

Established 1981

Music Technology

THE WORLD'S PREMIER HI-TECH MUSIC MAGAZINE

17 DUN
FEBRUARY 1992

£1.60



felton pilate

hammer's man raps tech

ROLAND
VOCODER PLUS

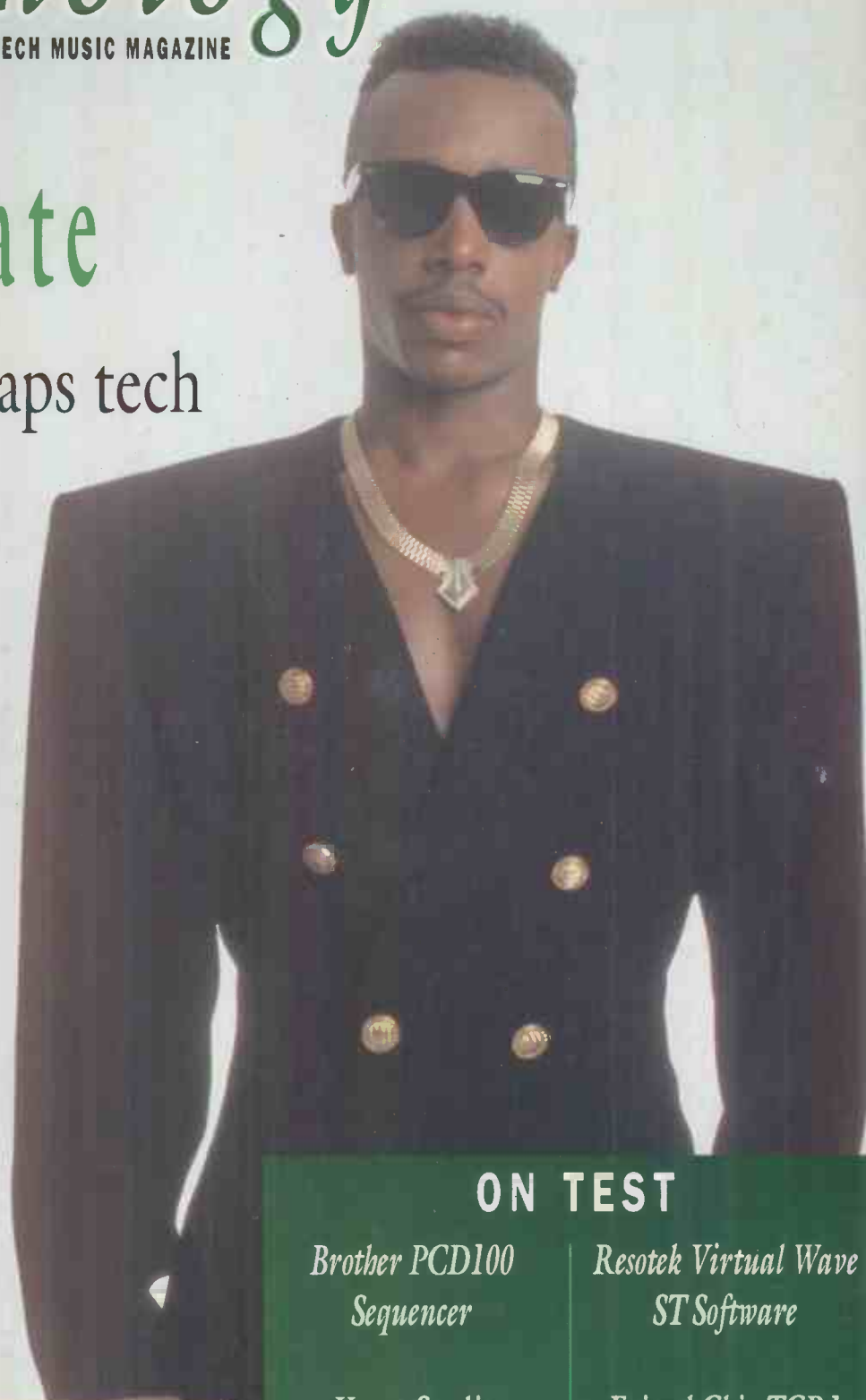
*history's most
important vocoder?*

QUANTISATION

*are you getting the
best from it?*

ALESIS D4

*more than a percussion
expander*



ON TEST

Brother PCD100
Sequencer

Resotek Virtual Wave
ST Software

Vector Studio
SY22/TG33 Sounds

Friend Chip TCR1
Timecode Refresher

Fostex X28
Cassette Multitracker

Clares Rhapsody II
Archimedes Scorewriter

SY99 - BEST SYNTH EVER?

YAMAHA
▷ THE SPIRIT OF MUSIC ◁



Simply posing the question suggests that Yamaha's SY99 must be a pretty significant new synthesizer – particularly when the questioner is Sound On Sound Editor Paul Ireson, in the September copy of the magazine.

But when reviewer Martin Russ answers in the same issue saying that the instrument "is closer to 'the perfect synthesizer' than any I have ever seen" and that "the SY99 is now my all time favourite" – well then you know that is one new keyboard you *have* to check out.

So why all the fuss?

Well it sounds stunning. 8Mb of AWM waveform ROM provide 267 48kHz samples for RCM synthesis – and some truly breathtaking voices, particularly when processed by two full bandwidth stereo DSPs (from our industry standard SPX900).

Combine this with the facility to load user samples via MIDI into a waveform RAM that's expandable to 3Mb and the result is supreme sonic versatility.

What about playability? A 76 note keyboard, zoned aftertouch, a MIDI data recorder and an extensive array of master keyboard facilities make the SY99 perfectly at home at the heart of any MIDI system, in both performance and recording environments.

And with a 16 track sequencer that boasts a 27,000 note capacity and Standard MIDI File capability, the SY99 can lay legitimate claim to the "Workstation" title.

So is it the best synth ever? Play the SY99 at a Yamaha music store and find out for yourself.

24 HR ACTION LINE
— CALL —
081-419 5419
FOR FREE PACK
BROCHURE

NO COMPETITION

AT TSC THE CHOICE IS YOURS: APPLE, SAMPLERS, ANALOGUE SYNTHS, HARD DISK RECORDING

APPLE POWERBOOK COMPUTERS



FACTS

Apple's™ new Macintosh™ Powerbooks™ are the perfect choice for the musician-on-the-move. 3 models available from the ultralight 100 to the superfast 170. for a limited period we are offering a **free midi interface** with every powerbook! The choice is yours.

AUTHORISED APPLE DEALERSHIP

PRICES

POWERBOOK 100 £1595
POWERBOOK 140 FROM £2095
POWERBOOK 170 FROM £3495
MAC CLASSIC 11 FROM £1150
MAC QUADRA 700 £XXXX
MAC QUADRA 900 £XXXX
2ND USER MACS FROM £575
MAC IICI NEW LOW PRICE
MAC IISI NEW LOW PRICE

CD & OPTICAL SAMPLE LIBRARIES



FACTS

The largest selection of sample CD's and CD Roms in the UK. Bob Clearmountain Prosamples Vol. 1&2 Audio CD or CD Rom Prosonus Drums & Bass CD Rom Invasion Vol 1,2,3 CD Roms Audio CD's £69 CD Roms £349 Levine Vol 1&2 Audio CD £115

PROFESSIONAL SAMPLERS



PRICES

AKAI S1100 £LOWEST IN UK
AKAI S1000 £XXXX
AKAI S950 £NEW LOW PRICE
ROLAND S750 £XXXX
EX DEMO ROLAND S750 £2895
S/H AKAI S1000 FROM £1595
S/H EMU E3 \$7995 OR £4695
2M/B S1000/1100 MEMORY £118
8M/B S1000/1100 MEMORY £349

SONY SIGNAL PROCESSORS



FACTS

At TSC the 2 great new signal processors from Sony are superb D7 is a 38 tap digital delay line, R7 is an enhanced digital reverb. Both offer 18bit signal processing, incredible MIDI specification and a sound associated with units costing ten times as much! There is even a remote that can control 15 units.

ZOOM AND DAT



PRICES

SONY D7 £816
SONY R7 £935
ZOOM 9030 MULTI EFFECT
ZOOM 9010 STUDIO PROCESSOR
ZOOM 9002
SONY DAT DTC 750
SONY DAT D3
CASIO DAT DA7 £499
CASIO DAT R100

ANALOGUE SYNTHESIZERS



FACTS

TSC has the largest selection of new and used Analogue synths in the UK. Need a great bass sound? - **MidiMoog**. Roland JD800 is a poly solution for maximum control. Waldorf **Microwave** brings PPG sound into the '90s. Oberheims **Matrix 1000** at under £500 is the choice.

DIGITAL SYNTHESIZERS



PRICES

OBERHEIM MATRIX 1000 £449
WALDORF MICROWAVE £999
ROLAND JD800 £NEW LOW PRICE
MIDIMOOG £CALL
KORG O1W £XXXX
KORG WAVESTATION AD
KORG T1, T2, T3 £XXXX
PROTOLOGIC PROTEUS BOARD £410
EMU MPS & PROTEUS 1 & 2

DIGIDESIGN PRO TOOLS



FACTS

Digidesign's Protools is the TSC recommended choice for 4 to 16 track recording on the Mac. We probably know more about HD recording than any other company in the UK. Opcode's StudioVision, Digital Performer or Cubase Audio will allow true integration of MIDI and audio from as little as £1595

NEW PRODUCTS



NEW

OPCODE STUDIO 5 MAC INT/FACE
PASSPORT AUDIO TRAX SOFTWARE
CNI 3.5" OPTICAL DRIVES
KURZWEIL K2000 SYNTH
ROLAND DM80 H/D RECORDER
AKAI MPC60 MKII
SCSI INTERFACE FOR MPC60 £349
EMU PROTEUS 3
ALESIS ADAT DIGITAL MULTITRACK

TSC DIRECT

FULLY TRAINED, KNOWLEDGEABLE STAFF, SUPER DEMONSTRATION SUITES AND ASTOUNDING DEALS. TO PLACE YOUR ORDER TELEPHONE 071 258 3454 AND QUOTE ACCESS, VISA OR AMEX, OR FAX ON 071 262 8215, OR CALL IN PERSON TO NO. 9 HATTON STREET, LONDON NW8 8PR. WE ARE HAPPY TO SUPPLY WRITTEN QUOTATIONS ON ANY EQUIPMENT.

ALL PRICES INC VAT

AT TSC THE CHOICE IS YOURS

ALL PRICES INC VAT



Authorised Dealer

TSC THE SYNTHESIZER COMPANY 9 HATTON STREET LONDON NW8 071 258 3454 FAX 071 262 8215

Contents

COMMENT

4

When is digital technology "better" than its analogue counterpart? Tim Goodyer measures the development of music technology against musicians' and technicians' abilities to use it.

NEWSDESK

6

Fallen hero, what were you trying to prove?
Fallen hero, all you got was front page news. - OTT Vixen lyric.

COMMUNIQUE

11

Readers air their views on such topics as MT's interview policy, synth programming, CD players, robots, MIDI guitars, drum programming. . . Anyone need advice on marital aids?

READERS' ADS

74

The biggest and best in the biz - whether you're buying hardware, selling software or recruiting members for the Ultimate Musical Project, you're in the right place.

Appraisal

BROTHER PDC100

36

Conflict between hardware and software sequencing intensifies - can dedicated sequencers still compete with the flexibility of a computer? Simon Trask experiences Brotherly love.

RESOTEK VIRTUAL WAVE

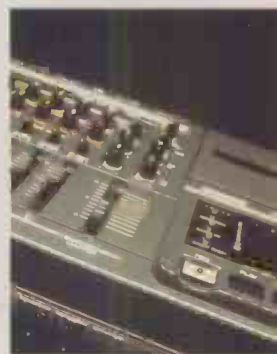
49

Using your sampler as a synthesiser is wonderful in theory but frustrating in practice - until Virtual Wave, that is. Vic Lennard waves hello to Resotek's ST software.

ALESIS D4

60

Your drum machine used to dictate the sound of your music - but the variety of sounds in Alesis' drum expander gives you back your freedom. Tim Goodyer says everything starts with a D.



Virtual MIDI Keyboard

CLARES RHAPSODY II

70

If you're looking for computer scorewriting, Rhapsody could be what you need - as well as helping to save the Archimedes from musical oblivion. Ian Waugh gets to know Clare and Archie.

BLOW

64

Gordon Matthewman's interests in hi-tech and his horn have found him in some of the most unlikely musical settings with his project Blow. Simon Trask blows another man's trumpet.

FOSTEX X28

26

When cassette multitrackers were new they said everybody should have one - now that there are machines like the X28 around, everybody can. Nigel Lord says small is beautiful.

Music

FELTON PILATE

30

Felton-Pilate's success spans "traditional" funk to the rap revolution - just now he's writing, producing and playing keys for Hammer. Nick Batzdorf raps tech with the Hammer man.

Studio

FRIEND CHIP TCR1

12

When The Stranglers had timecode trouble and the big studios couldn't help, the Time Code Refresher could - they liked it so much they bought one. Vic Lennard feels refreshed.

64

Note = 1

Technology

PATCHWORK

14

A disk full of sounds from Signal to Noise for the Yamaha SY22 and TG33 stars in this month's Patchwork. Vic Lennard Vectors in on someone else's patch.

ON THE BEAT

16

"Build a better mousetrap", they said, "and the world will beat a path to your door". Nobody warned Nigel Lord that writing a drum programming column for MT has the same effect.

QUANTISATION

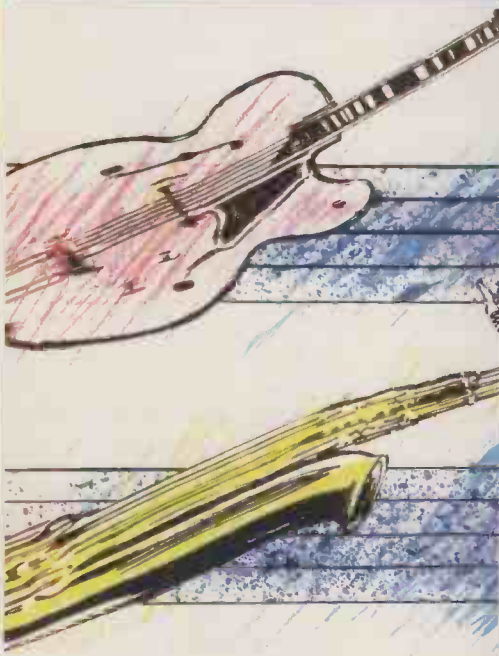
44

Quantisation: the sequencer's revenge on the trained musician. Vic Lennard looks at this much-used but little-understood feature and finds that it has feelings, too.

ROLAND VP330

54

Roland's VP330 Vocoder Plus not only helped to put vocoders on the map, but has since become a classic keyboard in its own right. Gordon Reid says "synths that make you go Hmmm".



SOMETHING OLD...

LISTENING TO THE late Miles Davis' 1962 classic album *Kind of Blue* recently I was struck by the quality of a recording made 30 years ago. Apart from the ability of the music to withstand the acid test of time, the recording itself sounds as if it might have been made for CD reproduction. Similarly recent excursions into rock recordings of the '70s, however, left me with the distinct impression that recording technology and techniques had come a long way in the intervening 20 years or less. At best these observations are contradictory, at worst they imply that somehow there had been a regression in technology or understanding of its use during the swinging '60s.

Could technology actually have become worse in some respect during these years? Or was it that many of the engineers and producers simply didn't know what they were doing? Looking (or listening) into '60s recordings, it seemed to me that these too fell well short of the standards set by the jazzers of a previous era.

The conclusion I came to was not that the technology had "regressed" in any way nor that the technicians "unlearned" any of their lessons, but that technology and understanding had advanced at unequal rates. I'll explain...

When the CBS and BlueNote labels were building up their excellent reputations within the jazz fraternity, they were doing it with instruments and recording equipment which was well established. The instruments in particular had been explored by a wide variety of musicians over a considerable number of years and, consequently, their behaviour was well understood. About the only notable advance during this period (as far as I'm aware) was the recording of the drum kit as a complete instrument. As the '60s brought electrification and such unprecedented approaches as Phil Spector's "wall of sound" recording technique, sound recording left well-charted territory for something new. The '70s saw advances in instrument technology increasing in

both frequency and complexity.

So while music was advancing on all fronts, recording it was becoming a less and less exact science. True, a lot was being learned by those in the front line, but their experiences and experiments are now the documentation of that era. Listen to a recording of Genesis or Dire Straits today, and you're listening to the lessons learned in the recording of Jimi Hendrix and Led Zeppelin. I'm sure you'll agree, the techniques have done considerable "catching up" (shame about the music).

So what can we learn from this as we step further into the '90s? Quite a lot, I'd say. Look again at the current buzzword, "digital", and you'll see that the equipment industry is currently in a frenzy of trying to apply digital technology to anything and everything. Realistically, only certain areas are going to benefit from this. Take the example of digital EQ - it's complex, expensive, slow and often just plain unsatisfactory. Analogue EQ, meanwhile, remains cheap, effective, reliable and well understood. It's going to take considerable advances in digital technology before that situation changes.

Looking a little closer to home, are you as tired as I am of hearing digital synths trying to "sound analogue"? You spot the 'Prophet 5' preset and you know you're in for a disappointing time. And at what cost - why buy a £1000-£2000 digital synth to do the job when the real thing will net you change from £500? OK, there are other considerations, but they're not a reflection of how well hi-tech digital synths imitate low-tech analogue synths. I'm just making a point.

I suppose the real point is that digital technology - like all technology before it - has to have a chance to grow up. A lot of avenues must be investigated before we will know its strengths and weaknesses. But until that time arrives, be aware of what you're working with. To appropriate an old safety slogan: try to make sure you use "the right tool for the job". Or the right tool for the time, at least. **Tg**

MUSIC TECHNOLOGY (ISSN 0957-6606) is published by Music Technology (Publications) Ltd, a subsidiary of Music Maker Publications (Holdings) plc, Alexander House, Forehill, Ely, Cambs CB7 4AF. Tel: (0353) 665577 (all departments). FAX: (0353) 662489 (PAN: Musicmaker)

Printing by Cooper Clegg Ltd, Tewkesbury, Gloucestershire. Distributed by AGB Impress Ltd, London. Tel: 071-253 3456.

All material is subject to worldwide copy protection, and reproduction or imitation in whole or in part is expressly forbidden without written consent from the publishers. All reasonable care is taken to ensure accuracy in the preparation of the magazine, but Music Technology (Publications) Ltd cannot be held legally responsible for its contents. The publishers cannot assume responsibility for the return of unsolicited manuscripts, photographs or artwork.

Copyright 1992 Music Technology (Publications) Limited. Cover Photography Courtesy of Capitol Records/James Cumpsty

EDITORIAL

EDITOR

Tim Goodyer

ASSISTANT EDITOR

Simon Trask

PRODUCTION EDITOR

Debbie Poyser

EDITORIAL ASSISTANT

Italia De Santis

ART STUDIO

DIRECTOR

Stuart Catterson

DEPUTY DIRECTOR

Sam Masters

*Darryl Tooth, Hilary Reed,
Chris Brennan*

PHOTOGRAPHY

James Cumpsty, Tim Goodyer

ADVERTISING

GROUP ADVERTISEMENT MANAGER

Colin McKee

CLASSIFIEDS

Alex Day

AD PRODUCTION CO-ORDINATORS

Alex Willers

Sarah Short

ADMINISTRATION

CIRCULATION MANAGER

Cheryl Oates

MAIL ORDER

Jenny Howard

SUBSCRIPTION ENQUIRIES

(0353) 668586

GROUP PRODUCTION MANAGER

Mike Stapleton

EXECUTIVE DIRECTORS

Alan Goodes (Marketing)

MANAGING DIRECTOR

Dennis Hill

CHAIRMAN

Terry Day

POP ART



Canvas & Brush
by Roland

For further information and a free leaflet contact
Roland (UK) Ltd, Atlantic Close, Swansea Enterprise Park, Swansea, West Glamorgan SA7 9FJ
Fax: 0792 310248 • Telephone: 0792 310247

MORE A-DAM FROM AKAI

Akai's support of their A-DAM digital recording system continues with the development of an upgrade which gives the DR1200 more recording time. The DR-EX Extended Recording Kit, when used with Akai STR2130 Extended 8mm tape, increases recording time from 16 minutes to 21 minutes and 30 seconds, though it's still possible to use existing recommended 8mm tape in an extended DR1200. The price of the upgrade is a mere £90 plus VAT and installation.

Still on the A-DAM front, more than a few famous names are currently using the system in their recording projects; both Midge Ure and Thomas Lang have recently recorded albums using 24-track A-DAM systems and Duran Duran

(who they?) are recording their new album with the help of A-DAM. Strongroom Studios are also reporting enthusiastic use of their recently-installed system.

More information is available from Akai Digital, Pro Audio Division, Haslemere Heathrow Estate, Silver Jubilee Way, Parkway, Hounslow, Middlesex TW4 6NQ. Tel: 081-759 8268. **Dp**



MARK OF THE BEAST

Mark of the Unicorn have announced that Console, the program which provides complete control over the MIDI Mixer 7S (reviewed MT, November '91) is now available for the Atari ST and IBM PC and compatibles. All versions are available free of charge to registered 7S users and new units are being shipped with both pieces of software as well as v1.1.1 of the original Apple Mac software.

For the Atari, Console exists both as a desk accessory and as a separate program, giving an on-screen graphic representation of all the parameters of the mixer. Mixer Automation can be achieved in various ways - "Scenes" can be saved and recalled either by program change or SMPTE frame number in MT at the computer's MIDI In port. Using C-Lab's Softlink, changes made in real time using Console in one partition can be recorded by Notator/Creator in another. For those with only 1Mb of RAM, Mark of the Unicorn have created an RMG page setup for C-Lab users and a MIDI Manager page

for users of Cubase, providing direct control of the mixer from within those sequencers.

In the IBM version, again the 7S Console software looks and operates like a standard mixing console. The on-screen faders and knobs animate in response to incoming MIDI data. The IBM 7S Console can automate mixdowns by locking scene changes to SMPTE timecode. The software "requires an IBM PC, AT, XT, PS/2 or compatible computer" with a VGA or EGA video display, a Microsoft or Logitech compatible mouse and a MIDI interface. Current owners should contact Sound Technology to request the IBM software.

To briefly blow MOTU's trumpet, their Performer Mac sequencing software (reviewed MT, January '92) was given the 1991 World Class Award by *Macworld Magazine*. Well done chaps.

More information from Sound Technology at 15 Letchworth Point, Letchworth Herts SG6 1ND. Tel: (0462) 480000. Fax: (0462) 480800. **Dp**

16 BIT'S 5TH

Wembley Exhibition Centre is all set to go hi-tech when it hosts the forthcoming 5th International 16 Bit Computer Show. Scheduled to run from 14th-16th February, the show is intended to "demonstrate how 16-bit computers (Atari STs and Commodore Amigas) can be used by amateur and professional musicians to write and produce music", according to its sponsors.

There will be hands-on opportunities for you to check out the software on display and there will be special show prices for anyone prepared to put up their cash at the time.

Of the exhibitors claimed to be supporting the show at the time of going to press, Atari UK, Roland, Microdeal and the ubiquitous Brixton Exchange Mart are worthy of particular mention.

Music is not the sole reason for the 16 Bit Show, however, and educational, business and leisure applications will also be featured. Take the family. Tickets are available on the organisers' Ticket Hotline - (0726) 68020. Enquiries should be directed to Julie Collins at Westminster Exhibitions Ltd, Surrey House, 34 Eden Street, Kingston, Surrey KT1 1ER. Tel (081-549 3444. **Tg**

SON OF ADMAN

MT staff wish to announce a new addition to MT Ad Manager Colin McKee's family in the form of Matthew, born just in time to cash in on 91's festivities. The editorial

staff would like to wish Matthew the very best of luck when negotiating pocket money with his dad. Well done Colin and Jacqui. **Dp, Tg, St & Ids**

DAT'S CHEAP

In the wake of their well-received HHB1 Pro DAT machine, co-produced with Aiwa, HHB are announcing the launch of their own brand low-cost Professional Series DAT tapes. The new tapes come in a variety of lengths - 15, 30, 48, 62, 92 and 122 minutes and cost from £3.30 for a 15-minute tape to £5.95 for a 122 minute tape. According to HHB, "a revolutionary design minimises errors and maximises tape life", boasting "ultra-fine metal particle formulation with stretch-resistant polymer backing, which guarantees high-performance recording and playback as well as excellent long-term stability"; in addition the tapes are housed in high-strength anti-static plastic shells, have internal spool

bracing to prevent tape edge damage and offer tape labelling which conforms to new APRS guidelines. The competitive pricing HHB are able to offer is a result of the tapes being manufactured especially for them. Quantity discounts are also available.

More information from HHB Communications Ltd, 73-75 Scrubs Lane, London NW19 6QU. Tel: 081-960 2144. Fax: 081-960 1160. **Dp**



The Top 500



Play the D4 with its onboard trigger inputs.

Alesis drum machines are famous for their sounds. The HR-16's natural acoustic drums are still the standard for transparent rhythm tracks. The punchy aggressive samples of the HR16:B redefine how to make rhythm tracks burn. The SR-16 is an instant hit with its sampled reverb and ambience techniques.

Now you can have all this and more with the new **Alesis D4 Drum Sound Module**. There's an incredible 500 sounds in all. Right at your fingertips.

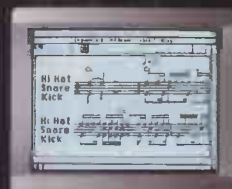
The D4's sounds are unparalleled for their realism. For example, when you hit a D4 sound harder, the tone and pitch change just like a real drum, thanks to the D4's Enhanced Dynamic Articulation.TM Plus, stereo reverb and ambience are built into many of

the samples so you can keep your mind on the beat.

Using the D4 is a breeze with its large data entry knob and dedicated buttons for all major functions. There's even a touch-sensitive preview button and headphone output for instant gratification... and latenight drumset programming.

The D4's 21 user definable drumsets are accessible via MIDI or through the 12 onboard audio trigger inputs. You can even replace a wimpy drum sound on tape. Which you'll want to do if it didn't come from a D4. No rocket science here. Just pure honest incredible sound. The only reason to buy a drum sound module.

Everybody wants a hit. The D4 has 500 of them right now. At your Alesis dealer.



Play the D4 with MIDI software or hardware.

12 audio trigger-to-MIDI inputs are built in for drum triggers, pads, or tape.



ALESIS THE TOP 500 DRUM SOUNDS

THIS WEEK	LAST WEEK	WKS. ON CHART	TITLE ARTIST	DRUM PRODUCTION	THIS WEEK	LAST WEEK	WKS. ON CHART	TITLE ARTIST	DRUM PRODUCTION
1	2	208	HONEST SNARE HR-16	ALL WOOD-BRASS RIM	302	NEW		RAW HIDE BRAND NEW D4	CUSTOM SNARE
2	NEW		STUDIO TOM BRAND NEW D4	16" MAPLE TOM w/VERB	303	450	52	HI ROOM TOM SR-16	10" MAPLE w
3	NEW		BIG "O" BRAND NEW D4	DOUBLE HEAD KICK w/VERB	304	NEW		WET HALF BRAND NEW D4	HALF OPEN HAT w
4	5	52	RIM SHOT ROOM SR-16	BRASS PICCOLO w/VERB	305	327	52	RIM 2 CENTER SR-16	ARTICUL
5	10	156	BIG FOOT HR-16:B	SINGLE HEAD 26" MAPLE	306	123	208	DOUBLE HEAD	DOUBLE HEAD KICK
6	NEW		SLAM BRAND NEW D4	POWER TOM w/VERB	307	223	156		
7	23	156	COMBO SNARE HR-16:B	PICCOLO PLUS WOOD	308	401	52		
8	NEW		BIG BALLAD BRAND NEW D4	WOOD SNARE w/BIG VERB	309	NEW			
9	NEW		FAT CITY BRAND NEW D4	SUPER FAT SNARE	310	175	1		
10	NEW		CLOSE TO OPEN BRAND NEW D4	ARTICULATED HI HAT	311	NEW			
			TRQ WRENCH	TORQUE WRENCH/FAST	312	171			
				14" THICK SPUN	313	332			



LOS ANGELES:
Alesis Corporation 3630 Holdrege Avenue
Los Angeles, California 90016

LONDON:
Alesis Corporation 17 Letchworth Point
Letchworth, Hertfordshire SG6 1ND
TEL: 0462 480500 FAX: 0462 480600

> BASKET CASE



We've important news this month that Roland UK have taken the unorthodox, but ground-breaking step of agreeing to sponsor

Kingston Basketball Club (one of the UK's most successful teams) for the current season. After the surprise withdrawal of former sponsors

Cadbury's Boost due to a change in company policy, Kingston were left sponsorless and minus expected funds - enter White Knight Roland, who were excited by the possibilities for reaching a wider prospective customer base through this type of sponsorship. The move has prompted a name change by the team, who will henceforth be known as Roland Kingston. Roland's influence will be felt elsewhere too - the Roland logo will be present on team strip and advertising boards at the home venue, and the music cassettes played before the game and in intervals have been replaced by live music played on a Roland

E70 Intelligent Synthesiser. The instrument will also accompany cheer-leaders and play appropriate fanfares and other "encouraging music" during the actual game.

Roland managing director, Brian Nunney, was introduced to the team on Wednesday 18th December and was "warmly received" by the home crowd. The prospect of musical entertainment at games finds enthusiastic support from Kingston's coach, Kevin Cadle, who commented: "In the States, basketball and show-business is already a happy mix. It means an even livelier, better-value night out for all the family." **Dp**

STAND EASY

German company Konig & Meyer, reputed to be the world's largest manufacturer of microphone stands, have produced a line of stands and stackers for single and multiple keyboard setups. Featuring robust design and heavy-duty tubular steel construction, all units are height-adjustable and in some cases width-adjustable too. Apart from these designs, K&M also produce an extremely heavy-duty stand for weightier keyboards and a folding table-type stand. Stands are available in a variety of colours and finishes - black, pink, white, blue, red, nickel or chrome. To complement these designs, the company make a pair of folding keyboard seats/benches.

Further info and prices are available from Konig & Meyer, Postfach 1453 - Kiesweg 2, D-6980 Wertheim/Main, Germany. Tel: 49 9342 8060. Fax: 49 9342 80639. Yes, I know it's in Germany, but we're all European now aren't we? **Dp**

HANDS ON GS

Hands On MIDI Software Ltd, purveyors of fine commercial sequence data, have now completed their mammoth task of reconfiguring their entire library to support the new Roland GS format, as featured on the SC55 Sound Canvas. All data (except "the classics") is now available in GS format. In addition, demand has apparently dictated that Hands On Audio be launched to provide backing and karaoke

tapes, which can be purchased in cassette or DAT formats. Customers can specify key and choose to omit important instruments and/or solos if required.

Lastly, Hands On have moved to larger premises, and have a new address: Hands On MIDI Software Ltd, 3 Bell Road, Cosham, Portsmouth, Hampshire PO6 3NX. Tel: (0705) 221162. Fax: (0705) 382865. **Dj**

DIGITAL BOOK

PC Publishing have released the second edition of *Introducing Digital Audio* by Ian R Sinclair. The book has been much expanded, taking into account such recent developments as Sony's Mini Disc and Philips Digital Compact Cassette, with more coverage of the DAT format, which has become ever more common within recording circles. Coverage of MASH and bitstream technology is included, and a glossary has also been added.

As with the original edition, the book strives to explain digital technology in all its manifestations in as clear and as useful a form as possible, making a good reference for technicians and those with a casual interest alike. The book is 160 pages long, well-illustrated, and retails for £6.95.

More from PC Publishing, 4 Brook Street, Tonbridge, Kent TN9 2PJ. Tel: (0732) 770893. Fax: (0732) 770268. **Dj (guesting from H&SR)**

ANYTHING GOES MIDI

Farfisa UK have sent us news of something of interest to the traditionalists amongst you - the Furstein "Night and Day" (TM) piano. This piano, whilst being completely traditional in mechanics, keyboard action, sound and dimensions, can also be listened to through headphones without the feel of the keyboard being altered in any way. In this mode, the acoustic piano is completely silent. Whilst

it combines the look and feel of a craftsman-made traditional piano, the Night and Day makes a significant concession to the 90s with its built-in MIDI Out port. It's available in two sizes, 112cm and 120cm upright in a black polished finish only. Farfisa assure us that pricing is "very competitive".

More info from Farfisa UK Ltd, Fraser Street, Burnley, Lancs BB10 1XJ. Tel: (0282) 35431. Fax: (0282) 831132. **Dp**

NEW GAJITS

Gajits Music Software have announced a brand new sequencer for both the Atari and the Amiga. Sequencer One Plus retains all the features of the the original Sequencer One, but with one or two extras.

For the first time on the Atari Sequencer One makes use of the internal sound hardware of the Atari

ST and STE to achieve four-channel sample playback (in stereo on the STE), and compatibility with Microdeal's Replay and Playback hardware add-ons. The Amiga version supports the dedicated sample replay hardware within the machine.

Other new facilities offered by Sequencer One Plus include the new

Diamond Drag note editing system, allowing fast note editing with the mouse. Notes can be transposed, stretched, shrunk, moved or deleted with the minimum of effort. Another addition is the Juke Box Screen, which allows songs to be chained together, by loading the next song as the current song is playing, making Sequencer One Plus a little more friendly for live use. Other new features include tempo maps, auto

count in, handling of MIDI SysEx data, track solo, extra quantise options and more. The price is £129.95, but for a limited period, Sequencer One Plus will be available in the form of an upgrade kit for owners of the original version for only £49.95.

More from Gajits Music Software, I-Mex House, 40 Princess Street, Manchester M1 6DE. Tel: 061-236 2515. Fax: 061-236 4044. **Dj**

THE SIGN OF A FINE PRODUCT
MCM
DISTRIBUTED IN THE UK BY

Sound

its big

What do you look for in a guitar processor?

Sound - Sound so pure yet so powerful it enhances your playing whatever the style, whatever the situation. The Zoom 9000 sounds bigger than anything else.

Feel - The unquestioned feel of quality, the easy to operate controls. The Zoom 9000 feels nicer than anything else.

Features - Powerful overdrive, distortion and amp simulation, classic tremolo, studio-grade pitch shifting, digital delay and reverb, built in full-function in-line tuner,

stunning multi effects and a total access pedal-board controller as standard. The Zoom 9000 has more features than anything else.

Looks - The purity of line, the quality of materials, the envious glances from your contemporaries. The Zoom 9000 looks better than anything else.

Price - With a nicer feel, more features, better looks and a bigger sound than anything else, isn't it nice that the price of the Zoom 9000 guitar processor system is smaller than anything else. - What did you expect.

ZOOM 9000

what did you expect!

MCMXCIX the mcm building, 708a abbey road, tudor estate, london, nw10 7uw. telephone 081 963 0663, fax 081 963 0624

Cadenza

The Graphic Sequencer **£160**

SIMPLICITY

Cadenza is easy to learn, thanks to its modern graphic design and carefully crafted help system. Cadenza doesn't trade power for convenience. Cadenza's thoughtful design gives you the best!

POWER

Cadenza is one of the most powerful sequencers available. Cadenza's graphic editing gives you precise control over all of your music, from notes to MIDI controllers and tempos.

FEATURES

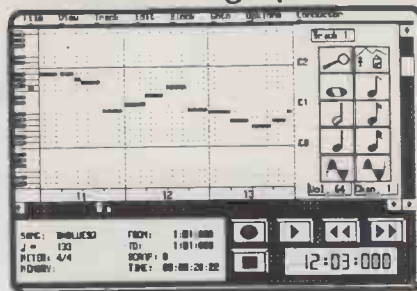
Cadenza gives you everything you expect in a PC based sequencer, and more!
Graphic Editing is just a start - Cadenza is packed with everything you need to get your music right.

POWER PACKED & OUT NOW!

Cadenza
FOR Windows

Cadenza for Windows is the most powerful & advanced sequencer available

The full-featured sequencer with professional power and an intuitive graphic design. Cadenza has the following features...

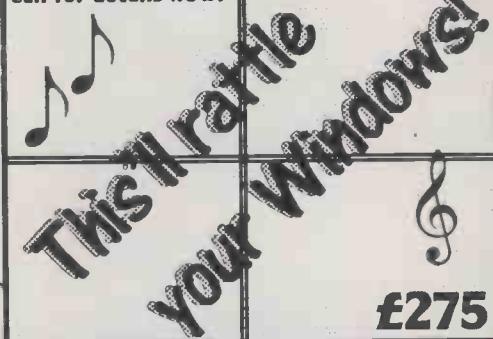


Cadenza's Graphic Note Editor

Cadenza is the professional PC sequencer that is uncommonly powerful, yet fun and easy to use. With all of Cadenza's advanced features you can get your music the way you want, quickly and intuitively.

Ask us for a copy of the PC TODAY
"Rave Review" of Cadenza.

Call for details NOW!



From the EXCLUSIVE distributor
NO SUPPORT OR UPDATES FOR GREY IMPORTS!

- 64 Multi-Channel Tracks
- All displays follow playback
- Multiple MIDI ports supported
- Record filter
- Step Record
- Sysex Librarian
- Tempo resolution to the tick
- TAP Tempo
- SMPTE, Chase Lock & FSK tape sync
- Link mode for pattern sequencing
- Reads & Writes SMF
- Completely adjustable quantising
- Humanising
- Each track has independent settings for MIDI channel, transpose, mute, solo, volume & pan
- Independent Track looping
- Tape deck style transport buttons
- Selectable count in
- Punch in-out at any point
- Full metronome control
- Position displayed in both Measure/Beat; Tick; and Hour/Minute/Second; Frame
- Live performance facility

Graphic Editing -

- Song Editor
- Piano Roll Note Editing
- Event List editor
- Conductor track for tempos
- Controller Editing with both faders and Graphs
- Pitch bend graphs
- Aftertouch Graphs
- Graphic velocity editing
- Zoom in/out for detail
- Edit with the mouse
- And Many More...



Cadenza	plus
PC MIDI Card	£264
MQX-16	£316
MQX-32M	£449

MIDI Interface Excellence

Four Reasons to Choose **Music Quest**

Focus

Music Quest's primary aim is the design and manufacture of MIDI interface cards for IBM & Compatible's. This focus has enabled them to keep abreast of your changing needs in a MIDI interface.

Software

With a Music Quest MPU-401 compatible interface you have over 100 programmes to choose from. Plus, users of the more elaborate cards will get advanced features supported by all professional sequencers for IBMs.

Innovation

Music Quest are proud to be able to say that they have been responsible for having pioneered every significant innovation in intelligent interfaces. Amongst these are:

Multi Port operation; Chase Lock & SMPTE tape sync; MIDI Time Code support; Channel Remapping; MIDI metronome; Channel splitting; User selectable interrupt & address.

Choice

Whether you're a beginner, a serious amateur or a seasoned professional, there's a Music Quest card to meet your requirements. Choose from four different models - starting with the budget priced PC MIDI Card, the MQX-16 & MQX-16S adds sophisticated synchronisation for serious multi-track tape work, finally the MQX-32M offers multi-port operation (32 MIDI Ch) along with tape sync, SMPTE & MIDI Time Code.

PC MIDI Card £116. MQX-16 £179. MQX16S £229. MQX-32M £249

FREE introductory membership to COMPUSERVE (worth £22.95) + FREE usage credit; with all orders over £50.

Ballade v2.5 & Ballade GS both £175

For further information about our exclusive product range and services why not call for a free catalogue?
Access & Visa accepted, please add £3.50 to your order for P&P. ALL PRICES INCL VAT.

Digital Music

UK & OVERSEAS DEALER ENQUIRIES WELCOME.

27 Leven Close, Chandlers Ford,
Hants, SO5 3SH, England.

0703 252131

Fax: 0703 270405

THE Musicator

The ONLY notation-based sequencer for the PC

A concept the competition are ^{still} dreaming about!

NEW v2.5 with the following features:-

- 32 Staves / 32 Tracks
- Over 64,000 notes
- Real-Time and smart step-entry from MIDI or PC keyboard
- Each staff transmits on 2 ports/channels
- 32 MIDI channels when used with Music Quest MQX32M
- SMPTE & MTC sync with time indication on any objects pointed to
- Chase Lock tape sync
- MIDI note triggering while editing
- MIDI file Import/export
- Overview screen with graphic bar-level editing
- Smart multi-resolution MIDI quantise
- Shuffle/Groove adjust
- Powerful MIDI-controller processing & editing
- 32-parts per score
- Total transcription control of note resolution, voices & rests
- Automatically transpose all clefs and octaves
- Adjustable splitpoint between staves on double staff
- Beam group control
- Adjustable note spacing
- Transposing of MIDI data, notation and chord symbols
- ALL printer types supported
- Print complete Score or parts
- Variable symbol sizes
- Print to PCX files for desktop publishing
- No longer copy protected

EXCLUSIVE!

£452

NEW!

Musicator GS

Mixer panels lets you change Vol, Pan, Chorus & Reverb - AS THE MUSIC IS PLAYING!

16 Tr / 16 Staff Seq - Notator Supports Roland GS Format Upgradeable to The Musicator

£265

EA0E

german raving

Your choice of interviews is one of the most appealing subjects in your mag. Without gravitating towards becoming a purely dancefloor mag you've managed to satisfy my interests as a techno raver. By the way, have you noticed how many of the artists mentioned by Andrew Hill (Communique, April '91) you have covered? Thank you. Of the ones still left, Nexus 21/Altern 8 would be interesting at the moment. Two other artists of interest are GTO/Tricky Disco/John & Julie and Moby.

A friend of mine - Tobias from a band called Apoplexy who are signed to the Berlin-based Machinery label - mentioned that there are interesting things going on in the electric body/industrial area. Since your last coverage of this was Front 242 (June '89), you might also like to do something on our hardcore friends.

Acts attracting interest here in West Germany at the moment are Skinny Puppy (from Canada), Frontline Assembly (also from Canada), Die Krupps (Germany) and Click Click (from Leeds in the UK). With 1992 coming, you might like to cross the channel more often.

Sir Mike MC
Sasbach
W Germany

bizarre sounds

Sitting in my studio having a quiet read of December's MT (while my girlfriend has a "girls' night in" in the other room) I came to the Bizarre Inc interview. As the music I write is of a similar style, I read intensely - until I read "...a D110 (rubbish for dance music, the sounds aren't there)". Who are they trying to kid?

While I admit that the presets in

the D110 may not be of a dance style, the capability of the machine is tremendous. Have Bizarre Inc ever tried to program it? It is a synth after all. I find it strange to read about a group who thrive on "analogue" sounds calling a D110 rubbish, as the instrument can be made to sound very "analogue".

Please find enclosed my phone number in case Bizarre Inc are interested to hear what the D110 can really sound like.

Shaun Wight
Nottingham

and another thing...

I've been reading MT for some time now but I've never got around to writing you a letter because I've never had enough reasons. Until now.

Concerning Keir Thomas (Communique, October '91), I'm confused as to his priorities. He can't afford the "200 quid" for a keyboard but he's managed to obtain a CD player. Who's he trying to kid? I've played musical instruments for over seven years, have never made enough money to call myself a pro but have managed to collect two decent guitars, a bass, recording gear (four-track), a D10 and a PR100 sequencer. But I've yet to find the money for a decent hi-fi, let alone a CD player. Yet playing music is only a hobby for me.

Anyone who feels they can afford to give away gear (Don McCormick; Communique, Dec '91) would do better selling it mega cheap to the Keir Thomases of the world and then giving the money to charity, so doing them both a favour.

Moving on to Steve Clark (Communique, December '91), it was RAM, not REM, who was the

program in *Tron* - an accounting program, if I remember correctly.

And to Martin Howard (Communique, Nov & Dec '91), I got my keyboard as a result of a shopping trip looking for a decent MIDI guitar. My guitar playing has earned me a reputation as a clean, tight and accurate player but I couldn't wean any 2nd, 3rd or 4th fret harmonics from the synth unit even when they came out of the guitar. And the tracking was slow, with a capital two miles an hour (and I ain't exactly Yngwie Malmsteen). MIDI guitars are an interesting idea, but I wouldn't like to get on a stage and play one, thank you. I like my credibility the way it is.

On the subject of MT, could you explain to me why there's such a difference in size between this mag and your sister, *Guitarist*? I appreciate there's a difference in sales and turnover, but I'd like to hear about it anyway.

Finally, while I sometimes read the *On the Beat* series, surely this would be better placed in another of MT's sisters, *Rhythm* magazine, and use the space in MT to cover playing techniques or creative sampling. After all, if I had problems with my drum programming, I'd buy another magazine to help me with it.

Edi Murphy
Eastfield
Cumbernauld

Just to bring you up to date, Edi, I hear Keir Thomas has taken up origami, Don McCormick changed his name and had plastic surgery, Steve Clark has accepted a research post in artificial intelligence at MIT and Martin Howard is currently in a service station somewhere between Betelgeuse and the Crab Nebula.

Returning to the real world, comparing MT and Guitarist is likely to lead you to some rather erroneous conclusions, I'm afraid.

You're right in assuming that it all comes down to cash, but you have underestimated the size of the guitarist-related market compared to that of hi-tech. Guitarist is the biggest-selling musicians' magazine in Europe. The number of guitarists in circulation is staggering (terrifying, actually), while that of keyboard players/disciples of hi-tech is far smaller. Part of the reason for this is that the outlay involved in hi-tech music making is depressingly large. Until that at least changes, you and me and MT are dealing with a specialist area of a specialist market. C'est la guerre.

As for On the Beat, you can certainly pick up drum programming instruction from Rhythm, but you be paying for a whole magazine in order to read a handful of pages. (It is, after all, a drummers' magazine.) As MT's editor, I'm not prepared to penalise the readership in this way. But apart from the series in Rhythm (also written by Nigel), I'd challenge you to find a comparable work on rhythm programming in print anywhere - that's why it's proved so popular with such a large number and wide range of people. As for a keyboard techniques series, it's such a broad and well-documented area that we really don't feel we could do it justice in a series of monthly instalments. Creative sampling, on the other hand, is a broad topic that we've chosen to cover on a regular basis but not in the form of an On the Beat-style column. In this way, you read about it from different perspectives provided by various authors as well as certain interviewees. We believe this is the best way to approach this important and quickly-evolving issue.

Now, if there's anything else you need, just drop me a line. Better still, drop in for a beer and a chat. I'd love to discuss politics or AIDS with you and maybe we could have a game or two of Trivial Pursuit. . . Tg

FRIEND CHIP TCR1 TIMECODE REFRESHER

IT'S THE MOMENT you dread - the multitrack is happily playing back your vocal and guitar parts but the sequencer has stopped, and taken out the drums, bass, pads. . . There's a dropout on the sync track and experience tells you it's usually a fatal situation.

Such a dropout might be caused by audio on the adjacent track interfering with the sync tone, or there may be a drop in the signal level. It may even be down to the cable connections between the sequencer and tape recorder. Your usual solution is to record another timecode track, work out the start time and offset - and hope.

Another area in which timecode problems arise is when transferring sync code from one tape machine to another. This invariably distorts the square wave - ultimately to the point where a dropout occurs. Square one.

It all sounds like a job for the TCR1. Friend Chip, who brought out the K..AT ST remote controller some months ago, have recognised the need for a unit which can generate a high-quality square wave from practically any distorted waveform on tape.

The TCR1 is a full-width 1U-high rackmount unit just 3cm in depth. The front panel has controls for Sensitivity and Level along with LEDs indicating Signal and Error. It also has a couple of diagrams showing a particularly ropery input waveform followed by a precise output version (like the soap powder ad with beetroot stains). The rear has two quarter-inch jack sockets for Code In and Out and a 2.1mm socket for an external PSU (not included). If you want to be able to patch in and out on the front panel, there are holes in the chassis to accommodate extra jacks. The small size of the TCR1 belies the fact that it contains no less than eight chips on a neatly laid out, double-sided PCB.

The best way to use the TCR1 is to patch it

into a patchbay so that the connections can easily be changed between use on recording SMPTE to tape, and on playing the timecode back. When recording SMPTE, the Sensitivity control is set fully to the right and then backed off anti-clockwise until the signal LED remains constantly on. The Level control is then used to ensure that the correct level of timecode is recorded to tape, which will vary between multitracks. On playback, the Sensitivity control is used in the same manner, while the Level control ensures that the Sync LED on the SMPTE unit remains constantly on. Generally, the same settings work for record and playback, which means that the TCR1 is practically "invisible" in use.

The square wave produced has edges which slope slightly; this helps to minimise the crosstalk between the track used for SMPTE and the adjacent track. While the unit doesn't "jam-sync" in that it will not continue to generate timecode if a dropout occurs, it will continue to send a data "1" signal which apparently confuses many SMPTE readers into believing that timecode is still being sent for two or three frames. Ingenious.

Results in use were very interesting. One of the principal problems with using narrow tape (cassette or quarter-inch reel-to-reel) is getting the level on tape right. Too high a level gives crosstalk; too low a level gives intermittent dropouts. It was possible to record SMPTE at -15dB on a Fostex R8 and still get a perfect lock on playback. In fact, it became clear that using the TCR1 on playback really is only half of the answer; by using it to record timecode as well, there's definitely an improvement in crosstalk for signals recorded at the same level. While I couldn't test it, I would expect the results with a four-track cassette to be as good if not better.

This is because crosstalk on cassette is a serious problem and so timecodes tend to be recorded at a dangerously low level.

The idea of the two- or three-frame dropout compensation couldn't really be tested either as it is very difficult to deliberately create such a dropout. However, the delay between Code In and Out was measured with a dual digital storage oscilloscope and measured as being 140ms-200ms. Apparently, with a perfect input signal, the manufacturers quote the delay as being 125ms with a worst-case figure of 200ms, which the test agreed with. One oddity is that the waveform is inverted, but as SMPTE is a biphasic signal, this is of no consequence.

Currently, no PSU is included with the TCR1; the transformers supplied with Roland Boss units work perfectly, however, as long as the polarity is reversed. Fortunately, a diode is positioned in-line with the power input to protect the circuitry should you use a power supply of the wrong polarity (why don't all manufacturers do this?).

At its price the TCR1 is unreservedly recommended, especially for cassette and quarter-inch based studios. Bearing in mind that it's also perfect for transferring code from one tape to another, anyone working with audio-visual who moves audio from one system to another (quarter-inch to video, say) and also needs to copy the SMPTE would do well to have one to hand. I bought one for use with my Fostex E16 - the level on tape no longer wanders up and down like a thermometer reading. ■

Vic Lennard.

Price £79 including VAT, plus £2.93 p&p. A power supply is available for £8.50 including VAT. **More from** Q Logic, PO Box 109, Dundee DD1 9DF, Scotland. Tel: (0796) 2001, Fax: (0796) 3806.



PHOTOGRAPHY: JAMES CUMPSTY

The DPM[®] 2



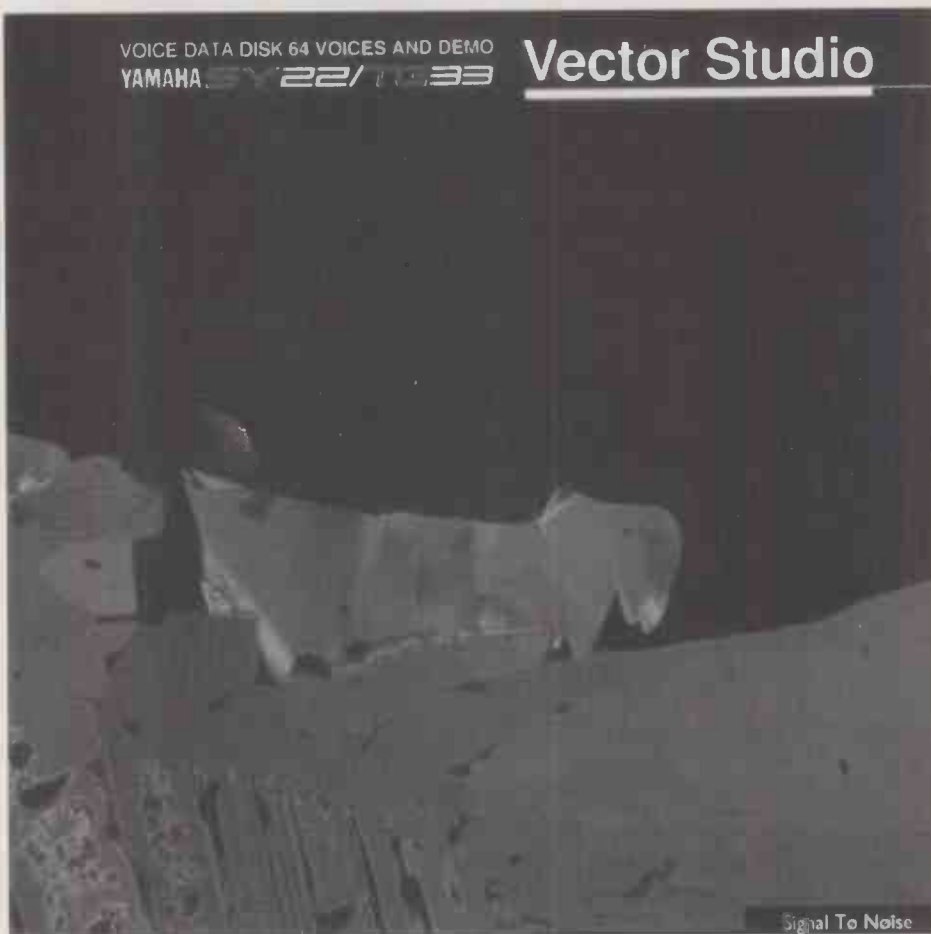
Riding high on the success of its big brother, Peavey's newest entry into the synthesizer market makes its debut with a smash. Introducing the new DPM[®]2 digital phase modulation synthesizer. Now you can have the high performance of the DPM[®]3se with a surprisingly low investment. The DPM 2 was designed for the stage or studio musician who wants the power, sound, and flexibility of the SE with only a limited array of extras, allowing you to expand at your own pace as your needs demand. It contains the same 4 Megabytes of internal ROM samples as the critically acclaimed SE, offering the incredible clarity and bandwidth of 16-bit resolution. Other features include: 600 internal program locations (300 factory, 300 user), and up to 800 locations with memory card; a built-in 24-bit programmable dual effects processor; ten 32-piece programmable Drum Kit locations; up to 4-program mapping for creating layers, splits, and velocity switches; 16 voice polyphony; and 16 channel multi-timbral capability with dynamic voice allocation. Plus, like its big brother, the DPM 2 is totally software based! And if that weren't enough, the DPM 2 will also accommodate simple, affordable future upgrades and additions — a sequencer, sample RAM expansion, and true sampling capabilities, to name just a few. The DPM 3se led the way in revolutionizing modern synthesizer technology. Now the DPM 2 continues the tradition. And in this case, second best is still number one.

*Visit Your Peavey Dealer Today
And Play The Amazing New DPM 2!*



VOICE DATA DISK 64 VOICES AND DEMO
YAMAHA SY22/TG33

Vector Studio



Signal to Noise

VECTOR STUDIO

Voices for Yamaha SY22/TG33

Creating sounds is becoming big business now, especially as many synths are difficult, if not impossible, to program from the front panel. Companies taking a professional attitude to the supply of those sounds are going to score points over their rivals; one such company is Signal to Noise, whose first offering is for Yamaha's SY22/TG33 synths.

Rather than provide the sounds on a RAM card, which is expensive, they're supplied on 3.5" disk in a CD-style case with full-colour booklet and label. Signal to Noise also appreciate that a simple "loader" program won't suit everyone and so supply the sounds in various formats. The review version was for the Apple Macintosh and had the 64 voices in Mark of the Unicorn Performer and Opcode Vision song formats along with the relevant modules and bulk data for Opcode's Galaxy editor. The data is also presented in Standard MIDI File format for use

with other sequencers and as a Hypercard stack.

This on its own would be impressive, but Signal to Noise also appreciate the value of the kind of "demo" available on most modern synths. Consequently, they also give you three demos in the song file formats above, in MIDI File format and for Hypercard. Full instructions are supplied on disk files of two different formats in case your sequencer can't import MIDI Files (MIDI File playback devices, for example). The sounds are divided into eight groups of eight, each of which take up a bank on the synth. These are carefully itemised in the booklet with the voice name, comments and details on whether Level and Detune vectors have been used and the functions which the mod wheel and aftertouch carry out (modulation, vibrato, chorus).

The first bank is the Showcase Bank. There is little doubt that the first preset you hear in a new set of sounds affects your attitude towards those sounds, and 'Goon' is an excellent choice. Pitchbent bells, string pad and swelled-in noise conspire to give a shiver down the spine. 'CMI22' (CMI?) is a pretty good attempt at that infamous breathy choir sound, and 'Toast' is a convincingly resonant, "analogue" funk synth. Next comes the

Acoustic/Electric Pianos; while an accurate acoustic piano is pretty well impossible to coax from the SY22, Signal to Noise have attempted to create pianos which sound good in a recorded mix. 'Quado' is one such piano, the slight chorus effect caused by detuning adding a richness to the tone. 'Padul', meanwhile, is a Rhodes-like piano with swelling strings behind it.

The third bank is Solo and Other Keyboards. Here 'Modun' is a superb Hammond-style organ complete with click, Leslie effect via aftertouch and vibrato on the mod wheel; 'Vai' is an electric guitar patch which tails away to a screaming harmonic and brings in pitchbend via aftertouch. Bases and Percussion have various goodies; fat, analogue bases in 'Housy' and 'VC02', sharp, metallic bass in 'Atack'. The four percussive sounds are superb, from the metallic, ethnic 'Ethos' through the bell-like, PPG-style 'Tinka' to 'Chink', a key-split timpani drum and bell/flute 7ths combination. Excellent stuff.

Synth Comp/Choirs/Strings has two sounds that stand out; 'Astra', a breathy choir with strings whose pitch fall away while decaying, and 'Bells', a remarkably thick texture of bells and strings. Brass Collection varies from the raucous 'Stabs', 'Synth' and 'Fizzi' to the mellow, french horn-like 'Proms'. The Synth Pads/Musical Effects bank is disappointing in that most of the sounds are the type of sounds which you may find a use for once in a moo blune; multiple sounds brought in on a time delay is a commonly-used effect. Directly opposed to this is the final bank, Musical & Special Effects/Drums whose first three sounds could each be used for the first chord of some musical epic. 'Shore' is the perfect electronic coastline sound (complete with seagulls) and the final patch is a highly percussive set of drums.

Reverbs and delays have been intelligently used throughout, to the point that the sounds really do feel as though they are coming out of the speakers at you. A similar package for Atari ST and PC computers is currently being put together. For those of you who believe that the SY22/TG33 are the poor relations of the SY/TG family, it's well worth hearing these sounds - shops stocking them are likely to sell an awful lot of these synths via the demos alone. The whole package looks and sounds totally professional, which makes a change for sound banks not supplied on RAM cards. ■ *Vic Lennard*

Price £29.95

More from Signal To Noise, PO Box 5005, London N10 3UW.

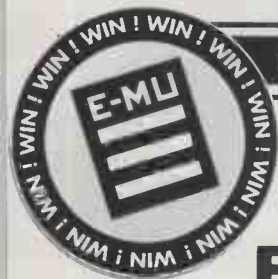
MUSIC TECHNOLOGY FEBRUARY 1992

SC SOUND CONTROL

M A I L O R D E R

WHERE ELSE CAN YOU GET SUCH A GREAT DEAL
(Calling our Freephone Hotline won't cost you a penny)

Freephone 0800 52 52 60



ROLAND

ALL ROLAND IN STOCK

JX-1	£	Special
JD 800	£	Special
MV-30	£	Special
GP-16 Effex Processor	£	Special
GR50 / GK-2	£	799.00
R-8 Rhythm Composer	£	Special
SPD-8	£	Special
Roland W-30, SC-55, SB-55, MC-50		

All Supplied from Stock.

BOSS

BEST UK PRICE

SE 50 "Pro" Series Multi
FX with Built in Vocoder
FREEPHONE FOR £ UK's Best

BOSS WS20 / WS20M	£	MEGA
BE 5M Multi FX / Memory	£	MEGA
FC 50 Midi Foot Switch	£	In Stock

Full Range of Efex Pedals In Stock.

KAWAI/ROLAND

EXCLUSIVE DOUBLE DEALS

KAWAI K4R SYNTH MODULE.

It is a 16BIT Digital/Multi-Timbral Synth
Module with on-board drum sounds plus
individual outputs - check it out !

PRICE (Inc VAT & Delivery) £ 299.00

ROLAND JX-1 Performance Synth

64 perset, 24 note polyphony, velocity-
sensitive synth, it's the bizness.

RRP £ 559.00 our price £ 299.00

PACKAGE DEAL SPECIAL

JX-1 plus K4R (Inc Delivery) £ 575.00

ALESIS

SAME DAY DISPATCH

Microverb / Midiverb - 3	£	Call Free
Quadraverb Plus / GT	£	Call Free
Datadisk SQ	£	Call Free
MEQ-230	£	Call Free
3630 Compressor/Limiter	£	Call Free
SR-16	£	Call Free
RA-100 Power Amp.	£	Call Free

YAMAHA

YAMAHA SPECIAL DEALS

EMP100 Multi Efex	£	In Stock
FX 500	£	In Stock
SY Series Synths in stock.	£	In Stock
YAMAHA TG-33/55/77	£	In Stock
QY10 (Back in Stock)	£	In Stock

Freephone for a Great Yamaha Deal.

ATARI

SEQUENCING SPECIALS

ATARI (1 Meg) - CUBEAT	£	Special
ATARI (1 Meg) - CUBASE	£	Special
ATARI (1 Meg) - CREATOR	£	Special
ATARI (1 Meg) - NOTATOR	£	Special
All Mac - Atari - PC Software	£	In Stock

ENSONIQ

ALL PRODUCTS IN STOCK

Full range of ENSONIQ,s in stock.
Call free for a Mega Deal today !

AKAI

AKAI SPECIAL OFFERS

AKAI S - 950	£	In Stock
AKAI S - 1000 Series	£	In Stock
AKAI S - 1100	£	In Stock

KORG

A5 EFFEX ALL IN STOCK

KORG M1	£	Special
KORG 01-W / 01WFD	£	Special

The new KORG synth range now in stock!

PA/STUDIO DEALS

Call Free for a Mega Deal.

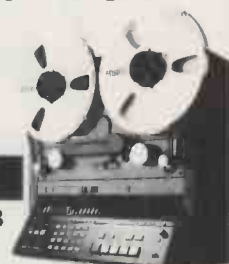
Soundcraft Spirit Desks	£	In Stock
Full Range of Live/Studios	£	CALL !
SHURE SM 57 Microphone	£	79.00
SHURE SM 58 Microphone	£	89.00
NDYM 257	£	89.00
BEYER M300	£	69.00

Full Range of P.A. equipment from TOA,
AKG, BOSE, E.V., JBL, Peavey, Carlsbro,
E.V., Dynacord, etc.

FOSTEX

THE NEW X-18 IN STOCK

FOSTEX X-18	£	In stock
FOSTEX X-26	£	UK's Best
FOSTEX X-28	£	UK's Best
FOSTEX 280	£	In Stock
FOSTEX R-8	£	In Stock



TASCAM

BEST UK PRICE

PORTA 03 /05	£	Special
PORTA 2 (HS).	£	399.00
TASCAM - 424	£	Special
TASCAM - 488	£	Special
TASCAM - 688	£	Special
TSR8	£	Special
M2516 Desk	£	Special
All new desks in stock	£	Call Now

PROTEUS

WIN ! WIN ! WIN !

All Proteus in stock at the very best
deals available, including the
exciting new MPS Keyboard.

WIN an E-MU Piano Module by
answering the following questions.

1. The new Proteus/MPS is the flagship of the
Proteus range. What does "MPS" stand for ?

2. How many megabytes of
internal ROM memory are
on-board as standard ?

3. The "MPS" is the heart of any Midi system.
In your own words (of 15 or less) state why
the "MPS" plays such an important part of a
Midi setup ?

Name.

Address.

Post code.

Your main musical interest.

Fill in & return this to Sound Control Mail Order.

MAIL ORDER DIVISION

73 Elgin St, Dunfermline, Fife. KY12 7SD Freephone: 0800 52 52 60
Or you can Fax your order to us on 0383 725733.

All of the above deals are available from all branches of Sound Control.

ON THE



Part 27

**CALL IT ANOTHER METHOD OF
"CHEATING" IF YOU LIKE, BUT
USING A DELAY UNIT TO CREATE
UNUSUAL RHYTHM PATTERNS -
IT WORKED FOR THE POLICE. . .
TEXT BY NIGEL LORD.**



AS IN SO many other aspects of musical composition, one of the hardest things about writing rhythm tracks is preventing yourself from wandering down the same well-trodden path and emerging with a reworking of an all too familiar pattern. Though this doesn't seem to bother those who believe 'Funky Drummer' to be the sole path to dancefloor nirvana, anyone with any regard for originality will almost certainly have felt the need to develop some method of breaking away from

"standard" patterns.

Short of inspiration from any other quarter, I tend to fall back on a couple of programming tricks which can almost always be relied upon to get the creative juices flowing and provide some germ of an idea on which I can build a potentially interesting rhythm track. The first of these involves taking an existing pattern and making changes to the voice assignments - not minor changes like substituting bass drum or snare voices, but more radical



ILLUSTRATION: CLIVE GOODYER

reassignments such as using the hi-hat line to trigger a tom-tom or perhaps a pair of congas. Or maybe using the bass drum notes to trigger a synth patch or sample.

Though this seldom produces instantly usable results, it almost always reveals some path towards inspiration.

The second method I find even more effective; patch the output from your drum machine(s) into a delay unit -

preferably stereo - select a favourite pattern and adjust the delay time and feedback (repeat) levels until they are locked into some rhythmic cycle with the pattern. At any given tempo, there will be at least three or four delay times capable of producing rhythmically interesting results. Used with the right pattern (which will usually be fairly sparse in terms of arrangement) these can often provide some fascinating rhythmic effects.

Experimentation is the key: though there's often a direct relationship between pattern tempo and delay times, this cannot be relied upon to provide the most effective results. A straightforward repeat timed to occur on the beat of the pattern usually only produces a peculiar phasing effect as the notes of the delayed pattern duplicate those of the original. It's better to time the delay to provide off-beats and repeating figures within a pattern - particularly where a stereo processor is used and delay and repeat times may be set up independently.

You should also experiment to discover what difference there is between using delay effects and genuine echoes - where the repeats decay in level and eventually die away. Some patterns are more suited to one than the other, particularly where high feedback levels are involved. More importantly, however, you'll need to decide which instruments within a pattern should be subject to the delay treatment and which shouldn't. Often, the quite dramatic effects produced by the processor make it unsuited to more critical instruments such as the snare, bass drum and hi-hat but this certainly isn't always the case and you have no alternative but to adopt a suck it and see approach.

Of course, those of you with access to MIDI effect processors should be able to produce similar results "at source", without committing an external unit to providing delay effects. You should also find it possible to re-record the sequence and incorporate the delay effects into the pattern itself. This is particularly useful if you're interested in seeing exactly what's going on, or if you want to edit some of the repeated notes relative to those already in the pattern.

The five Patterns in this month's *Beat* all work extremely well with delay effects and I've highlighted some of the transformations possible with a few well-placed repeats or echoes. Obviously, the major problem lies in accurately setting up the same delay and repeat times (relative to pattern tempo) on your machines as existed on mine when the patterns were notated. To make this easier, I've stuck to a single tempo figure this month which should be adhered to at least until you have the pattern and the delay times locked together. I think it fair to say all the quoted figures were derived from fairly accurate equipment, and I think ➤

> you should find it possible to achieve the intended rhythmic effects without moving more than about $\pm 10\%$ from the stated figures.

As you can see, I've included two delay and repeat times for each pattern - labelled left and right - and these can be used simultaneously if you have a stereo processor at your disposal. If not, you'll just have to try each delay time individually and see which one you prefer. Incidentally, the figures for

"repeats" are just that - the recommended number of repeats for each delay effect. You'll need to set the feedback parameter on your machine to provide the requisite number, though by and large you should find these figures are far from critical and can be varied over a considerable range - especially if the bass and snare drums are not subject to the delays.

The patterns themselves should be pretty straightforward for regular readers

of this series; there are no special programming notes which need outlining - with the possible exception of the closely-spaced snare notes in Patterns 2 and 5. Though these aren't true flams, they do need to be programmed pretty close together (about a quarter of a grid division). However, given the effect on timing of the delay unit, you may find you have to experiment a little to get the correct spacing for these. ■

PATTERN: 1a		TEMPO: 120 BPM	
BEAT: 1		2	
Clsd HiHat	1	2	3
Open HiHat	1	2	3
Snare Drum	1	2	3
Mid Tom	1	2	3
Low Tom	1	2	3
Bass Drum 1	1	2	3
Bass Drum 2	1	2	3
TIME SIG: 4/4		BAR 1	
DELAY/ECHO:	Left 630ms	Right 750ms	REPEATS: Left 10 Right 5

PATTERN: 1e		TEMPO: 120 BPM	
BEAT: 1		2	
Clsd HiHat	1	2	3
Open HiHat	1	2	3
Snare Drum	1	2	3
Mid Tom	1	2	3
Low Tom	1	2	3
Bass Drum 1	1	2	3
Bass Drum 2	1	2	3
TIME SIG: 4/4		BAR 5	
DELAY/ECHO:	Left 630ms	Right 750ms	REPEATS: Left 10 Right 5

PATTERN: 1b		TEMPO: 120 BPM	
BEAT: 1		2	
Clsd HiHat	1	2	3
Open HiHat	1	2	3
Snare Drum	1	2	3
Mid Tom	1	2	3
Low Tom	1	2	3
Bass Drum 1	1	2	3
Bass Drum 2	1	2	3
TIME SIG: 4/4		BAR 2	
DELAY/ECHO:	Left 630ms	Right 750ms	REPEATS: Left 10 Right 5

PATTERN: 1f		TEMPO: 120 BPM	
BEAT: 1		2	
Clsd HiHat	1	2	3
Open HiHat	1	2	3
Snare Drum	1	2	3
Mid Tom	1	2	3
Low Tom	1	2	3
Bass Drum 1	1	2	3
Bass Drum 2	1	2	3
TIME SIG: 4/4		BAR 6	
DELAY/ECHO:	Left 630ms	Right 750ms	REPEATS: Left 10 Right 5

PATTERN: 1c		TEMPO: 120 BPM	
BEAT: 1		2	
Clsd HiHat	1	2	3
Open HiHat	1	2	3
Snare Drum	1	2	3
Mid Tom	1	2	3
Low Tom	1	2	3
Bass Drum 1	1	2	3
Bass Drum 2	1	2	3
TIME SIG: 4/4		BAR 3	
DELAY/ECHO:	Left 630ms	Right 750ms	REPEATS: Left 10 Right 5

PATTERN: 1g		TEMPO: 120 BPM	
BEAT: 1		2	
Clsd HiHat	1	2	3
Open HiHat	1	2	3
Snare Drum	1	2	3
Mid Tom	1	2	3
Low Tom	1	2	3
Bass Drum 1	1	2	3
Bass Drum 2	1	2	3
TIME SIG: 4/4		BAR 7	
DELAY/ECHO:	Left 630ms	Right 750ms	REPEATS: Left 10 Right 5

PATTERN: 1d		TEMPO: 120 BPM	
BEAT: 1		2	
Clsd HiHat	1	2	3
Open HiHat	1	2	3
Snare Drum	1	2	3
Mid Tom	1	2	3
Low Tom	1	2	3
Bass Drum 1	1	2	3
Bass Drum 2	1	2	3
TIME SIG: 4/4		BAR 4	
DELAY/ECHO:	Left 630ms	Right 750ms	REPEATS: Left 10 Right 5

PATTERN: 1h		TEMPO: 120 BPM	
BEAT: 1		2	
Clsd HiHat	1	2	3
Open HiHat	1	2	3
Snare Drum	1	2	3
Mid Tom	1	2	3
Low Tom	1	2	3
Bass Drum 1	1	2	3
Bass Drum 2	1	2	3
TIME SIG: 4/4		BAR 8	
DELAY/ECHO:	Left 630ms	Right 750ms	REPEATS: Left 10 Right 5

Now open
6 days a week

Andertons
MUSIC CO.
making you sound great!

Now open
6 days a week

WE'D RATHER SELL IT THAN MOVE IT

We're finally on the move to our massive new
superstore now due to open in February.

Pick up the phone now as we're ready
to "Wheel & Deal"

ALESIS

ON

ensoniq

Atari

Fostex

ART

KAWAI

BOSS

KORG

CASIO

Roland

C-Lab

(0483) 38212 TASCAM

Cheetah

YAMAHA

E-mu

PERLEY

ZEEM

E-mu Proteus MPS keyboard
NOW IN STOCK



If it's from E-mu you know
it's the best in hi-tech

Available now on interest free credit.

MORE TEMPTATIONS

Casio CPS 700 piano inc stand	now	£379
Cheetah PAD to MIDI converter.....	£149	£89
Hammond XB2 organ.....	£1389	£1189
Kawai R50E Rhythm	£275	£175
Korg S3 Rhythm.....	£799	£539
Roland HP3000 piano S/H.....	£799	£689
Roland KR55 piano	£795	£695
Roland JX1 synth.....	£399	£299
Yamaha R100 reverb		£159
Yamaha DP100 dynamic.....	£139	£79
Yamaha GSP100 guitar	£139	£79
Yamaha RX15 Rhythm S/H.....		£93
Yamaha RX17 Rhythm		£105
Yamaha EMT 1	£179	£120

All prices include VAT and are available on credit
terms (written quotations available)

JUST IN - Zoom 9000 Multi - FX a real winner £259

PRICE
MATCH

ANDERTONS MUSIC CO
HAYDON PLACE · GUILDFORD
SURREY GU1 4LR
TEL: (0483) 38212
FAX: (0483) 38211

1964
28
YEARS
1992

SAMPLE THE RHYTHM

BEATS COLLECTION C.D.

AT LAST Prosonics U.K. Present 30 classic drum machines
covering over a decade in
rhythm now superbly digitally mastered onto
one compact disc featuring:

ROLAND: CR78, TR505, TR606,
TR626, TR707, TR727, TR808
(MULTI SAMPLES), TR909 (MULTI
SAMPLES), R8.

YAMAHA: RX5, RX11, RX21L.

KORG: DDD1, KPR77, DDM110, DDM220.

BOSS: DR550, DR.55 (DR.BEAT).

PLUS: SIMMONS KIT, LINN 9000, 2,
SEQUENTIAL TOM, ALESIS HR16, HR16B,
CASIO RZ1, EMU DRUMULATOR, AKAI XR10, XE8,
OBERHEIM DBX, DR. BOHM DIGITAL DRUMS.

OVER 700 ORIGINAL DRUM MACHINE SOUNDS

AND AVAILABLE FOR THE EXCLUSIVE
PRICE OF JUST

£29.95

PatchWorks

Frederick House, 211 Frederick Road,
Hastings, E. Sussex TN35 5AU
Phone 0424 436674



Please complete in block capitals making cheques / postal orders payable to
"Patchworks" at the above address.

Overseas:- Please add £5.00 for express despatch and carriage.

Please send me.....copy (ies) of MEGA BEATS

NAME

ADDRESS

POST CODE

TEL. NO.

Music Technology Feb '92

PHONE HOTLINE 0424 436674

PATTERN: 2a		TEMPO: 95 BPM	
BEAT: 1		2	
Clsd HiHat	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10
Open HiHat			
Crash Cymb			
Side Stick			
Snare Drum			
Bass Drum			
TIME SIG: 4/4			
BAR: 1			
DELAY/ECHO:	Left 320ms	Right 475ms	REPEATS: Left 5 Right 5

PATTERN: 2f		TEMPO: 95 BPM	
BEAT: 1		2	
Clsd HiHat	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10
Open HiHat			
Crash Cymb			
Side Stick			
Snare Drum			
Bass Drum			
TIME SIG: 4/4			
BAR: 6			
DELAY/ECHO:	Left 320ms	Right 475ms	REPEATS: Left 5 Right 5

PATTERN: 2b		TEMPO: 95 BPM	
BEAT: 1		2	
Clsd HiHat	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10
Open HiHat			
Crash Cymb			
Side Stick			
Snare Drum			
Bass Drum			
TIME SIG: 4/4			
BAR: 2			
DELAY/ECHO:	Left 320ms	Right 475ms	REPEATS: Left 5 Right 5

PATTERN: 2g		TEMPO: 95 BPM	
BEAT: 1		2	
Clsd HiHat	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10
Open HiHat			
Crash Cymb			
Side Stick			
Snare Drum			
Bass Drum			
TIME SIG: 4/4			
BAR: 7			
DELAY/ECHO:	Left 320ms	Right 475ms	REPEATS: Left 5 Right 5

PATTERN: 2c		TEMPO: 95 BPM	
BEAT: 1		2	
Clsd HiHat	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10
Open HiHat			
Crash Cymb			
Side Stick			
Snare Drum			
Bass Drum			
TIME SIG: 4/4			
BAR: 3			
DELAY/ECHO:	Left 320ms	Right 475ms	REPEATS: Left 5 Right 5

PATTERN: 2h		TEMPO: 95 BPM	
BEAT: 1		2	
Clsd HiHat	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10
Open HiHat			
Crash Cymb			
Side Stick			
Snare Drum			
Bass Drum			
TIME SIG: 4/4			
BAR: 8			
DELAY/ECHO:	Left 320ms	Right 475ms	REPEATS: Left 5 Right 5

PATTERN: 2d		TEMPO: 95 BPM	
BEAT: 1		2	
Clsd HiHat	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10
Open HiHat			
Crash Cymb			
Side Stick			
Snare Drum			
Bass Drum			
TIME SIG: 4/4			
BAR: 4			
DELAY/ECHO:	Left 320ms	Right 475ms	REPEATS: Left 5 Right 5

PATTERN: 3a		TEMPO: 120 BPM	
BEAT: 1		2	
Clsd HiHat	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10
Open HiHat			
Side Stick			
Snare Drum			
Hi Ton			
Mid Ton			
Low Ton			
Bass Drum			
TIME SIG: 4/4			
BAR: 1			
DELAY/ECHO:	Left 375ms	Right 870ms	REPEATS: Left 4 Right 7

PATTERN: 2e		TEMPO: 95 BPM	
BEAT: 1		2	
Clsd HiHat	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10
Open HiHat			
Crash Cymb			
Side Stick			
Snare Drum			
Bass Drum			
TIME SIG: 4/4			
BAR: 5			
DELAY/ECHO:	Left 320ms	Right 475ms	REPEATS: Left 5 Right 5

PATTERN: 3b		TEMPO: 120 BPM	
BEAT: 1		2	
Clsd HiHat	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10	1 2 3 4 5 6 7 8 9 10
Open HiHat			
Side Stick			
Snare Drum			
Hi Ton			
Mid Ton			
Low Ton			
Bass Drum			
TIME SIG: 4/4			
BAR: 2			
DELAY/ECHO:	Left 375ms	Right 870ms	REPEATS: Left 4 Right 7



MASTER SERIES

Midi Master Keyboards

Increasingly used by the elite of professional musicians, the Master Series range of keyboards offer unrivalled facilities for the most discerning of users.

The Master Series combines exceptionally high specification levels with professional performance at affordable prices.

8 user-defined keyboard zones, 4 fully independent MIDI outputs, programmable note multi-layering and MIDI effects are just some of the powerful features common to all models in the Master Series line-up.

Choose from 88 or 61 keys, Piano-weighted or weighted synth action, to suit your individual requirements.

Whichever one you choose, the Master Series will be the only keyboard you'll ever need.

CHEETAH IS SETTING THE STANDARD

FEATURES

Master Series 770 £899.99 inc. VAT

- 88 Full size Piano-weighted keys
- Aftertouch
- Velocity and Release Velocity
- 16 Velocity & 16 Release Velocity curves with Programmable Sensitivity
- 3 Controller wheels
- 8 user-definable independently programmable Keyboard Zones
- Programmable Note Multi-layering for each Zone
- Independent MIDI Multi-effects including Echo, Delay & Arpeggio for each Zone
- 100 Performance Memories, 90 programmable
- 4 fully independent MIDI outputs
- MIDI IN with Merge facility and MIDI THRU
- MIDI Clock with Internal/External START/STOP
- 3 Programmable footswitch sockets

Master Series 550 £399.99 inc. VAT

- as for 770 except: 61 weighted synth action keys

Affordable Excellence

CHEETAH



CHEETAH INTERNATIONAL LTD
Cheetah House
Bedwas Business Park
Bedwas
Gwent NP1 8DU
Tel: 0222-867777
Fax: 0222-865575

All specifications and prices subject to change without notice.

PATTERN: 3h		TEMPO: 120 BPM	
BEAT:	1	2	3
Clsd HiHat	●	●	●
Open HiHat		●	
Side Stick	●	●	●
Snare Drum			●
Hi Tom			●
Mid Tom			●
Low Tom			●
Bass Drum		●	●

TIME SIG: 4/4		BAR: 8	
DELAY/ECHO:	Left 375ms	Right 870ms	REPEATS:
			Left 4
			Right 7

PATTERN: 4a				TEMPO: 130 BPM			
BEAT:		1	2	3	4		
Clsd HiHat							
Open HiHat							
Side Stick							
Snare Drum							
Bass Drum							
TIME SIG: 4/4		BAR 1					
DELAY/ECHO:	Left 340ms	Right 820ms	REPEATS:		Left 6	Right 3	

PATTERN 14b		TEMPO: 130 BPM	
BEAT:	1	2	3
Clsd HiHat	◆	◆	◆
Open HiHat	◆	◆	◆
Side Stick	◆	◆	◆
Snare Drum	◆	◆	◆
Bass Drum	◆	◆	◆
TIME SIG: 4/4	BAR 2		
DELAY/ECHO:	Left 340ms	Right 820ms	REPEATS:
			Left 6
			Right 3

PATTERN: 4c		TEMPO: 130 BPM	
BEAT:	1	2	3
Clsd HiHat	● ● ●	●	●
Open HiHat	○	○	○
Side Stick			○
Snare Drum		○	○
Bass Drum	●		
TIME SIG: 4/4		BAR 3	
DELAY/ECHO:	Left 340ms	Right 820ms	REPEATS: Left 6 Right 3

PATTERN: 4d		TEMPO: 130 BPM	
BEAT:	1	2	3
Clsd HiHat	◆	◆	◆
Open HiHat			◆
Side Stick	◆	◆	
Snare Drum		◆	◆
Bass Drum			◆

TIME SIG: 4/4		BAR 4	
DELAY/ECHO:	Left 340ms	Right 820ms	REPEATS:
			Left 6
			Right 3

PATTERN: 4e		TEMPO: 130 BPM	
BEAT:		1	2
Clsd HiHat	3	4	
Open HiHat			
Side Stick			
Snare Drum			
Bass Drum			
TIME SIG: 4/4		BAR: 5	
DELAY/ECHO:	Left 340ms	Right 820ms	REPEATS: Left 6 Right 3

the abc music winter sale

the sale worth waiting for

the sale
you just
can't miss!

very special deals on used
and demo stocks

unheard of
prices on

synthesizers
guitars
amps
recording
samplers
drum machines

call in or
phone for
free
catalogue
and sale list

ABC music

- ❑ **Addlestone** 5 mins Junction 11 M25
14-16 High Street Tel: 0932 854877
- ❑ **Kingston** 15 mins direct from Waterloo. We'll pick you up
from Surbiton Station.
56 Surbiton Road Tel: 081 546 9877
- ❑ **Oxford** M40 to Birmingham now open.
44 St Clements Tel: 0865 724820

☎ 0372 468114 ☎

FAX 0372 468114 FAX



- ❑ **Slough** Junction 6 on the M4. Bring your car - we have loads
of FREE Parking.
324 Farnham Road Tel: 0753 822754
- ❑ **Bristol** off Whiteladies Road
34 Alma Vale Road, Clifton Tel: 0272 238200
- ❑ **Exeter** The South West's Leading Music Store.
68 Bartholomew Street West Tel: 0392 425125

you won't buy cheaper

six stores crammed with bargains

MUSIC CONNECTIONS

Chelsea

MULTITRACK RECORDING (4 - 24 TRACK)

AS MAIN DEALERS FOR: FOSTEX - TASCAM - STUDIOMASTER - SOUNDCRAFT SPIRIT, WE CAN HELP YOU THROUGH THE RECORDING MAZE AND ENSURE YOU GET THE SYSTEM THAT'S RIGHT FOR YOU!

WITH THE BEST SERVICE AND PRICE OUR ENGINEER CAN INSTALL YOUR SYSTEM AND WE WILL KEEP YOU GOING EVEN IF THERE IS A BREAKDOWN!

MULTI-TRACK RECORDERS

IN STOCK:

TASCAM TSR8, FOSTEX R8, TASCAM MSR16, MSR16S. FOSTEX G16S, TASCAM MSR 24S.

SOON: ALESIS A-DAT 8 TRACK DIGITAL MULTITRACK MIXING CONSOLES

SOUNDCRAFT SPIRIT - SUPERB QUALITY AND AFFORDABLE TOO!

MACKIE DESIGNS

NEW CR1604 - IN STOCK, STUDIO QUALITY 16/4 MIXER (LOADS OF FEATURES/OPTIONS) ONLY £799 Inc VAT.

STUDIOMASTER

PROLINE 16/4/8 GOLD, 16/8/16 GOLD, MIXDOWN 16/8/16, SERIES 2 16/16/2, DIAMOND 12/2, 16/2.

TASCAM

3700 AUTOMATED 24 + 32 INPUTS, 3500, 2516 A WIDE RANGE OF OTHER MIXERS: FOSTEX 812, ALESIS 1622.

WE WILL MAKE SURE YOU GET THE BEST DEAL ON PRICE & SERVICE. PLUS PATCH BAYS, MONITORS, POWER AMPS, SIGNAL PROCESSORS, WIRING LOOMS, GRAPHIC EQ'S, EFFECTS, MICS, DAT MACHINES, TAPE, DE-MAGNETISERS. EVERYTHING YOU NEED!

MEGA DEAL OF THE YEAR!
UNDER HALF PRICE
KORG S3 PACKAGE
NOW IN STOCK £499 INC VAT!!!!

HURRY - ONLY LIMITED STOCKS
THE KORG S3 RHYTHM WORKSTATION YOU HAVE ALWAYS WANTED TO HAVE COMPLETE CONTROL OVER YOUR MUSIC - THIS KORG S3 PACKAGE WORTH OVER £1000 IS A PROFESSIONAL RHYTHM WORKSTATION WITH FABULOUS SOUNDS & LOADS OF FEATURES.

- * 16 BIT DRUM MACHINE WITH LOADS OF PERCUSSION & INSTRUMENT SAMPLES.
- * 8 TOUCH SENSITIVE PADS
- * BUILT IN 16 BIT STEREO MULTI-EFFECTS PROCESSOR - REVERB CHORUS - DELAY - FLANGE - TREMOLO PHASE!!
- * 8 TRACK SEQUENCER WITH 100 PATTERNS, 30 SONG CAPACITY - SO YOU CAN MIDI UP YOUR KEYBOARDS
- * FULL SMPTE GENERATOR / READER
- * 6 INDIVIDUAL AUDIO OUTPUTS
- * 2 EXTRA PCM SOUND CARDS (DANCE & JAZZ) INCLUDED WITH LOADS MORE INSTRUMENT SAMPLES & PERCUSSION SOUNDS TO BREATHE NEW LIFE INTO YOUR MUSIC.

GREAT SPECIAL OFFERS (ALL NEW & BOXED)

1 x Rhodes VK1000 Organ	£795
1 x Roland JX1	£295
1 x Roland A80	£995
1 x Alesis Microlimiter	£59
1 x Valley People Noise Reduction	£30
1 x Yamaha Q100 Graphic EQ	£35
1 x Alesis Microgate	£59
1 x BOSS CL50 Compressor / Gate	£89
1 x BOSS RPH 10 Phaser	£30

ABOVE PRICES INCLUDE VAT

NEW PRODUCTS

ROLAND S750 SAMPLER, NEW KORG 01W SYNTH, ROLAND FP8 PIANO, ALESIS 3630 COMP/LIM, ALESIS D4 DRUM MODULE

SAMPLERS

AKAI S950, AKAI S1000 KEYBOARD, AKAI S1000, AKAI S1100, ENSONIQ EPS16R +, ENSONIQ EPS 16 + KEYBOARD, EMAX II, NEW ROLAND S750 + BIG LIBRARY, ACCESSORIES & BOARDS IN STOCK FOR MOST MACHINES, HUGE ENSONIQ EPS 16+ LIBRARY.

COMPUTERS AND SOFTWARE

ALL THE LATEST SOFTWARE AND COMPUTERS AT BEST PRICES

LET US HELP YOU CHOOSE A PACKAGE OR BUY SEPARATELY -

ALL IN STOCK

ATARI 1040STE COMPUTERS WITH MOUSE

ATARI SM124 HI RES MONITORS

C-LAB: CREATOR V3.1, NOTATOR V3.1, CREATOR & NOTATOR 3.1 UPDATE KITS, UNITOR II, HUMAN TOUCH, ALPHA NOTATOR, EXPORT, AURA, MIDIA.

STEINBERG: CUBASE V2.0, CUBASE, PRO 24 LATEST V.

APPLE MACINTOSH SOFTWARE: OPCODE VISION, MOTU PERFORMER.

STEINBERG CUBASE, MOTU COMPOSER, APPLE MAC HARDWARE: MOTU MIDI TIME PIECE, MOTU VIDEO TIME PIECE, MOTU MIDI MIXER, JL COOPER SYNC LINK, J L COOPER MAC NEXUS - CALL US IF YOU WANT TO SAVE \$\$\$

DRUM MACHINES

BOSS DR550, ALESIS SR16, D4, ROLAND R8M, EMU PROCUSSION, ROLAND R8, SP08, CALL US & SAVE \$\$\$

DAT MACHINES

BEST DEALS - INSTANT DESPATCH

SONY DTC 750 - BEST DEAL, SONY DATMAN - EPHONE, CASIO DAT7 - EPHONE

NEW TASCAM DA-30 & DAP-20, ALL IN STOCK + BULK DAT TAPE

PORTA STUDIOS

PORTA 03 - FOSTEX X26 FOSTEX X28 - FOSTEX 280 - TASCAM 424 - TASCAM 488 - TASCAM 644 - TASCAM 688 - YAMAHA MT100 MK2 - CALL US TO SAVE MONEY!

PIANOS

EMU PROFORMANCE, KORG SG1X, ROLAND FP8, RHODES MK80

SMPTE SYNCHRONISERS

C-LAB UNITOR 2	£POA
XRI 300	£229
JL Cooper sync link	£POA
STEINBERG MIDEK +	GOOD

OPEN 6 DAYS A WEEK

NEXT DAY COURIER DELIVERY ON CREDIT CARD ORDERS!

CALL US TO SAVE YOU \$\$\$



KEYBOARDS & RACKS

ON DEMO

WE OFFER PROBABLY THE BEST SELECTION OF THE LATEST KEYBOARDS & RACK MODULES IN THE COUNTRY.

COME TO US & COMPARE THE BEST GEAR AROUND

AKAI ON DEMO:

AKAI S950, S1000 & S1100 SAMPLERS, S1000 KEYBOARD

ENSONIQ ON DEMO:

ENSONIQ SD-1 MUSIC PRODUCTION SYNTHESISER
ENSONIQ SQ-1+ PERSONAL MUSIC STUDIO
ENSONIQ SQ-2 76 KEY EXTENDED VERSION OF SQ-1
ENSONIQ EPS 16 PLUS 16 BIT SAMPLING KEYBOARD
ENSONIQ EPS 16R PLUS - RACK VERSION EXTRA MEMORY

E-MU ON DEMO:

E-MU ON DEMO:

E-MU PROTEUS 1

E-MU PROTEUS II

E-MU EMAX II

KORG ON DEMO:

NEW KORG 01WFD & 01W WORKSTATIONS IN STOCK & ON DEMO

KORG M1 MUSIC WORKSTATION

KORG T2 WORKSTATION

KORG WS1-EX WAVVSTATION

KORG WS-AD RACK

KORG SG-1D SAMPLING GRAND

OBERHEIM MATRIX 1000

ROLAND U20 RS-PCM KEYBOARD

ROLAND JD800 SYNTH

ROLAND FP8 DIGITAL PIANO

ROLAND EP7E DIGITAL PIANO

ROLAND EPS DIGITAL PIANO

ROLAND A80 KEYBOARD CONTROLLER

ROLAND S750 DIGITAL SAMPLER

ROLAND SC-55 SOUND CANVAS

ROLAND PC-200

YAMAHA ON DEMO:

YAMAHA SY 99, SY 77, SY55, SY22 MUSIC SYNTHESISERS

YAMAHA TG 77 TG 55, TG 33 TONE GENERATORS

YAMAHA KX-88 MIDI MASTER KEYBOARD

NEW BOXED UNITS ALL READY TO GO AT GREAT PRICES

POP IN FOR A DEMO OR CALL

FOR SAME DAY DESPATCH

IF YOU WANT TO SAVE CALL US

SIGNAL PROCESSORS

BOSS CL50, YAMAHA FX500, ART LT, ART MULTIVERB II, BOSS SE50, ALESIS MICROVERB 3, QUADRAVERB PLUS, MIDIVERB 3, QUADRAVERB GT, EMP100, SPX900, ZOOM 9030, 9082, YAMAHA FX 900. PHONE FOR VERY BEST DEALS - SAVE \$\$\$

GUITARISTS!!

PLEASE REMEMBER WE HOLD IN STOCK A WIDE RANGE OF GUITAR EFFECTS PEDALS, PLUS RACK MOUNT EFFECTS, ALSO GUITAR STRINGS, LEADS, TAPES, AND A WHOLE LOT MORE GREAT DEALS ON ALL BOSS PEDALS ALSO IN STOCK GREAT NEW KORG A5 EFFECTS UNIT.

Chelmsford

Great New Store!
10 Mins from M25, (JUNC 28 A12)
Loads of free parking,
30 Mins by train from Liverpool St.,
Massive hi-tech selection,
Treat yourself to a new experience
MON-FRI 10-6PM, SATURDAY 10-5.30PM

Chelmsford

MOTHER KEYBOARDS

ROLAND PC200	£131
ROLAND A80	£999
YAMAHA KX88	£POA

Chelsea
MUSIC CONNECTIONS
202 New King's Road,
London SW6 4NF
Tel: 071 731 5993
Tel: 071 736 4771
Fax: 071 731 2600

MUSIC CONNECTIONS
Chelford Court,
Robjohns Road,
Chelmsford, Essex CM1 3AG
Tel: 0245 354777
Fax: 0245 355007

PATTERN: 4f		TEMPO: 130 BPM	
BEAT: 1 2 3 4			
Clsd HiHat	◆	◆	◆
Open HiHat			
Side Stick	◆		◆
Snare Drum		◆	
Bass Drum			◆
TIME SIG: 4/4 BAR 6			
DELAY/ECHO:	Left 340ms	Right 820ms	REPEATS: Left 6 Right 3

PATTERN: 5d		TEMPO: 125 BPM	
BEAT: 1 2 3 4			
Clsd HiHat	◆	◆	◆
Crash Cymb			
Side Stick	◆	◆	◆
Snare Drum		◆	◆
Bass Drum			◆
TIME SIG: 4/4 BAR 4			
DELAY/ECHO:	Left 240ms	Right 365ms	REPEATS: Left 5 Right 6

PATTERN: 4g		TEMPO: 130 BPM	
BEAT: 1 2 3 4			
Clsd HiHat	◆	◆	◆
Open HiHat		◆	
Side Stick			◆
Snare Drum		◆	
Bass Drum	◆		◆
TIME SIG: 4/4 BAR 7			
DELAY/ECHO:	Left 340ms	Right 820ms	REPEATS: Left 6 Right 3

PATTERN: 5e		TEMPO: 125 BPM	
BEAT: 1 2 3 4			
Clsd HiHat	◆	◆	◆
Crash Cymb			
Side Stick	◆	◆	◆
Snare Drum		◆	◆
Bass Drum			◆
TIME SIG: 4/4 BAR 5			
DELAY/ECHO:	Left 240ms	Right 365ms	REPEATS: Left 5 Right 6

PATTERN: 4h		TEMPO: 130 BPM	
BEAT: 1 2 3 4			
Clsd HiHat	◆	◆	◆
Open HiHat			
Side Stick	◆		◆
Snare Drum		◆	
Bass Drum			◆
TIME SIG: 4/4 BAR 8			
DELAY/ECHO:	Left 340ms	Right 820ms	REPEATS: Left 6 Right 3

PATTERN: 5f		TEMPO: 125 BPM	
BEAT: 1 2 3 4			
Clsd HiHat	◆	◆	◆
Crash Cymb			
Side Stick	◆	◆	◆
Snare Drum		◆	◆
Bass Drum			◆
TIME SIG: 4/4 BAR 6			
DELAY/ECHO:	Left 240ms	Right 365ms	REPEATS: Left 5 Right 6

PATTERN: 5a		TEMPO: 125 BPM	
BEAT: 1 2 3 4			
Clsd HiHat	◆	◆	◆
Crash Cymb			
Side Stick	◆	◆	◆
Snare Drum		◆	◆
Bass Drum			◆
TIME SIG: 4/4 BAR 1			
DELAY/ECHO:	Left 240ms	Right 365ms	REPEATS: Left 5 Right 6

PATTERN: 5b		TEMPO: 125 BPM	
BEAT: 1 2 3 4			
Clsd HiHat	◆	◆	◆
Crash Cymb			
Side Stick	◆	◆	◆
Snare Drum		◆	◆
Bass Drum			◆
TIME SIG: 4/4 BAR 2			
DELAY/ECHO:	Left 240ms	Right 365ms	REPEATS: Left 5 Right 6

PATTERN: 5g		TEMPO: 125 BPM	
BEAT: 1 2 3 4			
Clsd HiHat	◆	◆	◆
Crash Cymb			
Side Stick	◆	◆	◆
Snare Drum		◆	◆
Bass Drum			◆
TIME SIG: 4/4 BAR 7			
DELAY/ECHO:	Left 240ms	Right 365ms	REPEATS: Left 5 Right 6

PATTERN: 5c		TEMPO: 125 BPM	
BEAT: 1 2 3 4			
Clsd HiHat	◆	◆	◆
Crash Cymb			
Side Stick	◆	◆	◆
Snare Drum		◆	◆
Bass Drum			◆
TIME SIG: 4/4 BAR 3			
DELAY/ECHO:	Left 240ms	Right 365ms	REPEATS: Left 5 Right 6

PATTERN: 5h		TEMPO: 125 BPM	
BEAT: 1 2 3 4			
Clsd HiHat	◆	◆	◆
Crash Cymb			
Side Stick	◆	◆	◆
Snare Drum		◆	◆
Bass Drum			◆
TIME SIG: 4/4 BAR 8			
DELAY/ECHO:	Left 240ms	Right 365ms	REPEATS: Left 5 Right 6

X28 MULTITRACKER



PHOTOGRAPHY: JAMES CUMPTSY

If your MIDI sequencing setup has taken you as far as it can go and you're looking to incorporate a few tracks of audio tape, Fostex' X28 could be your next buy. Text by Nigel Lord.

THERE'S NOTHING LIKE spending money - especially other peoples'. Recently, a friend asked me for some advice on the best way to spend a few grand he'd "come into" (. . . I enquired no further) in order to fulfil a long-cherished ambition to write and record his own music. After an hour, I'd come up with a bewildering variety of options, and a sheet filled with names and model numbers which, on reflection, did little to help him through the maze of gear he'd already found so off-putting.

Acknowledging his penchant for high-quality sound - he was the first person I know to buy a CD player - I paid particular attention to the choice of multitrack recorder and suggested one of the better four-track reel-to-reel machines, or at the very least, the highest-quality personal multitrack that lay within his financial reach. It depended, I told him sagely, on whether he needed the convenience of cassette or the quality of quarter-inch or half-inch tape. He seemed dismayed. After discussing the finer points of computer sequencing systems and the editing facilities he could expect to find on even the most

basic sampler, he couldn't believe I was suggesting he would still have to commit the fruits of his labours to magnetic tape.

Were there no digital systems available, he wanted to know? Not unless he planned spending his entire budget on a Mac and a hard disk, I advised him (the ADAS system for the Atari had yet to see the light of day at this time). What about DAT - hadn't they developed four- or eight- track DAT machines yet? Er. . . no, not yet. As a matter of fact, the two-track machine had a somewhat inauspicious start in life.

Try as I might, I could do nothing to convince him that spending thousands of pounds on digital technology and then committing it to an analogue recording system wasn't completely crazy. And yet, year after year, that is precisely what thousands of buyers of multitrackers and reel-to-reel machines are convinced of when reaching for their cheque books. And until the cost of mass digital storage systems drops to a fraction of its current level, that's how things are likely to stay, particularly while companies like Fostex can build a four-track machine with logic- ➤

MACKIE DESIGNS CR 1604

**HIGH HEADROOM LOW NOISE 16 CHANNEL MIXER
THE HOTTEST MIXER AROUND**

TO CHECK OUT THE NEW MACKIE DESIGNS CR 1604 CONTACT YOUR FAVOURITE DEALER:

Ampsound	St. Albans
Axis Audio	Manchester
B.E.M.	London
Carlsbro	Birmingham
Carlsbro	Derby
Carlsbro	Leeds
Carlsbro	Leicester
Carlsbro	Mansfield
Carlsbro	Norwich
Carlsbro	Nottingham
Carlsbro	Sheffield
Carlsbro	Stoke-on-Trent
C.C. Music	Glasgow
Future Music	Southampton
Larking Audio	Hitchin
Music Connections	Chelsea
Music Connections	Chelmsford
Raper & Wayman	London
Stirling Audio	London
Systems Workshop	Oswestry
T.S.C.	London
Turnkey	London

The new CR 1604: 16 channels, ideal for high quality mix systems, live & 8 track recording, extra low noise, CD quality S/N ratio, superior headroom, 7 aux sends, 4 X stereo aux returns, 3 band EQ, muting, in place stereo solo, 48V phantom power, balanced & un-balanced mic and line inputs, at least 10 DB lower noise floor than standard designs, sealed rotary pots (no more crackling), rack mountable, rotating; connector panel, expandable to 48 channels + loads of optional extras: £799 inc. VAT!

STOP PRESS: Full MIDI automation update kit available soon!

NEW: CR 1202 compact version 12-2 mixer with phantom power RRP £315 inc VAT.

FOR FURTHER INFORMATION PLEASE CONTACT:

KEY AUDIO SYSTEMS LTD, TEL: 0245 344001 FAX: 0245 344002

THE DANGEROUS CD COMPANY

**PROBABLY THE LARGEST SAMPLE
LIBRARY EVER MADE ON
ONE CD**

**An Encyclopedia of loops
Essential for every producer, artist,
DJ, programmer & musician.**



DANGER 1

**A CATASTROPHIC EXCLUSIVE FOR
YOUR SAMPLE LIBRARY.**

- ▶ A superb collection of digitally mastered stereo samples onto one CD. You won't find more loops on any other sample CD.
- ▶ Drum loops, keyboard sounds, basses, FX & much much more – all the sounds to make that mega hit – all you'll need is your imagination.
- ▶ Designed by Vitamin C - Credits include The Shamen, Jeremy Healey (Ezee Posse), Bomb The Bass & many more. Data streamed for S1000 / S1100
- ▶ A library like this would take years to compile and thousands of pounds in studio time. If your time is valuable then spend it making music!



If you require further information or trade inquiries please call 081 368 8271

To: The Dangerous CD Company P.O. Box 2545 London N11 ITS England

Please send Copy/copies of Danger 1 at £49.95 each

Please debit my ACCESS.....VISA.....MASTERCARD.....

Number Expiry Date

I Enclose Cheque /postal order for £made payable to The Dangerous CD Company

Name (caps).....

Address.....

Postcode.....

Tel: 081 368 8271 Fax: 081 361 5833

Please note: The samples on Danger 1 have not appeared on any other sample CD.

AUDIOTRAX

**hard disk recording
and sequencing**

AUDIOTRAX™



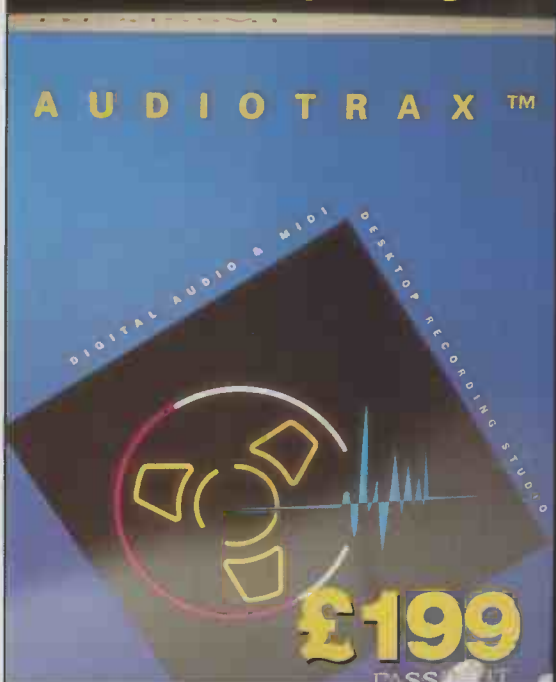
**audio
trax**

SIMULTANEOUS
HARD DISK
RECORDING
AND MIDI
SEQUENCING
ON THE
APPLE
MACINTOSH
COMPUTER
FOR AN
UNBEATABLE

£199

FOR MORE
INFORMATION
MCMXCIX
708A
ABBEY ROAD
TUDOR ESTATE
LONDON
NW10 7UW
FAX:
081 963 0624

PASSPORT.



081 963 0663

- controlled transport functions, pitch control, an eight-input mixer, simultaneous four-track recording, switchable Dolby B and an auxiliary send and return - into about a square foot of desk space and for less than four hundred quid.

The X28 is the latest in a long line of Fostex multitrackers, the exact genealogy of which I've long-since ceased to keep track of (no pun intended). The X28 is portable in every sense of the word (small, compact, light), and its layout, like so much hi-tech gear these days, can only be described as a triumph of miniaturisation - though I'm sure Fostex's service engineers have quite a different name for it. . .

COLOUR ME BADD

WHILST COLOUR CODING of knobs is employed as an aid to use, the overall appearance of the X28 is actually rather sedate and functional - unlike a number of recent machines whose attempt to assist the application of technology has resulted in some pretty frightening front-panel layouts and hideous colour schemes.

As seems *de rigeur* these days, all of the metering and visual indicators are consigned to a single, large (by the X28's standards) liquid crystal display situated over on the right-hand side just above the transport controls. These are positioned - sensibly enough - along the front (or bottom, depending on your perspective) edge of the unit. In addition to the four record-level bar-graph meters and a pair for the main stereo buss, you'll find a three-digit tape counter, a tape movement indicator (which changes according to tape direction), all the transport control indicators, Dolby "in" indicator (along with its associated pushbutton over on the left of the display) and a "rehearsal" mode indicator.

The rehearsal facility is used in conjunction with the punch in/out function which the X28 also includes, and allows you to practise drop-ins by switching the monitor system between the originally recorded part and the one with which you intend to replace it. It is not, it should be stressed, a rehearsal facility which controls the transport system and automatically plays and rewinds the tape between two locator points (as found on many reel-to-reel machines), though there is a return-to-zero function to make life a little easier, and this can be used with an auto-play facility which may be selected whenever the tape is fast forwarding or rewinding.

As mentioned earlier, simultaneous four-track recording is possible on the X28, and record warning lights underneath each LED meter flash to indicate record-ready mode on whichever of the tracks happen to have been selected. The tape deck is equalised for high-bias tapes only, and these it plays at the standard cassette speed of 4.75cm/s (1 $\frac{7}{8}$ ips). I particularly liked the logic-controlled transport buttons which are a delight to use, and take care of any problems which might ensue, for example, when switching from rewind to play without first pressing stop. On the negative side, I did feel that the fast forward and rewind speeds were on the slow side, and on a number of occasions I found myself

counting sheep waiting for the tape to return to the beginning of a track.

Having said that, the fact that the X28 runs at the standard speed means that you have far less tape to shuttle through than would be the case with a high-speed machine, so I suppose you're no worse off in that respect. On which subject, I was somewhat surprised to find Fostex still opting for a standard-speed tape deck on their machines. Though the quoted frequency response, crosstalk and noise figures (40Hz-12.5KHz, 50dB and 58dB respectively) are wholly creditable for a machine at this price, you can't help wonder what might have been achieved with tape running at twice the speed. I know recording times would be halved, but that still leaves room for a 20-minute track on a C90 - and who records them any more?

ON THE BUSSES

IN MY EXPERIENCE of using cassette multitracks, I've come to the conclusion that like or dislike of a machine is based almost entirely on the facilities offered by the mixer section. In this respect, the X28 acquits itself well, though I think it fair to say that what economies have been made on this machine as a whole have been made here.

The X28 boasts an eight-input mixer, each channel having its own level, pan, aux send controls, and additional trim controls for the four mic level channels (1-4). The other four channels (5-8) may be used for recording line-level instruments or for routing signals from the four tape tracks on mixdown. To facilitate this, each channel features a push button to switch between tape and input signals, and also dual-function auxiliary send controls which, apart from being pre-fade (unlike the mic inputs which are post-fade), can be used to direct signals from either tape tracks or the four inputs to whatever piece of external equipment you have connected. If this happens to be a reverb unit with a stereo output, both left and right signals may be fed back into the X28 via individual sockets on the rear panel and adjusted (like the auxiliary send signals) by a master level control.

The main stereo buss can also be pressed into service when recording, as a means of combining two separate inputs onto a single tape track. And the presence here of the X28's only EQ facilities - individual low and high controls - certainly make it useful when input signals need tweaking in some way (which is nearly always). The EQ offers nothing more sophisticated than a 12dB cut or boost at 100Hz and 10KHz, but it's enough to make the X28 a machine on which more than simply input levels can be controlled.

Determining which tracks are to be recorded is the job of the four record-select switches immediately above the aux send controls over on the left of the unit. With a centre Off position, these can be switched to one of the four tape tracks (bypassing the pan and EQ controls) or to the left or right channels of the stereo buss. As you'd expect, a master fader controls the overall output from the stereo pair, which may be routed through to the rear panel for

"I've come to the conclusion that like or dislike of a multitracker is based almost entirely on the mixer section - the X28 acquits itself well."

connection to an external master machine for mixdown.

Monitoring on the X28 is taken care of by two slide switches, a level control and the provision of a headphones jack and a pair of phono left/right output sockets on the rear panel. The first of the switches determines whether stereo signals from channels 5-8 are sent to the stereo buss (as they would be in most recording and remixing situations) or to the monitor buss - a setup referred to as Monmix in X28 parlance.

The main monitor selection switch has three positions, the first of which combines Monmix signals (from channels 5-8) with those from the stereo buss and makes them available for monitoring. The second position allows monitoring of the auxiliary send signals, while the third combines these with signals from the stereo buss. It's not the most comprehensive system in existence (why do so many manufacturers offer monitoring of aux sends but not returns?) - but it's enough to get by with in most recording situations.

INS & OUTS

CONNECTION HARDWARE ON the X28 includes quarter-inch jack sockets for each of the eight inputs which, like the sockets for phones and (optional) punch in/out footswitch, are situated along the front of the unit. Also here is a socket for the connection of a footswitch which duplicates the action of the return-to-zero button on the top panel. According to the manual, this is the same kind of switch used for the punch-in facility, so providing you don't need to use both at the same time, you should find it possible to get away with buying only one.

All rear-panel connections are via RCA phono sockets and in addition to those I've already mentioned, you'll also find four tape out sockets should you wish to do your mixing down on a separate desk. The last of these - Output 4 - is also marked as the socket to use if you're involved in MIDI/tape synchronisation. However, other than the fact that it is one of the outside tape tracks (and therefore less likely to bleed through onto other channels) there's nothing special about it in terms of signal levels. Neither is it possible to disconnect it from the noise reduction system should you experience any problems reading sync code - though Dolby (as opposed to dbx) is less likely to present any problems on this score.

VERDICT

NO ONE WITH any experience of cassette multitrackers should have difficulty operating the X28. Unlike that of some machines, the signal routing section of the mixer section is quite straightforward and not once did I find myself scratching my head wondering why the synth I had connected to input 6 hadn't ended up on tape. I suppose this could be said to reflect the inherent simplicity of the system and its lack of flexibility - but that's budget multitrackers for you. If it's versatility you need, then I'm afraid you're looking at a significantly higher

investment - most likely in a separate desk and recorder.

On to the all-important question of whether or not you can make good-quality recordings of four or more instruments on this machine. The answer, unequivocally, is yes. In the X28 you have a multitracker with a performance to match that of a good-quality reel-to-reel of less than a decade ago - and the significance of that shouldn't be understated. There's a clarity and spaciousness about the X28's recordings which - I have to confess - took me by surprise. Aren't personal multitrackers supposed to sound compressed and woolly? Apparently not.

Life isn't quite so sweet with second-generation recordings which have been bounced down, but the advent of MIDI, the sequencer and the recording of virtual tracks has drastically reduced the need for this. Indeed, more and more people are finding themselves recording direct to stereo mastering machines and avoiding the multitrack stage altogether. Of course, this is only a realistic proposition if you have enough MIDI-equipped devices and few people can regularly get by with only two tape tracks. Nevertheless, in the current scheme of things, a four-track machine does look a much more attractive option than it did a few years ago - and in this light, the X28 undoubtedly fits the bill for a great number of people.

Given this new lease of life for four-track, I'd have thought it an obvious move for manufacturers (like Fostex) to have included built-in MIDI sync devices on their machines. I accept that though not everyone is likely to need MIDI synchronisation, a very large percentage of multitrack users do, and buying a machine with built-in facilities would be a real plus. Indeed, the inclusion of a MIDI socket on the rear panel would, I believe, be of considerable psychological importance in convincing punters that the development of the multitracker is keeping pace with the rest of music technology. As it is, the reaction of the friend I introduced earlier is likely to be typical of people asked to spend a significant proportion of their budget on a recording device.

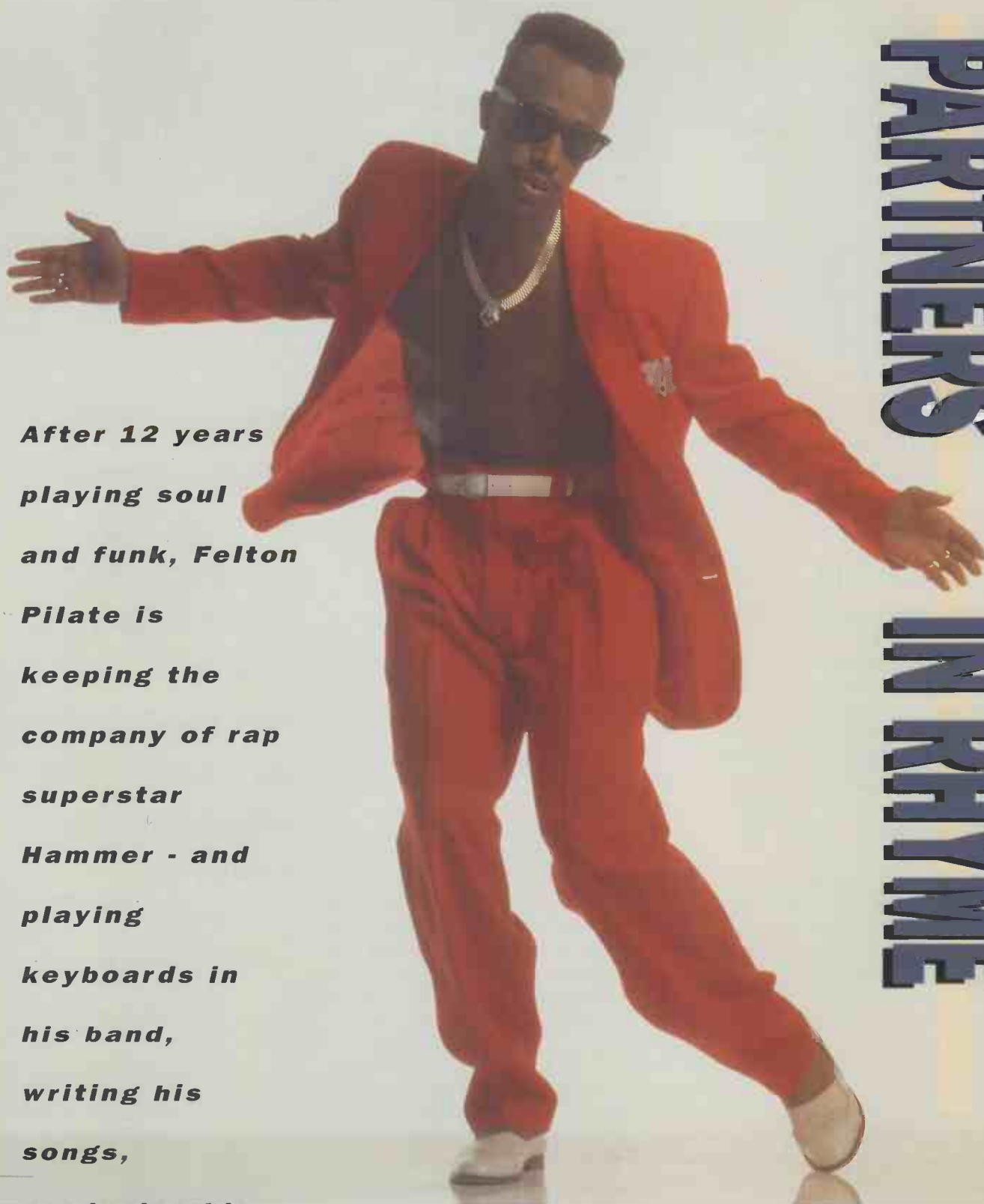
But I've no wish to take anything away from the X28; this is a most attractive little machine which I got on with extremely well. It's quite capable of adopting a central position in any budget recording setup and becoming the real workhorse of the system - if you can attach the term workhorse to a device of such diminutive proportions. Frankly, on any piece of equipment which contains mechanical as well as electronic components, I'd be looking to find a name like Fostex before I'd be talked into parting with my money. Too much of what arrives from the Far East these days is considered disposable, and anything that moves must eventually wear out. When that happens it's nice to know there's a service department somewhere that can sort the problem out. Buy with confidence. . . ■

Price £327.66 excluding VAT.

More from Fostex UK Ltd, Unit 1, Jackson Way, Great Western Industrial Park, Southall, Middlesex UB2 4SA. Tel: 081-893 5111. Fax: 081-893 5237.

“There's a clarity and spaciousness about the X28's recordings which took me by surprise - aren't multitrackers supposed to sound compressed and woolly?”

PARTNERS IN RHYME



**After 12 years
playing soul
and funk, Felton
Pilate is
keeping the
company of rap
superstar
Hammer - and
playing
keyboards in
his band,
writing his
songs,
producing his**

records. . .

**Interview by
Nick Batzdorf.**

**Text by
Tim Goodyer.**

HAMMER'S FIRST TWO ALBUMS (THREE IF you count the original release of *Let's Get It Started* as *Feel My Power*), *Let's Get It Started* and *Please Hammer Don't Hurt 'Em* have sold somewhere between 13 and 15 million copies apiece. If the major record companies needed convincing of the commercial viability of rap, Hammer - who's signed to Capitol - and his EMI counterpart Vanilla Ice are it.

Hammer's indisputable level of popularity is confusing, however, since he's regarded by hardcore rap fans as having sold rap out, and he's resented by the "traditional" pop fraternity simply for being an exponent of rap. Yet the second single from Hammer's

current LP, *Too Legit To Quit*, is also the theme from Barry Sonnenfeld's film *The Addams Family* and is sure to become just another of Hammer's string of hit singles.

Perhaps part of the explanation for the musical appeal of MC Hammer lies with 38-year-old Felton C Pilate II - Hammer's co-writer, co-producer, keyboard player and regular member of his touring entourage. Unlike Hammer, though, this is not Pilate's first taste of success, as he previously spent 12 years as lead singer, guitarist, keyboard player and songwriter for American soul/funk outfit Con Funk Shun (who also performed as the backing band for >

axe mail

INSTANT DESPATCH
FOR CREDIT CARD HOLDERS



HOTLINE
0206
765652

**PAY BY CREDIT
CARD FOR EXTRA
DISCOUNTS!**

**PHONE US WITH YOUR CREDIT CARD NUMBER FOR IMMEDIATE DESPATCH,
OR PAY MONTHLY WITH MUSICARD OR MUSICLOAN.**

	PRICE	CREDIT CARD		PRICE	CREDIT CARD		PRICE	CREDIT CARD
KEYBOARDS AND MODULES			12 Trombone & Sax.			GUITAR SYNTHS		
Ensoniq EPS16+	£1849	£1785	YAMAHA SY77	£45.00	£43.00	Roland GR50/GK2	£899	£850
Ensoniq SQ1+	£1235	£1195	CARDS Sax, Drums, Strings, House +			Korg Z3ZD3	£849	£799
Ensoniq SQR	£825	£799	Latin	£99 each	£95 each	DRUM MACHINES AND SEQUENCERS		
Ensoniq SQ2	£1375	£1295	DISKS Best of DX, One man band			Yamaha QY10 sequencer/expander	£249	£245
Ensoniq SD1	£1995	£1895	Recording 77	£30 each	£28 each	Yamaha RY30 Drum machine	£399	£379
Yamaha SY999	£2450	£2400	YAMAHA SY55			Boss DR550	£169	£167
Yamaha SY77	£1429	£1399	CARDS: Sax, Drums, House, Latin,			Roland CR80 Human Rhythm player	£399	£375
Yamaha SY55	£679	£639	Rock Pop	£79 each	£77 each	Roland R5 Drum Machine	£369	£360
Yamaha SY22	£549	£529	SY22			Roland R8 Drum Machine	£579	£575
Yamaha TG77	£1250	£1199	RAMS: Vector project, Pop House,			Roland R8M Drum machine Rack Module	£499	£485
Yamaha TG55	£449	£425	Dance Band	£95 each	£90 each	Roland Pad 5	£139	£130
Yamaha TG33	£449	£425	ROMS	£69 each	£65 each	Roland Pad 80	£465	£455
Roland D5	£449	£429	EFFECTS			Roland SPD8 Total Percussion Pad	£339	£325
Roland JD 800 Programmable Synth	£1699	£1599	Korg A5 Multi effects	£229	£219	Alesis D4	£399	£379
Roland JX1 Performance Synth	£499	£450	Akai AR900 Digital Reverb	£289	£279	Alesis SR16 Drum Machine	£299	£289
Roland SC55 Sound Canvas, Sound Module	£485	£475	Zoom 9002 Multi Effects	£299	£289	Alesis MMT8 Sequencer	£289	£279
Roland Studio MV30	£1195	£1150	Zoom 9030 Multi Effects	£499	£489	Roland SB55 Sequencer	£435	£425
Roland D70 Super LA Synth	£1359	£1349	Yamaha FX500	£250	£240	Roland MC50	£499	£485
Roland U220 Sample Playing Module	£535	£529	Yamaha FX900	£595	£500	Kawai Q80 Sequencer	£449	£429
Roland U20 Sample Playing Keyboard	£795	£750	Yamaha EMP100	£199	£189	Akai XR10 Drum Machine	£299	£285
Roland W30 Workstation	£1499	£1450	Yamaha R100 Reverb	£179	£169	Akai MPC60	£2299	£2199
Roland E70	£1299	£1250	Alesis Quadraverb +	£335	£325	RECORDING		
Roland E15	£499	£479	Alesis Midiverb 3	£239	£229	Tascam 488 8 Track portastudio	£995	£985
Roland E5	£390	£375	Alesis D4 Drum module	£399	£379	Tascam 424	£459	£449
Korg O1/FD	£1795	£1775	Alesis Quadraverb GT	£459	£449	Tascam 688 8 Track Midi Studio	£1899	£1850
Korg O1	£1695	£1650	Alesis Microverb III	£159	£155	Tascam Porta 2 Hi Speed Porta Studio	£499	£489
Korg WS1 Wavestation	£1299	£1275	Art Multiverb LT	£179	£178	Tascam Porta 05 Hi Speed Porta Studio	£299	£295
Korg M1 Workstation	£999	£985				Tascam Porta D3 New 4 Track	£225	£219
Korg T3 Total Workstation	£POA		Boss SE50 Multi FX unit	£349	£339	Tascam MM1 Mixer	£699	£685
Korg T2 Total Workstation 76 Key	£POA		Boss BE5 ME programmable Multi effects	£250	£240	Fostex R8	£1500	£1450
Korg T1 Workstation 88 Key	£POA		Boss AW2 Autowah	£55	£53	Fostex X18 (new model)	£250	£240
Korg M1 R Rack M1	£999	£899	Boss BF2 Flange	£96	£94	Fostex X28 Multitracker	£399	£379
Korg M3 R Soundstation	£799	£750	Boss CE5 Chorus	£55	£53	Fostex X26 Multi Tracker	£299	£289
Akai S1000 61 note Sampling keyboard	£2999	£2899	Boss CH1 Super Chorus	£69	£67	Fostex 280 Porta Studio 8 Ch 4 Track	£550	£539
Akai S950 Sampler	£1159	£1149	Boss CS5 Compressor	£79	£77	Yamaha MT 120 4 Track Recorder (NEW MODEL)	£389	£379
Akai S1100 Sampler (to order)	£3299	£3199	Boss DD3 Digital Delay	£108	£106	Yamaha MT3X 4 Track Recorder	£549	£535
Cheetah 770 88 Key Mother Keyboard	£799	£770	Boss DS2 Distortion	£47	£45	Aiwa DAT	£POA	
Roland PC200 Mother Keyboard	£195	£185	Boss DS2 Turbo Distortion	£63	£61	Sony DAT	£POA	
KEYBOARD STANDS			Boss FW3 Foot Wah	£63	£61	Tascam DAT	£POA	
Ultimate support stealth stand	£63	£60	Boss GE7 Graphic EQ	£79	£77	Alesis 1622 Mixer	£699	£650
'X' Keyboard Stand	£25	£23	Boss HM2 Heavy Metal	£55	£53	Yamaha NS10M Speakers	£129 each	£115 each
3 Tier Keyboard Stand	£125	£120	Boss MT2 Metal Zone	£63	£61			
SOFTWARE			Boss MZ2 Metalizer	£96	£94			
ROLAND R8/R8M Library Cards			Boss DD2 Turbo Overdrive	£79	£77			
01 Contemporary Percussion	£45.00	£43.00	Boss OS2 Overdrive Distortion	£55	£50			
02 Jazz Brush	£45.00	£43.00	Boss PS2 Pitch Shifter	£127	£125			
03 Sound Effects	£45.00	£43.00	Boss PH2 Super Phaser	£79	£77			
04 Electronic	£45.00	£43.00	Boss SD1 Super Overdrive	£47	£45			
05 Jazz	£45.00	£43.00	Boss FC50 Midi foot controller	£125	£123			
06 Ethnic Percussion	£45.00	£43.00	Digitech "The Vocalist" VHM5	£899	£879			
07 Mallet	£45.00	£43.00	Digitech GSP21 pro	£649	£629			
08 Dry	£45.00	£43.00	Digitech DSP128P	£299	£279			
09 Power Drums USA	£45.00	£43.00	Digitech DSP16	£275	£265			
ROLAND U220/ U20/ D70 Library Cards			Digitech GSP5	£269	£250			
01 Pipe Organ & Harpsichord	£45.00	£43.00	Digitech GSP7	£395	£370			
02 Latin & Effects Perc	£45.00	£43.00	DOD 7 band EQ	£65	£63			
03 Ethnic Instruments	£45.00	£43.00	DOD overdrive +	£39	£37			
04 Electric Grand & Clavi	£45.00	£43.00	DOD Classic tube	£35	£33			
05 Orchestral Strings	£45.00	£43.00	DOD American Metal	£45	£43			
06 Orchestral Wind	£45.00	£43.00	DOD Metal Maniac	£45	£43			
07 Electric Guitar	£45.00	£43.00	DOD Stereo Chorus	£59	£57			
08 Synthesiser	£45.00	£43.00	DOD Stereo Flanger	£59	£57			
09 Guitar & Keyboards	£45.00	£43.00	DOD Compressor/Sustainer	£45	£43			
10 Rock Drums	£45.00	£43.00	DOD Analogue Delay	£97	£95			
11 Sound Effects	£45.00	£43.00	DOD Wah Vol	£79	£77			

CREDIT AVAILABLE SUBJECT TO STATUS. APR 35.3 % VARIABLE ON DIRECT DEBIT WRITTEN DETAILS ON REQUEST.
ALL OUR PRICES INCLUDE VAT



Post This Coupon To Secure Any
Goods Advertised Here

Send Me Immediately.....

Name.....

Address.....

Phone.....

I Enclose Cheque Payable To Axe For £.....

Please Debit My Access/ Visa/ AMEX NO



Please Reply To:-

Axe Music
96 High Street
Colchester
Essex
CO1 1TH
0206 765652

Axe Music
27 St. Johns Street
Bury St. Edmunds
Suffolk
IP33 1SN
0284 705571

➤ various Stax artists). With them he chalked up 11 albums' worth (five of them gold) of playing, production and engineering experience. In '84 he left the group, opened a recording studio and became involved in arranging and producing for some of Fantasy/Volt Records' roster of artists. Then he met Hammer.

Catching Pilate during Hammer's recent US tour, and just days from the finish of *Too Legit to Quit*, there are questions to be answered. Questions about Hammer's production techniques, for example. Questions about Hammer's approach to sampling other artists. The single 'U Can't Touch This' topped the UK charts in 1990, flaunting its dependence on a sample loop from Rick James' '82 cut 'Super Freak'.

"That gets into a whole philosophy of the rap culture", responds Pilate. "Honestly, had you told me, five, seven years ago that my biggest work was going to be involved with rap music, I'd have told you to get out of here. I wouldn't even have considered that music - you know? So my whole involvement with MC Hammer has been kind of a melding of ideas.

"He brings to the table with him his lack of knowledge - I'm not saying that in a negative sense, but he doesn't have a concept of what 'traditional' music is supposed to sound like.

He's got no formal musical training, so when he gets his hands on a synthesiser - an RX7 drum machine, which not only has drum sounds, but electric bass sounds and a couple of pitched instruments that you can assign to the keyboard without having the narrow format of what 'proper' music is supposed to sound like - he tunes these keys to what works for him, and he plays it!

"Now I've got this microtonal thing happening on the bass which, of course, I can't duplicate on a traditional instrument, but it creates the tension in a hip hop record that we're looking for. So, it's kind of like I'm schizophrenic - there's Felton

Pilate the producer, versus Felton Pilate the musician. The musician says that things have to be assigned to certain keys, that if our song is in B minor, and you're going to bring in a scratch, that scratch needs to be in B minor also. Right?

"Not the case. Rap and hip hop, being an inner-city kind of music, is based on the idea that traditional music theory doesn't apply. Or 'I made this record, not because I'm a musician, but because I like part of this record mixed with part of this record, and it suits my needs; here it is'. And as an art form, part of it developed from DJs doing their thing over someone else's record live at parties. You know that the DJ is playing someone else's record - that's what he does, he's not a musician. But he now has his own creativity to add to it: 'I've got a 32-bar section in this record where there's no vocals going on. Hey, here's my part'.

"That has developed over years, and that's *the art form* where we have little snatches of this record and

little snatches of that record. And there's now compilation, or a jumbled mass of beats and rhythms beating against each other. We tie in all this by adding our own drum beat underneath to lock in the various parts and it becomes the *new* art form. It's a whole new creative thing.

"But in some cases, it's not as easy as it sounds. 'U Can't Touch This' was easy - that was a case of taking a four-bar sample from this song, locking it in with our own drum beat underneath, doubling up the bassline on the synthesiser, adding another synthesiser lick and Hammer doing his vocals on top. That was it. It wasn't the most creative thing that we could have done, but certainly the most commercial. It wasn't a case of 'Let's steal this piece over here'. You notice that Rick James' name appears on the album? It's a case of we like it, we've used it, what do you all think? We knew we were going to have to work out a money deal so they worked out whatever it was that they needed to work out.

"When we're doing it like that, I guess it's just keeping in the tradition of rap and how the whole thing got started.

"Now the other thing to do is not to use the samples at all, or not to use any *recognisable* samples. We may sample a two-bar drum bridge from somebody's record and just the fact that it's already been processed - it's already three or four generations old from the original recording to the mixed-down tape, to the mastering process - means that it has a sound, and a presence in it that is not possible to get from playing, listening to that bit and duplicating it on a drum machine, or even getting your own drummer to copy it. That same thing is not there. So that kind of helps the sound. There's a certain tension, a certain cacophony that works very well for rap and pop music.

"Alternatively, take Hammer's example of doing 'Have You Seen Her' which is not hip hop at all. We're not dealing with hip hop music, we're now dealing with a song where the lead vocal happens to be spoken as opposed to sung. It's kind of different, very soft, but also very appealing to people, say, my age. People who could not, or would not appreciate rap in another form could now listen to the record, and even though they say 'I hate that music', they now listen to it and say 'Hey, this is all right!' and 'I remember that song - used to sing that when I was in high school'. So, there are different approaches to rap music. Not all of it is hip hop."

WHAT, THEN, OF PRODUCTION VALUES?

How much do the techniques of Hammer and the 1990s compare with those of Con Funk Shun and the '70s?

"It kind of varies from song to song", comments Pilate. "In some instances, the same procedure I would have used in doing demos with Con Funk Shun wound up being the same procedures I used for the current Hammer album. We worked out our basic ideas for the song on an eight-track first, and worked out the format before going into the studio.

"However, on the *Please Hammer Don't Hurt 'Em* album, and *Let's Get It Started*, that whole demo ➤

**"Had you told me,
five, seven years ago
that my biggest work
was going to be with
rap music, I'd have
told you to get out of
here."**

four minute warning

samples

W30/S330/S550
S1000/S1100
S900/S950
S700/X7000

We have a large library of professionally recorded high quality sampled sounds on disk for all Akai and Roland samplers. Please phone or write for further details and a full listing of available disks. Avalon and Sound Designer disks also available.

ST software

A range of high quality programs with an intuitive and highly graphical user interface, designed in the U.K. by Mississippi Software. All of these programs have been designed with the sequencing environment in mind and run as desk accessories over the top of your ST sequencer program.

FileMaster FD.....£175
Generic editor for all Akai, Roland and MMA Standard samplers. Features wave drawing and sample import from a variety of sources.

FileMaster 3 QD.....£65
Sample editor and librarian for all quick disk samplers: Akai S612, S700, X7000 and Roland S10 and S220
WaveMechanic.....£35
Optional upgrade for FileMaster giving it the same synthesis capability as FileMaster FD all in the digital domain.

Unison 3.....£65
Desk accessory editor and librarian for Roland U20, U220 and U110 PCM machines.

XE8 Organiser.....£39
Editor librarian for Akai XE8 drum module.

Mixdown LA.....£39
Librarian and organiser for Roland D110.

DX7 Librarian.....£39
Librarian for Yamaha 6-op. FM synthesisers. Imports Steinberg, C-Lab and Dr. T Files.

Turbo GS.....£29
Editor librarian for Roland GS6 Guitar Unit.

All ST programs require mono monitor and one megabyte memory.

synth patches

We have a large collection of patches for a variety of popular synthesizers on ROM, RAM and ST format disk. Please phone or write for a full listing of our available sounds.

RAM card wipeout !

Roland 256k RAM card.....£39.95
(comes with 64 D50/D550 patches)
Kawai K1/K1r/K1m/K1mkII RAM card.....£39.95
(comes with 64 single and 32 multi patches)
Kawai K4/K4r RAM card (with sounds).....£45
Yamaha DX7/DX5 RAM card.....£45
Yamaha DX7 mkII RAM card.....£49
Ensoniq SQ1/SQ2/VFX RAM cards.....£call

memory expansions

S1000/S1100 8 meg. board.....£399
S1000 2 Megabyte expansion board.....£145
S950 3/4 Meg board (fit 2 for 2 1/4 Meg).....£125
Casio FZ1 1 Meg board.....£175
Ensoniq EPS 4 times expansion.....£165
EPS SCSI interface board.....£99
EPS 4 x and SCSI in one cartridge.....£220
MPC60 3/4 Megabyte board.....£120
Yamaha TX16W 1.5 Meg (fit 3 for 6 Meg).....£129
Ensoniq VFX 75,000 note seq. exp.....£100
Call for prices on the following new products:
EPS16 SCSI and Flashbank boards, ESQ1 and Peavey DPM sequencer expansions and RAM cards, Yamaha SY99 and C1 expansion boards and DX711 1024 voice Mega RAM.

All prices INCLUDE VAT @ 17.5%

For further details on all these products, please telephone or write to:

Four Minute Warning,
Dept. M2,
298 Horbury Road,
Wakefield,
West Yorkshire,
WF2 8QX

Tel: 0924 386527



E&OE

ZERO - G

THE SAMPLE-CD SERIES FOR DANCE PRODUCERS
/ ARTISTS / DJ's / PROGRAMMERS / MIXERS

OVER 1000 SAMPLES
DIGITALLY MASTERED ON EACH COMPACT DISC
SOUNDS LEVEL MATCHED FOR FAST SAMPLING * 99 TRACKS * EXTENDED INDEXES
PRODUCED BY ED STRATTON ALIAS MAN MACHINE (RHYTHM KING)
A/K/A JACK 'N' CHILL: An artist with a track record of SELF PRODUCED dance
HITS that speaks volumes for these new CDs:

1988 "JACK THAT HOUSE BEAT" (Gallup) * No. 6 UK Dance Single (Gallup) * "EATIN' THE HEAT" (with V. Nastas) * No. 1 UK Singles (Gallup) 1990 "MAN MACHINE" (Gallup) * No. 10 UK Dance Singles (Gallup) "DENKIN' SLACK" (Gallup) * No. 5 UK Dance Single (Gallup)
1991 "ANIMAL SHANTY" (Gallup) * No. 1 UK Dance Single (Gallup) * "STEP INTO TIME" (debut album, solo) * No. 3 Dance Albums (Gallup)

In pursuit of this subject Ed has collected and created a huge library of sounds for dance production and now he's put the very best of this collection on standard compact discs: over 3000 samples! and more than 1000 tracks. **MUNITION FROM THE FRONTLINE** (MUSIC TECHNOLOGY AUG '91) as evidenced by the fact that many of the world's top producers and remixers have bought Vol. 1 and are eagerly requesting Vols 2 & 3. **THESE ARE THE FRESHEST AND MOST CREATIVELY INSPIRING DANCE SOUNDS AVAILABLE** AND **FULL DOCUMENTATION** including a very useful sample-rate chart for fast tuning of any breakbeat precisely to any tempo (e.g. S1000)

Already much sought-after by the professionals...

> > > DATAFILE ONE < < < <

* Over 60 Breakbeats * 100's Vocal hooks * Synth dub and sub basses * Tons of dance-orientated percussion including: * Classic TR808/TR909/TR727 drum kits * Techno/electro beats & pieces * Scratches * Over 100 original Drop-ins * Sci-fi FX/Aliens/Robots * Oriental vocals * Ethnic flutes/instruments * Ambient fx * Stabs * Many more unique one-offs.....
"Unreservedly excellent.....an unbelievably valuable addition to your sample library...the definitive dance sample CD" MUSIC TECHNOLOGY AUG '91

"An exceptional and extremely useful product...an invaluable tool for the professional sound technician" - DJ MAGAZINE JULY '91. "STRATTON KNOWS his business...if the quality of Datafile One's sounds is anything to go by, Volumes 2 & 3 should be unmissable" - INTERNATIONAL MUSICIAN AUG '91 "Incredible! The only word needed to describe the greatest sampling tool ever released to the public...vocals so fierce you have to hear them for yourself...most of the voice samples I've never heard anywhere before...whether your a producer, remixer, engineer or a DJ with a sampler, this disc is a must for your sample collection" - DMR "DANCE MUSIC REPORT" USA

And now available, an equally deadly selection...

> > > DATAFILE TWO < < < <

* Over 100 Breakbeats * Over 150 Soulful Vocal hooks / ad-libs / FX * Kraftwerk-style electro percussion * 40 choice basses incl. Juno 106 and SH 101 * Guitar breaks & FX * Sci-fi / Techno FX / robots * Roland R8 & Alesis HR16B kits * Complete human beatbox * Stabs * Ambient FX incl. Whalesongs / birds / film atmospherics * Industrial perc. / FX * Italian-house piano * Automotive FX / horn blasts * Drop-ins * One-offs....

"The same combination of rawness, cheekiness and honesty which made Datafile One so appealing. In fact, it complements Datafile One very effectively" - MUSIC TECHNOLOGY DEC '91. "The Datafile CDs provide the samplist with all the raw material needed to assemble house or techno tracks to a very high standard...given Ed Stratton's ear for what works, the Datafile CDs are a near-essential purchase if dance music's your game" - SOUND ON SOUND NOV '91. "A jigsaw puzzle that could be assembled in a large variety of ways with the pictures always making sense" - MUSIC TECHNOLOGY AUG '91 "Together these discs represent the most comprehensive dance sample resource currently in circulation" - MUSIC TECHNOLOGY OCT '91.

"The vocals & FX are even more powerful...I saved plenty of my best stuff for 2 & 3...." - MAN MACHINE.

COMING SOON.....THE FINAL CHAPTER...

> > > DATAFILE THREE < < < <

* MORE SOUNDS TO BLOW THE B***S OFF A RHINO AT 100 PACES...(ALL EXISTING CUSTOMERS WILL BE SENT INFO & ORDER-FORM AHEAD OF RELEASE)
ZERO-G: THE RESULT OF YEARS OF SAMPLE COLLECTION AND CREATION FOR HOUSE / RAP / SOUL PRODUCTION. IF YOU'RE INTO THE MUSIC, YOU KNOW HOW IMPORTANT GOOD SAMPLES CAN BE. OWN ONE. IT'S THE ONLY WAY TO MAKE THE BIG DIFFERENCE TO YOUR CREATIVE OUTPUT. ORDER NOW. DON'T WAIT FOR THEM OR READ THE REVIEWS

CALL : 0442 870681 FOR VISA/MASTERCARD ORDERS OR POST / FAX DETAILS :

TIME + SPACE P.O. (UK cheques follow 7 extra days for clearance) or: Please debit my ACCESS — VISA — MASTERCARD

Please send _____ copies of **ZERO-G DATAFILE ONE** at £49.95 each inclusive
_____ copies of **ZERO-G DATAFILE TWO** at £49.95 each inclusive
(International orders: Add £5.00 for express airmail/handling.)

I enclose a cheque/postal order to the value of £_____ made payable to "TIME + SPACE"

Number: _____ / _____ / _____ Expiry date: _____ / _____

Name (Capitals): Initials _____ Surname _____

ADDRESS (CAPITALS): _____

Postcode _____

TELEPHONE ORDERS: (0442) 870681 or FAX TO: (0442) 877266

WARNING: DATAFILE ONE was the world's first dance sample-CD (released May '91). At least one other sample CD has appeared containing stolen original **ZERO-G** samples. Do not fall into the trap of buying the same samples twice!

the power of
OPCODE
at your local
opcode dealer

TURNKEY, LONDON
2001, ASH
A1 MUSIC, MANCHESTER
ABC MUSIC, ADDLESTONE
ABC MUSIC, KINGSTON
BRIXTON EXCHANGE MART, LONDON
ARGENTS, LONDON
CALLHAVEN COMPUTERS, LONDON
CARLSBRO, DERBY
CARLSBRO, LEICESTER
CARLSBRO, SHEFFIELD
DAWSONS, WARRINGTON
DAWSONS, NORTHWICH
HESSY'S MUSIC CENTRE, LIVERPOOL
KEYBOARD SHOP, SHEPHERDS BUSH
McCORMACKS, GLASGOW
MUSICAL EXCHANGES, BIRMINGHAM
MUSICAL EXCHANGES, COVENTRY
PROJECT MUSIC, HOUNSLOW
RAINBOW MUSIC, DUNDEE
SOFTWARE CIRCUS, HOLBORN
SOUND CONTROL, GLASGOW
STIRLING MICRO SYSTEMS, LONDON
SYCO, LONDON
THATCHED COTTAGE, ROYSTON
TSC, THE SYNTHESIZER COMPANY, LONDON



THE MOST
POWERFUL,
PRODUCTIVE,
AND INTUITIVE
HARD DISK
RECORDING,
MIDI
SEQUENCING,
SYNTH AND
SAMPLE
EDITING TOOLS
AVAILABLE
FOR THE
MACINTOSH
COMPUTER.

FOR MORE
INFORMATION
MCMXCIX
708A
ABBEY ROAD
TUDOR ESTATE
LONDON
NW10 7UW
FAX:
081 963 0624



081 963 0663

➤ procedure was bypassed. Many times the first thing that came to our minds was the final product. That was a little new for me, but exciting at the same time: 'Look, we're just going to go for the master right now and no, we haven't heard these lyrics with the music, but let's go for it and then we'll go for whatever edits or changes on the spot'. If we didn't like that verse, we sat down and wrote a new one.

"It's nice to have the technology to be able to work out almost the entire idea in my hotel room or at my house before ever getting to the studio. It's nice to be able to hear how the parts are going to work - including the background vocal parts. I can now sample and rearrange the whole tune."

Sampling obviously plays a major part in Pilate's working methods - but not always in the way you might expect. Sampling backing vocals off demo recordings for use on record and in live performance, for example, is commonplace.

"Again, it's done on a song-to-song basis", he says. "On one of the demos that we did on the road for this album, the background vocals sounded just fine, so I sampled them off the eight-track."

"For a live performance - as an addition to the background vocals on stage - I go back and sample each word and assign it to a different key, so that when we're playing it against the live band, we're not obligated to stick with the same tempo as the record."

"On this album I've sampled a lot of the background vocals. After they've been committed to tape - mainly because I foresee redoing remixes of most of the album. On a couple of Hammer's tunes, I also have stereo samples of the horn tracks, where, if there's a repeating phrase, I just took a sample of the best phrase and repeated it a couple of times. And there are a couple of tunes now where everything, all of the sounds that occur on the album,

I could now just hook up my rack and you would hear everything that's been recorded on tape - with the exception of Hammer's lead vocal."

"Hammer's voice really stands out on tape, and it almost doesn't matter what microphone we use. As a matter of fact, half the vocals on the *Please Hammer Don't Hurt 'Em* album are done with a Shure SM57 and SM58 microphone, and it sounds wonderful."

"We've tried different microphones and almost anything you put out there works. And we have recorded in so many various environments - everything from the Record Plant in Sausalito to a clothes closet at my house. I've done his vocals on a bus at four o'clock in the morning with all the lights turned out, in the middle of somebody's trailer park somewhere!"

"We just cut down the popping and put a little bit of compression on - and he likes a little bit of 2.2K

EQ added to his voice, just to bring it out - but other than that, he has a really easy voice to work with."

Back to sampling. More than allowing control over the vocal and horn parts, Pilate's sampling gives him the ability to completely remix tracks.

"If I want to work out a whole new arrangement of the song, I don't have to do it at the studio", he explains. "It's not like I have to worry about the album budget, but it's just an old thing for me - maybe just an ego thing - where, if I can bring it in for under \$75,000, I'm happy. I never could see the logic of 'Hey man, I spent \$200,000 on this album', and being proud of it. That's a waste of money."

Remixes can be worth big money, however. In the UK a whole industry of remixing has grown up around the club scene and the record companies' thirst for prolonged chart success. But Pilate doesn't see his and Hammer's use of remixes as a moneyspinner, more as a means of providing a variety of forms for a track.

"There may be two or three different remixes of the same song on the same 12-inch 45", he explains, "just to add flavor to the same record. There will be a version that would be real hot in the clubs, that has less vocal, more beat, more measures..."

"But I've heard Jimmy Jam and Terry Lewis do a remix of 'Diamonds are a Girl's Best Friend', on Herb Alpert's album where they only kept the lead vocal, the background vocal, and used a different arrangement of the music. They may have kept the same drum beat, but went back and added a different bassline, a different chord progression - like maybe in the relative minor of the original key - and it adds a whole new flavour."

UNLIKE MANY OF HIS RAP CONTEMPORARIES, Pilate's longstanding involvement with music will have brought him into contact with a considerable amount of hi-tech equipment. Ordinarily you'd simply chalk it up to experience, but with the present fascination for older synths and drum machines, it's a considerable asset to Pilate.

"I use an interesting combination of the old and the new. I still have my DX7 that I bought in Japan. I still have my Roland JX3P that has nice, real thick bass sounds, which is basically what I use it for. And the big Roland JX10 - again, it's a nice, big, fat sound. I'm using those combined with all the new stuff that I've gotten. Some of the old DX7 electric piano patches, when MIDI'd with my new JD800 - the new Roland - make really nice bell-ish tones."

While the hip hop movement has tended to scorn the politeness of digital synths, the ability of samplers to recall sounds from the past have ensured their popularity. In particular, Akai's samplers have become almost synonymous with hip hop. So what's Pilate using - an S1000, S950...?

"As a matter of fact, the only sampler we used on the *Please Hammer Don't Hurt 'Em* album was a Roland W30", comes the surprising reply. "Not that there weren't other things out there - that's what I had and that's what I felt comfortable with. I had just bought one for myself, right before joining Hammer on the tour, and I was really excited about

"Hammer brings to the table with him his lack of knowledge - he doesn't have a concept of what 'traditional' music is supposed to sound like."

it. Fourteen seconds of mono sampling time at 30K - it was like 'Hey, I like this!', and I discovered how to do pseudo-stereo samples on it, although it samples in mono. So I was using it to fly in background parts.

"The new Roland sampler has even allowed me to go back and experiment with my Yamaha RX5 drum machine. I can take drum sounds off of there and combine them with the standard Roland library, or some other stuff that I've sampled off record. This will allow me to layer up to four different snare drums together, alter the pitch of each individual sample, and give me a whole new snare sound. So I've been off into sample heaven here because I've got 16Meg of memory to work with."

But the sound of a specific musical style relies on more than just the equipment made to produce it - ask any guitarist. One of the most prominent features of rap is its bass - it has to be heavy enough to move the walls in a club and yet still be able to come across on radio. One trick used by dance producers in general is to test out a mix on a car stereo. Pilate prefers to check out his mixes in as many different situations as possible - and as many cars as possible.

"Many times we'll take a mix - a DAT or a cassette - and listen to it in four or five different cars that happen to be sitting out in the parking lot. We've taken tapes to live concerts, to the PA system, to see what it sounds like on that.

"One interesting thing that I've done to check out the mix: Nady used to make their wireless guitar systems, their 410 model, basically a low-power FM transmitter and receiver. So, I would figure out what frequency the transmitter was transmitting at, and I would put it into the output of my mixer, pan everything to mono, and go tune in to the mix out on my car radio to hear what it sounds like semi-compressed.

"One time I had a pair of small speakers made by a company called Dimension, and I remember watching Hammer listening back to the mix by picking up each of the speakers and putting them over his ears, as if they were headphones! We tried it at a couple of different volumes: real soft, and what would have been painfully loud for me. That low-end stuff is normally associated with a lot of low end on the bass and TR808 kick drum and we figured that if it sounded really good on the small speakers, it would work on the big systems. You didn't have to feel it down there, but if you are at least aware that it was there, we figured it would work. And of course, it's very common for us to stick on someone else's record in the studio, do a quick A/B check."

Bass - the byword of the dance movement, and with it goes one of the secrets of a well-crafted production. Is Pilate prepared to share the secrets of Hammer's bass with us? He is: "Well, the sound comes from one, maybe two things. An 808 kick drum is basically a low-tuned, almost sine wave. It's a big, round, very low note with a very sharp attack on it. When I've sampled it and looked at and expanded the wave, it's almost a perfect sine wave. When you tune it real low you get that 'hmmmm'. Once you've added an envelope to that sound - which could be duplicated from an

analogue synthesiser, you get the sound that is normally associated with these types of records. Sometimes we add analogue synthesisers, and you get the beating between the two because that kick drum is normally at a certain pitch.

"Other than that the secret is just making sure that you've got lots - if that's the style that you're looking for - lots and lots of low end on your kick drums. But then you're going to have to make adjustments for that in your volume level to make sure that you're not overloading. And if you want it totally dominating your mix.

... I mean, that's what you do. I want to make sure that there's enough low in there so that when you do put it in one of these boom-boom car systems, that's the effect that you get.

"In the studio I don't turn it up that loud. I feel that if I can sense the low end there at a low volume, that's fine for me. What I do many times, just to make sure that I hear everything clearly, is crank the speakers up and go step into the next room, figuring that if it still sounds clear enough to me through two or three closed doors, the mix is fine. I used to call that the party effect - you know, you walk up to someone's house, and the place is rocking. And if you can identify what the song is from outside the house, that's a nice clean mix." ■

"If it still sounds clear enough to me through two or three closed doors, the mix is fine - I used to call that the party effect."

EQUIPMENT

INSTRUMENTS/SEQUENCING

Apple Mac Computer
Korg M1R Expander
Korg M3R Expander
MOTU Performer Sequencing Software
Roland D70 Synth
Roland JD800 Synth
Roland JX3P Synth
Roland S770 Sampler (16Meg)
Roland P330 Piano Module
Roland R8M Percussion Module
Yamaha DX7 Synth

OUTBOARD

Aphex Compellor Compressor (x2)
Lexicon LXP1 Reverb
Lexicon LXP5 Effects Unit
Lexicon PCM70 Reverb
Roland 48-channel Line Mixer
Tascam 688 Midistudio
Yamaha REV7 Reverb (x2)
Yamaha SPX90 Multi-fx x(2)
Yamaha SPX900 Multi-fx
Yamaha SPX1000 Multi-fx (x2)

PDC100 PRO DISK COMPOSER



PHOTOGRAPHY: JAMES CUMPTSY

Sequencing on 32 tracks, SysEx datafiling and a built-in disk drive for around £350 make Brother's PDC100 a must to check out. Review by Simon Trask.

DOES THE STAND-ALONE sequencer have a future? While computer-based sequencing packages have been enjoying stellar success during the past few years, the once-ascendant star of the stand-alone sequencer has been steadily waning. Sequencing packages like Creator/Notator and Cubase have blossomed through a series of software updates and hardware add-ons while stand-alone sequencers have more or less, well, stood still - closed-system stagnation in an era of open-system dynamism. This very stagnation - or perhaps I should say lack of imagination on the part of the manufacturers - poses at least as much danger to the continued well-being of the stand-alone sequencer as computer sequencers do. And now that compact, lightweight "notebook" computers are starting to erode its traditional advantage of portability, manufacturers need to bring out the strengths and advantages which are unique to the stand-alone sequencer - strengths and advantages which have to do with it being a dedicated machine. The question is this: when the market for notebook and (even more compact and lightweight) pen-based notepad computers explodes, when the machines become affordable and MIDI software developers adapt their software to run on them, what will the stand-alone MIDI sequencer be able to point to that

will justify its existence? Answers on the back of a £20 note, please.

Maybe what's needed is a relative unknown in the field of stand-alone MIDI sequencers to bring fresh insight to the medium. Maybe what is needed is a spot of Brotherly love. Japanese company Brother, best known for producing printers and electronic typewriters, have already dipped a collective toe or two into the backwaters of the stand-alone MIDI sequencer market, though without causing any significant ripples. Will their new PDC100 Pro Disk Composer make more of a splash than its predecessors?

SHAPING UP

FIRST OF ALL, some key facts about the PDC100: it costs under £400, has a built-in 3.5" DSDD disk drive, its internal memory can hold one Song (maximum length 999 bars) and up to approximately 21,000 notes, and it can be used as both a 32-track MIDI sequencer and a MIDI SysEx datafiler. It's also compact and lightweight, measuring a modest 10"(W) x 8"(D) x 2"(H) and weighing just 2.42lbs - which in portable computer terms places it somewhere between a notebook and a palmtop.

With half of the PDC100's front panel taken up by its built-in disk drive, the user interface consists of

"The World's Best, Lowest, Cheapest, Unbeatable Prices"

(UK Music Retailers, SOS & HSR 1992)

There is hardly anything in the World that some man cannot make a little worse and sell a little cheaper, and the people who consider price only are only this man's lawful prey! John Ruskin, Philosopher 1819-1900!

TCD STRIPPER -£175

Do you need a box which allows you to copy any CD or DAT on any other DAT (regardless of make), as often as you like? The Stripper is a neat device which defeats or adds copy prohibit codes (so you can protect your own recordings) for the budget price of £175.00.

WE SELL KEYBOARDS

And not just keyboards either! Samplers, drum machines, expanders and all manner of computers and computer software. All form part of the largest display of pro-audio equipment in Britain (after all we are the largest Pro-audio Retailer in Europe).

TCD

In order to cater for increased demand for advanced multitrack systems we have a separate division - Thatched Cottage Digital. Housed in a brand new purpose designed building it handles 24-track analogue (including the new Tascam & Fostex 24-tracks, SABER, MAGNUM, QUARTZ & DDA desks) and all digital and leading edge installations (such as the new Yamaha digital multitrack). If you are considering any kind of professional set-up and feel that legendary TCA service and value are of interest, contact us on (0223) 208110 or ring the normal TCA number for full details.

TCA FAX PACKS

Need help with any aspect of recording? Try sending for one of our Faxpacks (PA, MIDI, Portastudios, 8-track Financial, 8, 16, & 24 track studio packages, or TCA courses). This information is FREE - just give us a call!

SOME SECONDHAND & EX DEMO BARGAINS

Studiomaster 24 : 8 : 16.....£1645	Zoom 9030.....£469	PA OFFERS
Tascam ATR20 1/2" demo.....£2349	Tascam TSR8 1/2".....£1879	JBL M Series (pr).....from £699
Alesis Microcue amp.....£58	Alesis SR16.....£259	8 : 2 mixer, Pr JBL M350 C-Audio
Soundtech ST200CL.....£147	Ensoniq EPS16+.....£1299	RA3000 inc cables.....£1999
Tascam MSR24 1".....£5289	Alesis 3630 com/lim/gate.....£234	Harrison K2000 amplifier
Fostex 454 8 : 4 : 8 mixer.....£469	Akai X7000.....£469	2 x 425w.....£794
Alesis 16 : 2 : 2 mixer.....£587	Akai S1000.....£1995	OHM PS500 powered speakers
Atari 1040 STE (no monitor).....£351	Aphex Studioclock.....£210	(pair).....£1996
Yamaha EMP100.....£175	Korg M1.....£1050	Hill LC800, 2 x 400w.....£675
ART Multiverb II.....£219	Yamaha RX21L.....£59	Studiomaster Sessionmix 16 : 2
Akai stereo single ended n/r.....£89	Korg S3 drum machine.....£587	Gold.....£794
Lexicon LXP1 reverb.....£440	Atari 520FM (new).....£234	Bose 802 (pair) including
Symetrix SX204.....£164	Roland U-220.....£469	controller.....£1350
Symetrix 501.....£325	E-mu Proteus II.....£899	OHM MR228 (pair) & MR450D
Aphex Dominator.....£764	Roland CM32P.....£176	(pair).....£1475
Aphex Type III exciter.....£704	Roland JD800.....£1399	RSD Powerhouse 8 : 2
Aphex Compellor.....£764	Korg Wavestation A/D.....£1174	Pr Yamaha S215ES inc cables £1150
Mixdown 24 : 8 : 16 Gold.....£1999	EMAX II rack.....£1399	
Fostex 4050 autolocate.....£410	Yamaha RY30.....£410	
Zoom 9010.....£1056	Akai S950.....£1025	
Lexicon PCM70.....£1150	Alesis MMT8.....£206	
Roland JX1.....£275	Yamaha MPC1.....£59	
Tascam 4 track Porta 2HS.....£415	Tascam 488.....£995	
Akai MG14D.....£1799	Boss NS50.....£99	
Yamaha SPX1000.....£750	Yamaha TG77.....£949	
Yamaha TG55.....£470	Nomad SMC1 SMPTE.....£99	

This list represents only a fraction of our current secondhand and demonstration stock. Call us for a full listing.

**ALL PRICES
INCLUDE VAT**

SPECIAL OFFERS (ALL NEW) ALL PRICES INCLUDE VAT

Roland CM32P.....£199	Professional Remote Headphones.....£65
Alesis Datadisc SQ.....£315	Casio DAR100 DAT Walkman.....£446
Alesis Midiverb III.....£218	Sony DTC750.....£447
Alesis Microverb III.....£147	Roland SDE3000A up to 4.5 sec delay.....£489
Alesis Quadraverb Plus.....£305	Ensoniq SQR - less than half price.....£469
Alesis Microseries (stereo) Microlimiter, Micro EQ,	Akai S950 3/4 meg expansion board.....£116
Microgates, Microcue, each only.....£76	Akai S1000 2 meg expansion board.....£147
ART Multiverb LT.....£147	Akai 8 meg expansion board.....£349
ART Multiverb Alpha.....£339	Fostex 4020 event controller inc SMPTE.....£350
Roland JX1 Keyboard.....£299	IB104 Digital interface for samplers.....£175
Roland CS10.....£89	Kurzweil K1200 88 note weighted keyboard.....£1750
Aphex Dominator.....£939	Atari 1040, monitor, Notator, Unitor.....£1025
Aphex Type C Exciter.....£195	Atari 1040, monitor, Cubase, Midex +.....£1045
Roland CN20 MIDI data entry pad.....£35	Atari 1040, monitor, Creator.....£760
Roland PC200 Remote/ master keyboard.....£164	Atari 1040, monitor, Notator or Cubase.....£850
Aphex Type III Exciter.....£710	Atari Mega 4 & high res mono monitor.....£739
Aphex Compellor.....£939	Mega 4, 14" high res monitor, Soundtools & 200 meg
Tascam MSR16 1 " 16 track.....£4399	drive.....£3499
Atari Stacey 4/40.....£890	

MULTITRACK DEALS

Fostex R8 & Soundcraft.....£3585	Tascam MSR16 & S2 16 : 8 : 16.....£5639
Fostex R8 & RSD Proline 16 : 8 : 16.....£2670	Tascam TSR8 & Fostex 812.....£2995
Fostex R8 & S2 16 : 8 : 16.....£3525	Fostex R8 & RSD Mixdown 16 : 8 : 16 old.....£3050
Fostex G16S & S2 16 : 8 : 16.....£7049	Fostex R8 & Mixdown 16 : 4 : 8 Gold MIDI.....£2935
Tascam TSR8 & Mixdown 16 : 4 : 8.....£3289	Fostex R8 & Proline 16 : 4 : 8 Gold MIDI.....£2645
Tascam TSR8 & Spirit 16 : 8 : 16.....£3645	Tascam TSR8 & Mixdown 16 : 8 : 16 old.....£3465
Tascam TSR8 & S2 16 : 8 : 16.....£3700	Tascam MSR24 + S2 24:8:24.....£9635

EDUCATION

If you represent a school or other educational establishment you may be eligible for our discount scheme. Call 0223 208110 for details.

HOT STOCK

While we do not pretend to carry every item from every manufacturer (ever tried putting it to the test), our size usually ensures that we have all the best selling items in stock. Current favourites: Roland JD800, Tascam 3700, Ensoniq EPS16+, Alesis SR16, S2, Korg Wavestation A/D, Yamaha MT120, Akai S1100, Yamaha SY99, Alesis ADAT, Kurzweil K2000 keyboard.

TCA SERVICE

Our fully equipped service department can offer fast turnaround (sometimes while-u-wait) and very competitive prices on Fostex, Tascam & Revox tape machines, most portastudios and desks, Atari computers, Akai samplers and many products. Give us a call before it's too late!



When it comes to new equipment you may have noticed that we don't say 'phone for the best deal, POA or "lowest price guarantee" (Ha! Ha! if the prices are so great why don't they just print them and amaze us all). 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, (by the way, next time a dealer 'guarantees' lowest price and then can't deliver, try reporting them to the local Office of Fair Trading - it will teach them not to waste your time!) 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 multitrack 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!

THE NEW S2 MIXING CONSOLE - £1995

Take a brand new mixing console, give it every feature of the stunning SOUNDCRAFT SPIRIT (ie. full EQ on every channel including monitors) plus a few more for good measure. (Connections for 2 sets of speakers and 2 tape decks.) Add the build quality of TAC, the innovation of STUDIOMASTER (fully expandable on inputs) and the stylish design of SOUNDTRACS. Finally add a full MIDI mute processor (internal sequencer plus MIDI muting on absolutely EVERYTHING).

THE PRICE - £1995 - WOW!

THATCHED COTTAGE AUDIO

**You only become the biggest -
by being the best!**



North Road, Wendy, Nr Royston, Herts SG8 0AB
Telephone (0223) 207979, Fax (0223) 207952



“If a disk is in the drive when you switch on the PDC100, its Preset file will be loaded automatically. A nice touch.”

➤ just six buttons and a 2 x 16-character backlit LCD window located in the other half. With so few buttons, it's no surprise to find that each one has three functions. Fortunately, you're helped in familiarising yourself with the PDC100 by having the functions of each button and a list of the software pages printed on the front panel. The list is laid out matrix-style to give you a clear picture of the multi-level organisation of the pages and to let you see at a glance which pages are on which level. One particularly useful operational shortcut allows you to return to the main record/play page from any other page with either one or two dual button-presses depending on your location. Also useful are Shifted button-presses which jump you straight to the beginning or the end of a Song.

While we're being positive, the PDC100's backlit LCD is bright and clear, and can be read easily from a variety of angles - which is more than can be said for some LCDs. And on the subject of visibility, the MIDI output of your controller can be made visible by selecting a MIDI monitor page on the PDC100.

The rear panel houses one MIDI In and one MIDI Out socket, 7.5V DC power input (the PDC100 comes with an external AC adaptor) and the power on/off switch. Syncing the PDC100 to tape will require either an external sync box or a tape machine with built-in tape sync, such as one of Tascam's MIDistudios.

TIME & PLACE

ALONG WITH ITS 32 MIDI tracks, the PDC100 provides a Beat/Tempo track for time-signature and tempo changes during the course of a Song, and 64 Units (single-track sequences) for pattern-based recording. The PDC100 allows you to set up time-signature and tempo changes for a whole Song before you've recorded any tracks; you also have the option of switching off the tempo changes at any time.

The Beat/Tempo track allows you to program a different time signature for every bar if you want. The purpose of programming time signatures is to let you bring the PDC100's bar count and metronome downbeat into line with what you play. So some of you may be disappointed to learn that the time signature can only be set within the range 1/4 - 8/4. Wot, no 13/8?

Tempo can be set in the range 30-250bpm and, as with the time signature, you can program a different tempo at the beginning of each bar. Unfortunately, this allows for neither subtle fluctuations of tempo within, say, a 4/4 bar, nor smooth increases or decreases in tempo across two or more bars. Recording in 4/4 and then changing the time signature to 1/4 does no good because the PDC100 chops out beats two and three and merges whatever's on beat four with beat one of the next bar!

Tempo changes are absolute, rather than relative to the initial tempo, so if you decide the overall tempo of a Song needs changing you'll have to edit every tempo change accordingly. Imagine you're rehearsing with a singer, you get asked to take the

tempo down a bit for practice purposes, and there's you saying "OK, wait while I make these ten tempo changes". Not really on, is it?

Having the 64 Units allows you to build up a library of single-track musical parts, each of which can be up to 100 bars long. Units exist outside of the Song, and can only be recorded in isolation, but they can be either Copied or Placed into any of the 32 Song tracks at any time during recording, and to any location in the Song.

While Copying a Unit duplicates its data, Placing a Unit inserts a call to it into the destination track; when the PDC100 comes across a Placed call, it knows to play the data in the Unit along with whatever's in the other tracks (which could be calls to other Units).

Placing therefore saves you time and economises on memory. For instance, rather than record a repeating bassline "x" times, you can record it once into a Unit and then Place the Unit "x" times into a track.

To record a Unit within the context of the tracks, you record the part as a track first and then Copy it across to a Unit; then you can delete the relevant bars from the track and Place the Unit into the track in their place. Unfortunately, Units can only be Placed at the beginning of a bar, so you can't create echo or delay effects by Placing a Unit into two tracks and offsetting one against the other.

CHANNEL FUDGES

EACH OF THE PDC100's 32 tracks and 64 Units can contain up to 16 MIDI channels of data. The sequencer records multiple channels at once, so you can record parts using split and layer textures which require notes to be transmitted on more than one MIDI channel. Multi-channel recording is also very handy if you want to transfer sequences across to the PDC100 from another sequencer via MIDI (sadly, the PDC isn't able to read Standard MIDI Files off disk).

Brother's sequencer has no function for extracting MIDI channels from a track, so if you do record a complete multi-channel sequence into one track, you can't separate the channels onto different tracks. Nor are there functions for deleting a specific MIDI channel from a track or for merging tracks. However, there *are* ways to fudge all three functions, and without getting into a lot of detail it basically involves routing the PDC100's MIDI Out back to its MIDI In (making sure that its soft MIDI Thru function is disabled so that you can't get MIDI feedback), setting its MIDI channel output filter to discard the channel(s) you don't want to record, and then (re)Recording the relevant channel(s). To speed up the process, you can bump up the tempo as far as possible, then reset it once you've finished. Incidentally, unless you want to be switching MIDI cables whenever the urge to merge or extract takes you, a MIDI input selector box is a must.

Extracting, erasing and merging Units takes a little longer, as you first have to Place or Copy the relevant Unit(s) into one or more tracks, then go through the re-recording process just described, and then finally ➤

➤ Copy the relevant track or section of a track into another Unit.

Track merging can be particularly useful where Units are concerned, as it allows you to build up a multi-part Unit from several different tracks and then Place it in a single track. In this way you can have one Unit which contains a rhythm pattern consisting of just kick, snare and hi-hat, another Unit which adds in some percussion, a third which adds in a bassline, and so on. Then you can have instrumental parts dropping in and out of a Song simply by Placing the relevant Units at the relevant locations in the Song.

RECORDING

THE PDC100 IMPLEMENTS three methods of recording for both tracks and Units: real-time, automatic (preset) punch in/out and step-time. Overdub loop recording hasn't been implemented, however, which is unfortunate unless you're happy recording rhythm patterns into your drum machine(s) rather than into a sequencer (see the Blow interview elsewhere in this issue for a view on this).

Real-time recording into a track on the PDC100 allows you to start recording from bar one and keep on playing until you've used up all the memory, if you want (unless you're Cecil Taylor, this would probably take a while). Unit recording is limited to 100 bars; it also differs from track recording in allowing you to preset the Unit length. For both track and Unit you get a count-in (user-programmable from 0-8 bars), and a

metronome sound on every quarter note. This sound can be an internal beep or a MIDI event; for the latter, you can globally program the transmit channel, separate MIDI note numbers for the downbeat and subsequent beats in the bar, and a velocity amount. Maximum record resolution is 96ppqn, which is par for the course on stand-alone and workstation sequencers but a lot less than on many computer-based sequencers, and not enough to satisfy everyone - though enough to satisfy most, I'd venture.

Sectional recording in real time presents a bit of a problem. The reason is that whenever you start recording from partway through a track the PDC100 erases any data in the preceding bars of that track, while if you stop recording before the end of a track the sequencer deletes all the following bars in the track! Strange but true - and undocumented in the manual. It all seems too "clean" to be a software bug, though why on earth anyone would deliberately program this to happen I don't know. Fortunately there are ways to get round it (it seems you have to get round a lot of things on this sequencer). Perhaps the simplest is to record into one track and then Copy across to another, as Copying into a track doesn't get rid of anything before or after (but then it would be a pretty useless function if it did). Another way is to record a section directly into a Unit and then Copy or Place it into the relevant track, though in this case you lose the ability to record in the context of any other tracks.

"The sequencer not only automatically loads the next song in each time, it also automatically starts playing it."

LIMITED OFFER FROM

C-LAB

Notator is the best sequencing and notation program for the Atari ST, combine this power with the MIDI and Synchronisation capabilities of Unitor 2 and you have the heart of the C-Lab Universal System.

For a limited period, C-Lab are offering the ultimate Notation, Sequencing and Synchronisation Package for the Atari ST - **The Sync-Pack**. The Sync-Pack consists of Notator V3.1, Unitor 2 and a Mouse Mat all in a C-Lab Briefcase.

The normal RRP of this package is £950.00 inc VAT. Until January 31st

1992, a selected number of Dealers will be able to offer this package for only £649.00 inc VAT... a saving of over £300! Add to this the



introduction of TCM (Tape Control Mode) in Version 3.1 of Notator and C-Lab will not only control all your MIDI equipment but also the transport controls, record ready and many more functions of your Fostex and Tascam Tape machine*.

The participating Dealers are listed below. Remember, this offer is limited. Don't miss this unique opportunity to join the growing band of dedicated C-Lab users.

Sound Technology plc, Letchworth Point, Letchworth, Herts. SG6 1ND. Tel 0462 480000. Fax 0462 480800.

SAVE OVER £300

*MTC-1 required for Fostex machines. LMTC-1 required for Tascam machines.

PARTICIPATING DEALERS

Music Village - Chadwell Heath 081 598 9506 - Cambridge 0223 324 536 - Borneo 081 440 3449 - **Music Connections** - Chelmsford 0245 354777 - Chelsea 071 731 5993 - **Carlsbro Retail** - Mansfield 0623 651633 - Derby 0332 48156 - Leicester 0533 624183 - Leeds 0532 405077 - Nottingham 0602 581888 - Norwich 0603 617641 - Birmingham 021 643 4655 - Sheffield 0742 640000 - Stoke 0782 205100 - **ABC Music** - Esher 0372 466195 - Adelstone 0932 854877 - Oxford 0865 724820 - Kingston 081 546 9877 - Bristol 0272 238200 - Slough 0753 822754 - Exeter 0392 425125 - **Thatched Cottage Audio** - Royston 0223 207979 - **KGM** - Wakefield 0924 371766 - **Project Music** - Hounslow 081 570 4444 - **Holiday Music** - Leytonstone 081 559266 - **Sound Control** - Dunfermline 0383 733353 - Glasgow 041 204 0322 - Fife 0592 260295 - Dundee 0382 25619 - Edinburgh 031 557 3986 - Newcastle 091 232 4175 - **McCormacks** - Glasgow 041 332 6644 - **Dawsons** - Warrington 0925 32591 - **Eddie Moors** - Bournemouth 0202 395135 - **The Music Corporation** - Poole 0425 480569 - **SDL** - London 071 580 4000 - London 071 629 1234 - Sidcup 081 302 8811 - **Musical Exchanges** - Birmingham 021 236 7544 - Coventry 0203 635766 - **A1** - Manchester 061 236 0340 - Preston 0772 204567 - Stockport 061 429 8777 - **Turnkey** - London 071 379 5148 - **Sutekina** - London 071 836 0180 - **Rose Morris** - London 071 836 0991 - **Brixton Exchange Mart** - London 071 733 6821 - **Keyboards In Action** - Plymouth 0752 347595 - **Systems Workshop** - Oswestry 0691 655019 - **E.M.I.S.** - Bristol 0272 561855

The UK's finest selection of Sample CDs and Synth Sounds

HitSound Producer Series Volume One - Pascal Gabriels Dance Samples

Over 1000 Samples, 72:23 minutes



Pascal Gabriel is one of the leading lights on the current dance scene. He has worked with such well-known names as Bomb The Bass, S-Express, Coldcut, Jimmy Somerville, Brasure, ERM, and many more. This CD is different to any other available. It is NOT A COMPILATION of sounds from last year's records, but a resource of new sounds to help you make the HIT RECORDS OF NEXT YEAR. People are describing it as 'fabulous', 'fresh', and 'superb value'. In the past a library like this would take years to build-up and a huge amount of work and skill to achieve. Now it can be yours in days for only £49! - Why wait!

"...house gold dust...breaks new ground..." - MT, Dec '91.
 "...off-beat, quite distinctive, and highly usable. Better still you almost certainly won't have heard them before...useful and memorable...a revelation...uniformly excellent...the basis for many a hit." - SOS, Jan, '91.
 Used by Pet Shop Boys, Propaganda, and Technotronic ("Flooding unbelievable!")

FEATURES

- Loads of Drum & Percussion
- Loops & Breaks
- Guitar Hooks and FX
- Vocal Riffs & Effects
- Hits, Scratches & Drop-Ins
- Countless Snares and Kicks
- Synth FX & Bases
- Brass & String Hits, FX and Runs!
- Film & Media Snatches
- Orchestral Effects
- And Much, Much, Much More!



Volume Two - Danny Cummings' & Miles Bould's Rhythm of Life

Around 55 minutes of grooves, 20 minutes of single hits



If your shrink fires the word 'Percussion' at you, and you know your onions, then you're likely to respond - 'Danny Cummings'. Currently on tour with Dire Straits, the man's got a well-earned reputation the size of an overweight elephant. Here he's joined by the emerging talent of Miles Bould with devastating results. This CD shows why George Michael, Pet Shop Boys, Tina Turner, Julia Fordham, John Martyn, ABC, and many more have chosen these guys to give them the groove. We presented them with 8 backing tracks and recorded their performances to multi-track. After extensive editing and remixing, in some cases incorporating Roland's RSS processing, we have compressed these sessions onto one CD. Now you can give your productions the ultimate groove. Get this CD and get a taste of the best in percussion. There's nothing else in it's class.

FEATURES

- Around 55 minutes of percussion grooves in 8 styles.
- Unparalleled performance and recording quality.
- RSS Samples plus Mixes
- PLUS an extremely comprehensive collection of single hits
- And Much More!
- Superb value at Just £49!
- Instant Inspiration!



Volume Three - Dancin' Dave Ruffy's Drum Samples

Over 263 hits and 140 loops, 70:53 minutes



There are a number of drum sample CDs on the market. Their quality varies, we felt they were all somewhat out of touch with current trends in drum sounds. This CD is the result of exhaustive recording sessions with top session drummer David Ruffy and features modern acoustic drum sounds. Dave's worked with some of the best in the biz - Sinead O'Connor, Mica Paris, Yazoo, Neneh Cherry, Prefab Sprout, Aztec Camera, and World Party to name but a few. Not only does this CD feature what we believe to be the finest and most modern set of drum samples - but also some brand new loops that are really far too good to make so widely available. If you've a sampler and you ever use drums - you need this CD!

FEATURES

- Snares, Kicks, Hats, Toms, and Cymbals
- Performance Velocities - 4 or more!
- Miking Variations
- Modern Usable Drum Sounds
- RSS Samples
- PLUS over 140 brand new hot drums loops - too good to sell!
- Live & Sequenced Loops!
- And Much More!
- Superb value at Just £49!



BRAND NEW! - Volume Four - Coldcut's A-Z of Dance Music

Over 1169 Samples, Over 70 minutes



Coldcut are regarded by many as the UK's most innovative dance artists/remixers. Aside from their own successful recording career and Kiss FM radio show, many will know them for launching the careers of both Lisa Stansfield and Yazoo - now established as international stars. Apart from a couple of classics this CD once again conforms to our policy of placing originality as our top priority. If you're serious about making dance music you're sure to be on the look out for hot new samples to make 'The Music of Now', not a rehash of the past. As with our Pascal Gabriel CD - If you want inspiration, originality and the freshest sounds around. Look no further.

RELEASED JAN/FEB 1992 - £49 fully inclusive

FEATURES

- The finest selection of ultra-rare loops ever compiled - unbelievable!
- Male & Female Spoken & Sung Vocals
- Coldcut's Exclusive - Hed & HPN Samples
- Superb range of mega scratches!
- Media snatches, FX, Robot Vox
- Full selection of drum & perc samples
- Hits, Stops, Breaks, Synth & Bass samples
- BEYOND DESCRIPTION - HIGHLY USABLE! - Superb value at Just £49!
- "Hey Kids! What time is it?"

HitSound CDs 1, 2 & 3 - Pure Gold Synth, Old Gold Synth, Guitar

3 Superb CDs



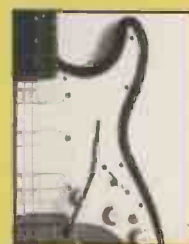
Volume One - Pure Gold Synth - "...assorted pad and atmosphere sounds include some stunning textures, and these are complemented by a superb range of bass sounds, and some quite surprising, quirky sounds dotted around...All in all, a good mix of high-class bread and butter sounds with a hefty dose of sonic icing on top." - SOS, Sept 1991.
 490 of the best samples in Valhalla's International Gold Series from WaveStation, T-Series, D70, M1, VFX, SY77, SY55, D50 and More!

Volume Two - Old Gold Synth - "This volume is a (Gold)mine of glorious sounds that, whilst certainly biased towards dance music, should be useful to anyone with a sampler and a little imagination." - SOS, Sept 1991.
 A huge collection of classic synths - ARP2600, Moogs, MC202, Octave Cat, MKS70, Xpander and many more! Superb synths, superb sounds all on one £35 CD ready to sample! 721 Samples, 63:44 minutes

Volume Three - Guitar - "...instantly usable...perfect for creating a basic 'instant rock guitarist' on your sampler...Things get even better...It's really just like having a good selection of records from which to sample useful snatches of guitar, but without all the other music happening on top." - SOS, Sept 1991. "...devastating results...Handle with care: highly recommended." - Music Technology, Oct 1991.

Chords, Bends, Solos, Licks and Effects from Electric, Wah Wah, Acoustic and 12 String Guitars - Clean and dirty versions! 605+ Samples, 63:18 minutes - Just £35.
 "Altogether or individually, the HitSound CDs offer good value for money...an excellent start in bringing a great selection of expensive-sounding and highly usable instrument sounds to anyone with access to a sampler." - SOS, Sept 1991.

Each volume costs £35, or select all three for just £90.



Valhala International Gold ROM Cards - Programmed in the UK!



Here's what the Press have to say:

"...if you want to be inspired to greater heights of musical ecstasy, look no further!...The amazing thing about these Valhala cards is that they sound completely different...all the voices here really do sound new...I am now assured that trying to do my own programming is a complete waste of time. To create anything like what we have here would take days and days of work...Well of course if you are at all serious then you'll buy all three!...don't take my word for it - try them out yourself! - *M1 Card Review, SOS, Dec '91.*

"The last time you heard sounds of this quality emanating from a single keyboard you were probably listening to an Emulator or a Fairlight...these sounds will tempt you to make an M1 the major keyboard in your rig. If they don't I honestly don't know what will." - *M1 Card Review, MT Aug 1990.*

"...there's no company currently making a better name for itself than Valhala...I admit it, I'm impressed...a number of absolute gems - the overall impression is one that firmly lives up to Valhala's excellent reputation for quality...quality plus value - what more do you want?" - *D50 Card Review, MT Nov 1990.*

International Gold Cards Currently Available:

KORG - M1/M1R (4), M3R (4), T-Series (2 Disks), WaveStation (1), KAWAI - K1 (2), K4/K4r (2)

ROLAND - D50 (2), D10/5/20/110 (2), YAMAHA - SY22 (1), SY55 (2), SY77 (1). ENSONIQ - VFXsd (2 disks).

Valhala Studio Series ROM Cards - For Korg, Roland, Yamaha, & Kawai Synths

Sounds programmed in the States by Valhala. Categories as follows:

Roland - Top 40, New Age, Orch, FX, PCM, Digital, Analog.

Korg Cards - Top 40, Orch, New Age, Rock.

Yamaha SY22/55/77 Cards - Top 40, Orchestral.

Kawai K1/K4 Cards - Top 40, Orchestral.

ROM Card Prices - Studio & Int. Gold Series'

All Korg ROMs - £50 each

Yamaha SY22/55 - £60 each

All Roland ROMs - £45 each

Kawai K1 ROMs - £45 each

SY77 ROMs - £65 each

Kawai K4 ROMs - £55 each

Valhala ORGANizer Series Organ ROM Cards for Roland D-Series Keyboards

A new range of cards packed full of superb Organ sounds. All cards are £45 each.

Sreamin' B3 - Superb imitation Hammond sounds - D50/5/10/20

Wurlitzer/Theatre Organ - The Mighty Wurlitzer in D50/5/10/20 formats!

Classical 1 & 2 - Two volumes of classical organ sounds, only available for the D50/550.

RAM CARD PRICES

M256 - £55

MCR03 - £65

K1 - £35

K4 - £45

MCD32 - £59

MCD64 - £89

Please call for further details

MasterBits Sampling CDs - Sampling Collections 5/6/7/8/900, Climax Collections 1-3, Uberschall 1-2

Sampling Collection

Sampling Collection 500

M1 - D50 - K1 - K5 - K1000 - MiniMoog - TR808 - HR16 - Linn 9000 - Plus!

Sampling Collection 600

MicroWave - T1 - Proteus - K4 - VFXsd - VS - Xpander - Plus!

Sampling Collection 700

WaveStation - SY77 - SY22 - TR909 - TR606 - Prophet V - Eika Synthax - Plus!

Sampling Collection 800

VFX - PX1000 - HX1000 - R8 - Matrix 1000 - MKS70 - Plus!

Sampling Collection 900 - Coming in January!

Emu ProCussion - JD800 - SY99 - 01/W - Plus loads more!

Each volume costs £29. Buy the set of five for just £125.

Climax Collection

Climax Collection Volume One - Just Vocals

664 Samples - A range of vocalists and styles featured - from Motown to Opera! Sustained, Percussive & Freestyle Vocals.

Climax Collection Volume Two - Classic

551 Samples - Orchestral samples recorded with the Gothenburg Symphony Orchestra. Typically 3 performance styles from every instrument in the Orchestra, full range of pitches at intervals of a minor third.

Climax Collection Volume Three - Guitar - New

A wide range of guitar samples including HM and Soul. Single notes plus highly processed licks.

Each volume costs £45. Buy all three for just £120.

Uberschall Collection

Volume One - Guitar samples from hard rock to funk - Synths - Samplers - Mellotron - Holophonic effects and much more! - 787 samples.

Volume Two - Drums - Holophonic samples - percussion - FX - Synths - 921 samples.

Each volume costs £45 or buy both for just £80.

Klaus Schultze Sampling CD

Numbered Limited Edition featuring countless rare synths plus RSS samples - Call for full details!

DAT-RAM - Volume 2 now released!

More Sampling CDs from Sample It!, MegaMidi, McGill & Sonic Images

10 CDs from SAMPLE IT! - 5 BRAND NEW VOLUMES

Breaks, Grooves & Rhythms 1 & 2 - Superb selection of newly created loops that sound as if they're off vinyl! Volume 2 features TR-Loops and Kraftwerk-style electro loops!

Sample Wave Sounds & Textures 1 & 2 - Prophet VS, Vocoder samples and more.

Classic Synths & Beatboxes 1,2, 3 & 4 - Featuring such classics as the Jupiter 8, MiniMoog, Prophet V, TR808, TR909, and many many more. Call for details on each volume.

FX's & Bizarre Samples 1 & 2 - A collection of natural and synthesized effects - sonic icing for your music.

CDs cost £39 each.

MEGAMIDI DANCE SERIES 1

Features:

17 'Song Kits' featuring 200 riffs
75 Loops from acid house to live funk!
170 drum and 120 percussion samples!
Guitar licks & Orch Hits!
Scratching, Sci-Fi FX!
Over 110 vocoder, robot and computer noises!
Loads of hooks and vocal samples!
All on one brand new CD from France.
Just £55 fully inclusive - Available now!

Please call for details
of our 11 McGill and
6 Sonic Images
Sample CDs

Superb Editing Software for the ST from EMC - Einstein Music Software

The most up-to-date range of synth editors on the market today, also offering superb value for money. Synths supported include - SY55, U20/220, D10 Series, K4, M1, M3R, Proteus 1/2, D70, JX1, D50, K1, VFX, OB8, LXP5, PCM70, etc. with programs being added all the time!

"Impressive...it's a competent, comprehensive program which can be highly recommended to anyone...it could well be selling for two to three times the amount - it really represents excellent value for money. Buy it before they read this and put the price up." - *Music Technology SY/TG55 Review, May 91.*

SY/TG55 Editor/Manager - £55

K4 Editor/Manager - £55

PCM70 Editor/Manager - £75

U20/220 Editor/Manager - £55

LXP1/5 Editor/Manager - £55

D10/20/5/110 Series Editor/Manager - £55

D70 Editor/Manager - £89

M1/M3R Manager/Combi Editor - £55

Proteus 1/2 Editor/Manager - £75

Please call for full details and prices! All programs run under M-RS and SoftLink and require a hi-res mono monitors and at least 1 Meg (except the K1 Manager) of RAM.

Musitronics Expansions for the D50 and U-Series

D50/550 M.EX Multi-Timbral Expansion

Make your D50 8-part multi-timbral! Plus enhanced MIDI features!

With dual RAM banks - £245

Without RAM banks - £199

D50/550 Speed System - £45

Speed up your D50 by over 40%!

D50 PCM.EX PCM Expansion - £245

Add 50 new PCM's including piano & drums with the ability to add unlimited new PCM's.

D50 POWER PACK - £399 Ltd. Offer!

M.EX with RAM, PCM.EX & Speed System at this special price!

SCP Sample Card Programmer for Roland PCM Cards - Coming Soon! (Please)

Please send cheques or postal orders and although orders are usually completed within 7 days, allow 28 days for delivery. Or order by phone using:



All trademarks are the property of their respective holders. Because of the copyable nature of most of our products all refunds/exchanges are at the discretion of AMG. Any person found using pirated versions of any of our products will be pursued to the fullest extent of the law. 'Norman' and 'The Sound Foundation' are trademarks of AMG. All prices and specifications are subject to change without prior notification. © AMG 1991

AMG

The Advanced Media Group

073088 383

O Samples O Synth Sounds O Software O Hardware

Hurst Lane Privett Nr. Alton

Hants GU34 3PL

Fax 073088 390

➤ A third way is to use punch in/out recording. However, as you can only use this *within* the recorded length of a track, how can you use it to add to an existing track? The best answer I can think of is that you create a "template" Song consisting of nothing but blank recorded bars, save it to disk and then load it in whenever you want to start working on a Song from scratch. In this way you can punch in/out at any position on any track, because, although it won't seem like it, you'll be recording *within* a track.

There are one or two important points to bear in mind about punch in/out recording, however. First, you have to preset the length of the punch in/out

section. Second, if you Stop recording before the end of the section is reached, the PDC100 takes that Stop point to be the new end of the track you're recording into, and deletes anything that comes after it. This is documented in the manual - but sadly the reasoning behind it isn't.

Another point: constant use of punch in/out recording can get a bit tedious, because instead of being able to select punch in/out recording in place of real-time recording on the Normal (play/record) page, you have to go through about eight button-presses

to reach a separate punch in/out page, record your section and then return to the Normal page (two dual button-presses) to be able to hear what you've just recorded.

Quantisation on the PDC100 is post-record only, and has none of the sophisticated humanising features found on many computer-based sequencing packages. You just select one of six quantisation values (quarter note, 8th, 8th triplet, 16th, 16th triplet or 32nd) and Execute the quantisation function. There are no regional or channel-specific quantise options, but once again you can "get round it" with a little ingenuity. One thing you can't get round is the PDC100's inability to timeslip tracks against one another, let alone time-slip individual notes (a useful feature for rhythm parts). Which is a shame, because you lose out on the ability to fine-tune the feel of a piece of music or to compensate for an instrument with a slow MIDI response time.

Step-time recording, which you can start and stop at any point in a track or Unit, allows you to program MIDI channel, step size, note velocity and note duration for each step. Duration can be set from 10-200% of step size, so you can overlap notes in step-time mode if you want. Notes are the only kind of MIDI data you can program in step time. To enter them into a step, you hold down the relevant note(s) on the keyboard and press the Execute button to advance to the next step; to program a rest you just press the Execute button while no notes are held

down. There's one problem with this method: if you want to program in a two-handed chord, you're in a catch 22 situation - you need to lift a hand off the keyboard to press the Execute button, but if you do that you won't be playing a two-handed chord when you press it. As this is a family magazine, we won't discuss the relative merits of using other appendages. The PDC100 should really let MIDI sustain pedal "take over" from the notes so you can lift your hands off the keyboard and press that Execute button.

EDITING

THE PDC100 IMPLEMENTS editing at both Bar and Event levels. At Bar level you can Insert, Delete and Copy bars in both tracks and Units, and Place Units into tracks. Copy allows you to copy any number of bars from one track to another, and from a track to a Unit or vice versa. However, you can't copy a section which includes Placed Units.

Event-level editing lets you get at the MIDI data in interpreted form - you don't have to know the status byte in hex for each type of MIDI event. The PDC100 is able to record note, controller, pitchbend, channel and polyphonic aftertouch, patch change and SysEx data, and lets you get at it all at the Event level (not that you want to edit raw SysEx data, but it can be reassuring to see it there). You can Change existing events and Insert new ones. The process of getting new events into the sequencer is a bit long-winded, as events are Inserted with a default value and you then have to select Change to be able to program in the value you want. To change the location of an existing event, you have to Insert a new event at the required location, program in the same value(s) and then, of course, delete the original event. Don't you just hate it when that happens?

More positively, the PDC100 transmits the event data as you scroll in either direction through it, while you can select the data type for Inserting by playing it on your main keyboard (moving the pitchbend wheel selects pitchbend, for instance).

Another edit mode, Modify, allows you to modify the MIDI channel and/or all occurrences of a specific data type within a track or Unit (though not SysEx, obviously). For notes, you select an offset value for the note numbers and either a selected absolute value or else a ratio (8/1, 4/1, 2/1, 1/2, 1/4, 1/8) for the velocity; for other data, the amount can be either Min, Max or a ratio. Note Modify provides a global transposition and/or change in velocity; however, if you select Drum you can transpose, and/or change the velocity of an individual note, which is ideal for rhythm parts.

To make regional Modify edits to a track, just Copy the required region into a Unit, Modify it and then Copy it back to the track.

MIDI FILTERING

THE PDC100 ALLOWS you to selectively filter out the various types of recordable MIDI data at the receive and/or transmit stages, to enable or disable



reception and/or transmission of each individual MIDI channel, to force all incoming data and/or outgoing data onto a specific MIDI channel (programmable per selected tracks in the case of outgoing), and to transpose note data on all outgoing MIDI channels (your singer wants to sing the song in a different key? No problem).

This last function allows you to set a single Pass channel which bypasses the transposition. Unless you're feeling adventurous, you would set this to your drums channel (if you've got more than one drums channel, you're in trouble).

All in all, these functions are a welcome inclusion on the PDC100, as they do add an extra degree of flexibility (such as making possible the "fudges" described earlier).

DISCORD

FILE SAVING TO disk is much slower than loading. For example, it takes a little under two-and-a-half minutes to save the full PDC100 memory, but just under 50 seconds to load it back in again.

The PDC100 allows you to save a single Preset file to each disk which contains global information such as count-in length, MIDI metronome settings, initial tempo, tempo changes on/off, soft Thru on/off and the various MIDI filter settings described above. The idea is that this is a setup file; if a disk is in the drive when you switch on the PDC100, its Preset file will be loaded automatically. A nice touch.

The only other file type is the Song file, which contains all the track and Unit data in memory at the time of Saving. The PDC100's memory isn't battery-backed, so if you don't Save before switching the sequencer off, you lose whatever you've been working on. Disk space permitting, you can save up to 32 Songs per floppy (a DSDD disk holds in the region of 39,400 notes). Each Song can be given a 12-character name, so you shouldn't have any trouble being able to identify each one.

As only one Song at a time can be in onboard memory, and there's no way of loading track data independently of Unit data or of loading individual tracks or Units, you can only bring together music from different Songs if you load in one Song, transfer the relevant track(s) and/or Unit(s) to another sequencer, load in another Song and then transfer the external data back in again. Not exactly ideal (especially if you don't have another sequencer).

The PDC100 allows you to automate Song loading and playing off disk using its Chain Play function, the idea being that you can play a live set without having to stop to load Songs individually. Unfortunately, with Chain Play you can't stop at all - the sequencer not only automatically loads the next song in each time, it also automatically starts playing it. So there you are, lapping up the ecstatic audience reception when all of a sudden the PDC100 launches into your next song for you. What's more, assuming you survive till the end of your set, unless you're quick on the Stop button the sequencer will launch into the first number of the set again. "OK folks, I just thought I'd do this song as an encore."

SYSEX DATAFILER

THE HISTORY OF stand-alone sequencers and System Exclusive file storage has not always been a happy one. Typically, the sequencers simply haven't had big enough MIDI input buffers to be able to cope with bulk SysEx dumps. There's no such problem on the PDC100, however: if you had a 128K SysEx dump (the size of the sequencer's memory) it would take it. Alternatively, you can transmit several smaller dumps in succession into it. As an example of the PDC100's SysEx capacity, it recorded a bulk dump of a full pattern memory and all associated parameters on a Yamaha RY30 drum machine (more than 40K) and still had 61% memory remaining. Useful or what?

The PDC100 doesn't have a separate SysEx mode. You just select a track to record into, start the sequencer recording, initiate a SysEx dump from your instrument, Stop the sequencer once the dump has finished, then Save the data to disk as a Song file. All you have to do subsequently is Load the file, hit Play and out your SysEx data goes to find its maker.

VERDICT

THE ONLY SERIOUS problem with the PDC100 is the situation with real-time recording - although you can get round it with some ingenuity and patience. As for Chain Play, you just have to accept that it's of no practical use. If Brother were to improve anything on the PDC100, it should be the real-time recording situation and Chain Play; unfortunately, they seem to be more inclined to bring out a new sequencer than upgrade an existing one.

The limited number of buttons and the 2 x 16-character LCD window do have a restricting effect - some functions could literally have been better implemented if there'd been more buttons, and room for more parameters in the LCD. And of course you have to accept the fact that the PDC100 doesn't exactly make the most of having a dedicated front panel (in particular, no dedicated track buttons for live mutes).

But while some features could have been better implemented - in the sense of being streamlined rather than rethought - there are a lot of well-implemented features, too, and the track/Unit architecture is particularly effective. Overall, there's a great deal of flexibility in the sequencer - even if a certain amount of it has to be arrived at by working around a number of limitations. And the fact that it's so compact and lightweight is appealing in itself. In fact, even if you use a computer-based sequencer you could find the PDC100 a useful alternative at times.

All in all, a 32-track sequencer with the PDC100's recording and editing features, a SysEx datafiler and a built-in disk drive, for around £350, has got to make Brother's latest sequencer current best buy in the budget stakes. ■

Price £351.32 including VAT

More from Bluebridge Music Ltd, 3-5 Fourth Avenue, Halstead, Essex CO9 2SY. Tel: (0787) 475325.

Fax: (0787) 474280.

"Even if you use a computer-based sequencer you could find the PDC100 a useful alternative at times."

what the hell does QUANTISATION think it is?

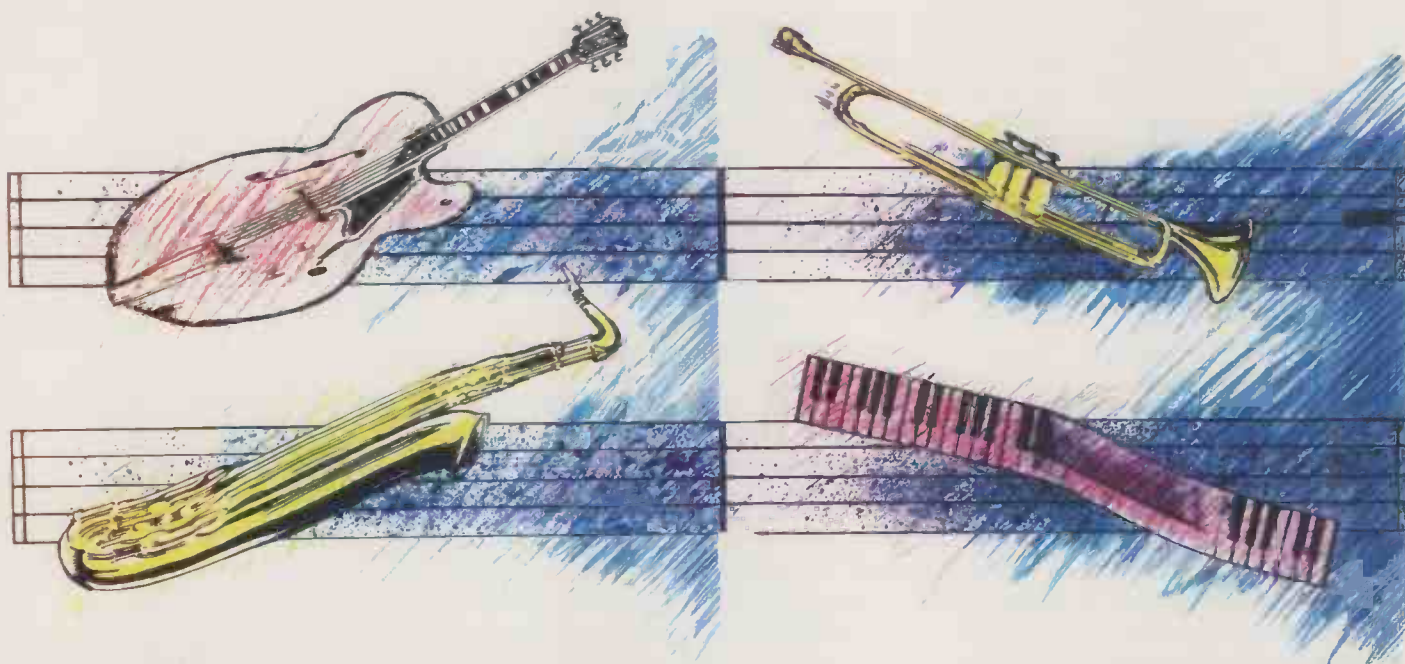


ILLUSTRATION: TOBY GOODYER

ALMOST ALL OF US USE QUANTISATION, BUT FEW OF US GET THE MOST FROM IT. THIS ARTICLE TAKES YOU THROUGH THE FINER POINTS OF ONE OF SEQUENCING'S MOST POWERFUL FEATURES. TEXT BY VIC LENNARD.

ALL SEQUENCERS ARE pretty much the same: they "record" the notes you play in from a keyboard and get it to play them back. Of course, we know that it isn't sounds being recorded, only the digital information created by pressing a key, moving a pitchbend wheel or stepping on a sustain pedal. But by recording in this way, we can keep our options open - we can change the sounds when the sequencer plays back, for instance, by using patch change messages. Sometimes notes are played in from a keyboard for other reasons than their actual pitch - most multitimbral synths dedicate a MIDI channel to the percussion sounds and then map them out along the keyboard. So Bottom C may be a bass drum, the D a tone above may be the snare drum and so on. The key to all this flexibility is our ability to edit the MIDI information in one way or another.

One of the most musically powerful forms of editing is quantisation. Let's take

an example: you want to record 16th-note hi-hats, so you repeatedly press the key assigned to the hi-hat in time to the metronome. On playback, the chances are that the notes aren't quite where you intended them to be. You go to the quantise function on the sequencer and *voila* - it sounds even worse than it did before! But what does quantising actually do?

EVALUATION

QUANTISING IS WHAT happens when a sequencer moves notes to the nearest division of a bar; you decide what the value of that division is. If you quantise to 8ths, all notes will be moved to the nearest quaver, or eighth note. It's like having a grid where all events have to lie on the vertical lines. For instance, Figure 1

BAR	1				
BEAT	1	2	3	4	
A3					
G#3					
G3					
F#3					
F3					
E3					
D#3					
D3					
C#3					
C3					

Fig 1

➤ shows a C major chord played on the downbeat of the bar (or at least that was the intention). Each crotchet, or quarter note, is divided into four so the vertical lines represent 16ths.

All the various types of quantising rely on this "movement" of events - if you choose the wrong quantise value, the result is not going to be what you wanted. No matter how intelligent the algorithms within a computer program, no computer (to date) can read your thoughts - so it doesn't know where you intended to play the notes. Figure 2 shows what happens if you select 16th-note quantise for the C major chord.

Because the selected quantise value is

wrong, one note has been moved to the desired position while the other two have been moved to the next 16th. However, quantising to 8ths gives the correct result (see Figure 3).

Quantising to the correct value may still leave some notes sounding as though they were played in the wrong place. This is because they have been played too far away from the desired point in the bar and, consequently, have been moved to another quantise position. Unless you can individually edit these notes - as you can on a "micro-edit" screen on a hardware sequencer, or via a note display page on a computer sequencer - you'll probably need

to play them in again.

The secret is to figure out what is the smallest note value you intend to play. To do this, check the note value that your sequencer's metronome is ticking along to and listen to it. It's likely to be crotchets (quarter notes), for which it will sound four to each bar. Quite often, the metronome on the downbeat of the bar will be either louder than the rest, or a note of a different pitch. Tap the notes you have played against the metronome and decide how many times more frequently you're tapping; if it's twice, then you're using eighth notes; if it's four times, then you're using 16ths (semiquavers).

A helpful trick is to slow down the tempo when playing in fast passages such as certain drum parts. It's like trying to jump into a moving car - you have to judge the position of the open door, which is easier to do if the car is moving slowly. This is an effective practice, but it tends to remove the more subtle emotive qualities from the music. Many musicians would argue that playing should never be quantised, but more about this later.

Fig 2

BAR	1															
BEAT	1				2				3				4			
A3																
G#3																
G3																
F#3																
F3																
E3																
D#3																
D3																
C#3																
C3																

Fig 3

BAR	1															
BEAT	1				2				3				4			
A3																
G#3																
G3																
F#3																
F3																
E3																
D#3																
D3																
C#3																
C3																

Fig 4

BAR	1															
BEAT	1				2				3				4			
A3																
G#3																
G3																
F#3																
F3																
E3																
D#3																
D3																
C#3																
C3																

OPTIONS

THE MOST COMMON type of quantising is one where the Note On is moved to the nearest quantise position. However, there are three possible effects on the Note Offs:

The Note Off doesn't move: This method of quantisation changes the note length. While there may be circumstances where you may want to keep the Note Off in its played position, these are rare. This is shown in Figures 2 and 3.

The Note Off moves with the Note On: This keeps the note length the same. In the playing of a drum part, note lengths are likely to be irrelevant, as most drum sounds work on a "one-shot" principle, where the sound plays for its full length irrespective of when the Note Off is received. See Figure 4 for the C major chord example.

The Note Off is quantised as well: This not only changes the note length but as each Note Off will be moved differently, it does so in an inconsistent way (Figure 5). For chords, this is rarely used, but for a solo it might be useful. If the intention was to play the solo in a legato manner (where each Note Off is butted up to the next Note On), then this type of quantisation will produce the required result. Unfortunately, the same quantise value is

usually used for Note On and Off so unless the part has been played in accurately, the Note Off quantise is unlikely to produce correct legato - some Notes Off will be quantised to the wrong position.

INTELLIGENCE

MOST OF THE more expensive computer sequencers offer different types of quantisation. These do more than just move Notes On and Off, and so are flexible and often more useful.

The Over Quantise in Steinberg's Cubase uses the quantise value you select but takes into account whether you play in front of, or behind the beat. It then attempts to retain the "feel" of your music

within which notes are not moved, and then set a percentage movement towards the quantise position for the remaining notes. A setting of 50% will move a note halfway between its current position and the quantise position. Creator/Notator's Capture Quantise works the other way round: if a note is within the capture range it is moved, otherwise it's left untouched. This function uses percentage movement in the same way as Iterative Quantise.

Sometimes, you know what feel you want but can't play it in. Both Creator/Notator and Cubase offer a Groove Quantise option in which a preset "template" is used. This template is a pattern where the quantise positions are in odd and exotic places. The success of the result still depends largely on how accurately you have played in the original part, however, because various

quantise positions. The quantise value you set then determines which notes of another part are moved to the reference positions.

Creator/Notator allows you to take this idea further with its Adaptive Groove function. This uses seven parameters to seriously reshape your playing, although the muso fraternity would certainly argue that the time taken to get to grips with a function like this would be better spent brushing up your playing technique.

DECISIONS

DECIDING WHETHER OR not to hit the quantise button depends largely on whether your sequencer also gives you the option to "undo" quantising. Most computer sequencers do whereas most hardware sequencers don't. If you can't undo an operation which can have drastic effects on your sequence, you're well advised to make a copy of the part you're about to alter before proceeding. If you can select and change quantise values while your sequencer is playing back, this will give you an immediate idea of whether or not you're doing the right thing. If not, then it's play, stop, quantise, play, stop, change, play, stop. . .

Another approach to quantising is to use an auto-quantise function. These are most useful when recording drum parts in "loop in overdub" mode, because there are few things worse than trying to build up a drum part when each part is out of sync with every other. Each time the part loops round, what you hear has already been quantised. You can usually change the quantise value from one cycle to the next, but make certain that this too can be undone, otherwise the wrong quantise value will ruin your "take". You won't get a second chance.

Finally, remember that the timing inaccuracies caused by the queueing up of MIDI data (due to MIDI's serial nature) and the reaction time of your multitimbral synths is likely to adversely affect the nuances which can be achieved with some of the complex quantisation methods. Sometimes the simplest solutions are the best; Note On quantise with no change of note length will do the job in most cases. But then, technology is there to be used. . . ■

Fig 5

BAR	1				
BEAT	1	2	3	4	
A3					
G#3					
G3					
F#3					
F3					
E3					
D#3					
D3					
C#3					
C3					

and will even line up the Notes On of chords. The Musical Quantise II feature found on C-Lab's Creator/Notator is a similar function, and uses the timing of notes around the quantise positions to decide how best to move note events. Notes played behind the beat will be pulled forward and vice versa - this produces the possibility of actually changing the playing style of someone who wants to sound "lazy". Consequently, intelligent quantisation functions often have problems handling your style if your playing is too erratic.

Another quantisation option is to leave notes which are close to the quantise position unchanged, and to move notes which are further away towards the quantise position. Cubase's Iterative Quantise works in this way: you set a number of ticks (192 ticks = a quarter note) distance from the quantise position

types of tuplet (triplets, 5ths, 7ths) feel may have to be dealt with, and misinterpretation of the original musical intention is all too easy.

Now let's take a situation where a pianist has played in a part which has excellent feel and where you want to take that feel and impose it on a string part playing alongside. Creator/Notator's User-defined Groove is intended specifically for this. It analyses the timing of the piano part, uses it as a template and attempts to quantise the strings using the same parameters as for Capture Quantise (see above). It also has the ability to change the velocities of the notes in a similar fashion. Cubase's Match Quantise is a simpler function which is intended primarily for use with drum parts. The notes in the reference track need to be pretty regular (like a hi-hat for instance), and these "pulses" are then used as the





Soloist

Only
£4.95 each

Midi song files on disk for Cubase, Creator, Pro 24, Cubeat, MC500 and standard midi song file format - only £4.95 each (min. 4 per disk). Great for vocalists / live performance or simply for rehearsing instrumental parts.

When You Tell Me You Love Me...	Diana Ross
Black or White	Michael Jackson
You to me are Everything	Sonia
When a Man Loves a Woman	Michael Bolton
Wonderful Tonight	Eric Clapton
American Pie	Bryan Adams
Wind of Change	Don Mclean
Salt Water	The Scorpions
Everything I do	Julian Lennon
Promise Me	Madonna
Holiday	Deacon Blue
Real Gone Kid	Cyndi Lauper
Girls Just Wanna Have Fun	Sade
Smooth Operator	Robert Palmer
Addicted To Love	Dire Straits
Walk Of Life	Deniece Williams
Lets Hear It For The Boys	Pat Benatar
Love Is A Battlefield	Glen Frey
The Heat Is On	Madonna
Vogue	George Michael
Careless Whisper	Heart
What about Love	Hall & Oates
Maneater	Berlin
Take My Breath Away	Bruce Hornsby
The Way it is	Don Henley
Boys of Summer	Erasure
Respect	Then Jericho
Big Area	Rozalla
Faith (In The Power Of Love)	Hue and Cry
Looking for Linda	Danny Wilson
Mary's Prayer	Boy Meets Girl
Waiting for a Star to Fall	Smokey Robinson
Tears of a Clown	

Please telephone for full list of songs and news of latest releases.



**VOICE
CRYSTAL
MERGER
PLUS**
£76.99

This brand new pocket sized unit boasts all the usual facilities of a MIDI Merger, plus much more.

Applications:-

- Driving a MIDI rack unit from sequencer and keyboard.
- Simultaneous recording of two MIDI instruments. Check everybody else's prices for these facilities, you won't get better value for money :
- ☐ 2 INPUTS MERGE INTO 1 OUTPUT
- ☐ MIDI-LINE POWERED (no external power source required)
- ☐ POCKET SIZED
- ☐ RESET/PANIC BUTTON
- ☐ LED INDICATES POWER ON AND MIDI DATA STREAM
- ☐ HANDLES BULK SYS-EX DUMPS

Songwriter

Superb Synth Sounds on Atari St self loading disk.



Breathe new life into your PROTEUS 1 / 1XR with 64 brand new presets from Pro Music for just £25

Proteus 1/1XR Vol 1	£25
Proteus 1/1XR Vol 2	£25
Roland D50 (192 voices)	£15
Roland D110/20/10 (128 voices)	£15
Roland MT32 (256 voices)	£15
Roland Juno106 (128 voice Cassette)	£15
Korg M1 (100 voices)	£20
Korg DW8000 (64 voices)	£10
Korg Poly 800 (64 voices)	£10
Yamaha DX7 (240 voices)	£10
Yamaha DX7 II (224 voices)	£10
Yamaha DX100/27/21 (456 voices)	£15
Yamaha TX81Z (468 voices)	£15
Yamaha CX5 (288 voice Cassette)	£10
Yamaha FB01 (96 voices)	£10
Ensoniq ESQ1 (240 voices)	£15
Kawai K1 (192 voices)	£15
Casio CZ (320 voices)	£10
Oberheim Matrix 6/1000 (1 Vol)	£10

**NEW PRODUCTS
IN STOCK NOW**

Voice Crystal

RAM cards

Top 40 sounds from the U.S. used by Jan Hammer, Kevin Gilbert (Madonna), Rick Wakeman, Keith Emerson etc.

each	
Roland JD800 (2 cards)	£60
Roland D70 (3 cards)	£60
Roland R8 (1 card)	£60
Roland U20 (1 card)	£60
Roland D50 (6 cards)	£55
Roland D10/20/110 (3 cards)	£55
Roland Blank Ram	£49
Yamaha SY77 (2 disks)	£39
Yamaha SY55/TG55 (2 disks)	£25
Yamaha SY22/TG33 (2 disks)	£25
Yamaha Blank 64K Ram	£79
Korg Wavestation (4 cards)	£70
Korg T1, T2, T3, (2 disks)	£39
Korg M1 (5 cards)	£65
Korg Blank Ram	£65
Ensoniq SQ1 (2 cards)	£65
Ensoniq VFX SD1 (3 roms)	£45
Ensoniq VFX, SD1 Blank Ram	£70
Kawai K1 (5 cards)	£45
Kawai K4 (3 cards)	£59
Peavey DPM3 (1 disk)	£45
Peavey DPM3 Blank Ram	£49
Waldorf Microwave (1 rom)	£55



**MIDI
CRYSTAL**
£9.99

This simple device

features two female MIDI sockets at each end and an Ultra-bright LED lamp. Quite simply, the LED indicates specific MIDI data passing through the device. This unit has many applications such as problem identification, better understanding of the operation of your MIDI system, especially if you use more than one MIDI Crystal. At £9.99 great value for these features:

- ☐ ULTRA-BRIGHT LED INDICATES ALL TYPES OF MIDI SIGNALS
- ☐ FEMALE TO FEMALE COUPLER
- ☐ USES MIDI-LINE POWER
- ☐ WILL NOT INTERFERE WITH NORMAL MIDI SIGNAL FLOW.

Voice Crystal

PRO MUSIC
80 MEETING HOUSE LANE
LONDON SE15 2TX



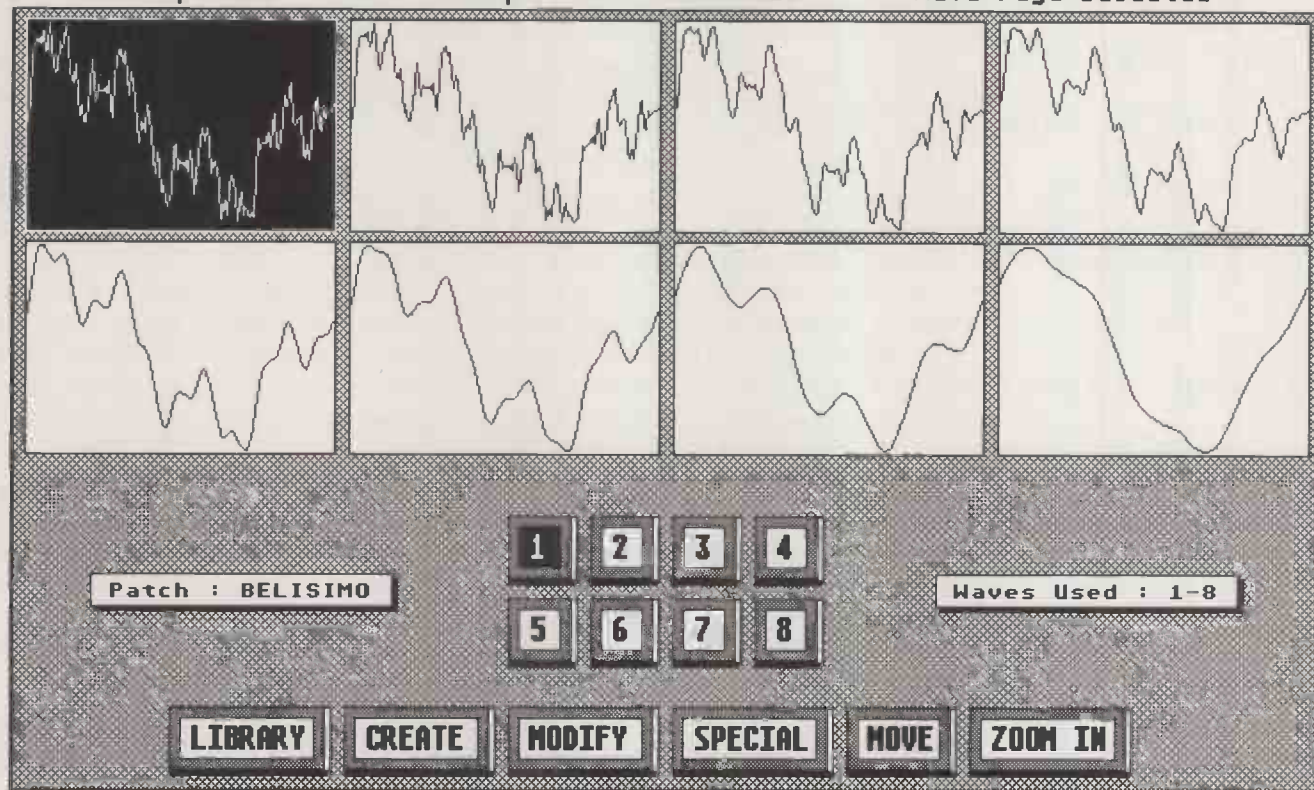
Call 071 252 8573 for
further details or brochure

Prices fully inclusive of postage & packing Same day service for Access and Visa, Postal Orders and Cash. Allow five days for cheques to clear. Visitors by appointment only!

VIRTUAL WAVE

Info Options Create Setup Send Utilities

Wave Page Selected



As more musicians choose a computer and sampler as the basis of their music system, the need for a computer program capable of synthesising sounds grows. Enter Virtual Wave.

Review by
Vic Lennard.

LUSH SYNTH BRASS, warm string pad, percussive bell tine; what do they all have in common? Well, they're all created from a mixture of waveforms. If you've worked with, or even just listened to, an analogue synth, you'll be aware of the various waveforms and their uses.

On its own, a sine wave has a rather pure, characterless timbre. However, by combining waveforms, complex sounds can be created from simple waves. Usually, this is carried out on a synth which has wave generators built in. The resulting sounds are manipulated by envelopes, which alter levels according to time (commonly, the Attack time, Decay level, Sustain level and Release time) and filters, which change the tone of the sound over a period of time. Digitally-created sounds employ a variety of systems including FM (Yamaha) and LA (Roland) synthesis.

One neglected area of synthesis is that of waveform manipulation on samplers. While most samplers offer basic envelope and filter options, it's difficult to create complex waves. Various pieces of computer software have appeared - Samplemaker, to name one - which let you construct a waveform and download it to a sampler, but these tend to be very

difficult to use unless you have a good working knowledge of synthesis.

OVERVIEW

VIRTUAL WAVE (VW) is a sample creation and synthesis program for the Atari ST; you create a sample by defining up to eight waveforms which occur at a moment in time, and the time taken to smoothly move between these waves. The sample is then synthesised from these and transmitted to a sampler for playback and further manipulation. Because the final waveform of the sample is not the synthesised sound, the ST disk space taken up by the waveform data is small; consequently, even though the actual sample is, perhaps, three seconds long, you will still be able to fit 15 or 20 waveforms on a single ST disk.

As up to eight different waveforms can be used, there may be up to seven smooth transitions from one waveform to the next. You can control the level and pitch changes that occur in these transition periods and control the editing of the basic waveforms used.

Virtual wave is not copy-protected. Instead, the serial number of the disk is indelibly printed within

**"After three days
working with
Virtual Wave, I
have to admit to
being very
impressed - I spent
three weeks with
Samplemaker and
got nowhere."**

- the program, which means that pirate copies can be easily traced back to the purchaser.

Practically all menu options have keyboard equivalents and comments appear in the top right-hand corner of the screen to tell you what page you're on or what procedure is currently being carried out.

CONSTRUCTION TIME

ON BOOTING UP, you meet the Wave Page. This has eight windows (each of a basic 3.82ms duration) for the eight different waveforms; the overall sound is referred to as a Patch. Beneath the waveform windows are eight numbered boxes which are used for selecting a particular window but as you can select a window by simply clicking on it, the necessity of this pad is dubious. At the bottom of the screen are six menu buttons which access the various editing functions.

The basic building block for each waveform is kept in the Library. From here, you select between Sawtooth, Triangle, Square, Sine, Exponential and Pulse 1-3 waves, Noise and Silence. The three pulse waves differ in that the first is positive going, the second alternatively positive and negative going, and the third is a bipolar positive and negative-going pulse; you enter the pulse width that you want.

Once you've selected the basic wave, you then Modify it. Reverse reflects the waveform about an imaginary vertical axis in the centre of the wave window, while Invert reflects about a similar horizontal axis. While these have little effect on the sound of the basic waves, they are important tools when carrying out further modifications. Phase Adjust moves the wave along the time axis; this can be used to great effect when waves are added to or subtracted from each other. Amplitude Scale adjusts the level of all points on the wave to make the overall amplitude larger or smaller. If waveforms are to be combined, reducing the individual amplitudes will prevent clipping. Frequency Multiply changes the period of the wave. Consequently, it changes the fundamental frequency. Finally, Normalise Amplitude increases the amplitude of the highest point of the wave to a point just before clipping, and increases all other points proportionately. This can be used after functions which excessively increase the amplitude of a wave.

The above are common functions to carry out on a wave. Under the Special menu are others which have more specific uses. Amplitude Ramp Up/Down changes the level of a wave according to a scaling factor. For instance, a Ramp Up of 50% will scale the amplitude of the wave down to 50% at its starting point. Frequency Ramp Up lets you decide how many wavelengths are squeezed into the original wavelength, with each new wavelength being a fraction of the previous one. This creates resonant peaks in the sound. Taking a sine wave and using a Ramp factor of five creates an oboe-like timbre.

Smooth does what it purports to - it affects sharply-changing parts of the wave by a degree which you control via the percentage factor. Smoothing the above oboe-like timbre removes much of the

resonance. The higher the Ramp factor, the longer the time taken to carry out the operation. One hundred percent smoothing takes a little short of ten minutes; consequently, there's an Abort button which restores the original wave.

The final option here is Splice, which lets you take two different waves and join them one after the other. Each wave is then reduced to half of its wavelength, which makes it sound an octave higher.

One gripe I have is that there's no Undo function - you have to copy a wave to another of the eight boxes before carrying out any modification otherwise it is lost. Copy is one of the functions offered in the Move menu and lets you select any current wave and copy it to another window, while Swap makes the obvious exchange of waves. Add lets you select two waves, add together multiples of each sample point in a ratio (which you select) and then place the result in another window. A ratio of 1:1 adds two waves in equal amounts. Subtract inverts the first waveform and then follows the same procedure as Add.

As the ST Monitor resolution is far less than the resolution of the samples being created, Zoom In allows you to see a wave enlarged by a factor of three. You can also flip between the different windows without having to exit from the zoom screen.

CREATING CUSTOMS

BY ADDING WAVES, it should be possible to create practically any waveform. Virtual Wave allows you to combine any of the current eight waves and, while this particular facility is probably the most powerful available, it's also the most difficult to control.

Clicking on Select Fundamental brings up a dialogue box giving you the option to use a sine wave or waves 1-8 as the basic building block. Having selected a wave, Starting Harmonic lets you select the lowest harmonic to be used. Using 1.0 will keep the root frequency of the original wave. Maximum Harmonic gives the upper limit of the harmonic range used; working with a sample whose starting frequency is, say, 100Hz, the first harmonic would be 200Hz, the second 400Hz and so on. Using an audio range of about 20kHz, harmonics beyond the 200th would be inaudible. More to the point, the anti-aliasing filters in the sampler would remove them. Also, the higher the number of harmonics, the longer the time taken to create the wave. Harmonic Step then lets you set which harmonics are to be used for calculation; selecting a figure of 3.0 would give the 1st, 4th, 7th and so on. For non-linear steps, there is a Step Increase function. Other setup functions include Starting Phase, Phase Step Offset and Scale Amplitude. Most parameters deal in integral values, but the program gives you the option of using fractional values for interesting effects.

Finally, you have to select the Harmonic Divisor. This sets up the way in which the amplitude changes from one harmonic to the next; effectively, the amplitude is divided by a number over which you have control. Six options are offered: Harmonic, Harmonic Squared, Root of Harmonic, Step Count, Random and None. For instance, selecting Harmonic Squared will mean that the 2nd harmonic will have its amplitude

Poolside Drums

£49

Sample CD

DARE TO BE DIFFERENT !

"...very individual...the charm of the collection is the realism of the recordings
... powerful, unique sounds..." International Musician

"For anybody looking for a big, natural drum sound this one is a must."
DJ magazine

700+ stereo hits from the same digital recording session that took place in London's massive 1.5 million cubic feet White City Swimming Baths. All samples in matched dynamic sets with up to five soft through loud hits on each instrument. The POOLSIDE DRUMS CD captures the sound of a real drummer playing a real kit in a genuinely large, bright acoustic space. More than enough original sample material to keep you busy on those long winter nights ahead!

- | | | |
|-----------------|------------------|------------------------------------|
| ▼ KICKS | ▼ NOBLE & COOLEY | ▼ DIGITAL LOCATION RECORDING (DDD) |
| ▼ SNARES | ▼ EMPIRE DRUMS | ▼ MATCHED DYNAMIC SETS |
| ▼ HIHAT | ▼ ZILDJIAN | ▼ NATURAL REVERB |
| ▼ TOM TOMS | ▼ PAISTE | ▼ 100% ORIGINAL MATERIAL |
| ▼ ROTOTOMS | ▼ LUDWIG | ▼ FULL COPYRIGHT CLEARANCE |
| ▼ OCTOBANS | ▼ SONOR | |
| ▼ BOOBAMS | ▼ PEARL | |
| ▼ COWBELL | ▼ REMO | |
| ▼ CLAPS | | |
| ▼ TEMPLE BLOCKS | | |
| ▼ BULL WHIP | | |
| ▼ STICKS | | |
| ▼ CYMBALS | | |
| ▼ ROLLS | | |
| ▼ FILLS & MORE! | | |

To get your copy of the POOLSIDE DRUMS SAMPLE CD send:
UK: £49 cheque or Postal Order (includes recorded delivery);
Worldwide: £54 (sterling) International Money Order to:
LONDON SAMPLE WORKSHOP LTD, Dept 101, P.O. Box 1929,
Harlesden, London NW10 4SW, UK. Fax (081) 961-5151

**LONDON
SAMPLE
WORKSHOP**

London stockists:
Brixton Exchange Mart, Rose Morris Music,
Sutekina Music.

Distributed in US by Valhala Music

COME AND GET IT !

FOR SERIOUS DEALS PHONE :

0202 395135 EXT. 125

SYNTHESISERS / KEYBOARDS.

YAMAHA SY77	ONE ONLY	£1299
YAMAHA SY55	NEW LOW PRICE	£625
YAMAHA SY22		£549
YAMAHA TG77	EXPANDER	£949
YAMAHA TG55	EXPANDER	£399
YAMAHA TG33	IN STOCK	P.O.A.
ROLAND JX1		£299
ROLAND JD800		P.O.A.
ROLAND D70		P.O.A.
ROLAND D5	USED	£399
ROLAND E15 E35 E70	IN STOCK	£699
ROLAND U20	EXPANDER	£469
ROLAND SC55 EXPANDER		P.O.A.
ROLAND MV30	IN STOCK	P.O.A.
ROLAND FP8 DIGITAL PIANO		P.O.A.
KAWAI K1 MK11	USED	£399
KAWAI K4R	EXPANDER	£299
KAWAI SPECTRA		£325
KORG DW8000 USED		£225
KORG T1, T2, T3		P.O.A.
KORG EX8000 USED		£199
ENSONIQ SQ2		P.O.A.
ENSONIQ SQ1 +		P.O.A.
ENSONIQ SD1		P.O.A.
PEAVEY DPM3	EX HIRE	£1100
EMU PROTEUS 11	SHOP SOILED	£725
EMU PROTEUS 1	SHOP SOILED	£525
EMU PROTEUS II XR		£899
RHODES MODEL 660	EX DEMO	£625



KAWAI K4

DIGITAL SYNTHESIZER

- 61 NOTE VELOCITY & PRESSURE SENSITIVE KEYBOARD
- 256 BIT PCM & DIGITAL CYCLIC WAVEFORMS
- 16 DIGITAL EFFECTS
- 61 PCM DRUM SOUNDS
- 64 SINGLE PATCHES/64 MULTI-PATCHES/32 EFFECTS PATCHES
- 16 NOTE POLYPHONIC
- 8 CHANNEL MULTI-TIMBRAL

ORIG. RRP £995

£525

SAMPLERS

ROLAND S750	P.O.A.
AKAI S950	£1050
AKAI S1000, S1100	ALL IN STOCK P.O.A.
AKAI S1000	(USED) £1875
ENSONIQ EPS-16 PLUS, EX HIRE	£1399
ROLAND W30	IN STOCK £1199

SEQUENCERS

SEIKO MR 1000 (5000 NOTE SEQ.)	£49
ROLAND MC50	£469
YAMAHA OY 10 (USED)	£199
ATARI 1040STE + MONITOR	P.O.A.
C-LAB NOTATOR, CREATOR	P.O.A.
STEINBERG CUBASE	£329
STEINBERG CUBEAT VERS. 2	£129
ROLAND MC300	£299

DRUMS

YAMAHA RX8	£199
YAMAHA RY30	P.O.A.
ALESIS SR16	P.O.A.
ALESIS D4	P.O.A.
ROLAND R8 DEMO	£399
ROLAND R8, R5	NEW LOW PRICE P.O.A.
ROLAND PAD 80	£349
ROLAND SPD 8	£349
KORG S3	£499
SIMMONS TRIXER (USED)	£699
EMU PROCUSSION	P.O.A.

RECORDING EQUIPMENT

SANSUI WSX1 SIX TRACK WORKSTATION	£699
YAMAHA MT3X	£399
TASCAM PORTA 05HS	£269
TASCAM 424, 488	ALL AVAILABLE
BOSS RV1000 REVERB	£149
ALESIS QUADRAVERB + BEST EVER PRICE	£149
SOUNDTECH ST200 CC COMP / LIM	£199
YAMAHA GC2020B COMP / LIM	£249
YAMAHA FX500	£249
ART MULTIVERB LT	£169

D.A.T. MACHINES

CASIO DA-7 PORTABLE	£469
SONY DTC-750 ES	£469
TEAC DA-P20 PORTABLE	P.O.A.

MULTI-TRACK RECORDING

DEALS ALWAYS AVAILABLE ON FOSTEX AND TASCAM MULTI-TRACK EQUIPMENT. PHONE NOW FOR MORE DETAILS.

KAWAI K1R



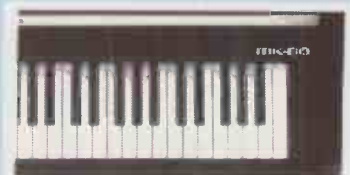
DIGITAL SYNTHESIZER

- RACKMOUNT K1 SYNTHESIZER
- 8 CHANNEL/16 NOTE POLY VIA MIDI
- 64 INTERNAL PATCHES
- 32 MULTIPATCHES
- RAM AND ROM CARD FACILITY

ORIG. RRP £449

£259

RHODES MK 60



DIGITAL PIANO

- 64 NOTE KEYBOARD AND OCTAVE SHIFT
- FULLY WEIGHTED ACTION
- 8 HIGH QUALITY DIGITAL SOUNDS INCLUDING - VIBRAPHONE, CLAVICHORD, ELECTRIC PIANO, ACCORDION PIANO.
- BUILT IN FX
- BUILT IN EQ

ORIG. RRP £1299

£549

EXCLUSIVE OFFERS

ALL ITEMS ARE NEW, USED OR EX-DEMONSTRATION

KORG M1 WORKSTATION	£899
KORG WS1 WAVESTATION	£899
KAWAI K4R	£299
ROLAND JX1 SYNTHESIZER	£299
ROLAND U20	£699
ROLAND KR55	£799

ALL PRICES ARE INCLUSIVE OF V.A.T.



(0202) 395135 EXT. 125

EDDIE MOORS MUSIC LTD.
THE SOUND INVESTMENT

679 Christchurch Road, Bournemouth BH7 6AE
THE LARGEST MUSIC SHOP ON THE SOUTH COAST

the name is...
OBERHEIM
sound, power, value



**matrix
1000**

WORLDS BEST
ANALOGUE
SYNTHESIZER

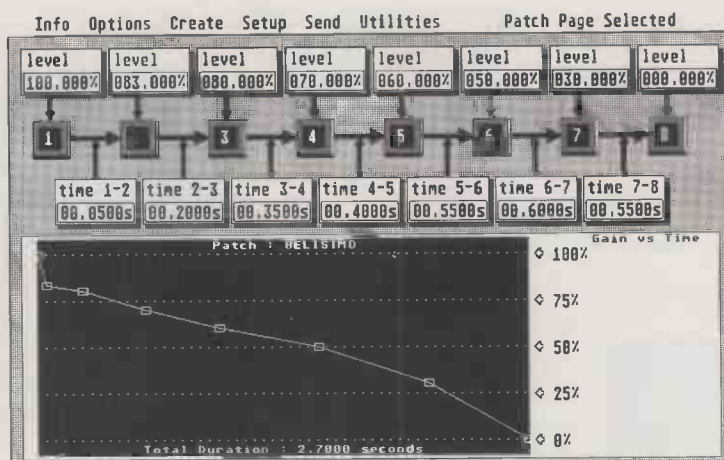
NO DIGITAL
MACHINE CAN
MATCH THE
CLASSIC
QUALITY OF
THE 195
KEYBOARD,
118 STRING,
130
WOODWIND,
239 SYNTH,
119 BASS, 74
LEAD AND 125
EFFECTS AND
PERCUSSION
SOUNDS.

MCMXCIX
708A
ABBAY ROAD
TUDOR ESTATE
LONDON
NW10 7UW



081 963 0663

- decreased by a factor of $\frac{1}{4}$ while the 3rd harmonic will have an amplitude of $\frac{1}{4}$ of the original. Consequently, the character of the sound will be less bright as the higher harmonics diminish. Alternatively, Root of



Harmonic decreases the divisor, giving an increase in the amplitude of higher harmonics and a brighter sound.

Once the settings are complete, OK makes the Create Additive Synthesis Monitor pop up. This uses a horizontal meter, marked in percentage points, to show you how far through the creation process you currently are. The result is then displayed in the current window and you can continue to modify as you wish.

LISTENING IN

ALTHOUGH INDIVIDUAL WAVES are only the foundations of the final sample, chances are that you'll wish to hear them as you go along. The Setup menu lets you select which sampler is connected to the other end of the MIDI cables (current options are Sample Dump Standard 12/16-bit, Akai S900/950 and Ensoniq EPS range) and to set any parameters which the selected sampler requires. You can then choose a number of times to loop the wave; this is essential, as the wave only has a basic length of less than 4ms. Such a dump takes very little time, and a similar meter to the one in the Create process is used to visually show you the progress.

Once in the sampler, the wave can be looped and you can hear its character. Doing this with the S900, setting the loop points to the entire length of the sample produced a perfect replay.

PUTTING IT TOGETHER

HAVING CREATED THE individual waves, the Patch Page lets you dictate the pitch and level for each wave. The transition from one wave to the next will then smoothly move between the values you set.

On entering the page, the top of the screen shows a linear chain giving the relative pitch of each wave and the time taken to move between one wave and the next. Below this is a Pitch/Time graph showing the same data visually with the central, horizontal line bearing the root MIDI note and associated frequency. Pitch is changed in terms of semitones and cents rather than just numbers; a good idea. Clicking on the

word "pitch" in any of the eight boxes makes the pitch boxes change to level boxes where you can set the percentage level for each wave. The graph changes to Level/Time. For both modes, the total duration of the sample is shown at the bottom of the graph. Unfortunately, you can't edit the values by just pulling about the points on the graph; this would be a useful feature because often it is easier to set parameters visually rather than deal in actual numbers. Data is displayed sensibly on these two graphs. On the Pitch graph, the vertical limits are set according to the maximum change of pitch, giving the best vertical resolution.

Resotek use a neat method to change parameters. Point at the digit you wish to change and a two way vertical arrow appears; move upwards and this changes to an upward arrow and the digit increases in value. Decrementing is done similarly. Neat though this is, it takes a bit of getting used to and I'd prefer the option to type in the value as well.

You can decide on the number of waves in the line at any time; clicking on a wave number turns off all waves after this point.

THE FINAL PATCH

BEFORE TRANSFERRING THE Patch to the sampler, you can see how the waveform changes over to time on the Preview Page. This shows seven graphs, each the width of the screen and relating to one of the transitions. They are either a white trace on a black background if the wave is in use, or vice versa if the wave has been turned off. Buttons along the bottom of the screen let you choose to view all transitions, or to view just one, spread over the seven graphs. You can select a transition and hit the Do button to see its graph, and then select another transition and see that.

Pitch isn't displayed; all you see is the smooth (or otherwise) transition from one wave to the next. This makes it easy to see what is happening to the amplitude of the sound - it's an important factor, because if you're moving from one wave to another which is basically the inverse of the first, at one point the waves will phase cancel giving a signal of very low amplitude. With these graphs, you will see if this is happening. You can also set how many cycles are shown across the graph; using a small number of cycles will show the waveform clearly, but may not let you see any amplitude problems occurring. For this, a higher number of cycles is useful.

MODIFICATION

SAMPLERS HAVE FINITE polyphony; in the case of Akai's S900/950, this is eight voices. Consequently, to fatten a sound by using two samples, with one detuned, halves the polyphony to a not-very-useful four notes.

To get around this, Virtual Wave has an Effects Stage where the final sample can be duplicated up to five times and each replica can be changed in pitch and level. The duplicates can then be mixed together, creating some of the effects which would otherwise "cost" polyphony.

Imagine that you want to add a detuned version to a sample. Clicking on Source 2 makes it active so that you can alter the pitch by a number of cents. If you want, you can also reduce the level, given as a percentage of the final sample. Alternatively, you might wish to create an octave brass sound, in which case Source 2 will have its pitch set to +12 semitones. You may even want to send a completed chord across to the sampler; the intervals can be set for two, three or four of the sources. It's a shame that a delay facility isn't offered as well, but you can't have everything.

Needless to say, more complexity directly equates to time required to send the Patch to the sampler. You have been warned.

BYE BYE ST

HAVING CREATED THE sample (and saved it to disk), you need to transfer it to your sampler. The chances are that you've already transferred individual waves to your sampler to hear them. If so, the transfer parameters for your sampler will already have been set. These include whether or not you wish to use handshaking, which is a two-way MIDI connection between the ST and the sampler. Some samplers only work in handshake mode, transmitting an Acknowledgment message (ACK) after each block of data. Some samplers don't care. The point of using handshaking is that the dump tends to be more reliable; if an error does occur, the faulty block of data is usually re-transmitted.

Non-handshaking often gives faster transmission rates because there's no waiting for ACK messages. However, this is only useful when data is being sent as fast as MIDI can handle it, which is not the case with VW. The sample is being synthesised as the data is sent, which means that something less than 15% of the available MIDI bandwidth is actually used. So, it seems to be best to leave handshaking on all of the time.

On dumping the data, the horizontal percentage meter tells you how far through the data dump is - it would be more helpful to be given an estimate of the actual time, as large samples can take in excess of ten minutes, but with samplers using the MIDI Sample Dump Standard this would be impractical. This is because the time taken for the ACK to be transmitted is variable from one sampler to another.

One variable you can set is the Sample Rate. This should be the same as the playback rate on the sampler if the pitch of the created sample is to be played back correctly. This is often only critical if the sampling rate has, say, only one or two values. In the case of the Akai S900 the maximum sampling rate is 40kHz due to the anti-aliasing filters on the input, but this doesn't apply to data transferred via MIDI - you can set the rate to 48kHz and get better quality audio as a result. You really do need to know your sampler. Details are usually given at the rear of the manual.

The only other gripe I have is the inability to set loops within Virtual Wave. I appreciate that samplers supporting Sample Dump Standard may treat looping in different ways, and that some samplers support

multiple loops while others don't, but it would be useful to be able to set a sustain loop of a particular transition. On supported samplers such as the Akais and Ensoniqs, such a looping facility should not be impossible.

OTHER FACILITIES

YOU DON'T NEED to have a keyboard connected to hear the sound once it's downloaded to your sampler; Virtual Keyboard gives you an onscreen, seven-octave keyboard which can be played via the mouse. There's also a Print Screen option which is effectively the same as pressing the Alternate + Help buttons on the ST (Epson nine-pin job). Finally, there's an onboard help file which dedicates a page to each of the most common functions.

The manual is written in a non-technical manner and includes 16 pages of hints and tips for wave creation/editing and downloading to specific samplers. Bearing in mind the complexity of wave creating and sound synthesis, Resotek have done a very good job in this area. It also gives a good indication as to whom VW is aimed at.

VERDICT

AFTER SPENDING THREE days doing practically nothing but working with VW, I have to admit to being very impressed (I spent three weeks with Samplemaker and got nowhere). The results with an S900 were very good, including setting up multisamples across the keyboard by simply changing the root note of a sample before transfer to the sampler. Looping on the S900 was also fine as long as the final level was set flat, and was of sufficient length to be "loopable".

The Effect Stage gave great results; the saving on polyphony is well worth the bother. Previously, I have resorted to using a digital delay or even two samplers to re-record a sample with effects to prevent this reduction in polyphony. Either way, the sound was compromised. Not with VW.

Since a sample is synthesised as it's being transferred, transmission is slow. It's also because the sample needs to be synthesised that an audition feature within the program is impractical - you'd still have to wait even without transfer to a sampler. Other gripes include the lack of an "expert" mode (all screen exit options favour the cautious choice) and the lack of being able to set a hard drive path (VW always looks at drive A for waves and patches). These and the other small points brought up in the review apart, VW is a well-written, user-friendly program which gives good results without a great deal of head-scratching.

Virtual Wave deserves to do well. If you enjoy creating your own sounds and have a sampler as the mainstay of your system - as is becoming increasingly the case - check it out. ■

Price £99.95 including VAT and p&p.

More from Resotek, 681 Wimbourne Road, Winton, Bournemouth, Dorset BH9 2AT. Tel: (0202) 519216, Fax: (0202) 535634.

"The Effect Stage gave great results - previously, I have resorted to using a digital delay or even two samplers to re-record a sample with effects."

VOCAL CODES

*from the
underground*



PHOTOGRAPHY: JAMES CUMPTSY

INVENTED IN THE '40S AND POPULARISED IN THE '70S, THE VOCODER IS ENTERING A RENAISSANCE IN THE '90S - ROLAND'S OLD VP330 VOCODER PLUS MAY BE ONE OF ITS STARS. TEXT BY GORDON REID AND NICK MAGNUS.

IT'S 1979. THE world is awash with Mellotrons, Minimoogs, Hohner Clavinets, and punk rock. On to this unsuspecting stage Roland unleash a new generation of keyboards: the Jupiter 4, the Promars, the RS505 Paraphonic Ensemble - and the VP330 Vocoder Plus. Except for the

Promars, none of these is particularly innovative, and the vocoder is far from revolutionary. The Korg VC10, the EMS 2000, and the Sennheiser VSM501 Vocoder dominate the market. Nevertheless, despite an astronomical price tag of £1143.48 (around £3,000 at 1991

prices) the VP330 rapidly becomes a cult instrument. A unique combination of facilities, high-quality vocoding, and simplicity of use result in its acceptance by some of the best-known names in the electronic and rock worlds. Vangelis, Genesis, Tomita, Laurie Anderson - even >

soundhouse

turnkey



Authorised Dealer

We are now an Authorised Apple dealer, one of only two in the music industry.

In practice, direct supply from Apple U.K. means:

- A Full Apple range of products from Classic & Stylewriter, to FX & Laserwriter in stock at all times, to compliment all the relevant Macintosh music products, from basic sequencers & interfaces up to Digidesign's new Pro Tools system
- Apple trained personnel. Many years of Macintosh digital audio experience, now combined with support in the areas of networking, system software etc...
- On site service, factory supported warranties
- Rapid availability
- Fully equipped training room
- Modern 'Apple Link' direct to Apple U.K.
- As an authorised dealer we are not able to supply Apple computers by mail order.

SPIRIT STUDIO

Almost everyone involved in music production at some stage dreams of owning a Soundcraft console. The legendary sound quality, reliability and ease of use, means a Soundcraft equipped studio must be taken seriously.

A minor miracle has been performed, using the world's most advanced production technology, and revolutionary manufacturing techniques, to bring you Soundcraft quality at a previously unimaginable price.

SPIRIT STUDIO is designed for all types of multi-track from 8 to 24 track.

Turnkey has an unparalleled 10 years experience with the brand & as central London's exclusive dealer for SPIRIT we offer a complete sales package. From advice, finance & installation to a quality of after sales backup that stems from many years experience with the brand.

We are packaging **SPIRIT** consoles with both Fostex & Tascam multitrack, & as the U.K.'s largest supplier of MIDI equipment we are ideally placed to integrate them into the heart of your MIDI based studio.

SPIRIT... at last affordable excellence...

via their own v.u meters and a separate input for ONCE ONLY OFFER sync is available. Strictly limited quantities. Our offer includes free Mic, headphones, tapes, cleanerdemagnetiser and cables. R.R.P. £599

ART MULTIVERB III exclusive 20kHz 4 FX at once performance MIDI

ROLAND CM-32 COMPUTER CONTROLLED SYNTHESIZER MODULE

Exclusive offer, Almost entirely based on the legendary D110. (Exactly the same sound as the D110, except there are 32 drum sounds). LA synthesis gives you a choice of sampled and synthesized sounds, the same combination as the highly acclaimed D50. A huge library of sounds can be downloaded - INC VAT

Affordable Soundcraft

114-116 CHARING CROSS RD., LONDON. WC2H 0DT

(Opposite Foyles Bookshop and 100 yards from Tottenham Court Rd Tube)

Tel. 071-434 1365 / 071-240-2041

071-379 5148 / Fax: 071-379 0093



SPECIAL OFFERS

RHODES MK60 weighted piano £599

Great acoustic & electric piano sounds

SECK 1282/1882 recording consoles

Due to increased production costs the SECK range of consoles is now too expensive to produce, and has therefore been discontinued

Each channel has a long-throw (100mm) fader, 4 auxiliary and dual inputs both of which can be used at once, giving up to 24/36 inputs

3 band custom profiled equalisation, sweepable 20.1 mid with EQ also on four auxiliary returns. Insert jacks on each channel and on the 8 subgroups. +48v phantom powering on XLRs, comprehensive soloing including all sends & returns, multi-mode LED meters, built-in talkback mic, up to six aux buses and several monitoring options. Ergonomic design and rugged noise-cancelling steel / alloy construction gives excellent mic isolation, and is uniquely light and portable with a built-in carrying handle. This exclusive offer represents the last chance to acquire one of these pro-facility desks and at an outrageous reduction

R.R.P. 1282 - £1299 1882 - £1799

ATARI 1040 + C-LAB Creator + mouse + SM-124 Monitor

ART MULTIVERB LT 16 BIT SIMULTANEOUS EFFECTS PROCESSOR

192 programs including 120 REVERBS from Early Reflections, Plate, Studio and Live Vocals, huge Halls (up to 25 second decay) and Rooms, all in a wide range from warm to bright, to Reverse and 20 various Gated/Combed Gated Stereo FLANGE and CHORUS. ECHOS and MULTI-TAP DELAYS. STEREO IMAGING, PAN and SPECIAL EFFECTS. COMBINE UP TO THREE simultaneous effects. 16 bit, full bandwidth processing, 8008 dynamic range (extremely quiet) Great MIDI spec: MIDI PROG numbers assignable to any program, 16 MIDI channels or OMNI, compile your own patches etc. Control from kbd. or seq. or use punch or MIDI footswitch for program advance or random selection respectively. 19' rack mounting

This EXCLUSIVE offer represents an unrepeatable opportunity to purchase a beautifully natural sounding commercial quality reverb at a fraction of the cost. We expect to sell out very quickly. R.R.P. £245

ATARI 1040 + C-LAB Notator + mouse + SM-124 Monitor

STUDIO RESEARCH KEYBOARD/LIVE RECORDING MIXERS

Remarkable range of professional stereo (in 10 2) consoles. Available in 6, 12 and 16 channel versions. Very quiet, great sounding EQ, rugged steel construction for good shielding etc.

Each channel has a 1/4" line phono and long-throw fader. Auxiliary master gain, EQ and Pan, bar graph metering, headphone monitoring. The range of applications for stereo mixers is growing fast, eg. Multi-limbral sampler/drum-machine mixing / Live/Main submixing

12 channel 700W PA system complete for under £900. Mix your 6:2 £199 INC VAT

12:2 £299 INC VAT

16:2 £369 INC VAT

ATARI 1040 + Steinberg Cubase £825

+ mouse + SM-124 Monitor

CHEETAH SX-16 16 BIT STEREO SAMPLER WITH 8 SEPARATE OUTS

Scrap purchase makes this the cheapest 16 bit stereo sampler and is cheaper than most 12 bit mono machines. Sample up to 48kHz in stereo, playback through up to 8 separate audio outputs, 512k base memory with optional 2 Meg disks (DD only). Optional TV modulator for graphic waveform editing. Scrap facility allows 'scratching' of samples with the mod wheel. End of line clearance, R.R.P. £799

KORG M3R Synth / Drum expander £589

with best of M1/T1 sounds and 33 FX

TASCAM PORTA2HS 8 INPUT PORTASTUDIO

The Porta 2 HS has six independent channels each with separate EQ and Auxiliary send. It runs at high speed all important for producing good demo quality tapes. All four audio tracks can be recorded onto simultaneously with dbx noise reduction and monitored

via their own v.u meters and a separate input for ONCE ONLY OFFER sync is available. Strictly limited quantities. Our offer includes free Mic, headphones, tapes, cleanerdemagnetiser and cables. R.R.P. £599

ART MULTIVERB III exclusive 20kHz 4 FX at once performance MIDI

ROLAND CM-32 COMPUTER CONTROLLED SYNTHESIZER MODULE

Exclusive offer, Almost entirely based on the legendary D110. (Exactly the same sound as the D110, except there are 32 drum sounds). LA synthesis gives you a choice of sampled and synthesized sounds, the same combination as the highly acclaimed D50. A huge library of sounds can be downloaded - INC VAT

12:2 £299 INC VAT

16:2 £369 INC VAT

ATARI 1040 + C-LAB Creator + mouse + SM-124 Monitor

ART MULTIVERB LT 16 BIT SIMULTANEOUS EFFECTS PROCESSOR

192 programs including 120 REVERBS from Early Reflections, Plate, Studio and Live Vocals, huge Halls (up to 25 second decay) and Rooms, all in a wide range from warm to bright, to Reverse and 20 various Gated/Combed Gated Stereo FLANGE and CHORUS. ECHOS and MULTI-TAP DELAYS. STEREO IMAGING, PAN and SPECIAL EFFECTS. COMBINE UP TO THREE simultaneous effects. 16 bit, full bandwidth processing, 8008 dynamic range (extremely quiet) Great MIDI spec: MIDI PROG numbers assignable to any program, 16 MIDI channels or OMNI, compile your own patches etc. Control from kbd. or seq. or use punch or MIDI footswitch for program advance or random selection respectively. 19' rack mounting

This EXCLUSIVE offer represents an unrepeatable opportunity to purchase a beautifully natural sounding commercial quality reverb at a fraction of the cost. We expect to sell out very quickly. R.R.P. £245

ATARI 1040 + C-LAB Notator + mouse + SM-124 Monitor

STUDIO RESEARCH KEYBOARD/LIVE RECORDING MIXERS

Remarkable range of professional stereo (in 10 2) consoles. Available in 6, 12 and 16 channel versions. Very quiet, great sounding EQ, rugged steel construction for good shielding etc.

Each channel has a 1/4" line phono and long-throw fader. Auxiliary master gain, EQ and Pan, bar graph metering, headphone monitoring. The range of applications for stereo mixers is growing fast, eg. Multi-limbral sampler/drum-machine mixing / Live/Main submixing

12 channel 700W PA system complete for under £900. Mix your 6:2 £199 INC VAT

12:2 £299 INC VAT

16:2 £369 INC VAT

ATARI 1040 + Steinberg Cubase £825

+ mouse + SM-124 Monitor

40% OFF - SECOND

SYNTHESIZERS

Steinberg Midex Plus £348

C-LAB Creator £260

Ensoniq VFX2 £821

MOTU Performer £399

MOTU TimePiece £399

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

SPECIAL OFFERS

ALESIS QUADRAVERB + £305

Multi effects processor BRAND NEW

EVOLUTION EVS1 16-BIT SYNTH AND DRUM MODULE

At last, a 16 bit module has broken the price barrier. If you're on a tight budget, there's no longer any need to put up with the noisy, low bandwidth synths or other budget modules out there. The EVS1 generates all its sounds with CD clarity (18 bit 44.1 kHz). The EVS1 has several different synths in one. A sample-player, a fat analog synth (subtractive), and various additive synthesizers. (Phase Modulation like the VZ-1, Ring Mod like the D-50, FM and WM

All types of synthesis can be used simultaneously. A simple EVS1 can replace a whole rack full of different modules arranged in lush analog strings, raw-power basslines, exotic digital timbres etc...

Features include: 8 part multi-timbrality - never less than 16 notes poly - power-down kit including Latin sounds as well as conventional kits - FREE editor/librarian software which runs as a desk-sequencer on Atari ST computers, allowing quick and easy hearing of sounds as you write the music. 16' rackmount. EXCLUSIVE OFFER

Unrepeatable opportunity to purchase very expensive sound quality with the multi-channel spec for sequencing at a ridiculous price. Strictly limited quantity. R.R.P. £299

ALESIS MIDIVERB 3 NEW £217

Simultaneous Multi effects processor

Roland D-20 The Original Synthesizer Workstation with 3.5" disk drive

The keyboard which made the workstation concept a reality, and still the best value for money for people requiring every song-writing tool in one box. The D-20 gives you a drum-machine, a reverb, a multi-timbral synthesizer, an 8 track sequencer and a 3.5 inch disk drive in a compact keyboard which can easily be taken on the road. Fully programmable synthesizer with built-in Time Variant Filters, Amplifiers and LFO functions. Mix PCM samples with fat, analog waveforms to create rich and accurate sounds. 128 Presets/64 user memories, using any combination of PCM and synthesized sounds. 8 on board digital reverb algorithms with decay and level parameters for each patch. 63 sampled drum sounds with separate drum machine sequencer including 64 preset and 64 user patterns. 8 track Sequencer with 10,000 event storage capacity, offers easy tape-machine style recording. We have INC VAT

secured the last ever batch of these £699 ADD CARR

best-selling workstations at an INC VAT

unbelievable price. R.R.P. £1275 NEW BOXED

YAMAHA SY22 vector synthesizer £645

easy to program, sounds great, FX

JL COOPER PPS-10 SMPTE/MIDI Synchroniser

ALL SMPTE FORMATS • MIDI TIME CODE AND SP

POINTERS • PROGRAM CUE AND

PROGRAMMABLE TEMPO CHANGES • UNIQUE RECORDER

PUNCH IN/OUT CONTROL. Although this unit lists at over £500 it is

probably the most comprehensive and up to date unit at any less than £2000. At our

price it costs less than the most basic F56

devices, making it cheap enough even for a

4 track R.R.P. £525

ROLAND U20 RSPCM keyboard £765

30 not poly, eat crit keybd, FX drums

EMU 16 BIT 32 CHANNEL STEREO SAMPLER WITH THE LEGENDARY EMULATOR SOUND

32 audio channels • 16 note poly in stereo • 18 bit A/D converters • unique digital filtering

sound quality • 4 stereo pairs of separate outputs • 3 stereo effects-loops • SCSI and RS422 interfaces as standard, giving access to our vast EMI libraries available in store on floppy, SyQuest and CD-ROM and at a

remarkable £199 per disk from our 24 hr mail-order copying service

The RS-422 allows instant sample dump into Alchemy™ or Sound Designer™ • 3 distinct types of synthesis: subtractive, additive and transform multiplication. Any one of these gives more sonic-potential than most top-of-the-range synths. For all those Emu owners, the

Emu will convert all your old data

This offer represents a unique opportunity to get the legendary Emu

sounds at a fraction of the normal price. Hurry, these will sell out very quickly

ROLAND JX1 performance synth £299

Quick and easy to use - 24 bit sounds

STUDIO RESEARCH 8 or 12 CH 500W PA SYSTEM

Studio Research 12-2PK Mixer/amp 500W, 12 XLR/line inputs, 3-band EQ and 2 aux per channel. Fan cooled, 2 X Studio Research UK-made (made in France)

15 inch • £825 12 CH INC VAT

15 inch • £825 12 CH INC VAT

15 inch • £825 12 CH INC VAT

15 inch • £825 12 CH INC VAT

15 inch • £825 12 CH INC VAT

15 inch • £825 12 CH INC VAT

40% OFF - SECOND

SYNTHESIZERS

Steinberg Midex Plus £348

C-LAB Creator £260

Ensoniq VFX2 £821

MOTU Performer £399

MOTU TimePiece £399

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

Ensoniq SQ2 new £1299

SPECIAL OFFERS

ALESIS QUADRAVERB + £305

Multi effects processor BRAND NEW

EVOLUTION EVS1 16-BIT SYNTH AND DRUM MODULE

At last, a 16 bit module has broken the price barrier. If you're on

- Cliff Richard uses one. Today, with vocoding re-emerging in the shape of Roland's own Boss SE50 effects unit and the Korg Wavestation A/D, it's worth looking back at the VP330 to see just what made it (and still makes it) such a desirable instrument.

ELECTRONIC MELLOTRON

THE VP330 ISN'T a large keyboard by modern standards. Sporting a four-octave keyboard which is, inevitably, neither velocity- nor pressure-sensitive, it's very similar in size and chunkiness to other popular keyboards of the time such as the ARP Omni II string machine and the Korg CX3 organ. You know the type: wooden end-cheeks, fixed mains lead, and two holes for your music stand. The clearly laid-out control panel sports large, friendly rocker switches to activate the voices (although these were replaced on final

creation of ensemble-type effects and, as we shall see, choral style voices. Only the treatment varies between sections. The Strings section offers just one footage (8'), plus variable attack, a release control (which is shared by the rest of the instrument) and a tone control. There's also a preset keyboard split, either side of which the voice can be turned on or off. You may laugh, but these were reasonable facilities back in the Pleistocene era. Indeed, the fondly-remembered RS505 Paraphonic Ensemble contained many similarities to the VP330 Strings section - not least of which was the sound.

The next section is Human Voice; when the VP was launched, this was greeted with amazement. The basic waveform is filtered to give a vocal, if somewhat nasal, formant. On its own, this doesn't sound like people singing, but the VP also includes an Ensemble button which introduces a complex series of pitch modulations to the basic sound. Stereo outputs are provided to create a more spacious sound when Ensemble is selected (which is, for most purposes, all the time) and these contribute to thickening things up considerably. The result is almost voice-like, and extremely usable. For the first time choral voices were emanating from a keyboard that didn't weigh a hundredweight yet still had to be handled like a Ming vase. The VP330 was hailed as the electronic musician's replacement for the Mellotron.

Like the Strings section, the Human Voice is split at middle C. Unlike the Strings, however, it provides different timbres on either side of the split: 4' and 8' male voices in the Lower register; and 8' males and 4' females in the Upper; and Vibrato, with rate, delay, and depth controls. This, when coupled with the Strings, emulates several well-known Mellotron tapes - eight-voice choir, 16-voice male and female choir, and 16-voice choir with strings. A minor disappointment is the inability of the VP to output the patches from either side of the split point separately via the stereo outputs (this would have made it possible to imitate the enormous dual manual Mellotron Mk 2s of the early '60s) but nobody seemed to mind - replacing the model 400s and Novatrans seemed quite satisfactory to everyone concerned. That's not to say that the Roland has no character of its own. It has, but the Mellotron was still big news in the '70s, and its imitation was the most obvious benefit provided by the Strings and Human Voice.

It's not easy to sample and loop pitch-modulated sounds but, surprisingly, the VP330 Strings and Human Voice sections sample extremely well - especially

if multisampling is used to avoid munchkinisation. Roland's own sample library begins with disk L501-0005, which includes two excellent Strings and Human Voice samples. But you needn't settle for simple reproductions of the VP330. A good sampler will offer extensive enveloping and filtering options, allowing you to take the basic sound and develop it in ways that were impossible back in 1979. In fact, once you start sampling the VP, there's nothing (except limited memory) to stop you from spinning entire vocoded phrases to disk. The possibilities are legless (?).

VOCODING

LET'S MOVE ON to the *raison d'être* of the VP330 - the Vocoder section. This shares many features with the other sections: variable attack and release sliders, middle C split point, Upper and Lower on/off controls, Vibrato and Ensemble. There is also a pitch-shifter offering Manual and Auto modes. Manual is useful, Auto less so, unless you're into synths that make you go "hmmm". But whereas the Strings and Human Voice sections create their sounds by treating the internal oscillators with constant effects (filtering and ensemble), the Vocoder section enables you to modulate the oscillators with an infinitely variable source - the input from a microphone. Even greater flexibility is added by the External Synth input, which allows any sound source to be submitted to the vocoding process. This means that you can treat your favourite guitar riffs, piano sonatas, synthesiser voices - or even the music from your CD player.

Vocoders are probably best known for such ditties as 'Mr Blue Sky' and 'Sparky's Magic Piano'. Instantly recognisable as vocoders, these sounds have now become dated and dreary. Consequently, vocoding is usually dismissed as another boring '70s phenomenon. Yet vocoders can be used in many other ways. Replacing conventional backing vocals using a vocoder can be very rewarding, especially if you're recording on a limited budget and don't have access to a fully-equipped multitrack studio. You can play far more complex parts on the vocoder keyboard (including chords) than you can manage unassisted. And, if you want to get away from the natural sound of the human voice but retain recognisable words and phrases, you can create new textures using the External Synth capability of the VP330.

Double tracking lead vocals is another interesting application, especially when the VP is coupled to an external effects unit. The most common of these ➤

"FOR THE FIRST TIME CHORAL VOICES WERE EMANATING FROM A KEYBOARD THAT DIDN'T WEIGH A HUNDREDWEIGHT YET STILL HAD TO BE HANDLED LIKE A MING VASE."

models with LED momentary switches), and a selection of typical Roland sliders and knobs control the various facilities provided by the instrument's three sections. Three sections? But surely this is just a Vocoder, like its rack-mounted stablemate, the SVC350. Well, not exactly. . .

A good starting point for understanding the VP is the Strings section. The late '70s were the heyday of the string machine and, whether it was purely a marketing ploy or whether Roland appreciated how useful the Strings would be when combined with the Vocoder section, we can now only guess. But, if you look closely at the architecture of the VP330, you'll find that it readily lends itself to the creation of a string ensemble effect. This is because the sound generators within the instrument use the octave-divide technology commonly found in electronic organs and so-called string machines of the day. The rather thin but harmonically rich output from these oscillators is an ideal starting point for the



SALE SELECTION

*ROLAND JX8P SUPER SYNTH INCLUDING SOFTWARE & KEYBOARD	£465.00 MANS
*TASCAM 322B + DBX UNIT	£475.00 MANS
APIEX STUDIO CLOCK	£249.00 MANS
*KURZWEIL K1000 PIANO	£899.00 LEICE
*TASCAM 38 + RSD 16/8/16	£1899.00 LEICE
*KORG SQD1 SEQUENCER	£159.00 LEICE
YAMAHA MT3X PORTASTUDIO EX DEMONSTRATION (1 ONLY)	£399.00 NOTTS
ENSONIQ SQ1 SYNTH	£799.00 NOTTS
DIGIDESIGN EVOLUTION SYNTH	£149.00 NOTTS
KORG M3R SOUND STATION	£399.00 SHEFF
*KORG DDD5 DRUM MACHINE	£99.00 SHEFF
JL COOPER MIX MATE AUTOMATED MIXER	£199.00 SHEFF
KORG MIR EX WITH EXPANDED WAVE ROM	£999.00 NORW
*KORG 707 SYNTH	£299.00 NORW
*OTARI MX5050 8 TRACK STUDIO QUALITY 8 TRACK REEL TO REEL	£1749.00 NORW
ENSONIQ SQ1 MUSIC SYSTEM	£799.00 LEEDS
STEINBERG AVALON ST. SAMPLE EDIT SOFTWARE	£129.00 LEEDS
CHIEFTAIN SX16 RACK SAMPLER	£499.00 LEEDS
KORG T2EX TOTAL WORKSTATION BUILT IN MIDI SAMPLE PLAYBOARD	£1699.00 DERBY
XRI 400 MIDI PATCH BAY	£179.00 DERBY
*ROLAND MT100	£399.00 DERBY
*AKAI MPX820 MIXER	£349.00 BIRM
KAWAI KC10 SPECTRA SYNTH	£339.00 BIRM
ROCKMAN RACK EFFECTS	FROM £79.00 BIRM
*KORG DSS1 SAMPLER	£699.00 STOKE
*ART PROVERB EFFECTS PROCESSOR	£199.00 STOKE
AMR DSR 1000 MULTI EFFECTS UNIT	£699.00 STOKE

*DENOTES SECOND HAND

1/2

PRICE SALE

NOW ON !

WE WILL BEAT ANY
GENUINE WRITTEN
QUOTE**

50% OFF MRP.
ON ALL
CARLSBRO PRO
RANGE.

EG.
KEYBOARD COMBO
£539.00
KEYBOARD PRE AMP
£162.00
KEYBOARD POWERED
ENCLOSURE



**THE KORG S3 DRUM
WORKSTATION,**
WITH 75 BUILT IN DRUM
SOUNDS, EFFECTS,
SEQUENCER AND SMPTE,
MAKES AN IDEAL CENTRAL
CONTROL CENTRE. AND AT
ONLY £459.00 IS MADE
MORE AFFORDABLE FROM
CARLSBRO.



ROLAND JX1

NOW ONLY £299.00



RHODES VK1000

£1277.00



HAMMOND XB2

£979.00

TAKE YOUR PICK OF THESE DRAWBAR DREAMS. BOTH HAVE
ACTIVE DRAWBARS AND COME EQUIPPED WITH THE RICH
SOUND OF THE ORIGINAL ORGAN. CALL IN AND CHECK ONE
OUT, WHILE OUR LIMITED STOCKS LAST!



25% OFF R.R.P. ON ALL EX-
DISPLAY ROLAND JD 800
SYNTHESIZERS,
(WHILE STOCKS LAST)

Carlsbro

ensoniq

THE TECHNOLOGY THAT PERFORMS

THE ENSONIQ SQ1. TRY OUT THIS
EXPANDER FOR SIZE, WITH IT'S
MULTITUDE OF SOUNDS AND 24BIT
QUALITY EFFECTS, IT WILL FILL
YOUR RACK SPACE BUT WON'T
EMPTY YOUR BANK ACCOUNT.



WHAT MUSICIANS NEED

MAIL ORDER
HOTLINES

4 SMALLBROOK QUEENSWAY BIRMINGHAM: ☎ 021 6434655
77-79 OSMASTON RD. DERBY: ☎ 0332 48156
3-4 YORK TOWERS 383 YORK RD. LEEDS: ☎ 0532 405077
22 HUMBERSTONE RD. LEICESTER: ☎ 0533 624183
182-184 CHESTERFIELD RD. MANSFIELD: ☎ 0623 651633
2 SOVEREIGN WAY ANGLIA SQ. NORWICH: ☎ 0603 666891
11-13 HOCKLEY NOTTINGHAM: ☎ 0602 581888
720 CITY RD. SHEFFIELD: ☎ 0742 640000
35-39 NEW HALL STREET HANLEY, STOKE ON TRENT: ☎ 0782 205100

FINANCE AVAILABLE (SUBJECT TO STATUS)

**APPLICABLE TO ITEMS HELD IN OUR STOCK ONLY



ALL PRICES DO INCLUDE V.A.T.

techniques works as follows: take a side-chain from the vocal channel off tape, compress it, delay it by a few hundred milliseconds, and then vocode it. Adding this (plus a bit of reverb) to the original signal results in a very expensive sound - similar to double tracking, but with a unique "thickening" effect.

A third area of vocoder use that hasn't received the attention it deserves (although this may change with the arrival of the Wavestation A/D) is the creation of the unusual polyrhythmic and tonal effects generated when you pass non-vocal signals into both the External Synth and Microphone inputs. Since the VP330 mic input has both quarter-inch unbalanced and XLR balanced sockets, it

vocoding a vocal with itself - the result is seriously weird.

Although these ideas have been discussed in a studio context, there's nothing to stop you trying them on stage. But be ready to face some unusual problems. The vocoder is not simply a keyboard - it has a microphone attached to it - so you're going to have to think about placement, feedback, and the dangers of extraneous sounds getting into it. If you're tempted to try live vocoding, use a good headset microphone in conjunction with a sensible monitor mix. In addition, a good limiter is almost essential to get professional-sounding results. Finally, it's a mistake to believe that you can simply speak your lyrics into a vocoder and the machine will sort everything else out for you. Vocoders are, after all, only sophisticated filters which enhance or suppress natural frequencies present in your voice, so you'll get far better results if you actually sing the intended part correctly.

**"IN THE VP330, ROLAND
MANAGED TO PRODUCE WHAT IS,
FOR MANY USERS, STILL THE
SMOOTHEST AND SWEETEST-
SOUNDING VOCODER EVER TO
HAVE BEEN BUILT."**

will accept almost anything you care to send it. Vocoding these non-vocal signals using the internal oscillator bank suggests one range of options, but replacing the internal bank using External Synth places another, even wider, range of sounds at your disposal. Experimenting with rhythmic inputs, synthesised timbres, random or arpeggiated sounds, or even film and video soundtracks, can yield surprising results. And if you're looking for the next innovation in dance or electro-pop, vocoding *Star Trek* episodes with Pascal Gabriel's rhythm samples could be what you're looking for. Finally, for those of you into the occult, try



ON RECORD

DESPITE THE POWER and transparency of its vocal processing abilities, it's not as a vocoder that the VP330 is best remembered. And, although very few people would claim that, in its Strings and Human Voice modes, it actually replaced the Mellotron (that happened later with the advent of samplers) it's in this role that you're most likely to hear one used. The Mellotron (and later, the Novatron) were the instruments of choice for a whole generation of players but they were notoriously unreliable. Given the choice of fighting with sticking tapes, burnt-out motors, and stuck keys, or simply plugging in the VP and playing, many bands opted for the latter - often ignoring its vocoding capabilities altogether. A notable example of this was Tony Banks of Genesis, who replaced his Mellotron with a VP for the *Duke* tour of 1980. In the studio Vangelis used one extensively on the *See You Later* LP, and made the Human Voice world famous with his Oscar-winning *Chariots of Fire* film score. *See You Later* also formed the basis for the soundtrack of *Blade Runner*, thus giving the instrument even wider exposure. Picking up almost any Tomita album will also give you a sizeable dose of VP330 choral sounds. Perhaps one of the few groups to use the full range of the VP's capabilities (both in the studio and on stage) was the Steve Hackett band. But even they dumped their Mellotron once they started using the VP330 for live work.

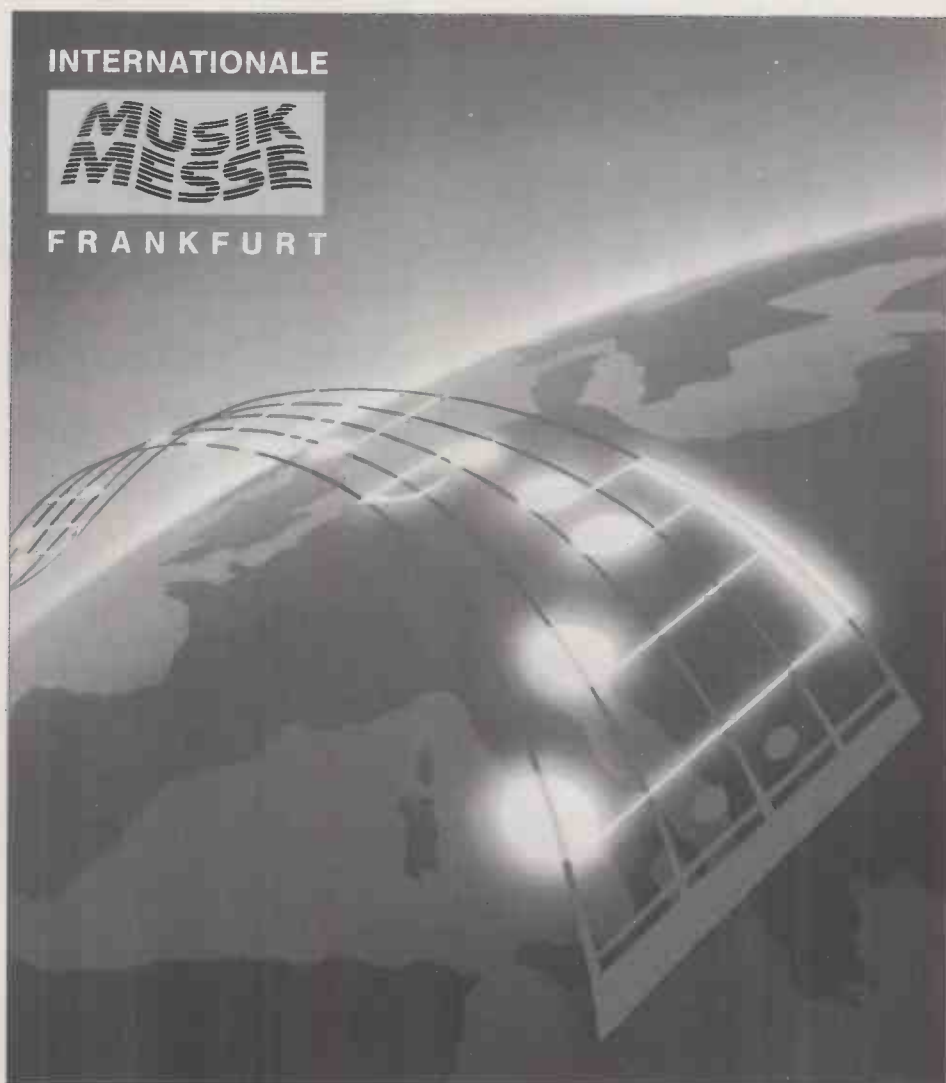
VOCODING THE FUTURE

THE VOCODER IS enjoying something of a renaissance at the moment. Whether this is because of the new and more affordable units now available, or whether these instruments have been released as a consequence of the revival in interest, is unclear. Either way, players now have a wider choice of instruments than ever before. The Boss SE50 offers basic facilities and retails for under £400 (and you get a digital effects unit thrown in for free), while the Wavestation A/D and current generation of EMS instruments give you better quality and more facilities for closer to £2000. Add to these choices the thriving secondhand market - hardly a month passes without a *Music Technology* Readers' Ad pleading for a used vocoder. On the rare occasions that you see a VP330 for sale the asking price will be in the region of £450. Compare this to the asking prices for the Korg VC10 (about £150) or the SVC350 (£250-£300) and you get some idea of just how highly rated the VP330 has remained. The reason for this is its quality; cheap vocoders can suffer from tracking and glitching problems, and the clarity of the output signal is often very poor. In the VP330, Roland managed to produce what is, for many users, still the smoothest and sweetest-sounding vocoder ever to have been built. Using ten frequency bands, plus a blue noise sibilant generator, it never fails to reproduce the signal, and maintains enough clarity for lyrics to be understood following treatment.

Nowadays it's possible to have the VP upgraded to accept MIDI. Kenton Electronics provide just such an upgrade for £160, and this sees MIDI In and Thru ports emerging (literally) from the woodwork. Imagine the fun you could have vocoding the output of, say, a sequenced D50 or DX7 (input via the External Synth port) while the keyboard part of the VP330 is itself sequenced. You can even add Strings or Human Voices above or below the Split Point, or in unison with the vocoded parts. And, although the VP doesn't sport trendy individual audio outputs, a mixer is included, which enables you to balance the outputs from the three sections. Creative or what?

If you're over 21 years old and you feel like a bit of private (or even public) vocoding, you could do worse than track down a VP330. Each of its three sections would have stood up as separate keyboard instruments when it was launched in 1979. Combined, they create a whole that is undoubtedly greater than the parts. And it's still considered by many to be the best there is. ■

Games without frontiers. Internationale Musikmesse Frankfurt 1992.



Music is the language everyone speaks the world over, spanning countries and generations. Once again, the International Music Fair Frankfurt 1992 takes you to the limit and beyond. With products from violin strings to bass amps, grand pianos to laser technology and software to hard rock.

Have the time of your life at the musical experience without frontiers.

With over 1,100 exhibitors from nearly 40 countries, from 11.3.1992.

Trade only: 11. 3. – 13. 3. 1992
General public: 14. and 15. 3. 1992

Keep your eyes and ears open for five days of music, instruments, scores, concerts, events and workshops. See and hear for yourself. At the International Music Fair Frankfurt 1992.

Coupon Musikmesse

For more information, free, send off this coupon:

Representatives in the UK
Collins & Endres
Morley House
314 Regent Street
London W1R 5AB
Telephone 071-3 23 65 70
Fax 071-3 23 65 23

Name _____

Street _____

Postcode/Town _____

Frankfurt am Main, 11. 3. – 15. 3. 1992

 Messe
Frankfurt

D4 DRUM MODULE

Certain recent additions to the drum machine market have been notable for the sheer numbers of sounds they contain - Alesis' D4 boasts over 500 and there's more. . . Review by Tim Goodyer.

THE ALESIS D4 is useless. Useless, that is, if you're a confirmed sticks-n-skins drummer. If, on the other hand, you're in the market for a large and diverse collection of sampled drum and percussion sounds, tidily packaged in a 1U-high rack unit and equipped with trigger-to-MIDI inputs, the D4 might - just might - turn out to be more useful than your pacemaker.

So here it is, check it out; 99 bass drums, 99 snares, 55 cymbals, 92 toms, 76 assorted percussion voices, 80 "effects" sampled in glorious stereo at 48kHz, packed into a single rack space complete with 12 trigger-to-MIDI inputs equally suited to use with drum pads, drum machines and signals on tape. Feel free to turn the page if you still think drums have the monopoly on rhythm or you really are prepared to miss out on one of the neatest

beatboxes to appear in quite a while.

Actually, the term "beatbox" doesn't quite fit the D4, since one of the few things it's lacking is onboard sequencing. As such, it's not so much a drum machine as a dedicated percussion sample reader. Where the D4 scores over certain other drum expanders, however, is through its integral trigger interface. This makes the unit equally well-suited to use with an acoustic drum kit fitted with piezo mics and as a means of replacing poorly-recorded or damaged drums on a studio multitrack.

HARD WORK

TAKING A MORE thorough look over the D4's hardware, we find a 1U-high rackmount whose front panel (from left to right) boasts a headphone socket, volume control; 32-character, two-line, backlit LCD; alpha wheel-style Data knob; large Preview button; left and right cursor buttons; ten function buttons



(with active LED bars) and a power button. On the rear panel there is a socket for the separate transformer (supplied) footswitch jack, MIDI In and Out/Thru sockets, 12 Trigger Input jacks, Main stereo audio output pair and Aux audio output pair (on quarter-inch jacks. And that's it.

Alesis have commendably kept the number of "second page" functions small, leaving you to navigate the operating system with the cursor keys instead. Where this doesn't offer much of an improvement in the use of most synth or sample expanders, the D4's operation is simple enough (for the most part) to be quite intuitive. For most aspects of operation, only details of the 25 trigger types and the Group setup button really require you to refer to the manual.

SOFTWARE

ON POWER UP, the D4 greets you by telling you what it is and who made it (in case you've lost the box). Then it picks up on the page you were last working on. In the case of a brand new D4, this is the first of the unit's 21 Drumsets - Drumset 00 "Standard Stuff". Each Drumset is an assignment of 60 of the D4's 501 samples to 60 consecutive MIDI Note Numbers. The unit comes set up with what Alesis have called the Drumset Root Note at #36, but this can be changed to anything between #000 and 76 - which would put the highest D4 sound at MIDI's upper limit, Note #127.

It hardly needs to be stated, but the D4 happily operates on any of MIDI's 16 channels or in Omni mode. Also to be found under the button marked MIDI is the soft Thru on/off setting, program change enable/disable, MIDI controller enable/disable, program change number mapping and SysEx dumping. The D4 accepts Controller #6 incoming over MIDI as an alternative to its own data wheel. It will also respond to Controller #7 (volume), data increment and decrement (these act upon the currently-selected parameter), Non-Registered Parameters 98 (MSB) and 99 (LSB) which select the parameter to be edited by Controller #6,

Reset All Controllers

and Pitch Bend messages. It's worth noting that pitchbend only affects sounds *before* they're triggered. The default setting of the program change mapping simply cycles through the D4's 21 Drumsets (programs 00-20) every 21 patch numbers - so patch 20 is Drumset 20, patch 21 is Drumset 00 and so on.

Saving data via MIDI covers saving of the D4's entire setup memory, as you'd expect, but also allows you to dump the edit buffer, trigger setup and program table as separate files.

SET WORK

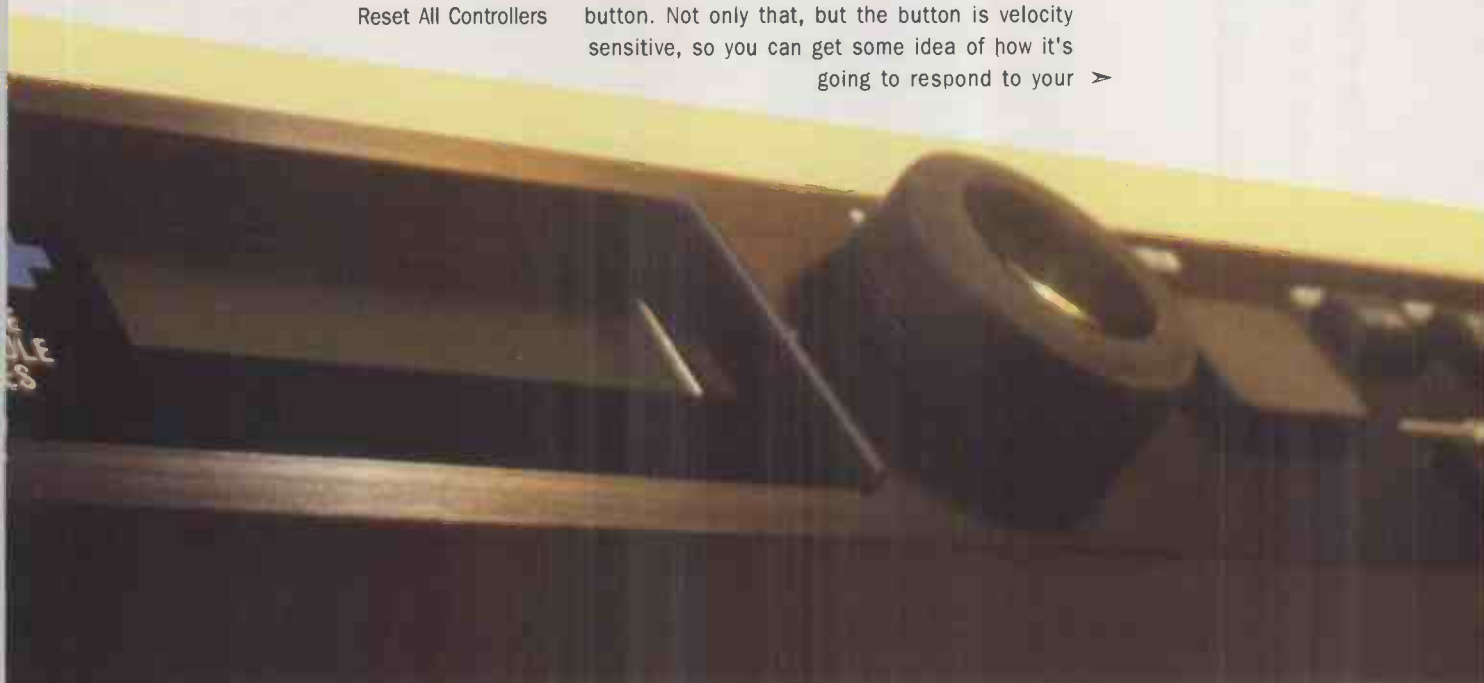
ASSEMBLING DRUMSETS FROM the D4's 501-sound library couldn't really be much simpler. Hitting the button marked Drumset allows you to step through the Drumsets with the Data knob - which, incidentally, is "stepped" so that incrementing or decrementing an entry is a comfortable, precise affair. The Set in the display is active and the one you go on to edit if you press the Voice button.

Pressing Voice causes the display to show the currently-selected Note Number and its pitch on the top line, while the sound category (Kik, Snr, Cym, Tom, Perc or Efx), number and name occupy the bottom line. The Data knob scrolls through the active range of MIDI Note Numbers, the sound category or sound number, dependent upon where you set the cursor. Alternatively, pressing the Note Chase button enables you to select the MIDI Note Number via MIDI - from a MIDI keyboard, for example.

Once a sound has been selected, it can be tuned over a range of +3/-4 semitones by pressing the Tune button and using the Data knob. It's worth mentioning that this edit is not retained with a sound, but applies to the MIDI Note Number - so if you select 'Dry Punch' for your snare sound, drop it by a semitone and then substitute 'Amb Punch', the new snare will play back a semitone low. To make auditioning sounds easier, Alesis have provided the D4 with a Preview button. This allows you to hear the currently-selected sound whenever you poke the button. Not only that, but the button is velocity sensitive, so you can get some idea of how it's

going to respond to your ➤

"Where the D4 scores over certain other drum expanders, however, is through its integral trigger interface."



PHOTOGRAPHY: JAMES CUMPOSTY

“Saving data via MIDI also allows you to dump the edit buffer, trigger setup and program table as separate files.”

➤ programming. It's an extremely useful feature - not dissimilar to the Playback button found on Akai samplers - but I was left with the distinct impression that the review model had been set up with drummers in mind, since I was in danger of overturning my rack before I got much of a response from it. I did discover, however, that if you hold the Preview button in after hitting it, rotating the Data knob through any of its functions caused the sound to both change and be retriggered at the same time. In this way it's possible to hear a snare drum firing and changing in pitch just by turning this knob. I'm sure this isn't a feature Alesis intended the D4 to have, and I didn't actually find it at all useful but having discovered it, I'm determined to share it with someone. . .

Apart from the Ext Trigger button, there's only one other button on the D4 to deal with: the one marked Group. Here you have the option of assigning a sound to Multi, Single, Group 1 or Group 2. Multi determines that a sound should continue to play through to the end of the sample even if another MIDI Note On arrives before it's finished. This “unconditional release”, as it was known in analogue days, prevents one of the early problems that

Having made a selection of sounds for your Drumset, you can set volume levels with respect to the other sounds in the Set by pressing Mix and setting a level somewhere in the 00 to 99 range. Also under this button you'll find the pan setting - nothing complicated, just a seven-position pan between the left and right audio outs of either the Main or Aux stereo pairs.

And on the subject of audio outs, pressing the Output button puts you in control of the sound's route to the outside world. Nothing too complicated here, either - on the top line of the LCD you select a MIDI Note Number - and hence one of the sounds in the Drumset - while on the bottom line, you're presented with a choice between the Main and Aux outs.

Once you're satisfied with your assignments you can save them by hitting the Store button. The display offers you the chance to abort the operation or, assuming you wish to continue, to name the Drumset with a 14-character name (characters are selected with the Data knob). A second prod of the Store button completes the procedure.

One last - and quite commendable - inclusion in the sound management facilities of the D4 is its ability to recall factory presets from ROM. Best of all, you don't have to recall all 21 Drumsets if you don't want



plagued digital drum machines from afflicting the D4. With Multi selected, repeated cymbal strikes, say, don't cut each other off. But while this is an important aspect of the behaviour of a real cymbal, it's quite inappropriate to the sound of a vibraslap, for example. And, strangely enough, this is where the Single setting comes into its own. The remaining Group 1 and Group 2 settings are a duplication of the same facility - that of making several sounds mutually exclusive. By assigning open, foot-closed and struck closed hi-hats to one of these Groups, each sound can be made to cut off any other, more closely approximating to the performance of the “real thing”.

One of the D4's hidden features is its parameter copy function. All settings for the Voice, Tune, Mix, Output and Group can be copied to another MIDI Note Number by pressing Store while holding Note Chase. The LCD now asks for the copy destination, which is entered using the Data Knob. It's easy and it's useful, but it's certainly not intuitive.

to; instead you can select any Drumset to be written into any of the 21 Drumset locations. Again, this is a hidden function (press Store while holding Drumset) but as it's not something you're likely to do very often, who's moaning? Not me.

TRIGGER WORK

IN SOME CASES the performance of the D4's triggering facilities is going to be decisive in determining whether or not Alesis' latest drum box gets the gig. It's as well then, that there are no less than 25 different trigger types (selected via the Ext Trig button) making use of different combinations and settings of three separate trigger parameters. The manual breaks these 25 trigger types into three sections - for use with *bona fide* triggers from drum pads or drum machines, with signals from piezo transducers attached to acoustic drums, and with drum sounds recorded onto multitrack tape. The first group is subdivided into three further groups. All of

this is to help you home in on the most suitable trigger option with the least fuss.

The parameters contributing to the performance of the trigger options are Recovery time (the period after a trigger signal during which subsequent triggers are ignored), Noise Floor (the threshold below which signals are not accepted as legitimate triggers) and Suppression (a trigger's ability to check the other trigger inputs for higher-level signals in case its own signal is a consequence of another channel being triggered). None of these parameters is directly accessible to the user, but the availability and variety of trigger types - in conjunction with a user-determined Trigger Gain - is a practical compromise between flexibility and ease of operation.

One further Trigger Type is available - Unassigned. This gives you the facility to use one of the trigger inputs not as a trigger itself, but as an input to the Suppression circuit. The idea is that if you know some particular signal source is going to be causing false triggering, you can optimise the suppression parameter to discriminate against it. It's likely to find more use on stage with a drummer than in a MIDI recording suite, but it's an indication of the diligence of the D4's designers.

I was able to test all the triggering options with the exception of piezo pickups, and had no trouble in getting the D4 to perform happily with a minimum of fuss. It was one of the aspects of the unit I was anticipating being the most difficult to review, but I was wrong.

Stepping through the settings in the Ext Trig section, the last option you're presented with is called Footswitch Mode. This refers to the Footswitch jack on the D4's rear panel and allows you to configure the module to read it either as a foot control for the sound assigned to MIDI Note Number 44 (which is a hi-hat in all the factory presets, but doesn't have to be) or as a Drumset Advance, which steps through the Drumsets (upwards only) and wraps around from Set 20 to 00 - which the Data knob doesn't. One neat feature of the Footswitch circuitry is its ability to detect what type of footswitch you're using (contacts normally made or broken) and adapt itself accordingly. That's pre-empted one batch of problems.

SOUND WORK

WITH 501 SOUNDS to consider, it's impractical to give a representative account of the sonic scope of the D4 in a review. The first remark to make, then, must be that although there are large selections of sounds, the sounds themselves are well programmed and well chosen. Essentially they all appear to be *useful* sounds. Factory Drumset 02, Classic Hex, makes extensive, but not exclusive, use of Simmons-style electronic kick, snare and tom sounds. Similarly, Drumset 19, Tribal Stuff, lines up talking drums, timbales, shakers, triangles and so on. Other Drumsets come under such titles as Jazz/Fusion, Ambient Rock, Industrial and Hard & Rockin'.

If the D4 can be said to have one, its emphasis must be on "realism". And given that one of the D4's

predecessors, the HR16, is one of the most "natural sounding" machines to have hit the beatbox market in years, it's not really all that surprising. (In case you were wondering, the answer is yes - the D4 does draw on previous Alesis machines for some of its sounds but there's plenty of fresh stuff here too.) None of this is to say that fans of more artificial percussion sounds have been left out in the cold, however - as well as the electronic kit sounds mentioned above, there are TR808-style kicks in 'Rap' and 'Rumble' (Kik 80 and 81) and 808-style snares in 'Rap' (Snr 33), 'Low Rap' (Snr 34) and 'Dance!' (Snr 65). To my ear, the 808-style kicks had a little too much attack and I preferred the sound filed under Efx 76, 'Analogue', as an alternative to the real thing.

Don't be misled by the shortage of drum categories either; Snr, for example, also carries sticks and brushes as well as flanged and phased snares, while Prc and Efx cover a multitude of percussive sins. There are too many attractive sounds to start listing them, but I did find some of the snares excellent and the talking drum was a particularly welcome discovery.

VERDICT

IT'S HARD NOT to come down heavily in favour of the D4. Its sounds are powerful and varied, it's a breeze to operate and it shouldn't break the bank. You could happily make it your main drum machine - using the outputs to give you up to four concurrent, isolated outputs or by isolating, say, the kick and snare and using a stereo mix of the rest - or use it in addition to another machine.

In terms of sounds, the D4 is to the beatbox world what the Oberheim Matrix 1000 is to that of synths. You're severely restricted on programming, but there are so many sounds that you should always be able to find something to fit the bill. Perhaps the only area that's been neglected here is that of reverse sounds - the D4 ain't got any and short of sampling from it and reversing the sample, you ain't gonna get any out of it. It would also be fair to say that many of the sounds are simply edits of other sounds (not that Alesis are alone in building up beatbox libraries in this way), but the edits largely stand up in their own right and this doesn't compromise their usefulness.

Even the manual is friendly and informative, and comes with a useful sound chart (listing all 501 of the buggers complete with a table telling you whether they're sampled dry, with reverb or in stereo with reverb) and a reference chart of the factory preset Drumsets. There's also a separate sheet to help you set up the D4 triggers quickly and efficiently. The only *real* criticism I can come up with is that damned Preview button - not only is it horribly squidgy and unresponsive, but it actually made my fingers sore to use it. Perhaps it's just Alesis' way of reminding you about the origins of the sounds you're using . . . ■

Price £399 including VAT.

More from Sound Technology, 15 Letchworth Point, Letchworth, Herts SG6 1ND. Tel: (0462) 480000. Fax: (0462) 480800.

"The trigger section was one of the aspects of the D4 I was anticipating being the most difficult to review, but I was wrong."

WIND OF CHANGE

Brass band to big band, Sade to Shoom, trumpeter Gordon

Matthewman has played his horn in many musical settings. Now he's experimenting with sampling and sequencing technology. Interview by Simon Trask.



BACK IN THE EARLY '80S, A FLEDGLING musical technology called sampling was setting the cat among the musical pigeons. Some saw it as a window onto new creative vistas, others saw it as a potential threat to their livelihood. The former perceived sampling as a way of gaining their sound, the latter as a way of losing theirs.

At the same time, the notion of people programming music on synths and sequencers, rather than playing it on guitars, bass and drums, hit the pop mainstream for the first time, and many musicians hated it - or rather, they hated the fact that kids who couldn't play an instrument between them were nonetheless having hit records. Sounds familiar? Yes, it was the beginning of a polarisation of attitudes towards technology which afflicted much of the '80s, with "non musicians" - invariably making dance music - in one corner and "real musicians" in the other.

Not everyone was susceptible to such either/or thinking, however. One live performer who found himself very much at home in the world of dance music was a young trumpet player by the name of Gordon Matthewman. He made a name for himself in London's clubland during the late-'80s by playing live trumpet over the records being spun by the DJs in clubs like Delirium and Shoom. At the same time, he began gradually building up a hi-tech home studio which has come to include two rack-mount digital samplers, a number of drum machines (including the Roland classics) and what he refers to as "toy" keyboards in the form of the DX100 and CZ101.

Nowadays, working under the name Blow,

Matthewman creates jazz-influenced funky instrumental dance tracks which mix live and "sampled live" trumpet, sax and guitar with sequenced keyboards, bass and drums to great effect. His fourth single, 'Cutter', was released last October on 10 Records, while a debut album, *Cutter*, which he has co-composed, programmed, engineered and mixed, has been in the can since last May, pressed up and waiting to go since last Autumn, and is now set for February release. From uptempo clubby tracks like 'Oh Yeah' and the title track, to the soulful 'Keep On' (the one vocal track on the album, featuring singer Gina Foster) to the bouncy uptempo go-go funk of 'Bridge & Tunnel' to the wonderfully mellow 'Watching The Girls...' (strongly influenced by the Floaters' classic 'Float On') to the firing 'Jazz '91' to the sublime 'Wish You Were Here' (I wish I was, too), it's an album which manages to be well varied and yet have a strong unifying identity. In part this comes from the distinctive, melodic compositional style of Matthewman and his brother Stuart (co-composer of six of the nine tracks on the album), in part from the brothers' distinctive trumpet and sax work which features throughout the album, and in part from the blend of live and sequenced feels which Matthewman has managed to achieve on the tracks - one of the most successful I've heard.

IN FACT, BLOW BEGAN LIFE BACK IN MID-'87 as a duo consisting of Matthewman and keyboard player Adam Routh.

"Right from the beginning we took it out live, we ➤

THE ULTIMATE STUDIO ACCESSORY?

CREATIVE RECORDING III

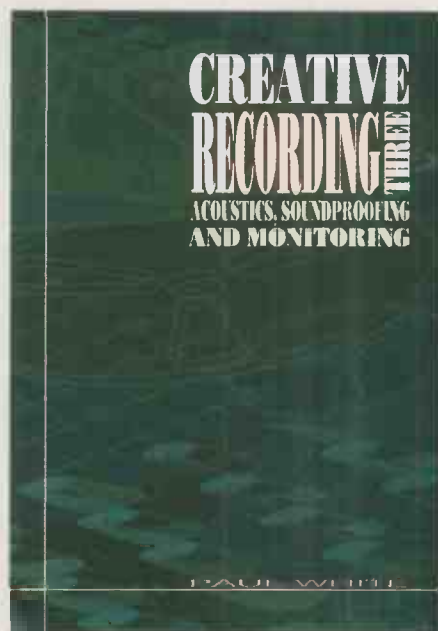
Acoustics, Soundproofing and Monitoring

This, the third volume in the Creative Recording Series, approaches the usually complex subjects of soundproofing and acoustic treatment in a down-to-earth way making it the ideal starting point for DIY studio construction. In non-technical English, it explains how sound escapes from, or leaks into, recording studios and offers remedies ranging from simple wall treatments to details of how to build your own room-within-a-room studio. Weak areas are identified with specific sections covering doors, windows and ceilings. Acoustics is often regarded as a black art, but again, creating a good listening environment is well within the scope of the DIY studio owner. Different approaches are explored with several practical techniques for improving your listening room, regardless of your

space or budget limitations. Finally, the thorny subject of monitoring is demystified: What size monitors should you use in a given room size? How big an amplifier do you need to drive them? Should they be active or passive? How and where should they be mounted? Again, all these questions are answered in easy-to-understand English.

If you haven't yet bought Creative Recording I and II, you may like to know that volume I looks at the applications of studio effects units and processors while volume II shows you how to mic up just about any instrument or voice you might encounter including the normally tricky drum kit.

For less than the cost of a reel of tape, each volume of Creative



Recording passes on a wealth of invaluable recording experience that could take years to accumulate by any other means.

Each volume of Creative Recording costs just £9.95 plus £1.50 p&p. Order any two books and we'll reduce the price to just £21 inclusive of p&p or buy all three for only £30 inclusive of p&p. Creative Recording is one of the best studio investments you can make, so order yours now and get serious about your recordings. Complete and return the coupon below along with your cheque or postal order, or order by phone using your Visa or Access credit card on 0353 665577 - ask for credit card orders.

Please send me copies of CREATIVE RECORDING

Please send me copies of CREATIVE RECORDING TWO

Please send me copies of CREATIVE RECORDING THREE

at the above price, I enclose cheque/postal order for £..... made payable to Music Maker Publications. Or please debit my Access/Visa account, card number ____ / ____ / ____ / ____

Name.....

Address.....

.....

.....Postcode.....

Please allow 28 days for delivery.

**Send to: Music Maker Publications, Alexander House,
Forehill, Ely, Cambridgeshire, CB7 4AF.**

**"There's a
certain feel if
you use drum
machines and
program on
them that you
don't get if you
program
everything on
the computer."**

➤ did gigs and everything - which was a real nuisance for him", Matthewman recalls as we sit in the offices of his record label. "I'd got my trumpet and he'd got all this equipment. I don't think many people realised that it was live. It was fun, we did it, but as far as doing it all the time, it was just too much hassle getting everything to work. At that time the technology wasn't reliable enough. For instance, if we did three songs, the sample memory wasn't there to have enough stuff, so we'd have to stop and load in more songs. With the technology now, it's easy."

Matthewman continued on his own, initially playing live trumpet over other people's records in the clubs but later progressing to playing over acetates of his own tracks which he'd give to the DJs to play. Far from being a fad, it's become an essential part of the way he works.

"I really enjoy live playing. For me that's the best thing", he says. "It's all very well being in your front room mixing something, but if you're playing in front of a crowd of people and they like it, that's a whole lot better."

"Recently I've been mixing stuff specially for live work. If you're doing something live and people are actually turning around and looking at what you're doing, the arrangement has to be more focussed for what you're doing, in order to get things across. So I'll mix a backing track during the day, and I've got a friend who'll cut an acetate, and I'll take it out the same night. That's the closest I can get to playing live without lugging all the machines out. I have thought about bringing stuff out but I'm not really convinced that it's worth it, because I'm doing something visual with the trumpet - if something visual is required - and the majority of people at a club aren't that interested in seeing little drum machines."

"Besides, part of the process for me is cutting acetates. Each time I've done a PA, I've cut an acetate, and apart from hearing my mix I can hear how well it gets cut. I learn about cutting records, what it involves, how much level you can put on an acetate - all that sort of thing. Part of the help that I had in recording the album was getting a perspective on mixing from doing acetates of some of the tracks. I've been mixing on NS10s, and you just can't hear low frequencies on them. A DJ friend of mine, Colin Faver, tried out some of the tracks on the big systems. When you hear your tracks mixed with other records and suddenly there's masses of bass or there's no bass, or there's no snare or mid-range in them, you can go back to your studio knowing that you've got to bring the mid-range up more. Stuff like that."

Matthewman has developed a much less formal approach to live playing than that required in traditional gigs. Instead of playing in front of the audience, he's just as likely to be playing *in* it.

"I've got a radio mic attached to my trumpet. I'll check out the sound with the DJ and then I'll go right in the crowd and stand next to people who are dancing", he explains. "To see people's faces when they hear a bit of trumpet on this track that they know, and they're thinking 'That's not usually there', and then they look at me playing. . . Nine times out of ten they have to stick their ear right in front of the trumpet so

that they can really believe I'm doing it. It works, doing that sort of thing."

"Later on, when I've done that a bit, I'll go somewhere a bit more focussed and play a bit there. After that I'll get the hell out and let them get back to dancing, 'cos they tend to stop and listen when I'm up on stage. I've tried not going up on stage at all but if the promoter of the club has asked me to come and play, they're so used to seeing somebody going on stage and doing it, that I've found it's best if I do a bit of both."

So what sort of records does Matthewman find best for playing over?

"Most of the things that have really worked, I haven't got a clue what they were", he replies. "There's a few tracks that I'll know, but I actually prefer not knowing what they are, because it's a lot more fun that way. Sometimes it just seems to click. 'Cos it's not the sort of thing you do all night."

"With the rave stuff, there's so little of it that's got chords or anything melodic or atmospheric. Whenever there's something that sounds like it's got room in it, I'll come in and play over that open space. The best tracks recently have been the ones where there's a break and the drums drop out; there's a few of those around, where they just have some atmospheric sound coming in."

So could Matthewman elaborate on his approach to playing over records? Is it the more traditional concept of soloing over something, or is it more a concept of adding something to the arrangement?

"Well, there's different ways", he replies. "Some of the best times it's worked is where you've got a track that's got, say, a two-bar rhythmic pattern to it, and you'll get a rimshot playing for the first bar and then dropping out for the second bar, and I'll play something melodic that will have the same rhythm as the rimshot. Then people can relate through the rhythm to what I'm doing. Also, if it's a good snare pattern I'll figure out the pattern and then work out a tune that fits with it, or maybe just pick out the accents in the pattern and fit a tune to them. I'll use that until I get bored with it! Then hopefully there'll be a break where I can play something a bit more flowing, so you get a contrast between the rhythmic and the melodic."

Despite his professed reluctance to use technology live on stage, Matthewman's urge to bring together his trumpet playing and his MIDI instruments could get the better of him. He's been working at home with a Roland CP40 pitch-to-MIDI Converter, and is well pleased with it.

"It actually responds pretty fast", he comments. "It's only a little thing, I think it cost about 120 quid; I couldn't believe it was so cheap. The trouble is that the spillage on the mic live sets off the tracker, so I've got to find a way of really gating it down so that it only opens up when I'm playing."

"Another problem with using it live is that, if I'm tuning to a track, it's only got a tolerance of maybe about two percent either way, so I'll probably only be able to use it on my own tracks. You can put it on complete freedom mode, where whatever pitch it is it pitchbends to it, something like that, but it slows the tracking down too much. But that's something I really

hope to try out, 'cos I think it would freak people out if they saw me playing trumpet and it sounded like a piano or a violin!"

Talking about tuning, it must be something of a problem for Matthewman in a situation where records are varispeeded on Technics SL1200s to sync the bpm's or simply to bump up the tempo.

"Yeah, a lot of the time it's impossible to get the tuning right", he confirms. "With the trumpet you can tune quite a long way, but the harmonics will go out if you tune too far. It just sounds nightmarish; that's another thing that restricts when I can play. With my acetates, on the label all it's got written is '+1%', which the DJ seems to relate to. You've got about a tone difference on the 1200, so if he puts it on +8 it's like 'Oh no, I can't play it all a semitone or a tone up, it's in some awful key'."

It would make sense for Matthewman to bypass the problems of trumpet tuning and play through pitch-to-MIDI converters with something like a Yamaha WX7 or an Akai EVI MIDI wind controller. It turns out he already has a WX7.

"I did use it once live", he reveals, "but people couldn't really relate to it. It was like 'What's that liquorice stick?', whereas it seems with the trumpet they can relate to it a bit more. I did use it once for triggering loops, 'cos it's got a key hold function on it, you can play one note and then hold it. So I had a loop going on the key hold, and then played over the top of the loop. People stared at me as if I was mad!"

Did the WX7 get used much on the album?

"I think I used it for a little vibes solo or something like that, but not much", he replies.

So has he gone as far as he's going to go with it?

"I hope to use it more; it's sitting ready on input three of Unitor", he replies. "But the problem with it for me is that trumpet embouchure is quite a delicate thing, and you've really got to practise every day to keep your tone and co-ordination together. Whenever I play the WX7 it seems to affect my lip, so for a couple of days after I've played it, it affects my sound on the trumpet.

"That's the main reason I haven't really gone into practising it and using it a lot. But I should do. I started off on recorder, and the fingering's identical. Runs are a lot easier on it than they are on the trumpet - and for octave leaps, you've got seven octaves at your thumb!

"The best thing for me when I use the WX7 is the fact that you have to breathe. It makes the line that you're playing sound more natural. If you're playing on the keyboard you can just keep going and going, whereas if you're doing a trumpet or a sax solo with the WX7 you actually have to stop for breath - unless you're doing circular breathing, of course - and it makes the solo sound natural, 'cos people are so used to hearing trumpet and sax parts with gaps in them. It's pretty good for playing rhythmic parts as well, again because of the breathing thing. I really should use it more."

FOR SOMEONE WHO HAS INVOLVED HIMSELF with the very music and technology which is still anathema to a lot of traditional players, Matthewman

has a very traditional musical background. He started playing the trumpet when he was ten, and as a teenager progressed to playing in brass bands and big bands in his native Hull.

"There was a different band every night of the week that you could join", he recalls. "I enjoyed the jazz big band the most. The band leader would bring in all the new arrangements - like Maynard Ferguson was one of the big band people at the time - and we played these arrangements. Or tried to."

Even brass bands contributed to his experience. . .

"I wasn't fond of going 'oom-cha oom-cha oom-cha'", Matthewman replies, "But it was really good for sight-reading and the discipline of it. But I knew that sort of thing wasn't for me."

When it comes to timing, playing in a brass band isn't so far removed from using sequencers: "In a brass band they're aiming for a perfect, tight sound. Before sequencers were thought of, if it was a good band it had a tight sound, almost like a quantised sort of thing. They're very up on the demisemiquavers and all that business - but with a feel, like you have on sequencers now, where you design your own feel and get a tightness around that feel. Music's always been striving for that."

So has Matthewman always been a professional musician?

"I've never had a 'proper' job, as my uncle would call it - 'Get yourself a proper job, lad!'", he muses. "So yeah, professionally means you get paid for it, I suppose, so ever since I left school, really."

In the early '80s he landed himself a job playing on a cruise-liner in the Caribbean for two consecutive winters - a move which was to prove very important for his future musical direction.

"I was in a place where the radio was really good: Puerto Rico", he recalls. "They'd just got into doing mixing and I'd go to clubs and watch the DJs doing edits and all that sort of thing - which nobody was doing in London at that time. Not to my knowledge, anyway. So I just started getting into it, and I'd spend all my time doing little tape edits, trying to be as good as these DJs in Puerto Rico, and the guys on the radio. They were mad for electro, 'cos the Latin-influenced electro like the Shannon stuff was massive, they loved it. All the young people had these low-ride cars with massive sound systems in them. It was crazy but I loved it!"

When someone onboard the ship suggested that Matthewman should try playing his trumpet over the mixes he'd been editing together, he laughed - but the germ of an idea had been sown in his mind.

Through his brother Stuart, who played sax and guitar in the group Sade, he got the call to play trumpet on their debut album *Diamond Life* ('84). The following year he became part of the horn section for the group's first UK and world tour. It was during this time that he began to get interested in recording his own music. Subsequently he started working on some tracks ("but very vaguely"). It was a visit to the legendary Paradise Garage club in New York in early '87 which clarified his musical direction for him.

"I know the Garage is known for its soulful vocals", he says, "but the night I went it was all the electronic

"In a brass band they're aiming for a perfect, tight sound. . . if it was a good band it had a tight sound, almost like a quantised sort of thing."



EQUIPMENT LIST

RECORDING

Alesis Quadraverb Multi Effects Processor
 ART EXT Multi Effects Processor
 Atari 1040ST Computer
 BSS Compressor
 C-Lab Notator Sequencing Software
 C-Lab Unitron SMPTE Sync Box
 Korg SDD2000 Digital Delay
 Soundcraft 200B Mixing Desk
 Tascam TSR8 Eight-track Tape Machine
 Yamaha NS10M Monitors

INSTRUMENTS

Akai S1000 Sampler w/18Mb RAM
 Alesis HR16B Drum Machine
 Casio CZ101 Synth
 Korg M1R Expander
 Oberheim DX Drum Machine
 Oberheim Matrix 1000 Expander
 Roland CP40 Pitch-to-MIDI Converter
 Roland R8 Human Rhythm Composer
 Roland TR707 Drum Machine
 Roland TR727 Drum Machine
 Roland TR808 Drum Machine w/Groove MIDI retrofit
 Roland TR909 Drum Machine
 Roland S330 Sampler
 Yamaha DX100 Synth
 Yamaha DX11 Synth
 Yamaha WX7 MIDI Wind Controller

➤ stuff, hardly any vocals - it must have been B-sides of house tracks. It all sounded so different to me. But it just made me think 'I'm doing the right thing here, this is sounding like what I was hearing before I heard it!'"

Sort of a justification, then. Later in the year Blow started up, and we're back to where we picked it up.

MATTHEWMAN'S FIRST HI-TECH PURCHASE was a Korg SDD2000 sampling digital delay, which he still uses today ("It's really noisy, but it's got character to it"). The SDD2000 was followed by a Roland S330 sampler and a Yamaha DX100 synth.

"The DX100 was my master keyboard", he recalls with amusement. "But 'cos its keyboard wasn't velocity sensitive, if I wanted any velocity values other than 64 in a sequence I had to write them to individual notes in the sequencer. People thought it was very funny when I turned up at a studio with this little keyboard under my arm."

"I think the next thing I got was a CZ101. It was all toy keyboards at first, until I got the majestic M1R. My studio's been built up gradually. I've done a gig playing trumpet, and with the money I've got from doing that I've gone out and bought another bit of gear."

Nowadays his main keyboard is a Yamaha DX11.

"It's not particularly happening", he admits. "If a really good keyboard player saw it he'd probably say 'See ya, mate' and walk out! But I quite like it, actually, although it's a bit noisy. For bass sounds I usually mix the DX11 and the S330 together, 'cos whereas the 330's like a punchy bass you get the ringing or the sustaining warmth of the bass from the DX11."

Far from lying around forgotten in this age of Notators and S1000s, Matthewman's collection of drum machines old and (relatively) new sees regular use. For him, it's the feel factor which makes the original machines unique.

"There's a certain feel if you use drum machines and program on them that you don't get if you program everything on the computer", he opines. "What I do quite a lot of the time is sync up the drum machines to the computer and then program on the individual machines; that way they'll be doing their own thing and also making life easier for the computer. The only drum machine I'll sequence from Notator is the HR16B, because it's so tight over MIDI."

Along with the HR16B ("very good for top-end things like cabasas and hi-hats") and an Oberheim DX, Matthewman's collection of drum machines includes a strong complement of Rolands: TR808 (Groove MIDI-retrofitted), 909, 707, 727 and R8.

"I had to get the full Roland set", he insists with a grin. "There's an appeal to doing it. A lot of people just have to have them all."

But for Matthewman there's more to wanting the original machines than a severe case of technolust.

"Anybody can get TR909 samples now, but the *feel* of the 909, the groove that's on it, you can only get that by programming the actual drum machine", he insists. "The same with the 808 - it's got an atmosphere and a groove all its own. I'd say it's worth spending the money to get the original machines."

"If you really zero in on what the drum machines

do, the 707 seems to push the beat and make it bright and poppy somehow, while the 909 makes it dirty. I think the 909 as it clocks to MIDI sync is slightly late, and the 707's slightly ahead of the beat, and the 808 is slightly ahead but it's got certain drums that are behind, which makes it even weirder. It's all very subtle, but each machine's got its own character. There's different sounds on each drum machine that really complement each other, so, if you pick the right sounds on all the drum machines, they really make sense when you use them together."

Matthewman professes that he'd like to achieve a kind of fluidity in the feel of the music which he finds hard to get with the click track of the sequencer controlling everything.

"Some of the tracks I like best - like Marvin Gaye tracks - you get this great groove happening, but it kind of moves around the tempo, though in a really natural way, and everyone follows that fluctuation", he points out. "It's not a wrong thing, it's just part of the feel, to be able to build it up again, that sort of thing - which you lose if you play to a click track."

The album tracks are, as mentioned earlier, a combination of live parts played to multitrack tape (trumpet, saxophone and guitar) and sequenced parts (drum machines, synths and sample loops). That the two are smoothly blended rather than set off against one another is partly because Matthewman has sampled off the multitrack in order to give some of the live playing an insistent looped feel.

"My brother would have one track of guitar fills but he'd also do a rhythm track. Going through it I'd find parts that sounded really tight and funky, sample those and then bring them up as a loop", he recalls. "Then it's a lot easier arrangement-wise. I'll take two or three similar guitar samples and once you think it's a loop I'll feed in another sample that's similar, it just sounds like it's playing slightly differently. I've done that quite a lot."

With the album taking so long to come out, Matthewman's experiments with his acetates have been, as he puts it, keeping him sane. But is there a danger that he'll find himself wanting to rework the album before it even comes out?

"I really want the album to be as it is for a time without remixing things too much", Matthewman states. "But while I was in New York recently there was a DJ there who had got hold of a copy of the album, and he was playing 'Jazz '91' in amongst all these hip hop tracks, and it worked, it sounded fine and it kept the floor. So I've got ideas for remixing that, just from hearing it that time. It really makes a difference hearing it in a club, 'cos then you know what it needs."

Finally, being so into live playing, has he considered going out with a live band once the album's out?

"If people are buying the record and they really like certain tracks, then it warrants going out with a band, otherwise it's kind of a false move", comes the reply. "But yeah, that would be so good. That's what it's all about - playing with other musicians, the dynamics that you get from musicians reacting to one another. I think songs come to life when you get people interpreting the basics that are there on the album. Playing live just inspires you a lot more."

**SEND
NOW
FOR
YOUR
FREE
T-SHIRT!**



Simply by
subscribing to
**Music
Technology**
magazine, you
will receive
a free t-shirt
with your
first issue!

Please send me my **FREE T-shirt**

size L ☐ XL ☐

Tick relevant Box

Subscribe **TODAY!**

I wish to subscribe to Music Technology Magazine, to receive 12 issues of the magazine and to automatically become eligible for any offers from the Music Maker Subscriptions Club.

To start off, how about a binder to keep your 12 issues in perfect condition, for only £2.25.

Normal cost £4.50. To take advantage of this offer now, please tick box ☐.

UK £20.00, Europe and Overseas surface £25, Europe Airmail £35, Overseas Airmail £45.

Please send me the next 12 issues of MT commencing

with the issue.

I enclose Cheque/Postal Orders to the value of

£..... made payable to Music Technology Publications Ltd.

For payment by credit card or for further details telephone: 0898 100703 *Calls cost 36p per minute cheap rate and 48p at other times.*

PLEASE PRINT

Name

Address.....

.....

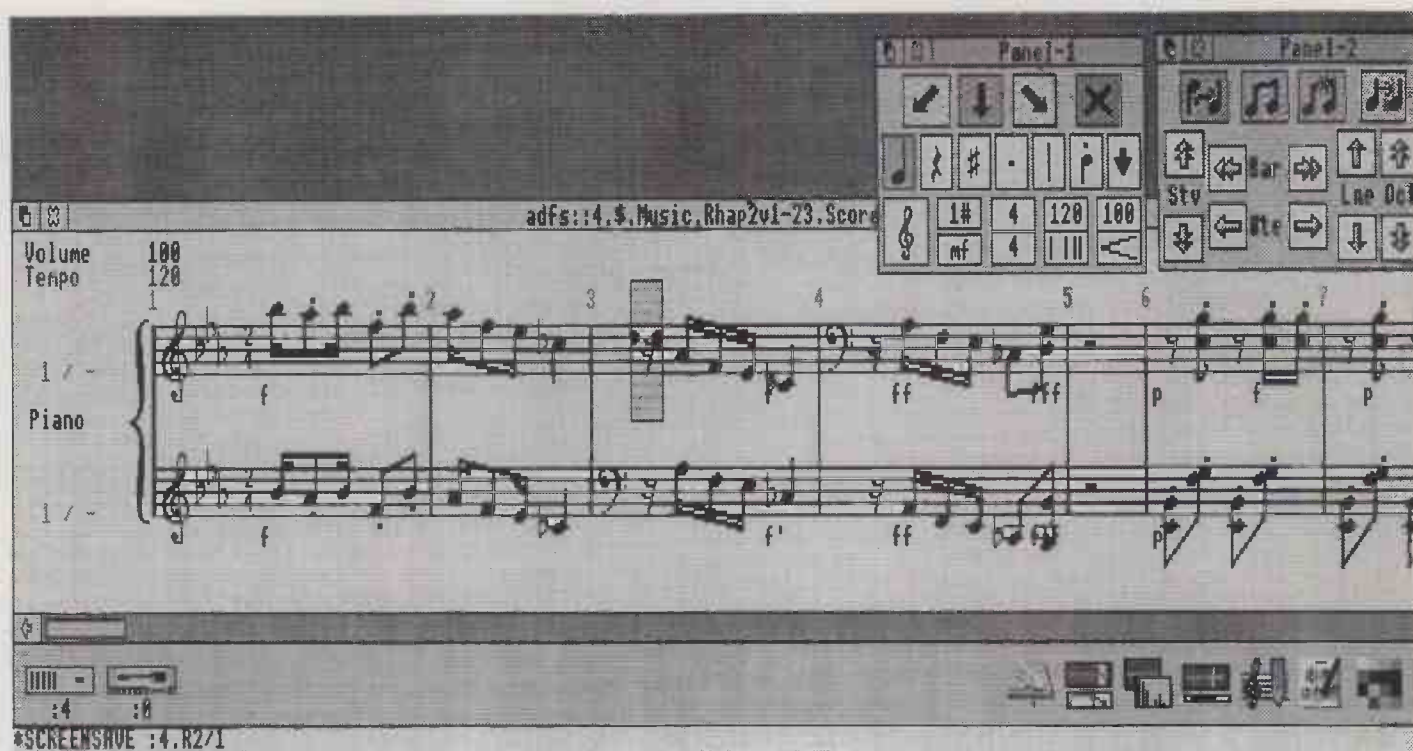
.....

.....Post code*.....

* it is essential that you include your correct postcode.

Send to: Mail Order Department, MT, Alexander House, Forehill, Ely, Cambs CB7 4AF.

RHAPSODY II



Although it has the credentials of an excellent music computer, the Archimedes is suffering from lack of software support. Can Clare's notation and voicing programs turn the tide? Review by Ian Waugh.

ACORN SPENT SEVERAL years and not an inconsiderable amount of cash promoting the Archimedes computer as a music machine. But music programs for the Archies have been rather thin on the ground and even Pandora's Inspiration (reviewed MT August '91) which took almost three years to write isn't all it could or should be.

The shame of it is that the Archimedes, particularly the new A5000, is an excellent piece of equipment, well suited to music - and virtually all other computer applications. However in the commercial world, software developers like some assurance that anything they develop will sell. Unfortunately, the Archimedes is running so far behind the Atari ST, Commodore Amiga and PC (and possibly the

Spectrum and Commodore 64) that most developers (apart from the ubiquitous EMR) consider it a non-starter.

But about a year ago, Clares lauched Rhapsody. This was followed a few months ago by Rhapsody II and, more recently, by two utility/accessory programs. All at budget prices, too. Music on the Archie could be looking up.

PROGRAM OF NOTE

RHAPSODY ISN'T A sequencer in the normally-accepted sense of the word. Rather, it describes itself as a music notation program. Notes are entered on the staff in traditional music notation using the mouse, although you can record from a MIDI keyboard. You can print out the score and play the

piece using the Archie's built-in sounds or via MIDI.

Rhapsody (review v1.23) will run on with 1Meg of RAM and runs under RISC-OS. It's not copy protected (high marks to Clares) and can easily be installed on a hard disk. If you want to use it with MIDI instruments, you'll need a MIDI interface - Acorn's interface costs around £75.

A single score can hold 24 staves and up to five scores can be held in memory, which allows you to transfer parts from one score to another. The staves can be joined in piano or orchestral format and each staff supports two voices, which should suffice for virtually all popular music and most classical music.

PANEL BEATING

MOST OPTIONS ARE accessed from a main menu which is called up in normal Archie fashion by clicking the middle (menu) mouse button over the score. One option is to Show Panels. These two Panels are the hub of the program's operation.

Panel 1 contains notes and symbols which are selected by clicking on icons to cycle through the symbols until the one you want appears. There are icons for notes, rests, accidentals, duration modifiers (dots, ties and triplets), bar lines, accents and ornaments (more about these in a mo) and text and miscellaneous functions.

Rhapsody I employed a rectangular cursor for placing notes and symbols on the staff. This moves under control of the mouse or the icons in Panel 2. Having positioned it, you enter a note by clicking on "left of", "right of" or "on cursor" icons in Panel 1. It's not quite as awkward as it sounds but it can be rather time-consuming. Note durations and symbols can be selected with function keys (a function key overlay is supplied). Rhapsody II also lets you drag notes onto the staff, which is far quicker. This is one of II's major updates which will be welcomed by Rhapsody I users. However, if all the symbols were on show for selection with one mouse click, it would be faster still.

One of my major disappointments is that the program doesn't align notes across the staves. It has a fair old bash at it but it's quite possible to insert, say, several quarter notes on one staff in the same "space" as one half note on another. Bar lines have to be inserted manually, too. This is exactly the sort of area in which music software could and should help.

COMPOSE YOURSELF

STAVES CAN BE added to the score as you go, although if you're well organised you can lay them out and set them up before you begin. Each staff has a number of attributes which are set up from an Assign Staff Data menu. These include a MIDI channel to transmit on, a MIDI Program Change number, a transpose interval and internal Archie sound, stereo position and volume. The staves can be named (ten characters) and the spacing between them adjusted.

You can also assign a number of sound channels to the staff. This is for use with the Archie's voices

as it can only simultaneously play eight. There's no such problem via MIDI, of course.

Rhapsody II supports multiple MIDI Outs - if your MIDI interface has them - and you can insert a program change at any point in the music. It's worth noting that it doesn't support MIDI bank change messages (which have been around now for well over a year) which many new synths and expanders use. There's also a MIDI Thru function, which is useful if you're using a synth and expander.

Music can be entered from a MIDI keyboard using real-time Capture mode. Truth to tell, it's not particularly sophisticated (the manual admits as much) and if you're over-ambitious you may lose notes. It helps if you record slowly, too.

Rhapsody II can transmit the metronome tick via MIDI, and the Transcribe window, which converts your recording into notation, has triplet quantise settings. You can also record in step time, selecting note durations from the Panel or with the function keys. Triplets and chords are supported although velocity data is not recorded. While not being particularly sophisticated, these do offer alternative methods of putting notes into the program.

Volume changes can be inserted (using *pp* and *ff* marks), as can tempo changes, including programmable accelerandos and ritardandos, although these are shown numerically rather than graphically as hairpin signs.

Editing functions include the use of markers to copy, clear, delete and transpose sections of the score. You can swap the direction of note stems, make and break beams and adjust the spacing between notes. Sections of music can be merged, too.

Most operations can be performed while the music is playing, although sometimes operation may be a little slow. It's interesting to know that the program was developed using Silicon Vision's RiscBASIC.

ORNAMENTS

ONE NOVEL FEATURE of Rhapsody is the ability to create your own ornaments. You'll find these under the Trill Definitions menu called from the Accents icon in Panel 1. There are six definable ornaments (the symbols are selected and placed from the Accents icon), each with four stages of "development". These include the starting note, the "shake" below the main note and the trill itself followed by the "turn". You can also set the speed of the trill. Fascinating stuff - although of more relevance to classical music than pop or rock. These ornaments play via MIDI, too, which is reminiscent of pseudo (MIDI) events found in more upmarket programs (principally on the ST).

While not wishing to detract from an excellent idea, the scope of the definitions won't allow you to construct all classical ornaments, which may vary in interpretation depending on the tempo of the music and their position in relation to other notes. And if it's classical scores you're interested in, it's worth noting that Rhapsody can't produce phrase marks, which are an essential part of most classical music. However, ScoreDraw can (coming up).

"Most operations can be performed while the music is playing, although sometimes operation may be a little slow."

"Rhapsody's ornaments play via MIDI, too, which is reminiscent of pseudo (MIDI) events found in more upmarket programs."

➤ You can also define the length of staccato and marcato symbols and these, too, will be interpreted over MIDI.

You can insert text anywhere in the score, although only 13 characters at a time. Text isn't tied to any notes so for lyric entry you have to do the positioning yourself. Not Ideal.

PRINTING

ONE OF RHAPSODY'S main purposes in life is to print scores (Cambridge United 4 Liverpool 0). This requires a printer driver which is compatible with your printer. First stop will be the drivers supplied with your Archimedes (on the Applications disk) although the program should work with any driver.

Score format settings in Rhapsody II are stored as part of the file. You can set margins and alter the spacing between the staves, there are seven sizes of print and you can select portrait or landscape orientations. Before printing, the score appears in preview mode where you can add or insert bars to adjust the layout.

The only problem I discovered was that the program doesn't like to play music while you're messing about with its formatting (would you?), and it quit on me (wouldn't you?).

Rhapsody II's printout window gives more information than Rhapsody I and offers multiple copies. The sprites have been redefined using Mode 19 for higher printout resolution, although they are still bitmapped images. Another problem is the misplacement of some symbols. Beams may overlap the stems they join and some ornaments overlap the stems instead of sitting above them.

Printing takes time: lots of it. The program's not clever enough to recognise blank lines and each line

takes the same amount of time to print whether there's anything there to print or not. For example, one page on an Epson FX printer using a hi-res printer driver took 18 minutes. Multiply this by a score with ten or more pages and we're talking an afternoon printing. Time to get drunk and sober up, too.

Also, printing takes over the computer so you can't print and work on another score at the same time. I've yet to investigate use with a printer buffer.

FILE COMPATIBILITY

ARCHIE USERS WILL have realised that Rhapsody has certain similarities with Maestro, the music application which comes free with RISC-OS, even though Rhapsody is more powerful. However, the programmer has maintained file compatibility so you can load Maestro files into Rhapsody, making it an ideal upgrade if you want more power and flexibility.

Rhapsody also supports MIDI File format, which will stand it in good stead for compatibility with existing and future music programs.

The disk includes 20 demo files; there are excellent examples of Rhapsody at work, although I hesitate to think how long some of them took to construct. Well, scorewriting can be a pretty time-consuming business. They include 'Apres Une Reve' by Faure, 'Vocalise' by Rachmaninoff, Debussy's 'Golliwog's Cakewalk', Scott Joplin's 'The Entertainer', 'Fame' and several pieces by Bach and Grieg.

RHAPSODY UTILITIES

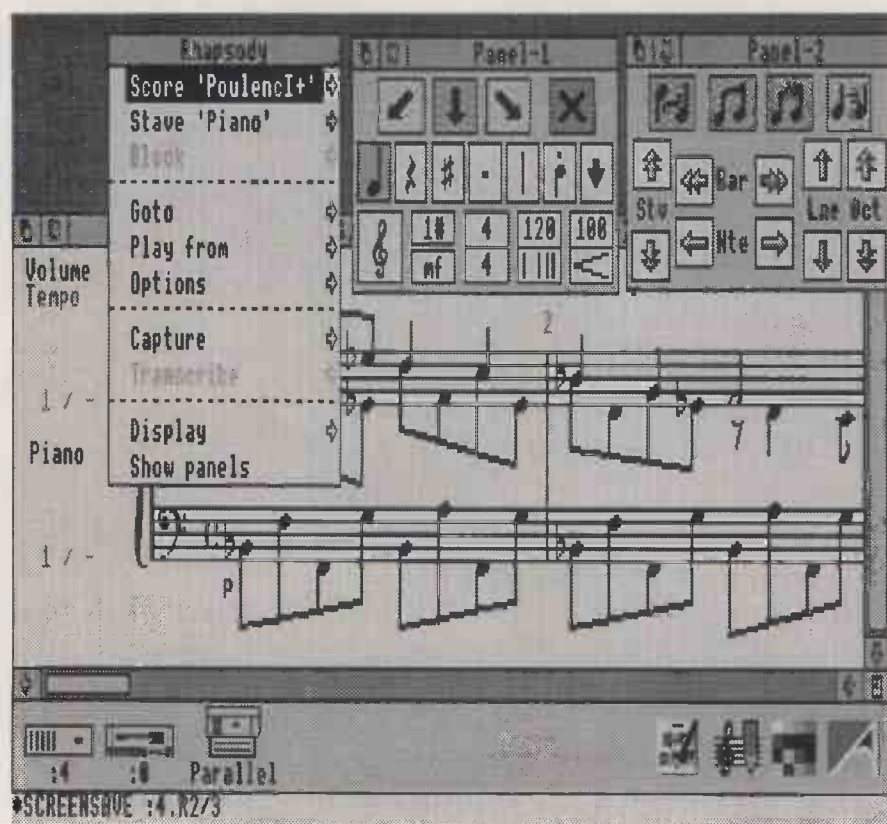
SCOREDRAW IS A separate program designed to improve Rhapsody's printing. It converts the score into Draw images, giving greater control over the layout and improving the print resolution enormously. It interfaces with Rhapsody beautifully. Instead of accessing the normal Format menu you access the ScoreDraw menu which formats the score in Draw format.

It has several additional options which let you change margins, page size, scale and orientation. There's a zoom facility and you can decide whether the title and stave names are printed on each page or just the first one. You can select fonts for text, the title and dynamic markings. One oddity: some of the lines in the staves appear double width on screen. Peculiar, although they print correctly.

You can save the entire score or just the current page and load it into Draw. This isn't completely automatic, although the manual suggests which scales and grid sizes to use to facilitate editing. Also, some scores saved from ScoreDraw wouldn't load into Draw. Again, most peculiar.

In Draw, you can edit the notes and symbols, add phrase marks and so on. The positioning of some symbols is improved and the beams appear correctly but you'll still have to do some manual editing. Several music symbols, such as hairpins and phrase marks, are supplied in Draw format so you can drag them into your score and place them.

Screen redraws are slow (as they can be in Draw),



as is printing. However, the quality of the output is superb.

Voxbox is another Rhapsody utility which actually consists of four programs - VoxBeat, VoxSample, VoxSynth and Perform.

The Vox programs are concerned with sample creation and organisation and share many features. For example, you can play them from the Archie's keyboard or via MIDI, even during editing. Over 40 samples are provided and the programs can handle the three most common Archimedes sample formats.

VoxBeat was designed to create samples for a drum kit. You can assign different samples to each note in an octave, although you can only play back one at a time. You can use up to seven VoxBeat modules at the same time, too. You can edit samples in the VoxBeat window and a useful Fade Out function lets a truncated sample play out naturally.

VoxSample creates samples based on the Sample + Synthesis principle although in this case both sections are samples. Basically, it uses the attack portion of a sample for the initial transient (this has the most effect on our perception of the sound) and then you select a section for looping.

The theory is that you shouldn't need a sample more than half a second long. In practice, a little trial and error is required to find a good looping point (the computer should help here but doesn't).

You can shape the sample with pitch and amplitude envelopes. The envelopes only have two stages but each stage can have six nodes which can be adjusted by clicking and dragging.

VoxSynth is the most complex of the programs but also the most fascinating. You can create waveforms by drawing them by hand and specifying the amplitudes of their harmonics. Drawing by hand is of limited use as many older programs of a similar ilk have proven, but the ability to create waveforms from harmonics (additive synthesis) is both practical and educational.

A single voice can be made up from two waveforms and you can use an "inbetweening" process to transform one into the other over a specified time period. Fascinating stuff indeed. I'd have liked to have seen both waveforms side by side; as it is you have to toggle between them. A real-time display of the waveform during interpolation would have been useful, but perhaps that's asking too much.

Additional parameters facilitate modulation of one waveform by another - a primitive form of FM but interesting. You can drag a sample into VoxSynth and it will analyse it and display its harmonic structure.

Apart from its educational value (I can see this being very popular in the classroom), an eight-voice VoxSynth module is only 5K in size.

Perform is a stand-alone program which will play Rhapsody and MIDI files and samples. To insert a file into the running order you simply drag it into one of the 12 slots. The program doesn't load the actual files (which means the performance file you save is quite short), rather it remembers the pathnames.

It can load other Performance files so one can call another and it will *Run other files so you can load a particular set of sound modules before loading a

music file. It also has a small tape transport control window which lets you move through the performance list.

VERDICT

RHAPSODY I HIT the streets at £49.95, which was a veritable bargain. The price hike to Rhapsody II still makes it an excellent buy, although it would have been commendable had existing users been rewarded for their loyalty by being allowed to upgrade for the price difference. Existing Rhapsody owners should return their program disk only with the upgrade fee. Rhapsody II simply consists of a disk and a 20-page Addendum. New users, therefore, have two manuals to contend with.

Rhapsody originally made much of its notation and score-printing facilities and some may be disappointed when they realise they have to fork out as much again for ScoreDraw in order to produce quality scores - and then you still have to adjust symbols and contend with the odd quirk. The total price for quality printouts is not quite budget.

However, for those who need it, ScoreDraw will certainly produce quality output. For those who don't, Rhapsody scores are reasonable. The Draw file format is the standard for line art graphics on the Archimedes and scores can be imported into DTP programs. Who'll be first to produce their own music book?

If you use Rhapsody with the Archie's internal sounds rather than MIDI and enjoy messing around with samples, then VoxBox is for you. The programs could have been a touch more friendly and some worked examples would have helped newcomers get into the programs more quickly, but they are essentially straightforward.

It's a shame there isn't a public domain run-time version of Perform so you could pass your music onto other Archie-owners. Perhaps it will come, or perhaps some enterprising programmer will write a similar utility.

There's no getting around the fact that even at its new price, Rhapsody is a cheap notation program for any computer. The discerning user, however, will notice that Rhapsody lacks the bells and whistles of more dedicated scorewriters.

While it may not quite cut the mustard for professional users, if you like working with the dots, fancy something more powerful than Maestro or want a budget program with MIDI capabilities, then Rhapsody fits the bill. I can see it having great appeal in education, where Archies are beginning to take over from the BBC micro.

If you're already using Rhapsody then I can certainly recommend the upgrade. If you want something more sophisticated than Maestro, then Rhapsody is the only thing between it and a full-blown MIDI system. ■

Prices Rhapsody II, £61.95; Upgrade from Rhapsody I, £15.50; ScoreDraw, £61.95; Vox Box, £61.95. All prices include VAT.

More from Clares Micro Supplies, 98 Middlewich Road, Rudheath, Northwich, Cheshire CW9 7DA. Tel: (0606) 48511.

"There's no getting around the fact that even at its new price, Rhapsody is a cheap notation program for any computer."



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

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 pick up the phone and dial (0898) 100767. At the other end of the line, you'll be able to select a category in which to place your ad and let us know exactly what it is you're selling or seeking.

The service operates 24 hours a day, so there's no need to hunt for stamps, envelopes or Birs. Pick up the phone and we'll do the rest. 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.

Calls cost 36p per minute cheap rate and 48p per minute at all other times

KEYBOARDS

ANALOGUE CLEAROUT: ARP, EMS, Moog, Oberheim, Prophets. Bob, Tel: (0726) 67836/65404.

CASIO CZ101 and editor, £100. Kevin, Tel: 071-381 0046.

CASIO CZ101 synth, £100; Casio MH100 MIDI horn, £35; Steinberg Pro12 sequencer s/w, £30. Paul, Tel: (0609) 770090.

CASIO CZ5000, boxed, with manual, home use only, many extra sounds, sound cartridge, Cheetah cassette sound transfer, £300. Neil, Tel: (0937) 530414.

CASIO HZ600 home synth, not brilliant, but I wouldn't mind £100 for it. Mark, Tel: (0964) 622638, after 5.30pm weekdays.

CHEETAH 7P, 88-note weighted master keybd, boxed, as new, £400 ono. Tel: (0892) 517923.

CHEETAH MK7VA mother keybd, £200; Yamaha EMT10 expander, £150. Tel: Eggham (0784) 439834.

CHEETAH MS6 multitimbral analogue module, £190; Roland SH101, £100. Tel: 021-358 7612.

ELKA MK55 MIDI master keybd, touch sens, aftertouch, synth weighted action, programmable, ROM cartridge, easy to use, home use only (can be used for live performance), cost over £600 new, accept £325, no offers. Tel: 071-511 1120, 24 hrs answerphone.

ELKA X50 drawbar organ, like the cult CX5 but better, amazing Hammond sounds, exc rotary and distortion, very trendy, £550. Andy, Tel: (0932) 245298.

ENSONIQ ESQ1, multitimbral analogue/digital matrix modulation synth and sequencer, mega RAM cartridge, lots of great sounds, foot pedal, a mere £450. Dan, Tel: 081-958 7012.

ENSONIQ ESQ1, mint cond, £450

ono. Robert, Tel: 061-368 8969.

ENSONIQ ESQ1, expanded 10,000-note sequencer, EPROM cartridge, hard case, £495 ono; Yamaha PSS790 portable keybd, doubles as exc MIDI voice/drum expander, £145. Ideal combination, but must sell. Tel: East Sussex (0424) 218711.

ENSONIQ ESQ1, manuals, expanded sequencer, exc cond, 3 oscillators per voice, bargain at £400 or swap for Roland TR909 plus £60. Tel: 061-303 1005, eves.

ENSONIQ SQ80, boxed, mint cond, with s/w, £700 ono. Ian, Tel: (0253) 826255.

ENSONIQ SQ80 synth/sequencer, £650; Casio FZ1 sampler, £750; AHB 8-channel mixing desk, £175. Jullan, Tel: (0795) 874836.

ENSONIQ VFX-SD, 3 wks old, immac, boxed, manuals, disks, everything, not wanted, £1100 ono. Marsha, Tel: 071-839 7000 X336, days; 081-303 0965, eves.

EVOLUTION EVS1 synth module, with Atari editor, £160; Roland TR626 drum m/c, £140 or swap both for PA system. Tel: (0420) 82317.

EXCHANGE MY CASIO CZ3000 full-size synth and case for Roland Juno 1 or sell for £225. Des, Tel: Colchester (0206) 34541.

FENDER RHODES electric piano, great sound and touch, perfect cond, only £199. Tel: (0444) 247810.

GODWIN CD200 portable organ for sale, 2 keybds, bass pedals, 2 internal 50W stereo spks, as new, genuine reason for sale, £550 ono. Tel: Great Yarmouth (0493) 604514.

HOME STUDIO CLEAROUT: Roland D50, 6 mths old, £520; Yamaha QX7, £90; Roland TR626, £160;

Yamaha TX81Z, £150. All boxed, with manuals, as new. Mike, Tel: (0702) 711269.

KAWAI K1, immac, home use only, boxed, with manuals, £300 ono. Tel: (0992) 892317.

KAWAI K1R, £195; FB01, £120. Both exc cond. Tel: (0562) 67666.

KAWAI K1R, with 2 cards, plus Roland PC100 controller keybd, both exc cond, with boxes, manuals and leads, £275. Paul, Tel: (0256) 475406.

KAWAI K4, 8-part multitimbral synth, plus EMC K4 editor, plus loads of extra sounds, inc Sound Source, £420 ono. Ricky, Tel: (0475) 30181, eves.

KAWAI K4R synth, £250; Korg P3 piano module, with orchestra pit card, £175; Simmons SDE sound module, £75; Shadow SH075 guitar-to-MIDI pickup, £150. All new, boxed, with manuals. Colin, Tel: 081-878 0512.

KORG 707, 8-voice, multitimbral FM MIDI synth, £350; Yamaha TX81Z synth module, £200. Robert, Tel: 081-541 1050.

KORG M1, with £200-worth of ROM cards, £800. Tel: (0865) 246194.

KORG M1, boxed, immac, £950; Ensoniq EPS sampler and disks, £950. Both 1 yr old, manuals etc, home use only, brilliant instruments. Ian, Tel: Coventry (0203) 395918.

KORG M1, boxed, £850; Yamaha V50, boxed, £700; Yamaha MT3X 4-track, £350; Alesis Quadraverb Plus fx, £325; Kawai MAV8 patchbay, £70; Korg EX800 synth expander, £70. Gary, Tel: (0602) 608731, leave message.

KORG M1, plus 2 Valhala Gold cards, 6 mths old, £750. Debbie, Tel: York (0904) 635452.

KORG POLY800 analogue MIDI

synth, good working order, manual, psu, £95. Dan, Tel: Sheffield (0742) 721741.

KORG T3, 1 yr old, with full semi-f/case, original T3 disks, also disk with all the M1 original sounds, £1300 the lot. Andy, Tel: (0932) 245298.

KORG T3 workstation, exc cond, over 1000 sounds, Valhala Gold disks and cards V101 and 102, manuals, home use only, £1600 ono. Lloyd, Tel: 081-290 1782, eves.

KORG T3 workstation, exc cond, 1000s new sounds, £1350 ono. Steve, Tel: (0429) 222517.

KORG T3, full f/case, plus stand, £1250. Nick, Tel: (0364) 42633.

KORG WAVESTATION, 2 RAM cards, perfect cond. Adam, Tel: Telford (0952) 812034.

KORG WAVESTATION, £850 ono. Phil, Tel: 081-809 0630, anytime.

MOOG POLYMOOG, unworking, any offers pls. Tel: (0424) 220053.

MULTIMOOG, 2 infinitely variable oscillators, sub oscillator, self-resonating filter, aftertouch sensitive, a classic, offers. Chris, Tel: (0273) 675298, eves.

OBBERHEIM MATRIX 1000 sound module, exc analogue sounds, with 100s of extra sounds, mint cond, £300 ono. John, Tel: (0253) 873716.

OLDIES: Roland MKS80, £1149; Jupiter 8, £499; Korg EX8000, £299; Hammond C3, £999. Tel: (0782) 720060.

RHODES MK80 and new f/case, offers around £1100; Alesis MMT8 sequencer, £95. Ian, Tel: 071-237 1737.

ROLAND A80 mother keybd, home use only, immac, f/cased, £995 or will p/x for Roland A50 and £300 cash. Andy, Tel: 051-336 6657,

eves.

ROLAND D5 synth, home use only, exc cond, £375 ono; Casio CZ101, £100 ono. Delvin, Tel: 071-635 8146.

ROLAND D5, touch sensitive, pro synth, £335 ono. Jonathan, Tel: (0425) 73261.

ROLAND D5, £350. Tel: Warwick (0926) 494748.

ROLAND D5, exc cond, £325 ono. Matthew, Tel: 051-625 9594, eves.

ROLAND D10, boxed, manuals, hard case, plus editor and 100s of sounds, £475. Glenn, Tel: Fareham (0329) 663238.

ROLAND D110, as new, boxed, £280. Tel: North West 051-426 5495.

ROLAND D110 synth module, exc cond, boxed, as new, £220 ono. Graham, Tel: (0962) 882109.

ROLAND D110 synth expander, exc cond, boxed, with manuals, 1000s of extra sounds, £250. John, Tel: (0253) 873716.

ROLAND D110, Yamaha TX81Z, Roland S10, Boss BX16 mixer, Atari 1040ST plus Pro24 v3, Alesis Microverb, Boss phaser, A-frame stand, cables, boxes and many extra sounds, £1800. Jim, Tel: (0283) 33458, after 5pm.

ROLAND D110 multitimbral sound module, boxed, with manuals, mint cond, £275. Don, Tel: 031-441 3948, after 6pm.

ROLAND D110 LA rack synth, inc Dr T's editor, £300. Loz, Tel: (0359) 31800.

ROLAND D20 workstation, home use only, £600. Alan, Tel: 091-263 5135. **ROLAND D50**, plus 7 ROMs, £600; E-mu Proteus XR, £599. Both exc cond. Tel: (0772) 740381.

ROLAND D70, comes boxed, with f/case, manuals, mint, 6 mnths old, still guaranteed, £1275. Don, Tel: 031-441 3948, after 6pm.

ROLAND JUNO 6 synth, vgc, £140; Roland MKS100 module sampler, plus disks, vgc, £260; SDS7 brain, with selector pad, f/case and memory cartridge, £140. Paul, Tel: (0342) 323094.

ROLAND JUNO 6, £150; Casio CZ101, with psu, £110. Both boxed, vgc, with manuals etc. Mark, Tel: (0772) 792280.

ROLAND JUNO 60, great sounds. Duncan, Tel: 021-444 2681.

ROLAND JUNO 60, has been MIDI'd, with hard case and JSQ60, £270. Richard, Tel: (0869) 249995.

ROLAND JUNO 106 polysynth, £300 or will swap for Casio VZ1. John, Tel: 061-370 2701.

ROLAND JUPITER 6, £425; Roland Juno 60, £220; Korg Poly800, £110; Roland TR626, £125; Moog Rogue, open to offers; 2-tier keybd stand, £20. Barry, Tel: (0773) 745275.

ROLAND JX10 analogue mega synth, 76-key velocity/aftertouch keybd, good MIDI spec, flexible outputs, boxed, manuals, as new, £750. Nigel, Tel: 071-324 6788, days, (0245) 421003, eves.

ROLAND MKS7, super quartet, Juno 2 and TR707 in rack, Roland's first multitimbral expander, boxed, manual, as new, £190 ono. Geoff, Tel: (0352) 755926.

ROLAND MKS70, boxed, £500 ono. Brad, Tel: (0602) 873896.

ROLAND MKS70, boxed, 3 ROMs, £350; Akai MX73 MIDI master keybd, £150. Tel: (0524) 241505.

ROLAND MT32, multitimbral sound module, 128 sounds, plus drum section, exc cond, boxed, with manuals, £200. Tel: (0740) 22433.

ROLAND MT32 synth module, exc cond, boxed, £200. Howard, Tel: (0235) 73975.

ROLAND MT100, multitimbral sound module and sequencer, boxed, with manuals, application books and disks, £400. Paul, Tel: (0536) 761014.

ROLAND PG10 programmer, as new, in box, £95. Tel: Romford 733090.

ROLAND SH09, (SH101 without arpeggiator), £50. Matt, Tel: (0395) 272343.

ROLAND SH101 analogue synth, £95; Casio SK1, £10; Maplin EC444 echo chamber, £25. Alan, Tel: Hitchin (0462) 733170, eves. **ROLAND SH101**, good cond, £60. Chris, Tel: (0342) 810162.

ROLAND SYSTEM 100 keybd 101, £120; MC202, £90; limited edition SH101, £120; Kitten analogue synth, £60; CZ1000, with RAM cartridge and sequencer, £110. Chris, Tel: (0243) 586395.

ROLAND U20, multitimbral keybd, velocity and aftertouch sensitive, immac, home use only, f/cased, with manuals, £700 ono or p/x against Korg Wavestation. Neil, Tel: (0937) 530414.

SEQUENTIAL PROPHET 600, plus f/case and MIDI, just serviced, immac, £299. Tel: (0453) 825837.

SEQUENTIAL PROPHET VS synth, with rare s/w update, vgc, only used at home, boxed, with manuals, ultimate analogue synth, £1300. A Prentice, Tel: 031-440 1774, 8.30am-4.30pm office hrs.

SEQUENTIAL PROPHET VS, plus RAM and ROM, £1050/exchange for Kurzweil K1000; Korg P3, £150; Kawai K5, £420; Akai MPC60, £1350; Orla Stage 76, £400. Tel: 071-733 0204.

TECHNICS AX7 portable keybd, 128 sounds, editing, 32 rhythms, 5-trk sequencer, touch-sens, multitimbral, MIDI, own spks, £800. Tel: Bedford (0234) 349270.

360 SYSTEMS PRO MIDI BASE + extra chips, £175. Tel: 081-674 2418.

WURLITZER ELECTRIC PIANO, case, good cond, £185 ono. Tim, Tel: (0707) 872886.

YAMAHA DX71 synth, 1000s sounds on Atari disk, £450 ono. Tel: Nottingham (0602) 504052.

YAMAHA DX11, £200; Boss BX16 mixer, £275; Roland MKS70 rack, programmer and RAM cartridges, £550, no offers. All mint cond. Brian, Tel: (0752) 674815.

YAMAHA DX21 synth, f/case, leads, pedals, good cond, £225. Joseph, Tel: (0582) 415549.

YAMAHA DX27 synth, psu, breath controller, 800 exc data cassette sounds, manuals, £200. Pete, Tel: 061-428 3022.

YAMAHA DX100, original box, manuals, home use only, £95. Tel: Warrington (0925) 224522.

YAMAHA EMT10, great sampled sounds, piano, strings etc, immac, £110; Casio HT3000 keybd, with MIDI, £100. Tel: (0869) 243049.

YAMAHA KX88, boxed, immac, £950. Chris, Tel: Hitchin (0462) 712056.

YAMAHA QY10 music station, perfect order, 1 mth old, leads, power amp etc, £200 ono. Steve, Tel: (0252) 879998, after 6.30pm.

YAMAHA SY22, immac, boxed, manual, offers around £500. Simon, Tel: (0603) 627424.

YAMAHA TG33 multitimbral expander, drums and fx, new, boxed, manuals, £365. Tel: 081-977 9531, days.

YAMAHA V50 synth, 1000+ sounds on disk, £750 ono; Yamaha EMT10 piano module, psu, boxed, £150 ono. Both home use only. Azmi, Tel: 071-373 4092, eves.

SAMPLING

AKAI ASK90, 8 input audio MIDI conversion board for S900 sampler, drum sounds, floppy disk, £20; ASK70, £10. Richard, Tel: Wakefield (0924) 863079.

AKAI S612, plus MD280, disks, 3

mnths guarantee, £300 ono/swap for D110 or 2 EMT10 modules; Marantz CD330 portable stereo cassette, £75. Louis, Tel: Oxford 512141.

AKAI S900, library available, £550; Fostex Model 20 1/4", with centre track time code, £275; Yamaha SPX90II, £275; Roland D110, £250; MXR drum computer, offers. David, Tel: 031-667 1675.

AKAI S950, small library, mint cond, £825. Tel: 061-483 8551.

AKAI S1000, as new, £1879; Yamaha TX16W, with library, £549; Korg S3 drum m/c, £469; Korg MDF1 data filer, £119. Tel: (0782) 720060.

AKAI S1000 kbd, touch sens, library, £2000. Loz, Tel: (0359) 31800.

CASIO FZ1, £570; Korg SQD1, £140; Korg Poly61, £250. All home use only. Andy, Tel: 081-883 4871.

CASIO FZ1, 16-bit sampling kbd, mint, boxed, disks, manual, £620. Tel: (0703) 220152.

CHEETAH SX16, 16-bit stereo sampler, 2Meg upgrade, CRT board, joystick for visual sample editing, reads S1000 disks, boxed, manuals, £800 ono. Adrian, Tel: 081-809 0684.

E-MU EMAX hard disk sampler, plus 120 disks and f/case, exc cond, £1099. Tel: (0772) 740381.

EMULATOR II+ HD, ex-Simple Minds, large sound library, manuals, exc cond, £2000. No time wasters. Don, Tel: 031-441 3948, after 6pm.

ENSONIQ EPS 4x memory expansion board, £200; with SCSI module, £250. Terry, Tel: 071-703 7133.

ROLAND S10 sampling keybd, over 100 disks, used by DJ only, £350 ono. Tel: Skegness (0754) 765871.

ROLAND S10 sampling kbd, 200 disks, inc TR909, f/case and manual, £350; Alesis MMT8 8-tr seq, £125; Mission 700 monitor spks, £60. £500 the lot. Mark, Tel: (0787) 247903.

ROLAND S10 sampling kbd, 50+ disks, Roland TR626 drum m/c, good cond, £475 the pair, may split. Paul, Tel: (0235) 816783, weekends only.

ROLAND S10, exc first sampler, £350. Kevin, Tel: Moulden (0621) 783226.

ROLAND S220, rackmount sampler, as new, 36 disks, manual, poss. delivery, £450 ono. Miles, Tel: West Midlands (0384) 274923.

ROLAND S330 sampler, £800;

Yamaha QX5 sequencer, £150.
Mark, Tel: 081-427 2839.
ROLAND S550, rack sampler, large library, Sony 20" monitor, £800.
Loz, Tel: (0359) 31800.
ROLAND U110 sample playback module, £200. Dave, Tel: (0892) 517923.

ROLAND U110 multitimbral sample player, ROM card, boxed, manuals, as new, £290 ono. Geoff, Tel: (0352) 755926.
ROLAND W30, 6 mths old, boxed, as new, £900 ono. Gary, Tel: (0892) 518554.
ROLAND W30 sampler, vgc, £1100 ono. Paul, Tel: 081-855 0403, eves.
ROLAND W30 workstation, disks, stand, f/case, £975; Korg DS8 synth, £325; Boss BX8 mixer, £120. All manuals, leads. Tim, Tel: Portsmouth (0705) 816090, eves.
ROLAND W30, sound library, under guarantee, £700 ono; Boosey & Hawkes alto sax, under guarantee, £450 ono. Redundancy forces sale. Stephen, Tel: (0742) 758720.
SWAP MY ENSONIQ EPS16+ rackmount workstation sampler for your Roland JD800 synth or sell for £1400 ono. Tel: (0429) 222517.

SEQUENCERS

AKAI ASQ10 pro MIDI seq, v2.3, exc cond, £650 ono. Tel: 071-266 1987.
ALESIS MMT8 8-tr seq, mint, psu, manual, £140. Tel: (0703) 220152.
ALESIS MMT8, exc cond, boxed, manual, psu, £130. Tom, Tel: (0228) 710256.
KAWAI Q80, 32-tr seq, disk drive, exc cond, boxed, £400. Howard, Tel: (0235) 73975.
KORG SQD1 seq, tape interface and disks, offers. Peter, Tel: (0706) 58625.
KORG SQD8, 8-tr seq, disk drive, as new, £100. Tel: Romford 733090.
ROLAND MC50, boxed, under warranty, £300; DR550, £100. Selling up. Tel: (0251) 262120.
ROLAND MC50, 4 mths old, immac, £400; Roland R5 drum m/c, £185. Adrian, Tel: 021-458 6934, after 6pm.
ROLAND MC202 micro composer, good cond, manuals, £100 ono. Richard, Tel: Brighton (0273) 541196, eves.
ROLAND MC300, exc cond, boxed, manual, £350 ono. Mark, Tel: 081-943 2722.
YAMAHA QX3 seq, £500; Yamaha RX5 drum m/c, £250; Simmons

SPM8:2 MIDI mixer, £200;
Simmons SDS9 electronic drum kit, rack, £600. All good cond, boxes/manuals. Tel: (0633) 273542.

DRUMS

ACID SALE: Roland TR808, mint, £250 ono; Roland TB303, £125 ono; Roland TB303, case, £135 ono; Roland MSQ700 MIDI sync, syncs all the above, £140 ono. Colin, Tel: (0803) 311678 or John, Tel: (0647) 432400, eves only.
AKAI RX10 16-bit drum m/c, good cond, inc manuals and psu, new £400, sell for £300. Paul, Tel: 041-774 5659, after 6pm.
ALESIS HR16, good cond, psu, £150. Glenn, Tel: (0202) 397697.
ALESIS HR16, exc cond, boxed, manual, psu, £150. Tom, Tel: (0228) 710256.
ALESIS HR16B and Roland TR707 drum m/cs, mint cond, £175 and £135 ono. Andy, Tel: (0633) 613342.
ALESIS SR16 drum m/c, boxed, manuals, new, £210. Mark, Tel: 061-747 7070.
ALESIS SR16 drum m/c, vgc, £175. Justin, Tel: 071-272 0573.
BOSS DR550, 16-bit drum m/c, 48 sounds, mint, boxed, manual, psu, £140. Tel: (0703) 220152.
CASIO RZ1 sampling drum m/c, 10 individual outs, sample library, inc AI and 909 samples, £130. Sean, Tel: (0438) 313865.
CHEETAH MD16 drum m/c, under 6 mths old, £250. Paul, Tel: (0525) 403707.
4 ROTO TOMS, stand, black, £85 ono; Simmons SDX mother MIDI station, sampling on-board, 10-piece Zone intelligent pad kit, was £12,000 new, must sell, plus library, £6500. Chris, Tel: Hitchin (0462) 712056.
KAWAI R50 drum m/c, £125. Ricky, Tel: (0475) 30181, eves.
KORG DD5 digital drums, bass ROM card, manuals, exc cond, home use, £100; Korg DDM110 digital drums, £30. Lloyd, Tel: 081-290 1782, eves.
ROLAND TB303 bassline, manual, vgc, £180, no offers; Roland TR727 latin perc. m/c, vgc, £180, no offers. Rupert, Tel: 081-683 4460, eves.
ROLAND TR505 rhythm composer, as new, must sell, £115 ono. Tel: 091-529 4788, anytime.
ROLAND TR606 Drumatix, good cond, £50. Chris, Tel: (0342)

810162.
ROLAND TR626 drum m/c, boxed, manuals, psu etc. Jamie, Tel: 041-954 2832.
ROLAND TR707, immac, psu and manual, £225 ono. Richard, Tel: 081-640 1826.
ROLAND TR727 rhythm composer, MIDI, sync, separate outs, boxed, manual, exc cond, classic techno perc. drum m/c, £150. Bobby, Tel: 071-266 1987.
ROLAND TR808 drum m/c, good cond, £250 ono. Tel: (0424) 220053.
ROLAND TR909, serious offers (around £350). Nick, Tel: (0792) 462502.
ROLAND TR909, exc cond, boxed, manuals, £300 ono. Robert, Tel: 061-368 8969.
ROLAND TR909, exc cond, f/case, manual, £400. Keith, Tel: 031-315 2923 or 031-661 2234.
SIMMONS MTX9 expander, 3 pads, stand, leads, £275. Tel: (0702) 711269.
SIMMONS SDS7 analogue/digital drum m/c, plus seq, must sell, £950. Chris, Tel: Hitchin (0462) 712056.
3 SIMMONS SDS200 pads, boxed, £100; 17 Simmons sound chips, £10. Richard, Tel: Wakefield (0924) 863079.
YAMAHA RX5 drum m/c, 4 sound cartridges, 12 outs, sounds, boxed, manual, £350 ono. Tony, Tel: (0227) 740134.
YAMAHA RX11 and RX21L latin, both exc cond, manuals, £150 both. Richard, Tel: (0272) 671067.
YAMAHA RX17 drum m/c, £85. Mike, Tel: 081-472 7566.
YAMAHA RX21 drum m/c, 9 drum sounds, exc cond, boxed, manuals, £120. Tel: (0740) 22433.
YAMAHA RX21, manuals psu, as new, vgc, £80 ono. Richard, Tel: (0535) 681608.
YAMAHA RX120 drum m/c, exc cond, boxed, £75. Howard, Tel: (0235) 73975.

COMPUTING

ATARI 520STE, upgraded to 1Meg, SM124 hi-res mono monitor, Atari Megafile 60 hard drive, PC286 emulator card, £750. Chris, Tel: Bideford (0237) 477748.
ATARI 1040ST, colour monitor, Pro24 v3, games, accessories, as new, £550. James, Tel: Maidenhead (0628) 20496.
ATARI 1040ST, SM125 monitor, 40Meg hard drive, C-Lab Notator,

Roland D5, Boss DR550 drum m/c, Boss BX60 mixer, leads, stand, boxed, £900 ono. Matt, Tel: (0705) 595235.
ATARI 1040ST, SM124 hi-res monitor, 30Meg mega file disk, £450. Martin, Tel: (0734) 780331.
ATARI 1040ST, SM124 monitor, Notator s/w, £500. John, Tel: (0843) 228038.
ATARI 1040ST, monitor, Creator v3, £550. Chris, Tel: 071-586 7746, days.
AMIGA 500, 2Meg RAM, Music-X, sampler and s/w, MIDI interface, £500 ono; Disney animation s/w, GenLock, £150 ono. Tim, Tel: (0273) 698555.
C-LAB CREATOR, v3, manual, dongle, case, £160; Steinberg FZ sample editor, original, £120. Tel: (0744) 35567.
C-LAB NOTATOR, v3.1, latest version, £300. Tel: (0923) 229034.
DIGIDESIGN SOUND TOOLS Atari analogue interface, £450; Opcode Studio Vision s/w, v1.2, £350; Vision s/w, v1.2, £150. Rosie, Tel: 071-608 2282.
DR T'S D10/D110 editor, 2000 sounds (32 banks), £40; large FZ1 library, disks to swap. Andy, Tel: Leeds (0532) 430177.
FOR SALE: Steinberg Pro24, dongle/manual, £70. Derek, Tel: 081-311 8124.
FREESTYLE pro realtime arranger, Atari ST, creates pro backing tracks, manual, £90. Tel: 021-358 7612, after 6pm.
JOETH MUSIC SYSTEM for Commodore 64, MIDI interface, Composer, Linker, System 7 editor, cost £400+ must sell, £80 ono. Tel: 091-529 4788, anytime.
HYBRID ARTS EDIT-TRACK ST seq, 60 track graphic editing, cost £175, sell £55 ono. Len, Tel: Faringdon (0367) 240732.
MICROVITECH CUB 452 RGB colour monitor for BBC computer, £100; Dr T's Roland D110 editing s/w, Atari, both as new. Tel: (0923) 31866.
STEINBERG PRO24, genuine copy, with dongle, £35. Simon, Tel: (0246) 822244.
STEINBERG PRO24 sequencer, v1, v2 and v3, Atari 520/1040ST, dongle, v3 manual, cost £240 new, only £80 ono. Matt, Tel: (0623) 751528.
STEINBERG PRO24, as new, £50. John, Tel: Maidstone (0622) 812423.
STEINBERG PRO24, v3, ST, boxed, key and manual, £50. Steve, Tel:

(0983) 298969.

TOSHIBA T3100E laptop computer, 286, 1Meg, windows, perfect PC MIDI workstation. Gary, Tel: 051-327 2296.

YAMAHA CX5M computer, large keybd, SFG05, Bit2, data recorder, 15 games, Composer, FM, DX7 cartridges, voice and sequence cassette, art s/w, exc cond, boxed, manuals, £120. Tel: (0740) 22433.

YAMAHA YRM103 voicing program for DX7, £20. Richard, Tel: Wakefield (0924) 863079.

RECORDING

ALESIS MICRO ENHANCER, 16-bit for added sparkle, £60. Pete, Tel: 061-428 3022.

ALLEN & HEATH SYSTEM 8 16:8:16, exc cond, £550. Tel: 061-483 8551, anytime.

BOSS BX16 16-ch mixer, 3 mths old, hardly used, under guarantee, £325 ono. John, Tel: (0253) 873716.

CARLSBRO PMX8:2 powered mixer, 2 JBL G733 performance series spks, JBL stands, £1400. Rod, Tel: (0483) 578204.

CASIO DA2 DAT m/c, perfect order, £400. Ali, Tel: 071-937 7354.

CASIO DA2, mint, boxed, £400 ono; Studiomaster 16:8:16:2 Proline Gold, mint, £1150 ono; Pearl 9-shell drum kit, exc, w/hardware, £600 ono. Paul, Tel: (0543) 425573.

DENON DTR2000 DAT m/c, 20-bit, 48kHz sampling rate, only wks old, £500, no offers. Tel: Skegness (0754) 765871.

DIGITECH REVERB fx unit, programmable, flange, bounce, delay, echo, good cond, £200. Joseph, Tel: (0582) 415549.

DOD FX90 delay pedal, £99. Craig, Tel: (0324) 25531.

DYNAMIX 12:2 mixer, boxed, as new, £200. Tel: Nottingham (0602) 504052.

FOSTEX E8, mint, never used, £1500 ono. Adrian, Tel: (0204) 363545.

FOSTEX M80, boxed, manual, £800 ono. Robert, Tel: 061-368 8969.

PEAVEY UNIVERB, 128 presets, good cond, boxed, £200. A Prentice, Tel: 031-440 1774, 8.30am-4.30pm office hrs.

ROLAND DIMENSION D chorus, £350. Tel: 071-430 2840.

SECK 10:4:2 mixer, vgc, £250 ono. Robert, Tel: 061-368 8969.

SECK 12:8:2 mixer, cables, £650; Sansui MR6 6-track, £300; Alesis

Midiverb III, £200; Fostex 3013 patchbay, £35; 6U f/case, £40. All exc, boxed, manuals. Keith, Tel: 031-315 2923 or 031-661 2234.

SECK 12:8:2, mint cond, £490. Paul, Tel: (0257) 426925, anytime.

SECK 18:8:2 desk, f/case, vgc, £650. Tel: 081-998 2735.

SECK 18:8:2 desk, exc cond, £849; Fostex 8:4:2 mixer, £250. Tel: (0772) 740381.

STUDIO FOR SALE: Studiomaster 24:8:16:2, Fostex R8, Atari 1040/Creator/Unitor, digital fx, FZ1 sampler/library, D110, more, £5500. Matt, Tel: (0533) 870698.

STUDIOMASTER MIXDOWN 32:4:8:2, exc, muting, upgrading to 16-track, offers. Tel: (0272) 466880.

STUDIOMASTER MIXDOWN GOLD 18:8:2 desk, Fostex R8 8-track recorder, never used, as new, £3100 ono. Tel: (0473) 603335.

STUDIOMASTER PROLINE GOLD 8:4:8 desk, hardly used, £450. Robert, Tel: (0442) 827776.

STUDIOMASTER PROLINE 16:8:16 mixer, 12 mths old, £900 ono; Fostex R8 8-tr reel-to-reel, 12 mths old, home use, £900 ono; EVS1 sound module, £160; HR16B drum m/c, £150; Roland MT32 sound module, £150. Tel: (0462) 481874.

STUDIOMASTER PROLINE 16:8:16:2 mixer, 4 auxs, 36 inputs on mixdown, boxed, as new, manual, £950; Roland PC200 keybd, £150. Colin, Tel: 081-878 0512.

STUDIOMASTER SERIES II 16:16:2 desk, Tannoy DC200 spks, Drawmer gates, compressors, Quadraverb, SPX90, Aphex C, Revox B77, Roland D550, MKS70, JL Cooper MixMate, other gear. John, Tel: (0602) 414488.

TASCAM 38 reel-to-reel recorder, vgc, £850; Fostex 454 desk, 8:4:2, ideal 8-track recording, £350 ono. Lee, Tel: (0895) 637591.

TASCAM 38, recent full service, £800. Tel: (0364) 42633.

TASCAM 38, half-inch, 8-track, exc cond, recently serviced, £775 ono. Andy, Tel: (0633) 613342.

TASCAM 238 syncassette and loom, 8 tracks on cassette, £650; DX21, £140. Ian, Tel: (0772) 37722.

TASCAM 244 portastudio, manuals, exc cond, home use, £120; Audio Technica Pro4 mic, unused, £15. Lloyd, Tel: 081-290 1782, eves.

TASCAM 244 portastudio, perfect cond, £275 ono. Alan, Tel: (0273) 870179.

TASCAM 246 portastudio, immac, hardly used, c/w manuals, remote etc, £450 ono. Tel: (0942) 48775.

TASCAM 328, half-inch, 8-track recorder, as new cond, £995 ono; Ibanez Musiam guitar, £300 ono; Peavey Deuce guitar amp, £250 ono. All exc cond. Robbie, Tel: (0560) 20210, anytime.

TASCAM PORTA 05 HS, £230; rackmount 8-ch mixer, £100; DRV1000 digital reverb, £150; Yamaha DX7, 3 ROMs, £400; Roland SH09, £70; Kawai SX240 rare MIDI analogue, offers; Roland TR808, £260; Roland TR626, £130; Squier Strat, £120. Trev, Tel: 071-731 6108.

TEAC A3440, 4-tr reel-to-reel, remote and tapes, exc cond, £350. Brad, Tel: (0633) 365758.

TEAC A3440, 4-tr recorder, dbx RX9 n/r, as new, £400. Tim, Tel: (0223) 60486.

TEAC A3440S, 4-tr recorder, good order, £275; Sequential Circuits Drumtrax, exc, £150. Tel: (0203) 544003.

UREI 1176, £625 ono; Neumann U87AI, £750 ono; dbx Silencer, £125 ono; Drawmer 1960 valve compressor, £700 ono; Alesis 1622 mixer, £440 ono; Teac 2A mixer, plus meter bridge, £150; Axxeman, £115 ono; Zoom 9002, £185 ono; Akai S1100, £2700 ono. Tel: 081-462 6261.

YAMAHA DRU8, 20-bit 8-tr digital recorder, £9000 ono. Rosie, Tel: 071-608 2282.

YAMAHA FX500, plus MIDI foot controller, brand new, £725; Yamaha MV802 rack mixer, £250; TC chorus pedal, £80. Steve, Tel: (0274) 635233.

YAMAHA MSS1 MIDI sync, SMPTE-to-MIDI, £140 ono. Philip, Tel: 071-371 2460.

YAMAHA MT100II multitracker, mint, boxed, manual, psu, £250. Lee, Tel: Wigan (0942) 714268.

YAMAHA REV7, £400. Tel: (0932) 570214, eves.

AMPS

ALLIGATOR, mega loud guitar amp, AP150W, exc, £200. Tel: (0740) 22433.

CARLSBRO COBRA 90W kbd amp, good cond, cover, £175 ono. Tim, Tel: (0707) 872886.

CARLSBRO COBRA 90W bass amp, hardly used, £220; Carlsbro Cobra 90W lead amp, £200. John, Tel: Maidstone (0622) 812423.

CARLSBRO COLT 45 kbd combo,

church use only, £130; Peavey Pro/150 spks, pair, £140. David, Tel: (0483) 570088, days/(0486) 76524, eves.

FENDER BANDMASTER valve guitar amp, cabs, £150 ono; Peavey Backstage 30 guitar amp, £80 ono; Sound City 200W valve amp, £140 ono. Chris, Tel: Hitchin (0462) 712056.

LANEY AOR5012 50W combo, exc cond, £295. Tel: (0562) 67666.

MARSHALL 8015, 150W kbd amp, as new, £250. Tel: (0892) 517923.

MUSIC FIDELITY P170 amp, sounds warm, immac, box, hardly used, £750 new, £395. Simon, Tel: 071-537 6168, after 8pm.

PAIR LANEY LINEBACKER 65 amps, home use, exc, 2 for the price of one, £275. Tel: (0260) 280131.

PEAVEY KB100 kbd combo on wheels, immac, £200. Andy, Tel: North Surrey (0932) 245298.

PEAVEY KB300, hardly used, £350. Tel: (0382) 532338, nights only.

ROLAND JAZZ CHORUS 120 combo, exc, great amp for live kbds, 2 ch, stereo chorus, reverb, ungigged, 18 mths old, poss. delivery, £395. Anthony, Tel: (0274) 615824.

ROLAND JC120 kbd combo, stereo chorus, reverb, distortion, footswitches, f/cased from new, exc cond, £425. Tel: Brighton 870560.

YAMAHA P2250 amps, x2, 250W per channel, £340 each ono. Tel: Nottingham (0602) 504052.

PERSONNEL

BASED IN GLOUCESTER OR GLOUCS, requiring synth players, vocalist to form band. Anybody considered. Paul, Tel: Gloucester (0452) 415398.

FEMALE VOCALIST with powerful voice needed urgently for dance high energy band. Female dancers also needed. Neil, Tel: (0204) 46709.

GUITARIST seeks kbd player/synthesist with Minimoog for ambient rock/space rock band. Influences: Eno, Tangerine Dream, The Orb, Floyd, Can and Hillage. Howard, Tel: (0274) 498047.

HARD CORE TECHNO PEOPLE required to produce and release mad music. Trev, Tel: 071-731 6108.

NAMED PROFESSIONAL digeridoo/kbd act require inspired world percussionist (drummer) for immediate performance and

recording. Tel: (0424)
33205/213474.

SINGER/SONGWRITER seeks
other musicians/vocalist in W
London area for poetic/political
AOR band. The The, Gabriel,
Knopfler. Commitment essential.
Tel: 071-385 6989.

SYNTH PLAYER/PROGRAMMER
wanted to create uplifting and hard
tunes/techno. North West area.
Rich, Tel: (0978) 780620, after
6pm.

TECHNO '60S CROSSOVER BAND,
acid house, acid rock, dub, disco,
indie, any instrument. Recording
imminent. Andrew, Tel: (0892)
543499.

£200 REWARD. Brother-sister
wow-pop duo. Rave gear, reviews,
video etc. NY Lawyer. Very
different songs. Need leads on
versatile guitarist, bassist now!
Send fax, phone, address to: UK
Move, 5215A Yonge Street,
Toronto, Canada M2N 5P7.

MISC

CARLSBRO STINGRAY multi-
chorus combo, £125; Chase Bit1
synth, needs minor repair, £135.
John, Tel: (0843) 228038.

DAN ARMSTRONG GUITAR clear
plexiglass, beautiful cond, offers.
Write: Joe, 621 Black Friars,
Sudbury, Suffolk CO10 6AQ.

GIBSON FLYING V, black, exc
cond, case, £550. Tel: (0938)
76350.

HEXTRUM 12-STRING acoustic
guitar, hard case, superb tone,
good cond, £400 ono. Tel: (0942)
48775.

MUSIC TECHNOLOGY back issues,
all issues between 1989-1991,
also various vintage issues E&MM
1985-1988. Richard, Tel: 081-640
1826.

100 PRE-RECORDED cassette
albums, all originals, no copies,
list incs Pet Shop Boys, Depeche
Mode, OMD, Wham!, Psychadelic

Furs, Frankie rarities etc, £200
ono. Lloyd, Tel: 081-290 1782,
eves.

PLANET EARTH RECORDS, new
independent record label,
specialising in all types of dance
music, are requiring tracks for
future release. Send demo
cassettes, DAT or white labels to:
Planet Earth Records, 3 Mayflower
Cottages, Standish, Wigan, Lancs
WN1 2UR.

ROLAND VOCODER SVC350, good
cond, recently calibrated, £450
ono. Keith, Tel: (0450) 76131,
eves.

SWELL PEDAL, £75; sustain
pedal, £25; collection of MIDI
cables, £10; keybd stand, £10;
Korg sequencer, £130. Tel:
Warwick (0926) 494748. Tel:
Warwick (0926) 494748.

WANTED

ALESIS DATADISK SQ MIDI data
storage playback unit. Tel:
Portsmouth (0705) 376700.

ALESIS MIDIVERB II or ART
Multiverb III, £100 cash waiting.
Steve, Tel: (0727) 868023.

CASIO FZ1 disks to swap or
exchange. Andy, Tel: Leeds (0532)
430177.

CASIO FZ1 or Hohner clone.
Kevin, Tel: Moulden (0621)
783226.

CRUMAR DP80 circuit diagrams,
will pay postage and photocopy
costs. Mike, Tel: 081-346 4581.

ENSONIQ SQ1+ or SQ1 or SQr,
cash waiting. Ricky, Tel: (0475)
30181.

HAS ANYBODY GOT an EMS Synthi
fx unit, pref working, must be in
original glass-fibre casing, 2
pedals. Steve, Tel: (0983) 298969.

HEAD-SET RADIO MIC, eg Shure
SM10A. Matt, Tel: (0533) 870698.

ITA 16-TRACK, 1" reel-to-reel tape
recorder, I want manual and
remote. Nick, Tel: (0704) 542166.

KORG MONOPOLY, must be good

cond, cash waiting. Dave, Tel: 081-
997 1277.

LINN 9000 sampling drum m/c
and sequencer, possible drum
samples, £700 cash waiting. Paul,
Tel: (0536) 761014.

ROLAND 100M modular system or
modules, will p/x analogue
equipment or pay cash. Bob, Tel:
(0726) 67836.

ROLAND 2500 DDL, swap for
Roland 1000 DDL, with cash
adjustment. Tel: 061-799 6154.

ROLAND PG10 programmer for
D110 needed urgently, will pay
around £60. Neil, Tel: (0204)
46709.

ROLAND RD250S or Rhodes MK60
electric piano. Tom, Tel: (0606)
44240.

ROLAND W30, will pay around
£900. Paul, Tel: (0302) 538304.

SEQUENTIAL MULTITRACKS. Nat,
Tel: (0892) 522461.

SEQUENTIAL PRO1, will swap for
my Roland SH101. Alan, Tel: 091-
263 5135.

SEQUENTIAL PRO1. Paul, Tel:
(0257) 426925, anytime.

SEQUENTIAL PROPHET 1 exc
cond, £120 cash waiting. Andrew,
Tel: 081-446 5354, after 5pm any
day.

SEQUENTIAL PROPHET VS, must
be immac, manuals, cash waiting.
Tel: 021-777 6090.

STEINBERG KEY EXPANDER
wanted. Richard, Tel: 081-640
1826.

STEINBERG KEY EXPANDER
wanted, good cond imperative.
Richard, Tel: 081-640 1826.

STUDIO GEAR WANTED, cash
waiting, all types of gear required
for opening private studio. Royston
Hollier, Tel: 061-273 5480.

URGENTLY WANTED: MPG80
programmer for MKS80. A Prentice,
Tel: 031-440 1797, 8.30am-
4.30pm office hrs.

YAMAHA SPX50D or SPX900
wanted, cash waiting. Tel: 061-483
8551, anytime.

ad index

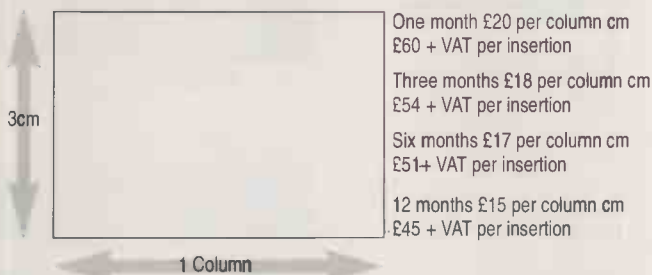
ABC Music.....	23
AMG	40, 41
Andertons	19
Axe Music	31
Cheetah	21
Dangerous CD	
Company	24
Digital Music	10
Eddie Moors Music	51
Korg U.K.	O.B.C.
London Sample	
Workshop	51
MCM.....	9, 24, 33, 51
Music Connections.....	27
Music Messe	59
Music Corporation.....	45
Patchworks.....	19
Peavey U.K.	13
Pro Music	48
Roland U.K.	5
Soho Soundhouse.....	55
Sound Control.....	15
Sound Technology	7, 39
Thatched Cottage Audio...37	
Time & Space	33
T.S.C.....	1
Yamaha	IFC

CALL IN YOUR READERS' AD ON
(0898) 100767

CLASSIFIED

CLASSIFIED ADVERTS

A classified advertisement can cost you as little as £30 per month*. You choose how long you want to advertise, for one month, three months, six months or 12 months, the following is an example:



To advertise please send your copy & cheque (including VAT) for the first advertisement to:
Music Technology, Classified Department, Alexander House, Forehill, Ely, Cambridge, CB7 4AF

* Based on a minimum size 2cm x 1 column advert booked for 12 months

SOFTWARE, HARDWARE AND SAMPLES

four minute warning samples & software

S330 / W30
S1000/S900
S700 / S612

HIGH QUALITY
SOUNDS ON
DISK FOR ALL
AKAI AND
ROLAND
SAMPLERS

Please phone or write for a full listing, specifying the type of sampler used. Avalon/S.D. disks also available

memory expansions

for S1000, S1100, S950, EPS, FZ1, TX16W, MPC60, VFX

RAM cards

256k RAM card for Roland D-series etc only £39.95
RAM card with sounds for Kawai K1, etconly £39.95
RAM card for Kawai K4, K4Ronly £44.99
RAM card for Yamaha DX7, RX11 etconly £44.99
RAM card for Yamaha DX711, TX802, etc..... only £49.99

Please phone or write for further details to:

FOUR MINUTE WARNING
DEPT. M1, 298 HORNBURY ROAD,
WAKEFIELD, WEST YORKSHIRE WF2 8DX
TEL: 0924 386527

MIDI DRUMMER 2

Rhythm Pattern Sequencer for the ST only £40

Egan Composition Tool only £15

Both available now from

BIT BY BIT SOFTWARE
P.O. Box 70, Lincoln, LN1 1SS
Telephone 0522 533461

SAMPLE LIBRARIES

EPS/FZ1/SP50/S1000/S550/S330/W30
1/5770/5750/PEAVEY DPM SP/DPM-3 SE/MIRAGE/
ATARI SD/AVALON/GENWAVE FORMATS

We are Europe's largest sound library with over 2 hundred thousand samples, taken from "State of the art" systems. Ranging from Fairlight 3 Orchestral sounds to the latest House sounds, we've got them all! Most disks only £4.99 each. Write/phone now for our free catalogue. (Specify machine)

SAMPLE TAPES.

We now have 20 volumes of our famous sample tapes on Chrome cassette, including "House Attack"/"Analogue No 1"/"Orchestral 1+2"/"World Music". Each tape is £7.50. Our new tapes are the dance collection and "Digital textures", each series contains over 4 hours of hi quality samples and comes on 3 Hi grade Metal C-90 cassettes. Both collections come with full track listings, and are priced at £53.00 each inc. p.p. Write/phone for free tape listing.

HOUSE ATTACK II - NOW OUT

SAMPLES ON R-DAT

1500 SOUNDS ONLY £80.00 JD 800 SOUNDS -
NOW IN STOCK

We also sell Synth patches for most Synths and FX units on Rom/Ram/Atari ST disk,
Sample CDs from Pro-Sonus/Sonic Images/Karg. Software from
Dr.T/Steinberg/Opcode

DESERT ISLAND

TEL: 0463 - 221488
DESERT ISLAND (DEPT. M)
20 EDINGTON RD. INVERNESS, SCOTLAND, IV2 3QB

MIDI SEQUENCES

Get your "Hands On" to the most accurate sequence data available from the U.K.'s premier commercial sequence data company. Our comprehensive range of songs are ideal for pro's and hobbyists alike. Great to rehearse to and easily adapted to suit your own requirements. Each song contains ALL parts and includes Lyric and Info files as standard. Individual Drum Tracks. Bulk Discounts available.

Phone or Write for Catalogue.

4 Chart Hits for only £20.95 (+£1 P&P)

"HANDS ON" MIDI SOFTWARE LTD.,
14 LODGE ROAD, BEDHAMPTON HAVANT,
HANTS PO9 3LL
TEL/FAX (0705) 452628

PLANET ZOID

50 Market Street, Dalton In Furness, Cumbria LA15 8AA

ZAP IN lush strings, special pads, mega bass, organs, techno, atmospherics, FX's, harsh brass, bells, lead, and much more.

On data cassette for:

JUPITER 8 > 256 Prog £20 ESQ-1 > 200 Prog £15 JX-3P 128 Prog £12

JUNO 106 128 Prog £9.50 ALPHA JUNO 1512 Prog £9.50

TECHNO BASS TAPES >> JP4 <40pg> ESQ-1 <40pg> JX-3P <40pg> £4 each

STRANGE / WEIRD TAPES >> JP4 <40pg> ESQ-1 <40pg> £4 each

write for info or contact Tim (0229) 53746

Cheques / Postal Orders to PLANET ZOID

SAMPLE CITY

23 New Mount Street,
Manchester M4 4DE

£3 per disk

Akai S900, 950, 1000

1000's of unbelievable unused sounds

TEL: 061 953 4021

A division of the Together Communications Corporation

PRIVATE SALE

ARP QUADRA POLYPHONIC
ANALOGUE SYNTHESISER

Very rare £750.00 ono

Phone 0203 590338

081 691 1087
62b Manor Avenue,
London
SE4 1TE

- MIDI SOFTWARE
- SOUND DISKS / CARDS
- MIDI SEQUENCES

NEWTRONIC

S900/950 SAMPLE LIBRARY

Over 300 disks available

£3.50 per disk

Please phone / write for catalogue

Also 3.5" Blank DS/DD Disks available

Prices starting from £7.50 for 10

MIRROR IMAGE

AUDIO Cassette Duplication

474 Manchester Road, Heaton Chapel,
Stockport SK4 5DL Tel: 061 442 9045

DR BEAT

For The ST and now for the PC

A vast collection of Drum and Percussion Patterns, Fills, Intros and Professionally Programmed with the FEEL of a REAL Drummer..... Not a Machine. Dr. BEAT has already received excellent reviews and is being described by our users as THE DEFINITIVE Drum and Percussion Pattern Collection in Middle Format.

Vol I & II Available NOW!
Still Only £10.00 inc. p&p

RAMJAM

A collection of "KILLER" Jams in Middle Format. Imagine a jam session with some of the world's TOP musicians in styles from Funk to Fusion in ANY key at ANY speed..... till you DROP! Perfect for getting your chops together.

JUST £12.95 inc p&p

NEWCLASSICS Collection of Midi Song Files - PHONE!

To order, send cheque or postal order to:
Heavenly Music Ltd., 59 Garden Road,
Jaywick, Clacton, Essex CO15 2RT
For more info - Phone Clacton (0455) 434277
We won't cut corners on quality - why should you?

WORLDS FINEST DISKS FROM KAO & TDK

	KAO	TDK
3.5" MF2DD	£8.00	£9.00
3.5" MF2HD	£15.00	£16.00
5.25" MD2DD	£5.00	£8.00
5.25" MD2HD	£8.00	£10.00

KAO BULK DISKS CHOICE OF 8 COLOURS

SUPERB QUALITY	x50	x100
1 MEGABYTE MF2DD	£24.00	£45.00
2 MEGABYTE MF2HD	£35.00	£68.00

(FREE MOUSE MAT OR DRIVE CLEANER WITH ORDERS OF 100 DISKS)

POSSO DISK BOXES £14.00 each prices include VAT

Free P&P on orders over £50.00, under please add £3.00

TDK DAT TAPES

DA-R-60	£6.00
DA-R-90	£7.00
DA-R-120	£8.00

Weekdays 9.30 - 7pm

Saturdays 9.30 - 7pm

Sunday 10 - 3pm

K.C. Video,

6&8 Doncaster Rd.,
South Elmsall, Pontefract,
West Yorks WF9 2WZ

Tel: 0977 649100

FAX: 0977 643312

OVERNIGHT = £8.00 EXTRA

S900/950 SAMPLES

High Quality, professional collection

Full range choice - over 300 disks available

Pre set Volumes, 25 disks £79.95

Individual disks £4.00 each

All prices inclusive of VAT and UK postage

Access and Barclaycard welcome

Send or Phone for full listing

VALLEY STUDIOS

Pant Byrlip Farm, New Quay, Dyfed, SA45 9TU

TEL: 0545 560164 FAX: 0545 560885

AQUARIAN PUBLIC DOMAIN

Christmas Special.....Prices Cut

Unbranded 3.5"£0.34

Unbranded 3.0"£1.90

Branded in boxes of 10

3M DS / DD£6.40

3M DS / HD£10.80

Also formatted to your requirements

Please send your cheques / postal orders to:

Aquarian Public Domain (0703) 685006

78 Merridale Road, Southampton SO2 7AD.

Prices include VAT

Postage and Packaging £3.50

BIG TIME PRODUCTIONS

FS-1 SAMPLE LIBRARY DSDD DISK £3.50 / DSHD DISK £4.00

DEMO DISK £1.00 DSDD / £1.50 DSHD

Write for free catalogue Discounts for bulk orders

BIG TIME PRODUCTIONS, PO BOX 500, BURSLEM,
STOKE ON TRENT ST6 5UR TEL: (0782) 810611

'ANG ON A SEC....

DON'T SELL YOUR KEYBOARD, SAMPLER OR STUDIO GEAR UNTIL YOU'VE PHONED ME, AS I CAN GIVE YOU THE BEST CASH DEAL AROUND

081 390 7324

ANYTIME 24 Hrs.

FOR HIRE

BABEL HIRE

Fostex E16 & Studiomaster 16:8:16 £120 per week
Fostex R8 & Studiomaster 16:8:16 £80 per week
Sony DTC1000 DAT £15 per week

A large range of samplers, keyboards and FX also available for hire

Tel: 081 749 8222

Delivery & Collection available

ADVANCED SOUNDS HIRE

Musical Equipment • Studio Equipment

• Home Recording Packages • Del/Col

VISA + ACCESS Low Rates, Good Service

TEL: 081 462 6261 or 0860 310618

CASSETTE DUPLICATION

COMPACT DISCS

LPs 95p - Singles 80p
Plus mastering min 1,000

**AUDIO, VIDEO & DAT COPYING
EXACT LENGTH CASSETTES**

SELECTA SOUND

5 MARGARET ROAD, ROMFORD
ESSEX RM2 5SH Tel: 040-245-3424

FOR SALE

ForeFront

TECHNOLOGY

FT3 PATCH COMMANDER PLUS
Hand-held MIDI Remote controller
as reviewed in Music Technology Sept. '91
Now with Bank Select for Roland E35/70 &
Program increment as standard features.

ONLY £49.95 + £2.00 P&P
(Soft carry case £5 extra)

Enquiries, cheques/P.O.'s, Visa/ Access to

Forefront Technology,
2 Rebecca Gardens, Silver End,
Witham, Essex CM8 3SR.

Tel: (0376) 83920



(Dealer enquiries welcome)



SERVICE / REPAIRS

PMS

PANIC MUSIC SERVICES

HI-TECH SERVICE CENTRE

ALL MUSIC EQUIPMENT REPAIRED AND
SERVICED MOOG-ARP, ETC. A
SPECIALITY

SERVICE CENTRE FOR ROLAND, SANSUI

TEAC/TASCAM

Tel: 0954 31348 or 0860 78254

COURSES AND TUITION

SOUTH LONDON BASED



2 INCH 24 TRACK

DIGITAL MASTERING. LIVE
ROOM. FULL MIDI
CAPABILITY EXCELLENT
WORKING ENVIRONMENT

Tel.081 - 699 - 6945

Fax.081 - 699 - 5845

We are the U.K. Centre for
City and Guilds qualification
courses in Sound engineering
and Music Technology.
Phone for details and a free
prospectus.

Ask about our short
Christmas courses

AUDIO ENGINEER 15 MONTH COURSE

FREE BROCHURE + STUDIO COURSE

071 609 2653



STUDIO ASSISTANCE 6 MONTHS COURSE

FREE BROCHURE + STUDIO TOUR
+ 24 TRACK

"NEVE" STUDIO/INTERNATIONAL COLLEGE NETWORK

071 609 2653



MIDI COURSE

BASIC / INTERMEDIATE / ADVANCED

071 609 2653



FAX YOUR ADVERT TO ALEX DAY

ON

0 3 5 3 6 6 2 4 8 9

Are you a recording musician?

Then you simply can't afford to miss out on . . .

HOME & STUDIO RECORDING

THE MAGAZINE FOR THE RECORDING MUSICIAN

It doesn't matter if you are just setting out in four-track recording or are the owner of a state-of-the-art private recording studio, Home & Studio Recording plays a vital role in keeping you informed of the latest recording equipment, trends and techniques. What's more, it does it in plain English!

Every month, there are in-depth product reviews, practical features on all aspects of recording including MIDI sequencing and studio construction, and revealing interviews with internationally respected studio engineers and producers. On top of that, there are regular competitions, occasional

features on readers' studios and constructive criticism of your demo tapes.

Whether you want to make professional sounding demos at home or you want to make recording your career, the information in each issue of H&SR gives you very real advantages; be the first to find out about future product releases, buy and sell your used equipment via our readers' ads page, and discover how those elusive sounds you hear on records are actually created. Once you've read H&SR, you'll wonder how you ever managed without it!

READERS
SPECIAL OFFER

Have you got MIDI problems?

Solve your MIDI problems with Music Technology Special readers offer, the MA36 36 function MIDI analyser.

The MA36 is a neat battery powered MIDI analyser which uses 36 red LEDs to tell you everything from the number of MIDI channels in use to what kind of information is going down it.

only
£29.99
inc VAT
and P&P

You can check for:

Active Sensing
System Reset
Errors and Interrupts
Note On/Off
All Notes Off
Poly Pressure
Control Change
Program Change

Channel Pressure
Pitch Wheel
System Exclusive
Song Position Pointer
Song Select
Tune Request
End Exclusive
Midi Clock
Start/Continue/Stop



The MA 36, previously sold elsewhere for £49.95, is available exclusively to Music Technology readers at a special price of only £29.99 inc VAT and P&P.

To order your MA 36, phone our 24 hour credit card hotline on 0898 100749* or clip the coupon below.

Please send me MA 36 (s).

I enclose a cheque/PO for £..... made out to:

Music Technology, MA 36 Offer, Alexander House,
Forehill, Ely, Cambs CB7 4AF.

Please include your full postcode and allow 28 days for delivery.

*Calls cost 34p per minute cheap rate and 45p per minute at all other times.

Name

Address.....

Postcode Tel:

FOLLOW THE LEADER...



... AGAIN.

Korg does it again! The new 01/W and 01/W FD (disk drive). The flexibility of a music workstation with the sound shaping capability of an advanced synthesizer. Incredible PCM sounds and Korg's exclusive AI² Non-Linear Synthesis, which adds ultra-realism to acoustic sounds and lets you make new sounds no other instrument can. 32 voices, 200 programs and 200 combinations. Up to 800 sounds with Korg's new PCM and program cards. A 16-track sequencer. Two Stereo Digital Multi-Effect Processors, 47 effects, real time control. Run the 01/W demo at your Korg dealer and send for our free colour brochure. The 01/W is here. It's time for everyone to catch up with Korg ... again.

01/W

MUSIC WORKSTATION

01/W FD

MUSIC WORKSTATION

Please send me my free 01/W colour brochure.

NAME _____

ADDRESS _____

Please send to : KORG UK,
8-9 The Crystal Centre, Elmgrove Road,
Harrow, Middx HA1 2YK Tel: 081-427 3397

KORG
MUSIC POWER