel: 01-261 0573.
DR T'S KCS for Atari ST; 3-tier kbd stand, £50 (stand only). Write: John, 85, Garden Walk, Royston, Herts.
DR T's SOFTWARE: 4-Op-Deluxe, CZ Editor, D50 Editor, must sell, going Apple Mac, offers. Gez, Tel: 01-883 6753.
EMR MIDI and Performer for BBC computer, £60; Roland TR505 plus psu, £150, perfect. Kevin, Tel: Portsmouth (0705) 598347.
FREE CX5M SOUNDS: Send SAE to P. Varese, 58D, P Village, Sussex University, Falmer, Brighton BN1 9RD.
HYBRID ARTS DX-Android DX librarian/editor, never used, boxed, as new, £90. Tel: 01-889 6892.
INTERNATIONAL EXCHANGE, tapes, software, Commodore 64, books, Brazilian articles. Write: Angelo Salles, Rua Euclasio, 357/503, Belo Horizonte, MG, Brazil.
SPECTRUM+, interface I, Microdrive, XRI MIDI Interface, 8-tr seq, DX editor and librarian, database and 100's of voices, psu, manuals, swap for CZ101. Tel: (0642) 552179.
SPECDRUM PLUS 3 KITS, £30 or swap; Datel sound sampler, £30 or swap; Swapshot microdrive utility, £25 or swap. Wanted SFG05, DMS1B, YRM502, anything for CX5M considered. Tel: (0642) 552179.
SPECTRUM,SPECDRUM, printer, software for sale, £420 new, accept £130. Ben, Tel: (0702) 715870.
SPECTRUM 48K, XRI MIDI interface and software, including Casio CZ Editor, data recorder and VTX modem. Tony, Tel: (0332) 367707.
UMI 2B SEQUENCER, BBC computer, disk drive, disks, immac, very user-friendly package, £450. Chris, Tel: Harpenden (058 27) 62233.
UMI 2B, BBC micro, disk drive, blank disks, as new. Tel: (0403) 53337.
UMI 2B, BBC micro computer plus disk drive and disks, brilliant value, £450. Dave, Tel: (0403) 53337.
UMI 2B series 5, MIDI Editor, interface, £295. Tel: (0378) 76672. **UMI 3S** seq for BBC computer, very powerful, inc tape sync, £195 ono. Tel: (0742) 754719.
XRI STEPTIME SEQUENCER, £20; Casio and DX7 editors, £15 each. Tel: 061-273108, Room BC10, X22, after 5pm.
XRI MICON INTERFACE and step seq for Spectrum, £50 ono. Andrew, Tel: Rugby (0788) 822534.
XRI MICON INTERFACE for Spectrum computer with manual and seq software, £30. Rob, Tel: 01-833 0194.
XRI MIDI INTERFACE, step-time seq, SDS/DX7 editor, £100 ono. Neil, Tel: (0703) 559122, X2138, office hours.
YAMAHA CX5M, disk drive, SFG05, large kbd, Composer, voicing, RX Editor, ROMs, boxed, £400. Tel: (0323) 31967.
YAMAHA CX5M, large kbd, colour monitor, YRM 101, YRM102, YRM 104, DMS, manuals, games, £300. Tel: 01-736 1686.
YAMAHA CX5M, large kbd, SFG 05 and I, 16-tr seq, voice, Composer software plus others, £325 ono. Tel: (0909) 486971.
YAMAHA CX5M, large kbd, voicing software, manuals, £200. Tel: Telford (0952) 460163, after 6pm.
YAMAHA CX5M, voicing, Composer, RX Editor ROMs, £200; Siel DK80 velocity sens polysynth, £290. Tel: Sittingbourne (0795) 73146.
YAMAHA CX5M, large kbd, seq, voicing software, immac, £189; Yamaha DX9, vgc, £299. Tel: (0924) 379737.
YAMAHA CX5M, upgraded, large kbd, disk drive, eight pieces of software, disks, tapes, boxed, bargain, £500 ono. Tel: (0638) 667396.
YAMAHA CX5M music computer with small kbd, Composer, voicing software, £200. Tel: (0606) 75696.
YAMAHA CX5MII/128, software, Cheetah full size MIDI kbd, £375, will split. Tel: (0722) 332793 after 6pm.
YAMAHA CX5, SFG 05, MIDI, DX7 editing software, £175; Boss dimension C, £75. Tel: (0442) 217715.
YAMAHA CX5, large kbd, DMS Sequencer, Composer and voicing ROMs, £220. John, Tel: (0322) 21545.
YAMAHA SFG01 MODULE, £25. Wanted, cheap DMS cartridge, £20-30ish. Mike, Tel: (0443) 813267.

Recording

ACCESSIT REVERB, £60; Korg DDM110, £55. Adrian, Tel: 01-391 4002, eves, or 01-515 4012, days.
ACCESSIT STEREO REVERB, adaptor, never used, boxed, £70; Chorus pedal, immac, £20. John, Tel: (0474) 323404.
ALESIS MICROVERB. So brilliant, so

small, so boxed, so buy it! A mere £150 inc psu and p&p. Nick, Tel: (0223) 323398.

ALESIS MICROVERB, digital stereo reverb, vgc, boxed, psu, £175. Richard, Tel: (0252) 424130.

ALESIS MIDIFEX, immac cond, boxed, £180. Brian, Tel: 041-777 7933, after 6pm.

AMPEX 456, 406 ½", used, erased, several at £11 and £8. Write: John Williamson, 49, Netherhall Road, Leicester.

B&O REEL TAPE DECK, sound on sound, etc, £110 or exchange mixer or MIDI expander. Tel: (0772) 687252.

BEL BD80 digital 4-sec delay/sampler, £400. Wanted, MIDI-to-CV converter. Tel: (092 77) 66664.

CUTEC MR402 4-tr recorder, cassette format, 9.5cm/sec, vgc, £130 ono. Tel: Swindon 643544.

DYNACORD DRP16 digital reverb and expansion chip, home use, cost £600, accept £220 ono. Tel: Bristol (0272) 629068, after 6.30pm.

FOSTEX A-SERIES 8-tr, mint, £850; Amec X-series 16:8:2 mixing desk, £950. Tel: 061-428 2876.

FOSTEX 160 high speed 4-tr, still boxed, unused, exc cond, **£455**. Tel: Westbury (0373) 864029.

FOSTEX X15, psu, MN15 mixer, boxed, manuals, £190 ono. Chris, Tel: Telford (0952) 613358.

MTR MKII 6:4:2, boxed, perfect, extras worth £40. Bargain at £220. Richard, Tel: (0924) 893246.

MTR 6:4:2 mixer, recently serviced, £125. Trevor, Tel: Basildon (0268) 43815.

PHILLIPS STUDIO II double cassette recorder/amp, exc cond, ideal for beginner, £90 ono. Tel: Reading 584490.

REVOX B77IIHS, superb, £900; Korg SQD1 seq, £300; Tanrak modules wanted. Tel: Darlington (0325) 466826.

ROLAND DEP5, immac, £460 or swap for MT32 plus small cash. Ray, Tel: 01-671 6606, eves.

ROLAND RE201 space echo and reverb, immac, new heads, £219 ono; Dynacord 19 program stereo digital reverb, £269 ono. Tel: (0909) 486971.

ROLAND RE501 chorus echo, new tape loop, clean sound, £200. Tel: 01-874 6813.

RSD 16:4 mixing desk, Teac A3340S 4-tr tape recorder with dbx 155 noise reduction, £1100 ono or split. Simon, Tel: 01-523 1146.

RSD STUDIOMASTER 16:4, vgc, £595; MM Super 16:2, 285 series, vgc, £325. Chris, Tel: (0492) 532436.

SECK 16:8:2 mixer, £675; CX5, large kbd, 8-tr seq; £200. Paul, Tel: 01-373 9728.

SOUNDCRAFT SERIES 2 16:8 mixing desk, patchbay and multicore to 16-track and FX, £1000. Dave, Tel: 01-743 3055.

TASCAM 244 PORTASTUDIO, exc cond, home use, £420 ono. Tel: (0784) 53979.

TASCAM 244 PORTASTUDIO, mint, boxed, manuals, £400. Mike, Tel: 01-841 0777.

TASCAM 244, £380; Juno 60, £300, both immac, selling due to upgrading. Tel: Rhyl (0745) 30331/38402.

TASCAM 144 PORTASTUDIO, the original, mint cond, bargain, £260

TASCAM 38, £1200, just serviced, aged two! Tel: (0429) 869121 (Tony) or 869999 (Jimmy).

TASCAM 38 plus 15 reels of tape, £1000; Yamaha R1000 reverb, £125; QX1 seq, £600. Tel: 01-567 5336 or (049 46) 3984.

TASCAM 24 PORTASTUDIO, exc cond, good heads, £450. Tel: (0924) 493413 (West Yorkshire).

TEAC 144 PORTASTUDIO plus Accessit stereo reverb, only £280, must sell, going 8-track. Mark, Tel: (0663) 43388.

TEAC A3440, Immac, £550; Teac 2A mixer, immac, £150, boxed, little used. Tel: (0744 88) 5614.

TEAC 3340, 6:4:2 mixer, leads, tapes, £360; Dynamix 16:2, £240; Akai 4-track, £200; Sony 377, £80. Tel: (036 32) 4627.

TEAC MIXDOWN UNIT, Model 1, immac cond, £75 ono. Chris, Tel: (0234) 767174.

URSA MAJOR 8X32 MkII, Electrospace, the gate, Fostex dual compressor/limiter 3070, Cutec deluxe 12:2, Tantek rack, 7 units. Bargains. Tel: Guildford (0483) 62370.

VESTAFIRE DIG411 digital delay, 19" rack mount, immac cond, £140. Tel: (0562) 67666.

VESTAFIRE MR30, as new, little used, £150. Tel: Tadley 71449 (Basingstoke area).

VESTAFIRE RV2 stereo reverb unit, boxed, exc cond, £85, inc p&p. Tel: 051-728 9579.

YAMAHA MT44 4-track with manual, demo tape and sensor strips. Excellent condition, £225. Tel: (0223) 314561, eves or weekends.

Amps

CARLSBRO HORNET 45W kbd amp, as new, never gigged, still guaranteed, 2-ch reverb, £140. Tel: 01-226 2919.

CARLSBRO 150W PA and kbd combo, 9 inputs, 5-ch, graphic, reverb, FX loop, superb sound, £295. Kev, Tel: 01-274 9487.

CONCERT LESLIE 245 with JBL's, Ampeg V4, £260; 2x12 JBL's plus horns, separate cabs and tripods, £240. Tel: (0702) 337817.

FENDER VIBRO CHAMP, £85; XRI Micon MIDI interface with software, £45. Tel: 01-595 6575.

MCGREGOR 200W kbd head, £110; 2 Carlsbro 100W cabinets, £145, all unused. Tel: Blackburn (0254) 47199.

MCGREGOR G4200 PA, 4-ch, 8 inputs, overall 5-band graphic. Ideal for kbd setup. Matt, Tel: 061-432 8736.

ROLAND CUBE 40 kbd combo, 2 inputs, treble/middle/bass, reverb, £60. Tel: Tyneside 2521662.

TIME MACHINE 75W microamp, 4mths old, cost £155, sell at £90. Tel: Rugby (0788) 70195.

WEM 250W PA head, 5-ch, individual 2-band EQ, £140. Richard, Tel; (0257) 424130.

YAMAHA RA50 kbd combo, straight and rotary speakers, £200. Wanted, top and speakers. Tel: (0772) 687252.

Personnel

ARBY Happy Valentines. Love and kisses from your playmate, Paddy.

ATARI PROGRAMMERS wanted, with MIDI experience and C/Pascal knowledge. Phil, Tel: 01-482 5191 or 485 2988.

CALLING EXPERIMENTAL ARTISTS in the Croydon area. Age 17+ for collaboration/interaction. Ash, Tel: 01-668 7505.

CASIO FZ1 owner seeks similar for swapping disks. Ian, Tel: 061-432 5705, after 7pm.

COMPUTER SCIENTIST, keyboardist, singer seeks work, will travel. Write: Kunle Odebode, Block C, Flat 15, Eric Moore Towers/Rd, Surulere, Lagos, Nigeria.

CYBERPUNK grà mo beatha . . .Trish xxx

DESPERATELY SEEKING accompanist; influences heavy metal, Knave, the great Jimmy Redge. Pim Ponting, Tel: (0223) 313722.

EXPERIENCED PROGRAMMER with knowledge of FM, PD, analogue, sampling, seeks work.Tel: (0257) 452303.

FEMALE SINGER/SONGWRITER with commercial material and image requires producer or management. Tel: Milton Keynes (0908) 310590.

I'M JUST MAD, mad, mad about Madeleine . . .Timbo.

KITTEN Can I be your pitch-bender? Love, Rowland Rat.

MALE, 19, seeks studio work, some engineering experience, preferably Glasgow area. Tel: 041-887 6302.

MMP LOVEBIRDS Dan & Jan, one year on . . . love from the mob.

NICKI & TIM Happy Honeymoon! Love from all the gang.

STEPH See ya Thursday, as always, love Captain Nigel.

TRAINEE ENGINEER seeks 8-track position, Manchester area or near. Geoff, Tel: 061-860 6727. PS, Des, call again.

VOCALIST REQUIRED to join ambitious duo writing and playing electro/guitar-based music. Tel: Reading 584490.

WANT A RECORD DEAL by the summer? Competent bass player/singer required Merseyside area. Commercial B.tapes. Dave, Tel: (0704) 37044.

WANTED: computer that cooks, makes coffee, and is g.i.b. Sushi Trank.

WRITER WITH OWN pre-production studio and contacts seeks collaboration with a genius. David, Tel: 01-769 8284 (F216).

Misc

BACK ISSUES E&MM, 1981 to 1986. Paul, Tel: Guildford 67882.

BOSS ODI overdrive, £28; Ross chorus pedal, £28. Akai ME30P wanted. Tel: (0562) 67666.

CASIO CZ100/1000 editor for XRI Micon interface, £10. Wanted, XRI multitracker. Dave, Tel: Gravesend (0474) 365247.

ROLAND STUFF with leads and manuals: Drumatix, £95 ono; MC202 seq, £80 ono. Tel: (0243) 375475 (Hants).

SEQUENTIAL PROPHET 2000 512K, £1200; X15, £150; RX21, £120. Write: Liam Bauress, Worth Abbey, Sussex RH10 4SD.

SUPER CONDUCTOR SOFTWARE for Atari ST, £30; Realistic dual 10-band graphic, £40; Specdrum 48K, £25; echo, £15. Tel: 01-299 0867.

YAMAHA WX7 MIDI wind controller, brand new, plus voices cassette, £680. Tel: Uxbridge (0895) 74359.

Wanted

AKAI ME20A and ME30P, will pay £50 each (inc postage). Write: 102, Highcliffe Road, Wickford, Essex.

FOUR-TRACK, Vestafire, Tascam or Fostex, £180 paid for good cond only. Tel: (0708) 762103, eves.

KORG EX800 and RK100, or AZ1, £100 each? More paid for Axis 1. Also M64 cartridge, sensible price please. Tel: Redcar (0642) 479789.

MELLOTRONS: Information/anecdotes sought by devotee, letters answered. Write: M Clarke, 38, St Chads Road, Bilston, West Midlands.

ROLAND SH2000 in working order. Gordon, Tel: (0638) 720090.

RSD STUDIOMASTER 4-ch add on units for 12:2 5-band EQ model. Chris, Tel: (0492) 532436.

SEQUENTIAL PRO ONE synth manual. Tel: Leeds (0532) 866848.

Advertisers Index

MUSIC TECHNOLOGY FREE CLASSIFIED ORDER FORM

Fill in the form to a maximum of 15 words (one in each box), and send it to: ***MUSIC TECHNOLOGY Free Ads, Music Maker Publications, Alexander House, 1 Milton Road, Cambridge CB4 1UY.*** Please print clearly in BLOCK CAPITALS. The ad must reach us on or before **Friday, February 5** for inclusion in the March '88 issue of MUSIC TECHNOLOGY – late arrivals will be printed in the next available issue.

Please include this ad in the ..... *section.*

CLASSIFIED

tangent

Tangent Sampler Tapes are superb quality chrome cassettes featuring over 200 great sounds. Tape 1 features Rock/Latin percussion sounds from the Worlds Top Drum Machines (including Linndrum, 707) whilst Tape 2 contains multi-sampled instruments and Sound Effects (Fairlight, Emulator, JP8 etc). Studio quality you can afford at £7.50 each or £12.50 the pair. Further details from Tangent Musical Services, 152 Victoria Road, Scarborough, Yorkshire (0723) 370093/583899

STILETTO
Sound Systems

160 High-quality Professional Sounds for
ENSONIQ ESQ1 - **£40**
YAMAHA DX 7 - **£40**
CASIO CZ101/1000/3000/5000 - **£30**

These Formats available:
Hybrid Arts' Genpatch ST - all
Hybrid Arts' CZ Android - CZ only
ESQ1 Datacassette - ESQ1 only
TX7 Datacassette - DX7 only
QX5 Datacassette - all
RAMfiller service - all

Try our RAMfiller service - send *STILETTO* your RAM cartridge, and we will load it with our sounds at a proportionate cost i.e.
80 ESQ1 sounds for £20;
64 CZ sounds for only £12!.

Also available: 64 voice RAM for listed CASIO CZ synths, loaded with *STILETTO* professional sounds - only £52

ATARI ST owners: for £30 you can buy 160 *STILETTO* CZ voices on a disk including **free** librarian/ editor/patch creator software for CZ + DX100 synths!

Overseas add £2.00 P&P.
All payments must be payable in UK funds drawn on a UK bank.
Prices inc. VAT, Cheques/PO's to:
STILETTO sound Systems
14 Nelson St., Dumfries DG2 9AY.
Tel. 0387 65276

In stock
Series 4 Mixer, 4-9 auxiliaries, 5-Band EQ, up to 50:16:2; studio or PA versions, modules available as kits, automation ready, ring for demonstration.
Exports tax free to any country — please write.

PLANS & CIRCUIT DIAGRAMS:

M&A Series 4 mixer, circuits	£9.50
Ultra-low noise mic amp	£4.00
24T recorder, advanced geometry	£4.00
16T recorder, full logic	£2.50
Compressor-limiters, 2 designs	£1.50
Noise gate, expanders, fast action	£1.50
Revox B77, circuits & service guide	£6.00
Audio mixer designers' manual	£2.50

CATALOGUE of plans, faders, components 18p
CADEY 16T RECORDER, 15IPS. . .£2,000.00
K-Tek, PO Box 172A, Surbiton KT6 6HN
01-399 3990 Studio equipment repaired/sold

MUSIC SOFTWARE FOR THE ATARI ST
Bewildered by the vast range of Atari Music Software?
Then contact us and
we will help you make the right decision

TANGENT
The Computer Music Specialists
152, Victoria Rd., Scarborough, Yorks. YO11 1SX
Tel: 0723-370093

Software by Steinberg, Dr. T., Intelligent Music, Digidesign & Sonus Atari Computers, Midi Expanders, SMPTE Units, Complete Music Systems.
STOP PRESS - PRO 24 III - LATEST VERSION JUST ARRIVED!
Demos by appointment only

CREATIVE SOUND PRODUCTIONS Discover the true potential of your synthesizer with our range of exciting and original sounds. **Yamaha DX21/27/10** from the DX Sound Library: **Tape 1** - 160 Voices, Strings, Brass, Percussion etc. £12.95. **Tape 2** 96 Voices, Synths and Effects £7.50. **Roland JX3P** - 96 Voices in three banks, sounds include Orchestral, Percussion, Organs, Pianos etc. Cassette £8.95. **Cassio CZ101/ 1000/3000/ 5000** - 64 Amazing Voices covering a wide range of Analog/Digital sounds. Data Sheets £10.50. All prices include VAT and P&P. Cheques/P.O.'s to: **C.S.P., 1 Warwick Road, Eccleston, Nr. Chorley, Lancs. Tel: 0257 452303.**

ADVANCED SOUND RECORDING & PRODUCTION

One-Year Full-Time Diploma Course in Modern 24-Track Studio and 32/48-Track Digital Studio
Digital Audio Concepts: DASH and PD Fromats; Analogue/Digital Recording, Processing, Mixing and Editing; Automation and Synchronisation: MIDI and SMPTE Time Code; Computerised Sound Mixing Consoles, Analogue/Digital Sound Synthesis and Sampling; Working with Various Bands and Individual Artists; Music Writing, Song and Orchestral Arrangements, Radio Jingles and Commercials; TV/Film Sound Tracks; Local Radio Operation; Introduction to Pop Promo Production; Business Practice in Music Industry.

Three-Month Intensive or Six-Month Part-Time CERTIFICATE Courses in ANALOGUE SOUND RECORDING AND PRODUCTION
Modern 24-Track Sound Recording and Production, Introduction to Digital Audio; Analogue/Digital Sound Synthesisers and Sampling Keyboards; Studio Work with Bands and Individual Artists; Music for TV and Film; Song Arrangements for Record Release.

DIGITAL SOUND RECORDING AND PRODUCTION TECHNOLOGY
Digital Sound Recording; DASH and PD Formats; Digital Multi-Track Operation; Sony PCM-3324 and Mitsubishi X-850; Rotary Heads Digital Recording, tapeless Recording; Audiofile and Synclavier; Digital Synthesis/Sampling including FAIRLIGHT Digital Audio Processing, Mixing; Electronic and Manual Editing; Computensed Sound Mixing Consoles; Automation and Assignable Consoles; MIDI and SMPTE Time Code; their Practical Application in Creative Music Production; MIDI Controlling, Networking, Triggering and Sequencing; ATR/VTR Synchronisation.

CREATIVE MUSIC RECORDING AND PRODUCTION TECHNIQUES
Music Notation and Song/Music Writing: Rock, Funk, Jazz, Soul, Reggae, TV/Film Theme and background Music, Song and Orchestral Arrangement Technique: Arrangements for Strings, Brass Section, Woodwind, etc; Creative use of Instruments and Microphones; Working with Bands and Individual Artists; Recording Vocals and Choirs; Local Radio Operation.

Also Courses in Programming FAIRLIGHT SERIES III

Many Former Students are now employed in TV/Video and Audio Industries.

MEDIA PRODUCTION SERVICES
BON MARCHE BUILDING, 444 BRIXTON ROAD, LONDON, SW9 8EJ.
Tel: 01-737 7152. 01-274 4000, Ext 328.

CZ CASIO OWNERS

64 Voice Ram Cartridges compatible with CZ101/1000/3000/5000 and CZ1 models only £39.95 each or with 64 professional sounds loaded only £49.95

Send cheque or PO to
MKM PRODUCTIONS
55 Angel Hill, Sutton,
Surrey SM1 3EH
Tel: (01) 641 6808

THE MUSIC SUITE, WALES

Offers a complete recording facility in a beautifully situated riverside converted coach house. The Studio includes a 24-track MIDI work area, 8-track recording and accommodation for up to four people (self-catering). Weekly rates from £400 p.w. including engineer and accommodation.
SPECIAL CASSETTE, entire recording package, including Recording, Digital mastering, full colour inlays, labels and 500 Chrome cassettes for only £1000 inc. VAT for limited period.
Also Real-Time Cassette Duplication.
Tel: (0239) 711032 for brochure.

******* IT'S SUSURREAL! *******
Special introductory offer - huge reductions. The ultimate self-op residential studio and seven days' full board in idyllic Devon village, for £200 exclusive. Ten hours intelligible hands-on instruction, forty hours to yourself in an immaculate purpose-designed studio - (eighty hours' total lockout only £100 extra!). Brand-new high-tech equipment including Fostex E16, 501 digital mastering, Steinberg Pro-24, 36-channel mixing, twin SPX90II's, Midiverb II, Drawmer, RDS1900, ME30P, Tannoys, stereo gate, Bit 99, TX81Z, Poly 800, Alesis HR16, SMPTE, MPU101. Add old-fashioned humanity with Roland, Arp and Moog analogues; Roland and Digisound modular synthesisers; harmonium, piano, Wurlitzer and AC30 valve amplifier; excellent microphones and beautiful acoustics. 1900 cubic feet, without parallel surfaces. Superb view from massive tripple-glazed window. Continuously upgrading - MT32 coming soon. Perfect for songwriters, new age, soundtrack music. Special rates for people sharing. M5 nine miles; trains met. **For free leaflet, phone 03632 4627.**

19" RACK MOUNT CASES

Industrial quality fully enclosed with separate chassis. 1U× 250mm depth at £18.84, 1U - 300mm at £21.35, 2U× 250mm at £22.05, 2U - 300mm at £24.69, 3U× 250mm at £25.22, 3U - 300mm at £27.99. P&P £3.00 plus VAT. Also 4U sizes.
Newrad Instrument Cases,
Unit 19, Wick Ind. Est.,
New Milton, Hants BH25 6SJ.
Tel: (0425) 621195

SAVE IT! AT City Music

Save your hard earned cash at City Music! Hot prices on all Yamaha and Roland gear plus expert advice and help — we're at the other end of your phone!

YAMAHA

HOT NEW LINES

DMP7	£2,669
DX7 II D Synth	£1,499
TX81Z Rack Synth	£399
RX17 Rhythm	£299
RX5 Rhythm	£899
MDF1 Disk Drive	£299

Plus all popular current lines in stock

Roland

Juno 1 Synth	£549
Juno 2 Synth	£775
S-10 Sampler	£699
TR-505 Rhythm	£229
CR1000	£299
D50 Synth	£1,350

HOTLINES

GEORGE ON 01-863 1841
Pinner Road, North Harrow
SIMON ON 0752 673166
Cambell Court, Plymouth
CHRIS ON 0803 25488
65 Market Street, Torquay
TONY ON 0872 71359
16 Pydar Street, Truro

HAVE YOU EVER MADE LOVE TO A BABY IGUANA?

No? Page Lippstein has . . . at a party . . . in front of the Iguana's mother.
Why? Because that's the kind of guy he is.
Page Lippstein is quite simply a living legend. The last of the great Rock'n'Roll entrepreneurs.

Here's what one well-known Rock Star, who obviously wishes to remain anonymous, says about him:

"I went on a bender with Page one night in London. I woke up seven years later just outside Zagreb, with a can of 'Shake'n'Vac lodged up me nose and a tattoo of Yvonne Goologong on me forehead."

You can hear Page Lippstein in conversation by dialling (0898) 100 784.

They say a phone call can change your life . . . But this one won't.

WIN Concert Tickets, Tour Jackets, T-Shirts, Albums. Call "Rock Solid" The Rock Trivia Quiz on (0898) 100 711

Nomad Effects

AXXEMAN

The ultimate in guitar processors. No more miking up cabs, no more noisy effects — just clean, studio quality, for stage, studio and home use. Engineered for all types of guitar from 'Strats' to 'Gibson'. More effects than a floor full of pedals and the best sound all round.

BASSMAN

A totally new product. Designed 'by' Bass Guitarists 'for' Bass Guitarists. A rack-mounted processor containing the best octaver for bass ever designed (tracks down to bottom F). We have built in a compressor, variable gate, chorus, flanger, phaser, active cross-over (frequency selectable) with separate outputs for both. All this and more in a noise-free, studio spec unit. 4,000 people saw, heard and felt the bass from the Nomad Bassman at the Guitarist Show.

If you missed the show and would like to know more about Axxeman, Bassman, or any of our products, then fill out the coupon, send it to us and we will pay your postage.

Nomad LTD.

Freepost
North Road Farm, North Road,
Wendy, Near Royston, Herts, SG8 OBR.
Tel: (0223) 207770

Please Send Me Details On;

☐ Axxeman ☐ Bassman ☐ Nomad Range

Name.....

Address .....

.....

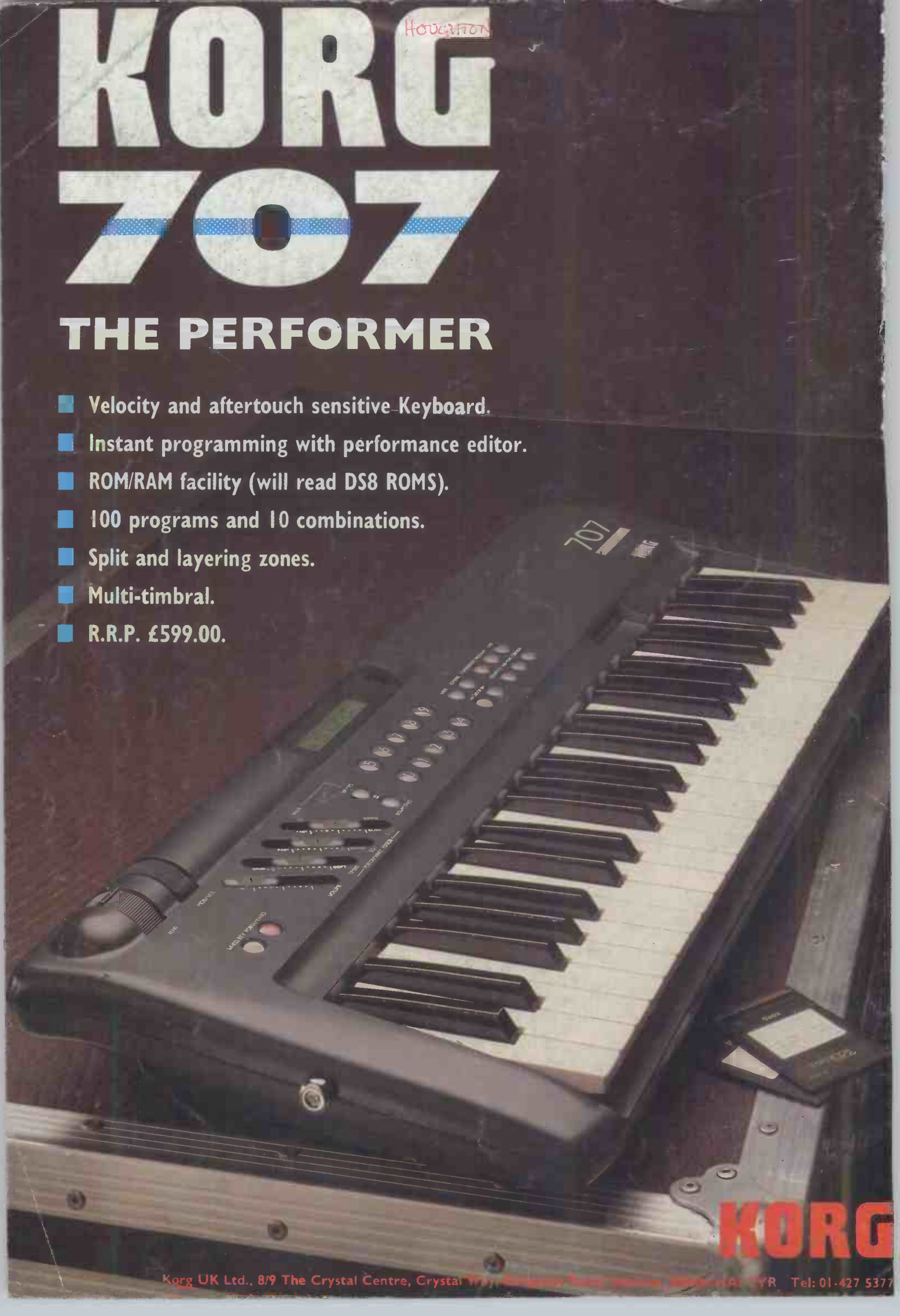
M.T. 2/88

.....

KORG 707

THE PERFORMER

- Velocity and aftertouch sensitive Keyboard.
- Instant programming with performance editor.
- ROM/RAM facility (will read DS8 ROMS).
- 100 programs and 10 combinations.
- Split and layering zones.
- Multi-timbral.
- R.R.P. £599.00.



Korg UK Ltd., 8/9 The Crystal Centre, Crystal [illegible] YR Tel: 01-427 5377