

Established 1981

# Music Technology

THE WORLD'S PREMIER HI-TECH MUSIC MAGAZINE

November 1990

£1.60



## ON TEST

*E-mu*

*Proformance 1/+  
Piano Module*

*Evolution*

*EVS1 Synth Module*

*Dr T's*

*Tiger Cub Software*

*Valhala*

*D50 ROM Cards*

*Anatek*

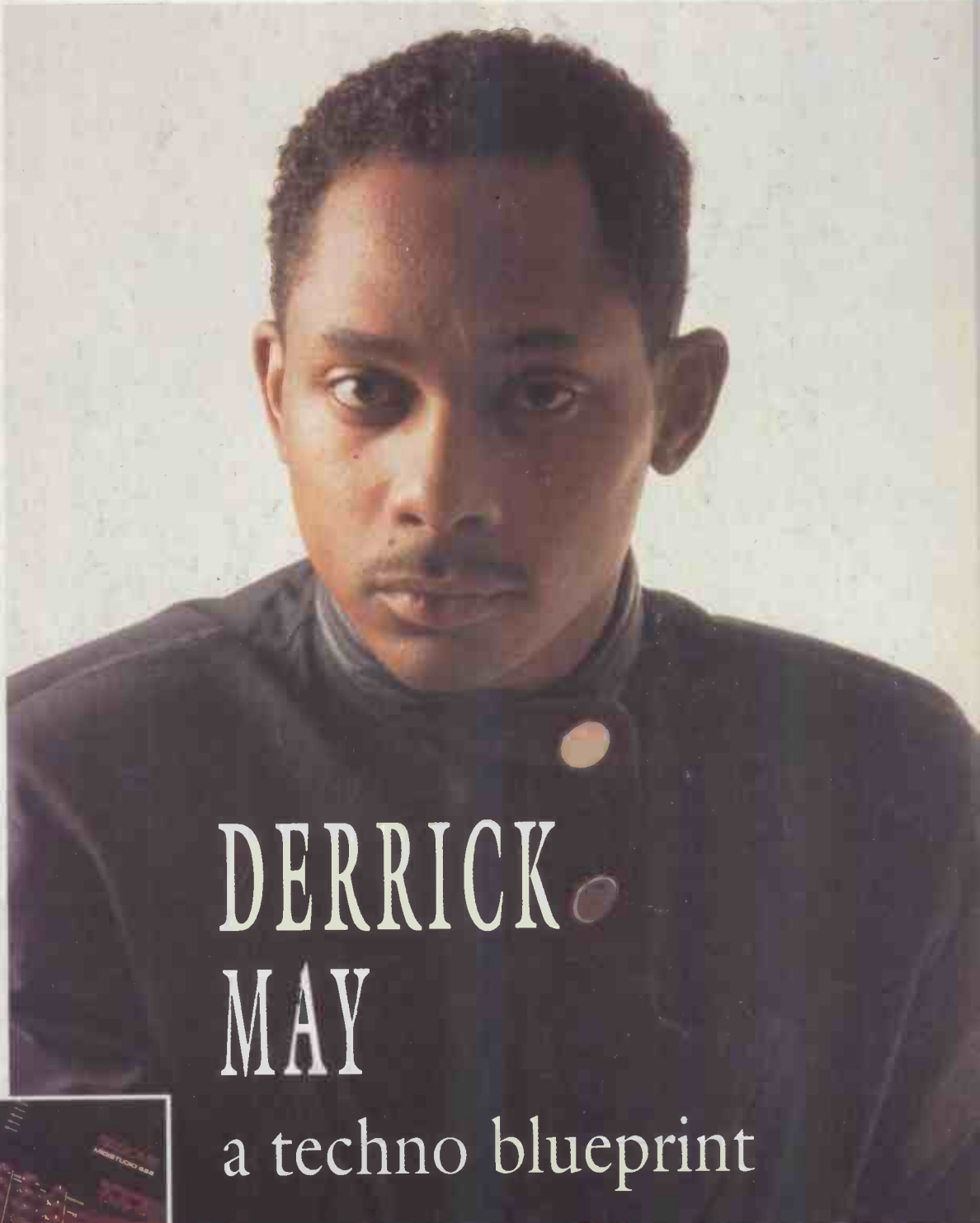
*Studio Merge*

*Yamaha*

*DD11 Digital Drums*

DAVE SMITH

*the inventor  
of midi*



# DERRICK MAY

## a techno blueprint

TASCAM 688

MIDISTUDIO

*the future of home recording?*

WIN

*a boss dr550  
drum machine*



What features must my new synth have?

- \* Stunning pre-set sounds
- \* New sounds should be easy to program
- \* Touch sensitive keyboard with aftertouch
- \* Drum and percussion sounds
- \* On-board digital effects
- \* Must cost less than £800

ALL ABOUT  
SEQUENCERS  
ROUTING & PRO  
USE AND RECOR  
By Julian Colbeck, Andy

# YES. YES. YES. YES. YES. YES.



With so many synths to choose from, it pays to decide what you need from your instrument before you even visit the store.

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Built-in Drums? Good idea.

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include a built in DMA/SCSI  
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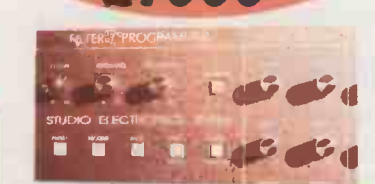
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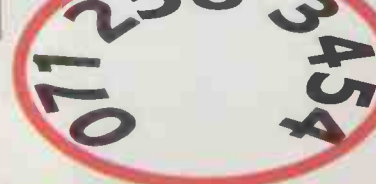
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News (n). 1. current events; important or recent happenings. 2. information about such events. 3. interesting or important information not previously known or realised. 4. as evidenced by Music Technology's *Newsdesk*.

**COMMUNIQUE** 12  
Dear Anne Robinson, I've heard that Music Technology's readers' letters page is a hotbed of hi-tech intercourse, and yet it's freely available to children of all ages - can I order an extra copy?

**COMPETITION** 64  
Another issue, another competition - this month the star of MT's exclusive competition is the new Boss DR550 drum machine. The answers to a few simple questions will ensure you never miss a beat.

**READERS' ADS** 75  
The largest and most popular hi-tech music classifieds section in print - if it's on the secondhand market, you'll find it here, and if you're trying to sell, you're talking to the widest and best-informed audience.

---

## Appraisal

**ROLAND MV30** 14  
Unveiled at this year's BMF, Roland's MV30 combines a sequencer, multitimbral synthesiser and an automated mixer in a single unit. Simon Trask previews a new direction in synth technology.

**ANATEK STUDIO MERGE** 20  
From the humble origins of their Pocket Merge, Anatek have refined a powerful eight-way MIDI merging system that could become essential to the serious MIDI studio. Vic Lennard merges with the elite.



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## E-MU SYSTEMS PERFORMANCE

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E-mu Systems' latest expanders are dedicated to the sounds of the piano - drawing on samples from the popular Proteus, how can they fail? Simon Trask tinkles the ivories.

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Looking for a digital complement to analogue gear or another expander to take the pressure off the rest of your rack? Ian Waugh discovers sonic flexibility at a price you can afford.

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Intriguing cries of "hit me" from the recording studio have been traced to Yamaha's new DD11 percussion controller. Simon Trask asks, can it be beaten?

## DR T'S TIGER CUB

70

Notorious for the numerical approach of their programs, Dr T's have incorporated GEM friendliness in their latest Atari ST sequencer and scorewriter. Ian Waugh reckons It's purrfect for those on a tight budget.

## Music

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Now making a huge impact in the north of Britain, Detroit's techno music owes its roots to a handful of far-sighted pioneers - amongst them Derrick May. Simon Trask discusses the future of electronic music.

## BASS-O-MATIC

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From his formative days experimenting with Torchsong, William Orbit has made good

through his remixes and a new outfit called Bass-o-matic. Tim Goodyer watches time catch up with a techno-prophet.

## Studio

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Tascam caused a recording revolution when they introduced the world to the Portastudio, now their Midistudio line looks set to take musicians on another quantum leap. Nigel Lord moves into the 21st century.

## Technology

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With its ability to manipulate sounds and music, the digital sampler has probably caused more arguments than any other musical instrument to date. Peter Ridsdale takes an alternative view.

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Designer of the revolutionary Prophet 5, prime mover behind MIDI and now one of Korg's chief designers, Dave Smith's career is unique in hi-tech music. Simon Trask conducts the exclusive MT interview.

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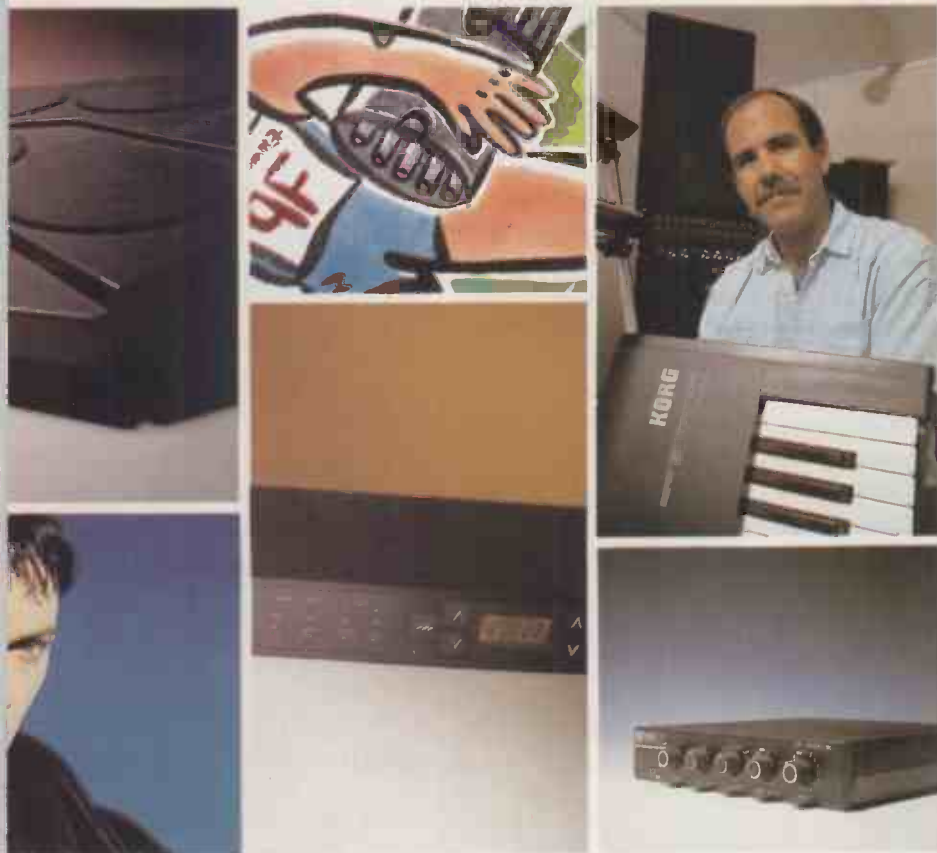
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Under the spotlight in this month's Patchwork are the stablemates to the astounding Valhala M1 sound cards - those for Roland's D50. Gordon Reid asks "can they maintain the standard?".

## RUNNING STATUS

66

Largely misunderstood, MIDI's running status protocol can be used effectively to streamline a MIDI system - as long as you know how to take advantage of it. Vic Lennard stretches his legs.





# editorial

## A CHANGE OF PROGRAM

A TRUE STORY: a man (he shall remain nameless; the story is not intended to humiliate him) recently made enquiries about the secondhand Moog Rogue analogue monosynth he was considering buying. "Where can I get some good sounds for it?", he asked. It's an old machine - non-programmable, he was told. "So where can I get some sounds?", he persisted. Eventually he came to realise he was going to have to provide his own sounds and set them up afresh on the front panel each time he wanted to use them.

There is no particular moral to the story, just the realisation that we take programmability as found on modern synthesisers very much for granted. And why not? It's been around for a good few years now, and it's made synths considerably easier to use - there's no longer a need to keep reams of photocopied patch charts to refer to every time you want to recall a sound, and no need to limit your music to a couple of sounds you can set up quickly and consistently. Instead you can spend your programming time diligently pursuing a sound in your head, and press "Store" when you've captured it or think you've made a significant move in the right direction. And your programming needn't even be confined to one working session, as you can readily resume working where you've left off. On stage you can run through a lexicon of synth sounds that can be called up in an instant from a single instrument if necessary, simplifying your job and making your music (at least theoretically) more interesting for your audience. But the implications of synthesiser programmability reach far beyond these conveniences.

Without programmability there could have been no

DX7, for example - at least, not in the form in which we accepted it. The number of interrelated parameters involved in FM synthesis is daunting enough, but consider having to recreate a patch manually using a single parameter-access system. And you'd have to check each parameter even though it may not need adjusting, simply because it's not readily visible.

Then there's the burgeoning industry in "third-party" sounds - sounds programmed by a company other than the instrument's manufacturer. Today you can buy selections of sounds for most popular synths; these can save you many, many hours of programming time, or offer you access to sounds beyond your own abilities as a programmer (though, of course, they are not exclusively your sounds). The only way to trade in sounds for a non-programmable instrument is with patch charts and more hours of button-pushing.

A further example of the benefits of programmability can be found in the demonstration of synths. How much easier it is for demonstrator and purchaser alike if a synthesiser's capabilities can be quickly and easily demonstrated and its potential readily appreciated. And how much more powerful is a sequencing setup that is able to incorporate sound changes on an instrument into a piece of music than one that is not? Whatever your answer, it couldn't be achieved without our friend programmability.

The moral isn't that programmability is such a significant musical innovation, but that technology often brings benefits that slip into our lives without recognition or comment. Take a careful look around - you might find the world isn't quite what you thought. . . Tg

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## BOOMERANG Back

Akai Professional have appointed Manchester pro-audio dealer Boomerang Sounds as a northern stockist of their hi-tech studio range. Equipment available and on demo includes the S1000 range of samplers, MPX820 MIDI Programmable mixer, ME30P MkII MIDI Patchbay, AR900 Digital Reverb, PEQ6 Equaliser and a selection of the EX-series effects units.

Also imminent is the first shipment of the Akai DDD1000 Optical Disk Recording and Editing system and Boomerang will be holding a demonstration evening as soon as they arrive.

For further details, contact Martin Pedder at Boomerang Sounds, 43A Elsinore Road, Old Trafford, Manchester M16 0WG or phone on 061-873 7770. **Dp**

## BULLETIN

Want something for nothing? Don't we all?

Many of you will have heard of Bulletin Boards, but possibly not a free Bulletin Board service - until now. *The Music Studio UK* BBS has been running for the last six months, specialises in MIDI and computer music and is open to the general public. The Board is looking to promote the use of MIDI and computers in music, and therefore is specifically aiming the facility at computer musicians so they can swap ideas and info and build up contacts. Not only that, but the Board is also used to exchange and distribute Shareware, public domain goodies, samples and much more. They are currently approaching commercial software companies to get their latest demos on-line.

The system is networked into some European and world message systems, and allows users to send and receive messages worldwide and take part

in discussions on various topics.

The Board is currently using state-of-the-art hardware and software, and runs on an IBM PS/2 model 80 with 450Meg of disk storage. Along with this is a fast 9600 Baud modem system. It will accept all transmission speeds from 300 baud to 9600 using the latest file transfer communication protocols.

Phone bills can be kept to a minimum since users may log on to the board and download a packet of messages addressed to them plus any others they're interested in. The next step is for the user to log off, read and reply on her/his own computer, then return a mail packet for processing, thus keeping cost as low as possible. And all you pay for on *The Music Studio UK* is your normal phone call charge.

Last but by no means least, the number: 061-727 7164 for UK users, 44-61-727 7164 from overseas. The Board is on-line 24 hours a day, seven days a week. **lds**

## Winning muses

We're pleased to announce that the winner of MT's Virtuoso competition, run earlier this year, is Karen Evans of Blackpool. The new version of The Digital Muse's Virtuoso is even now on its way to Karen. Well done, and happy sequencing.

If you entered and weren't successful, you might be interested to know that the latest upgrades to Virtuoso make it look like an even better buy. The program is now compatible with all GEM-based programs and will happily multitask with any GEM-based music program that uses standard MIDI calls - or indeed, other programs such as spreadsheets - and you're not restricted to programs developed by TDM. In addition, the first stage of Scoresheet, Virtuoso's score-editing module, is now available, featuring fast, smooth realtime scrolling and a unique facility to "burn-in" dynamics into a track, so that they play out via MIDI. Scoresheet also supports a full range of clefs and time signatures, allows music to be shown split on two staves, each of which can show a

different key and clef, and gives full support for ornaments and dynamics. Various other features are offered, and the module can be purchased by existing Virtuoso (and Prodigy) users for a price expected to be not unadjacent to £70.

TDM will be making available, within the next few weeks, a Module Editor program to allow Virtuoso owners to configure which parts of the program they wish to work with and which they would prefer to leave on disk, so freeing up computer memory for more music data. This means that Virtuoso and all modules currently being made available will still be able to run on the smallest STs. Virtuoso's new VMOS operating system also offers the advantage of being able to perform different simultaneous operations - for example, according to TDM, VMOS will enable you to listen to your music, print some lyrics, start a bulk editing operation, format a disk - all at the same time.

More info from The Digital Muse at 44 Gloucester Avenue, London NW11 8JD. Tel: 071-586 3445. **Dp**

## DO THE RIGHT THING

We were pleased to hear just a few days ago that Ensoniq USA, after considering all viable alternatives, have appointed Sound Technology sole UK distributors for the Ensoniq range of instruments. As of October 1st, all Ensoniq sales and service requests should be directed to

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

Ensoniq are confident that this move will result in even better future support and service for dealers and end users in the UK. **Dp**

## Gajits for your AMIGA

Gajits' Sequencer One entry-level sequencing program is now available for the Amiga. Offering 32 tracks, real- and step-time music entry, high-resolution recording, helpline support, and a wealth of graphic displays and editing facilities, Sequencer One for the Amiga sounds like an excellent bet for the musician on a budget, or for anyone with an

Amiga wanting to move into computer-based sequencing.

Gajits also produce a range of editor/librarians for the Amiga, which can work in parallel with Sequencer One.

More info from Gajits at 28 Dennison Avenue, Withington, Manchester M20 8AF. Tel: 061-434 2768. **Dp**



# ADD SOME CREATIVE POWER

If you want a synthesiser that can handle today's dance sound as well as exciting new sounds for future trends, the EVS-1 is the answer. The EVS-1 can give you rich analogue style bass and string voices, electric pianos, punchy digital sounds, plus those 'classic' drum and percussion samples currently in vogue. There are 28 different synthesis algorithms available, enabling the EVS-1 to cope with almost any style of music you choose. The EVS-1 comes packaged with its own free Atari editor/librarian software, so you can choose your favourite types of synthesis and create a whole range of new sounds. The program also runs as a desktop accessory so you need never quit your sequencing program to edit or load voices.

The EVS-1 is so versatile that just using your mother keyboard and a sequencer, you can create a finished song with up to eight different synthesiser parts including CD quality sampled drums and percussion in full 16 note polyphony, all at the same time, all from one EVS-1!

If you already have a MIDI set-up the EVS-1 is an ideal addition, giving you those extra voices for a full sounding track and the inspiration you need in the form of new and exciting sounds.

Specifications: 16 note polyphony; 8 voice multi-timbral; 16 Bit; 44.1 kHz audio system; 24 Bit internal audio system; Sampled drums (44.1 kHz), including kick drums, snare drums, toms, cowbells, hi-hats, agogos, congas, tambourine, claps, woodblocks, etc. All tunable via pitch wheel; Signal/Noise >80dB; 10 Hz-20 kHz frequency response; 28 synthesis algorithms; free Atari or IBM editing software. Best of all the price £299 inc VAT.



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Fax: 0462 480800



# A NEW CONVERTIBLE

Aficionados of early '80s modular synth systems might well be relied upon to produce a classic Pavlovian reaction to the name of Digisound. Those of us slightly less well-informed may not know of their respected modular synth, nor of the demise of the company and its subsequent resurrection by one Tim Higham, who continued to make the modular synth system available. Now there's a brand new unit available from the company in the shape of the Digisound MIDI/CV converter.

The unit is eight-note polyphonic (with separate CV and Gate outputs), using any one MIDI channel, and is also multitimbral, controlling four voices from four different MIDI channels with individual velocity. Pitchbend is also supported. Two, three or even four

units could be linked together to make full use of all 16 MIDI channels controlling 16 different voices in multitimbral mode.

In addition to use with analogue synths, the MIDI/CV Converter is also capable of triggering percussion sound sources, samplers, digital delays or even lighting equipment for simultaneous operation with MIDI devices.

As it stands, the new converter costs £249, including delivery, directly from Digisound. The company will also be happy to make modified units for users of equipment with other CV and Gate/trigger specifications - for example, Moog, ARP and EMS systems.

For more information, contact Digisound at 16 Lauriston Road, Wimbledon, London SW19 4TQ. Tel: 081-946 0476. **Dp**

## AMPLE SAMPLES

AMG are proud to announce their appointment as exclusive UK distributors for the Sonic Images collection of high-quality sample CDs. The library currently features six discs with disc seven coming soon. Discs feature the following:

Disc 1: Drums, percussion and musical effects, including 24 drumsets and nine instrument categories.

Disc 2: Percussion Special, including Asian, African, Latin and other percussion.

Disc 3: Stack Sounds A

Disc 4: Stack Sounds B (each disc featuring 24 rich multisamples with 4-8 mixed layers).

Disc 5: Musical Effects, including percussion, acoustic and electronic effects - orchestra hits, Tibetan monks, whale screams, and so on.

Disc 6: Grand Pianos, including Steinway, Bosendorfer, Bechstein, Seiler and Klavins pianos.

Disc 7: Symphonic Orchestra (coming soon), including strings, brass, oboe, orch strokes, hits and tutti, tymps, french horns and more.

Demo Disc: Featuring sounds from all seven CDs.

Each disc is £35 with any four costing £120. The demo CD costs just £10, and this is refundable against the purchase of five or more CDs. Prices include VAT and delivery.

AMG also act as exclusive distributors for the McGill University Master Samples collection of acoustic sample CDs. The library features 11 discs, including strings, brass, piano, percussion, saxophones, jazz sounds, latin grooves, pipe organ and historical instruments. Instruments are sampled across their full range and in a number of styles - bowed, pizzicato, harmonics and so on. Each disc costs £49, with three for £135. The McGill sampling manual to enable you to make the most of the discs costs £9. If you're immensely rich, you can have the whole library, plus the manual, for £425.

Finally, to give AMG their money's worth (!), we also have news of the release of the International Gold Wavestation ROM card, at an as-yet undetermined price. According to AMG's fulsome press release, this card makes the factory presets sound like little boys' sounds. We shall see. AMG also have a range of cards for almost every current synth you could think of, including the Ensoniq VFX, Kawai K1 and K4 and the Yamaha SY/TG55. Now that's quite enough of that.

More info from AMG at Hurst Farm Barns, Hurst Lane, Privett, nr. Alton, Hants GU34 3PL. Tel: (0730 88) 383.

**Dp**

# TSC Calling...

Never long away from these pages, TSC have sent us another sizeable chunk of news for our information.

First up is word of the successor to Casio's DA1 and DA2 portable DAT machines, the DA7 (what happened to the machines in between?). In a major improvement over its older siblings, the DA7 offers true 16-bit full bandwidth and has digital In and Out to the SPDif standard. It can be used directly with the digital interfaces on equipment ranging from the Akai S1000 to the Digidesign Sound Tools system, and has maintained the compact size of the DA1 and DA2. It comes complete with rechargeable battery pack and leather carrying case as well as a 220v PSU. The price too has remained correspondingly compact at £520.87 plus VAT (that's £599 to most of us).

If you're lucky enough to own an Akai S1000, TSC's new in-house-developed 8Meg memory board will probably interest you. At £995 plus VAT (total £1144.25), it represents a saving of over £500 on Akai's own expansion board. Up to four boards, giving a total of 32Meg of memory, can be installed inside the sampler, and TSC will allow a trade-in on any redundant 2Meg boards.

Also new at TSC is a whole

range of Diki Devices storage devices, deigned to complement the existing DD44R rackmounted removable hard disk and the RMCD CD ROM/removable hard disk combo. The new units all come in 2U-high 19-inch rack format with switch mode power supply and silent fan.

There are seven new drives in the range, offering from ten minutes of stereo recording through to a stupendous (and expensive) one hour of recording time - the DD780F at £2500 plus VAT.

Finally, TSC would like to invite interested persons to one of their forthcoming Saturday seminars, to be held every Saturday throughout October, November and December. The seminars will be centred around various synthesiser and recording techniques as well as special previews by manufacturers of new equipment. Each seminar will feature a guest speaker and attendees will be given free membership to TSC's pro user club (entitling them to preferential supply and prices). If you'd like to attend one of the Saturday seminars, contact Bernard Jones at the TSC address or phone number.

More info on any of the above can be obtained from TSC at 9, Hatton Street, London NW8 8PR. Tel: 071-258 3454. **Dp**

## Easy Money

In these times of high interest rates, poll tax and rampant Thatcherism, many of us poor people have been feeling the pinch financially. If you've had to pass on that new synth or sampler you've been lusting after recently, you might be interested in ABC Music's solution. ABC have linked with Avco Trust to start a new finance scheme with computer terminals in their shops which are linked to the credit bureau, enabling them to give you an instant decision on credit so that your purchase can be made on the spot.

And the news isn't all bad as regards interest charges either - on

selected items over £500, customers will be able to opt for interest-free credit over a period of up to ten months. If this isn't suitable for your needs, you can choose subsidised rates of 7.5% per annum (14.8% APR) over 24 months, or 9.9% per annum (19.3% APR) over 36 months.

The first pilot schemes for the direct computer link will be tried out in the Oxford and Addlestone stores, although the flexible finance rates are available in all ABC Music stores.

More info from Kim Joseph at ABC Music, 85 High Street, Esher, Surrey KT10 9QA. Tel: (0372) 68114. **Dp**

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For thousands of successful musicians, arrangers and producers C-Lab is the heart of their system, providing the ultimate in 64-track MIDI recording and music-scoring software for the Atari ST computer. Whether you choose Creator or Notator you can start recording, arranging and editing your music immediately. C-Lab software and its great hardware peripherals, allow you the total control and creative freedom which is so important in making great music.

Simple to use but with the power to run up to 96 different MIDI channels on up to 6 separate outputs, you will never be limited by the C-Lab System and, with the high recording resolution of 1/1536th notes. Creator and Notator will always faithfully reproduce your performance.

Notator provides all the features of Creator plus realtime notation editing and professional score writing - all in one program.

C-Lab's famous Priority Multitasking now extends to include Softlink, an environment which can allow up to 8 other programs of virtually any make to run interactively with Creator or Notator.

Unitor is a SMPTE box with a difference. Designed specifically for locking Creator and Notator to tape, Unitor locks the internal computer clock direct to SMPTE, making for great accuracy and instantaneous

lock up. An almost unlimited number of tempo changes and other important information can be automatically stored along with song data. With two extra MIDI Ins and two extra MIDI Outs, each with its own independently addressable 16 channels, Unitor is the only choice.

Human Touch is an audio trigger module for Unitor, allowing control of tempo from up to four different audio sources, with C-Lab you can even synchronise to old recordings without timecode.

C-Lab evolves with you, exciting new versions are regularly produced and with the additional facilities of the other superb hardware peripherals such as Export and Combiner, C-Lab offer a music production system which is simply the best.

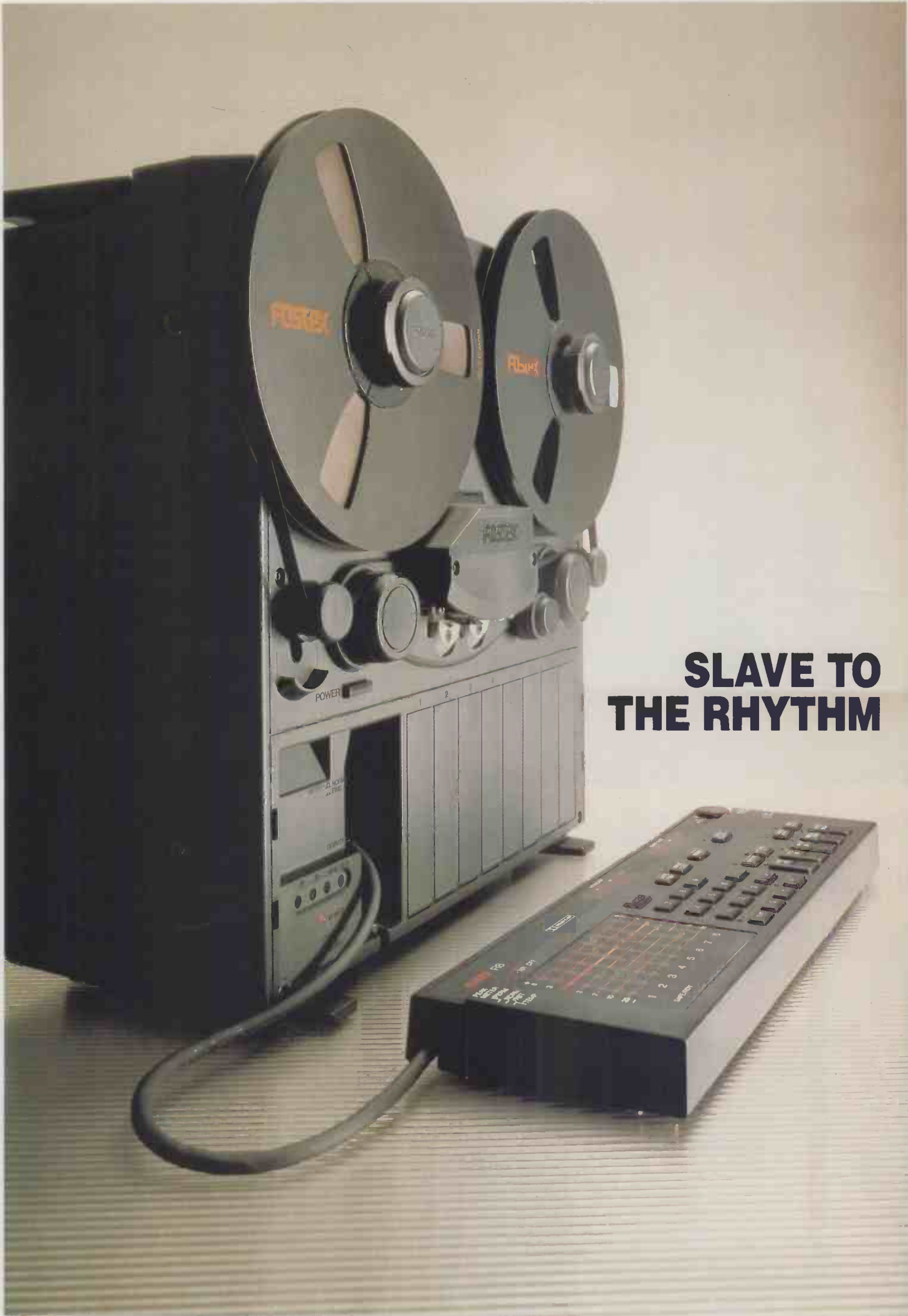


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**IT'S NOT SIMPLY THE OUTSTANDING SOFTWARE  
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**SLAVE TO  
THE RHYTHM**

Look at the screen. Move the cursor to bar 24 and click. Bar 28 and click. You've just set the punch in and punch out for an overdub. Now run it. Rehearse it. Don't like it? No sweat. Click and it's no longer there.

This is the speed of MIDI sequencers.

But where's your tape machine? Still shuffling back to zero? If you have any sync link at all, chances are, programming your multitrack and your sequencer are two frustratingly separate operations.

Not any more.

The Fostex R8 with the MTC interface means that sequencers and multitracks work as one.

### THE FUTURE IS IN CONTROL

MTC (Midi Time Code) is the extension of the MIDI 'language' which allows sequencers to 'talk' to multitrack recorders.

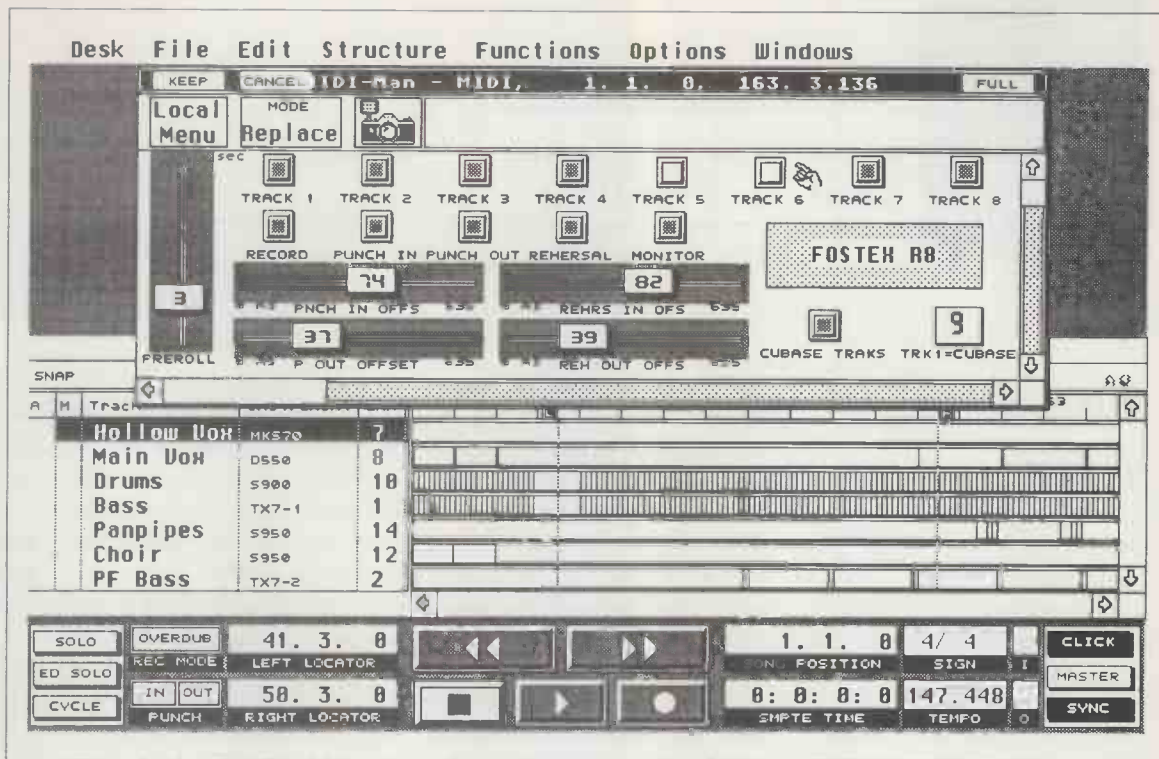
The MTC1 attaches to the back of the R8. One lead gets power and motion information. Two phonos link one track to a timecode reader/generator for precise tape location information. A standard DIN socket accepts the MIDI connection.

That's all there is to it.

Running an ATARI (or MAC) with Steinberg's latest Cubase or Cubase software, you need never touch the R8's front panel again.

In fact, because sequencer and multitrack run as one, in perfect sync, the multitrack becomes 'invisible'. The audio tracks appear like MIDI tracks on the screen. You run the sequencer and command every function on the R8 by just pointing and clicking.

You reach any point in the music by sliding the cursor or typing in the bar number or real time location. The choice is yours. Click any track and you can setup record at any



location you wish. And all the time the multitrack locks to the sequencer. The remarkably fast and precise R8 transport design locates at stunning speed. More functions let you loop and review your work. You have techniques at fingertip which till now have been considered to be the exclusive domain of the most advanced digital equipment.

Steinberg's foremost Cubase programme actually includes a page which drops down on screen, allowing you to trim the punch in and out offsets as well as preview times and monitoring setups. You can even redraw the Midi Manger page to suit your own recording techniques.

### SEEING IS BELIEVING

To do true justice to this radically new way of working will take much more than printed words will allow. The system must be seen in action. Discover how it sets up in minutes and works totally

'transparently' in the background as you concentrate on making music.

That's why we've set up special demonstrations of the R8, MTC-1 and Steinberg's Cubase and Cubase Software.

The dealers listed below will run a comprehensive hands on demo of the system as we've described it. See it as soon as you can - or if all else fails, write or call for our free information pack.

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## *mctickles's elixir*

Ian Miller's letter (MT Sept '90) regarding the distinction between "real" musicians and "charlatans" raises a few additional points that should be considered.

The assumption is that a trained musician, or one with a natural talent for playing or composing will always produce music of a superior quality to the person with a cheap sampler and a computer. The latter is an area in which no doubt there are some clever individuals, but let's face it, it ain't arf easy to masquerade as "talent" using the blatant lifting of other people's recorded work as your own. (Don't bother to try and argue that wholesale theft is an art. Law courts in the US are already awarding substantial compensations to artists whose work appeared on some hit record without their consent).

But here comes the real issue: those people are selling records and filling dance floors. Does the "beat" factor alone make the work good? I think not. Even though I am an active user of hi-tech equipment, I can see that we have made an art out of mediocrity, brought about directly as a result of the relatively easy and cheap access to that equipment.

"I can do that!" seems to have been the battle cry of this generation of "Electronic Musicians" (more commonly known as DJs for some strange reason).

Well, can you? What can you do? What you can do is flood the market with enough of this "music" to make it appear fashionable, and if that is all that people get to hear, that is all that people will buy.

When are record companies going to realise that unless they educate themselves as to what is good and

what is bad, our industry will spiral downwards so fast that anything of any real quality will be completely outside the sphere of understanding of this brainwashed record-buying public.

I wish to make this absolutely clear - I think the best of this genre of "musicians" do their thing well, and I like it! I am not dismissing this whole style of record making out of hand. But the difference between making good music and bad music is gradually being eroded because those who should treat it as a hobby really believe that they are making a valid contribution to the music we hear on our radios day in, day out. They in turn set the expectations of the record-buying public at a new all-time low.

We have to be brave enough to admit, without fear of being admonished for not fitting the current fashion creed, that too much of today's music is seriously under par. We have to realise that it is so easy to be mediocre with the type of instruments these pages are filled with.

Be truly creative. Make something undeniably your own. History's greatest musicians and composers have all been remebered for their skills and originality.

Who is going to remember you for nicking someone else's record?

**Seamus McTickle**  
**Upperkilt**  
**Nr Loch Doodley**

PS Notice how I am avoiding admonishment by withholding my name? Sad, innit?

*The only thing I regard as sad here is your apparent belief that you've just discovered the true source of the music industry's ills. This "sad" predicament is neither new nor confined to the activities of those musicians (or otherwise) using samplers. And "I can do that!" is*

*the battle cry that's brought most of music's talent out into the open (are you suggesting we submit ourselves to some sort of test of our latent musical talent before committing finger to Instrument or pen to manuscript?).*

*I'm not suggesting that all is well with the music industry, but it's not a new situation and anyone serious about their music soon realises that the charts are largely a measure of the success of promotion campaigns rather than a barometer of musical taste. How serious are you? Tg*

## *purely for prophet*

Could you please help me to obtain any information on a Sequential Circuits Prophet 5 synth (Mk 3, 1982) which I recently purchased.

The Prophet is in mint condition, however someone with a limited electronic knowledge may have been inside and tampered with this model. I can get the keyboard to go through its tuning program as per the manual, but I cannot get it to tune in to my other keyboards; it is either far too sharp or slightly flat. All other functions seem to be working properly and I have the original cassette tape of factory sounds and a manual.

I have looked through four years of your excellent magazine in the hope of finding any article or info on a Prophet, but unfortunately I have not come across any information.

Could you help me to get a circuit diagram, any voice data and any information you have on a Prophet 5? I would also like to know how much the synth would be valued at these days - in case the tuning fault is very expensive to fix. The keyboard looks as good as it did

when purchased in the early '80s and I doubt if it has had more than 100 hours of playing in its entire history.

Thanks for your help  
**Alistair Watt**  
**Aberdeen**  
**Scotland**

*You can't have been looking too hard at your favourite music mag to have missed Dave Crombie's retrospective on the Prophet 5, or to have overlooked the fact that a guide to the secondhand value of an instrument can be obtained by scanning a couple of recent issues' worth of Readers' Ads.*

*Dave's article appeared back in October '88 and featured a breakdown of the modifications made with each new revision. Unfortunately you're not specific about the revision number, but the 3 series saw the SSM chips replaced by those made by Curtis and consequently the instrument lost some of its sound character, but become more stable. Later rev 3.2s were the first suitable for MIDI retrofitting, while rev 3.3s saw MIDI fitted as standard and had their onboard memory capacity increased to 120 patches.*

*On the subject of price, you can take £600 as being a rough guide but the exact figure will depend on the revision number, condition and, as with all secondhand deals, how desperate your buyer is.*

*Circuit diagrams are not freely circulating to my knowledge, but if anyone reading this letter would care to help out, get in touch with MT at the editorial address. Your only alternative is to get in touch with a shop operating a good service department (like Argent's in London) or electronics specialists Kenton Electronics (081-974 2475) who may be able to service the instrument for you. Good luck. Tg*

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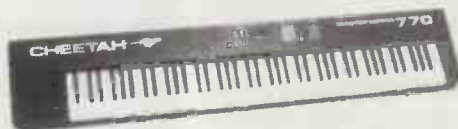
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## ROLAND MV30 STUDIO M

HERE'S YOUR STARTER for ten: it combines a 16-track sequencer with an eight-part multitimbral synthesiser and an automated mixer, measures 390(W) x 309(D) x 80mm(H) and weighs 3.8kg (8lb 6oz), what is it? No conferring. . . I'm going to have to hurry you. . . No, not a workstation, it's a personal MIDI studio system. Go to the back of the class and write out 200 lines: I shall not use the term "workstation".

Seriously, there's something very appealing about the MV30, and part of that is down to its compactness and portability. If Roland had packaged the electronics around a regulation 61-note keyboard, those elements would have been lost.

As it is, you can use the MV30 as the centrepiece of a larger MIDI setup, but equally you can use it as a semi-contained MIDI recording system which you can carry around with you. If you're a touring musician wanting to record some ideas in your hotel room, or if you get a flash of inspiration while you're visiting your Aunt Edith for Sunday lunch, you can plug in the MV30 and not only get the ideas down but work them up into complete songs as well. Step-time input to the sequencer should make it possible to do without a performance source. However, a more satisfactory solution might be to opt for one of the growing number of cheap MIDI-compatible portable keyboards. If you simply have to get some vocals down along with your sequenced parts, you can sync, say, a cassette four-track to the MV30 using the latter's built-in intelligent tape sync feature (which incorporates bar-number information into its tape sync signal, allowing the sequencer to lock to any position on the tape).

The internal sequencer can record up to 50,000 events across its 16 tracks, while a built-in disk drive allows storage of sequence data to 3.5" 2DD floppies. Linear and pattern-based recording modes are provided, with a choice of real and step-time input. Eight sequencer tracks are dedicated to the corresponding eight parts of the built-in multitimbral synth, while the other eight are for sequencing parts on external MIDI instruments. The MIDI tracks can contain data on multiple MIDI channels, giving you a total of 24 channels to play with (eight internal + 16 MIDI). MIDI In, Out and Thru sockets appear on the unit's rear panel, and MIDI syncing (including Song Position Pointers) has been implemented.

The built-in synth section is 30-voice polyphonic, RS-PCM sample-based like the U20 and U220. However, Roland

have added a filter section which uses the same digital filter LSI as the D70 and the S770 - which is definitely good news. The internal samples include some 20-30 drum and percussion samples for rhythm programming. In addition, the MV30's two rear-panel card slots can accept SN-U110 sample cards, and samples on these cards can be processed through the onboard TVF. Onboard digital effects processing appears to be along the lines of that on the D70, with eight types of reverb/delay and five types of chorus. Effect parameters and on/off status can be stored as part of the sequence data, allowing effect changes within a song. The standard stereo output, which handles both effected and dry signals, is augmented by two direct (non-effected) stereo outputs.

But the feature which is probably going to attract most attention is the Compu-Mix section, whose eight sliders allow realtime control over the level and pan of all 16 sequencer tracks, (in other words, both internal and MIDI sound sources) as well as effects settings for the internal sound sources. All mixing operations performed during a song can be stored as part of the song's data, giving you an automated mixdown facility - though inevitably the more performance data you record the less mixdown data you'll be able to record, and vice versa.

The MV30 is able to convert and load W30 and MC500 MkII sequence files off disk, but more interestingly it's able to read Standard MIDI Files off Atari and IBM disks, a feature also to be found on the company's new MC500 MicroComposer and available as a software upgrade for the MC500 MkII. Obviously, given the potential of the MV30 as an alternative to a computer-based sequencer for live work, being able to load sequence files created on the likes of Notator or Cubase into the MV30 should be an asset. There again, I'm not convinced that Standard MIDI Files always offer the best solution to data transfer between sequencers (sometimes playing the data across can be simpler), but here's no place to get into that.

What's not clear yet is whether Standard MIDI Files transfer on the MV30 is a two-way street. Clearly it would make a lot of sense for that to be the case, as sequences put together in the proverbial hotel room could then subsequently be read off disk into any computer-based sequencer which supported Standard MIDI Files.

Although the MV30 made its performing debut at the BMF, as with a number of other instruments at the show it's scheduled for November delivery. Expect it to create quite a stir when it arrives. ■ **Simon Trask**

**Price expected to be £1500 including VAT.**

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# THE SAMPLER AND THE SOUL



ILLUSTRATION: ANDREW KINGHAM

## ALONE AMONGST INSTRUMENTS THE DIGITAL SAMPLER HAS BROUGHT ABOUT A CRISIS IN MUSIC: HOW TO DISCRIMINATE BETWEEN CREATIVITY AND CRIMINALITY. TEXT BY PETER RIDSDALE.

IN THE INTERESTS of musical innovation, I recently approached a number of cathedrals in the South West of England with a view to recording samples of their mighty and majestic pipe organs. I was, however, somewhat disconcerted to find that my proposals were completely rejected after I explained to them exactly what it was that I intended to do. Now, if I had simply proposed to come and record a piece of music with a *bona fide* organist - one with short hair, clean fingernails and a minimum of visible tattoos - there

would have been no problem. The matter would have gone before the inevitable committee and then I would simply have had to pay the not inconsiderable hire charge for the cathedral space, use of the organ and, of course, the poor verger's overtime fee. My undoing came as soon as I mentioned the word sampler.

I suspect that most readers of this magazine will be unfamiliar with the world of the average chapter clerk but I can tell you for sure that the average chapter clerk is blissfully, even wilfully, unaware of yours. The average chapter clerk does not know what a digital sampler is and, surprising as it may seem, this is true of many cathedral organists as well. One of the almost obscenely clean, softly spoken men that I talked to still doesn't know what a sampler is even though I explained it to him very carefully, three or four times, in words of no more than two or three syllables. He does know, however, that he doesn't want one in his cathedral. You can say all you like about modern advances in technology, about CD quality and hi-fidelity, but like a Papua

New Guinean in front of a camera, the chapter clerk knows that what you're really trying to do is to steal his soul. He knows that the Holy Sound of his beloved organ is going to be turned into a cheap gimmick for awful people to laugh at in some hideous den of iniquity in one of the Gomorrah's of the Western world.

Now, you may think that there is nothing strange about all this, as we've all met people from every walk of life who do not know what samplers are. What strikes me about it is that (a) cathedral organists are musicians (even though they may be somewhat distant cousins) and (b) they play an instrument that makes complex tones from the admixture of simple ones - literally, a synthesiser. I'm sure that if there was ever a Baroque publicity brochure for the 17th century state-of-the-art pipe organ it contained the phrase "the only limit is your imagination". Why, then, is there absolutely no point of contact or empathy between the defining technology of one age and the defining technology of today?

Marshall McLuhan believes that each new technological innovation is an extension of ourselves<sup>1</sup>. He also believes that each time a new technology comes into existence we experience an initial numbness towards it. We cannot perceive the "message" of the medium. An obvious example of this would be the microphone. It enables us to make quiet sounds very loud and that has become its primary function. The very word microphone though, indicates that it was perceived differently at its inception - it is only in very special circumstances now that it is used as an aural equivalent of the microscope - as a device enabling us to hear what we cannot normally hear. When Edison invented the phonograph he saw it as being primarily a dictation machine and a device for preserving the last words of the dying. Its use as a musical medium was grudgingly admitted but was given a low priority by Edison himself - it would make it "appear as though it were no more than a toy"<sup>2</sup>.

## SAMPLING SIMPLICITY

WHAT I FIND particularly strange is that many people who own and use samplers often exhibit signs of Technology Numbness Syndrome to a greater or lesser extent, and the less music these people know the greater the extent. The infamous "N-N-N-Nineteen" effect is one example of this. Have you ever noticed how people

who are having their first go with a sampler often get stuck on this. Initially amusing it may be, but the novelty soon wears off. (Although people as diverse as Roger Daltrey and Alvin Lucier have in the past used the stutter as a musical device; Mr Daltrey out of an excited idiolaliac enthusiasm to tell us about his generation and Mr Lucier because he had a stammer.)

Paul Hardcastle hit a teenage nerve with his 1985 No. 1, '19', and got his well deserved 15 minutes of fame for his trouble, but let's not talk about creative use of the latest technology. . . We are in the province of Edison's toys here.

It's all a question of the musician using the technology rather than being led by the way the machine works into lazy thinking and dubious practices.

Let's take a hypothetical example: DJ Disc Doktor samples a TV Evangelist in full froth and lays it down over the killer rhythm track that he has put together after a poaching trip through his record collection (you have, of course, noticed that at the bottom of the mix is the famous bass and drums riff from *Led Zeppelin IV*). The preacher sample is good - it consists of a clever catch phrase, it is eerie, emotionally intense and has the extraordinary musicality of impassioned oratory. The first time you hear the sample you sit bolt upright and say "who is this?". It's a hard act to follow, and the sample has taken up all of the memory space left in the Doktor's sampler. So what happens next? It gets repeated. Now, only having two of them sounds somehow incomplete so. . . Yes, the Doktor presses that inexpressive button one more time and you slump back into your chair in despair. Later in the song the same thing happens again; you reach for the bleach. . .

Someone once said that listening to music is a process of making predictions - if your predictions are right more than 50% of the time you find the music boring. If your predictions are continually confounded you find the music "difficult". If only someone would tell the Doktors of the world about the first part of this equation.

On the other side of the equation we have the curious case of Adrian Belew's 'Cruelty to Animals'. Belew is, and I presume always has been, an enthusiastic proponent of fantastic sounds - he is renowned for his ability to make an ordinary electric guitar sound like a wild animal. His excellent *Mr Music Head* has on its CD manifestation what is known in the trade as a bonus track. The track consists of all the samples that are used

on the album suitably arranged into some kind of artistic order. What I hear in the first part of its four minutes and 23 seconds is as follows:

An American toilet flushing (accompanied by an acoustic guitar playing a blues lick).

What sounds like a backwards harmonium followed by a chicken clucking, a glass being smashed and a telephone ringing.

Underneath this I hear low rumbling feedback, what sounds like an orchestra tuning up and a rock guitar track backwards.

A cow moo and someone coughing.

Agitated birds in an aviary along with the strumming of a piano's (?) strings.

Someone calling (he's either Albanian, or the track is yet again backwards).

An elephant washing itself.

South Sea Islanders chanting (I also have a copy of *Island Music of the South Pacific*).

I needn't go on. Even if you've never heard the track you have an idea of what it sounds like. It's interesting but difficult to listen to and the reason for this is contained in the formula above. There's no way you can predict what's coming next. Much as I admire Mr Belew's working methods when it comes to use of sampled sounds amidst the working of his songs, I find that samples on their own do not stand outside of the bounds of musical sense - no matter how interesting they are. The chimera of a Music of Noises is as elusive now as it has ever been.

This was all ascertained in the first decades of the century, first by the Futurists with their Noise Machines and later by the proponents of musique concrète - the only reason that there is any manifestation of it now is that it has simply become much easier to do. What used to take weeks of careful splicing on bulky and noisy tape recorders can now be accomplished in an afternoon. Nagging doubts remain however as to whether or not some vital element gets lost in the whole process. Is "painstaking" somehow evident in the final result, perhaps as what Walter Benjamin has called the "aura" of a work of art? <sup>3</sup>. Are there still, despite the clarity and lack of hiss, subtle clues given to us that what we are listening to has been easily achieved and is maybe the less for it?

Some of these clues may not even be that subtle - they range from various degrees of quantisation distortion to outright loop glitches and munchkin-

isation. These examples indicate that we are all inspired by the possibilities inherent in the nascent technology but we are still to a certain extent numb to the true nature of the beast.

## THE OLD; THE NEW

I OFTEN ASK people who have samplers what is the weirdest thing they've ever sampled and I am nearly always disappointed with the reply.

People may talk about a mystic door-hinge squeak or a transcendental spoon-hitting-the-table experience but out of all the possible sonic events in or out of this world, it would seem that most people do not spend much time or thought seeking out the unusual. After sampling various items of kitchen paraphernalia, the family dog and the bits that fall off the car and finding nothing that seems to fit in with the practically institutionalised rock combo, most people return to the more serious business of finding the perfect grand piano plunk or the ultimate snare drum creak (sic). This is usually done not by recording these sounds but by swapping disks like people with card collections. (Swap you a Phil Collins gated bongo for a genuine Run DMC backwards disc scratch?)

An escape from this dull scenario is offered from a rather unlikely source - that of the increasingly common "sound workshop". Due perhaps to the gradual breakdown of traditional family structures, child care and play scheme groups appear to be mushrooming around the country despite the lack of adequate funding and governmental concern. There is a growing need for ways in which to engage children in creative "fun" activities, and this is being met largely in the voluntary sector by a growing body of the artistically inclined. Couple this with a dash of green recycling consciousness and what do you get? The Batphone. This phenomenon consists of a length of piping which is simply struck at one end with a cupped hand or if the pipe is too wide with a table tennis bat - hence its name. The idea has been around since mankind first met scaffolding, but you sometimes come across people who actually claim to have invented the thing. It is elegant in its simplicity - cut five or seven lengths of unwanted plastic pipe in Pythagorean ratios and *presto* - a musical instrument with a peculiar but pleasing set of inharmonic partials.

The idea arises of designing instruments expressly for the purposes of sampling. Building homemade instruments ►

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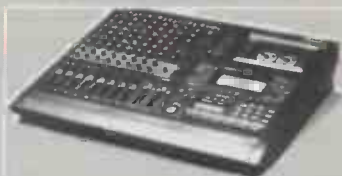
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may not appeal to many, merely on the grounds of not being able to find the time to do it, but there are time saving advantages when it comes to the making of instruments-for-sampling as opposed to instruments-for-performing:

1. Only one note need be played at a time. The instrument may be completely reassembled if needs be after every successful sampling.
2. Only part of the sound might be required - there is no need for the whole length of the note to sound good.
3. The instrument need not be durable or have a Sunburst finish with crawling mother-of-pearl vine on the fretboard.

In addition it may only require cheap and easily available materials.

Consider the humble ping-pong ball. As a percussion instrument it belongs to a category all of its own, being perhaps the only spherical bouncing instrument in the world. One bounce on a hard surface provides a usefully percussive sound when sampled. It can also be rolled slowly down a one-and-a-half-inch diameter metal pipe for a very special effect. It can be placed inside two empty tin cans sellotaped together and a series of these modules can then be mounted on the rim of a bicycle wheel attached to a suitable frame. The resulting sound; a demented tin Gamelan cascade, will not be suitable for SA&W productions. You can however call the thing a sound sculpture and start to get part-time work in the voluntary sector. The ping-pong ball can even be fired out of a special gun, available from most toy shops, which can be useful if you want to record a drum or cymbal without stick noise, for instance.

"Musical wire" can be bought for a pound a roll and classical guitar machine heads can cost as little as 50p each. An 18-foot monochord can be discreetly installed underneath a bookshelf or any other suitable plank. For that secret Indian Tanpura effect use a flat bridge and a piece of cotton under the string. Piezo-electric pickups costing an unbelievable 32p each can be attached to a jack plug and connected directly to a mixing desk or sampler. The Electric Bookshelf brings a whole new literal shade of meaning to the currently fashionable term "plank spanker". Primitive harps, berimbaus and zithers can be made using these same materials.

Ideas for these instruments need not be startlingly original, as you will find that  
SIC TECHNOLOGY NOVEMBER 1990

they will sound quite different to their professionally made counterparts. After all, if you study the worldwide history and morphology of musical instruments you'll find that there are very few materials that have not been struck, blown, plucked, bowed, stroked, rubbed, raspberried, hummed, hammered or otherwise coerced into making some kind of musical sound.

Some materials have not caught on due to purely practical considerations such as their innate fragility or massive bulk, but such considerations are irrelevant when samplers enter the picture. It would be foolish in the extreme to expect a series of glass gongs to survive the average 30-day tour at the hands of even the least exuberant of percussionists. Sampling them, however, is easy enough once you've overcome the initial difficulty of having suitable holes installed so that they can be suspended. Drilling holes in glass is a tricky business and it's probably best entrusted to a glazier. I was charged three pounds per hole for my gong, making the holes five times more expensive than the glass. I knew all about the concept of "something for nothing" prior to this but this was my first real experience of "nothing for something".

The margins for true originality in the making of new instruments are very narrow indeed but new juxtapositions of materials and structures are still possible and even desirable. Unforeseen and unexpected effects tend to arise in the process of construction and these (sometimes) happy accidents can often act as triggers for new ideas. I recently tried to sample a Slinky descending a wooden staircase and the result was nothing to write to Music Technology about, but when I attached one end to the bridge of an old violin that happened to be hanging in the stairwell and hit the other end with a short metal rod - Eureka, a wonderfully abrasive *Star Wars* laser effect which fitted perfectly into the music I was working on at the time.

I am not suggesting that every sound one uses has to be an aural revelation or that the sounds of sampled traditional instruments do not have their uses. I am merely suggesting ways of extending our palette of sounds into "new" areas.

Furthermore, this whole process carries no sense of guilt or fear of being sued. No feeling that you are tapping into someone else's creativity or stealing fire and thunder from the gods. And speaking of gods brings me neatly back to the cathedral project.

I eventually did manage to find a sympathetic organist and I had a

wonderful two-hour sampling experience in a well-known and truly impressive cathedral with a natural reverb time of eight seconds. Imagine my chagrin when I got back home, tried to edit the samples and found that not one of them would loop satisfactorily. Put this down to the richness of the sound, the complex acoustic environment or maybe just the will of God. In any event, all I managed to salvage out of the session was a single note complete with natural reverb which sounds great on its own ("wicked" being hardly a suitable adjective in this context) but which seems to disappear as soon as it goes into any mix of a secular bent. I'm not superstitious by nature, but I admit that as I was leaving the somewhat eerie atmosphere of the crepuscular cathedral in question with my samples in the bag, I felt for a moment as Lord Carnarvon must have done, walking away from the tomb of Tutankhamen with something valuable in his hands and the Pharaoh's Curse ringing in his ears. . .

Has any other technological development ever had such an effect on our sense of guilt (assuming that we had one in the first place)? But wait a minute, surely sampling from instruments is OK between consenting adults? Relax, Peter, you've been sampling organ notes, not the first four bars of ELP's 'Toccata'. You see, I'm sure that these quasi-ethical feelings are yet another manifestation of the dreaded Technology Numbness Syndrome. Whilst the sampler in itself does not physically define the limits of found sounds as opposed to created ones, it does very clearly define a line between "absorbed influences" and outright theft. It does not, however, ensure that an "absorbed influence" is a more honest way of referring to another piece of music than by playing it yourself. And in the absence of adequate legislation to deal with both theft and plagiarising, you are left only with your conscience as a guide. May your God go with you. ■

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# STUDIO MERGE



The MIDI merger comes of age: from being a simple two-into-one device for combining data streams, Anatek's Studio Merge has made it a powerful eight-way merging system. Review by Vic Lennard.

**T**HE VIRTUES OF using a MIDI merge box should be fairly familiar to anyone more than passingly acquainted with MIDI. Whether you're playing a single multitimbral module from two different keyboards, or editing the parameters on an expander or sampler from a computer and auditioning sounds with a MIDI keyboard, a merger will save you the frustration of endless lead swapping.

The main restriction of most MIDI mergers is that they only have two inputs. If you need more inputs than this, you have to stop looking at relatively cheap merge boxes and start looking at MIDI patchbays with MIDI processing facilities - and these tend to be expensive. Fortunately, Anatek - those clever "pocket effect" people from Canada - have come up with another innovative idea: how about a MIDI merger with eight MIDI Ins and Thrus and a single MIDI Out? That's the Studio Merge.

## DESCRIPTION

ENCASED IN A 1U-high black rackmount, the front panel of the Studio Merge simply has two LEDs. The red LED shows that the unit is powered up and the

green indicates the absence of a MIDI signal - it stays on unless MIDI information is being received in which case it darkens.

The rear panel has eight sets of MIDI Ins and Thrus, along with one MIDI Out. The power input will accept any PSU from 9-18 volts AC or DC. This is a great idea, since you no longer have to worry about matching the PSU to the unit - and it only takes an extra couple of components. However, Studio Merge has no on/off power switch which means that should the unit need resetting, you have to either pull the mains plug or the PSU plug on the rear of the unit. The latter is not a good idea. Many PSUs have an internal fuse which cannot be changed - blow it and throw it. There really should be a reset button somewhere on the unit itself.

Internally, the unit is impressive. All inputs are opto-isolated using Sharp 6N139s, and the latest surface-mount technology has been used for nearly all components. In fact, Anatek appear to have had custom micro-processors designed and built for them.

## LET'S MERGE

THE FIRST USE of the Studio Merge is likely to be ►

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Sounds, 14 July 1990.

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**“If you need a heavy-duty MIDI merger for live or studio use, then there is currently no competition - the Anatek Studio Merge is out on its own.”**

► as a standard merger. A couple of keyboards, drum pads and a guitar synth or two could all be playing the same multitimbral synth (especially the latest ones which have 30 notes and more for polyphony - Roland's U220, for instance, will let you play six parts and a rhythm section) through this unit. The setup is as straightforward as for less sophisticated merge boxes: the MIDI Outs from each controller plug into the MIDI Ins on the Studio Merge whose MIDI Out goes to the MIDI In of the module. You could link in a sequencer by routing the MIDI Out from the Studio Merge into the MIDI In of the sequencer and the MIDI Out from this into the MIDI In of the module. And this could well be one direction for the future - MIDI modules with high polyphony and advanced MIDI merging technology.

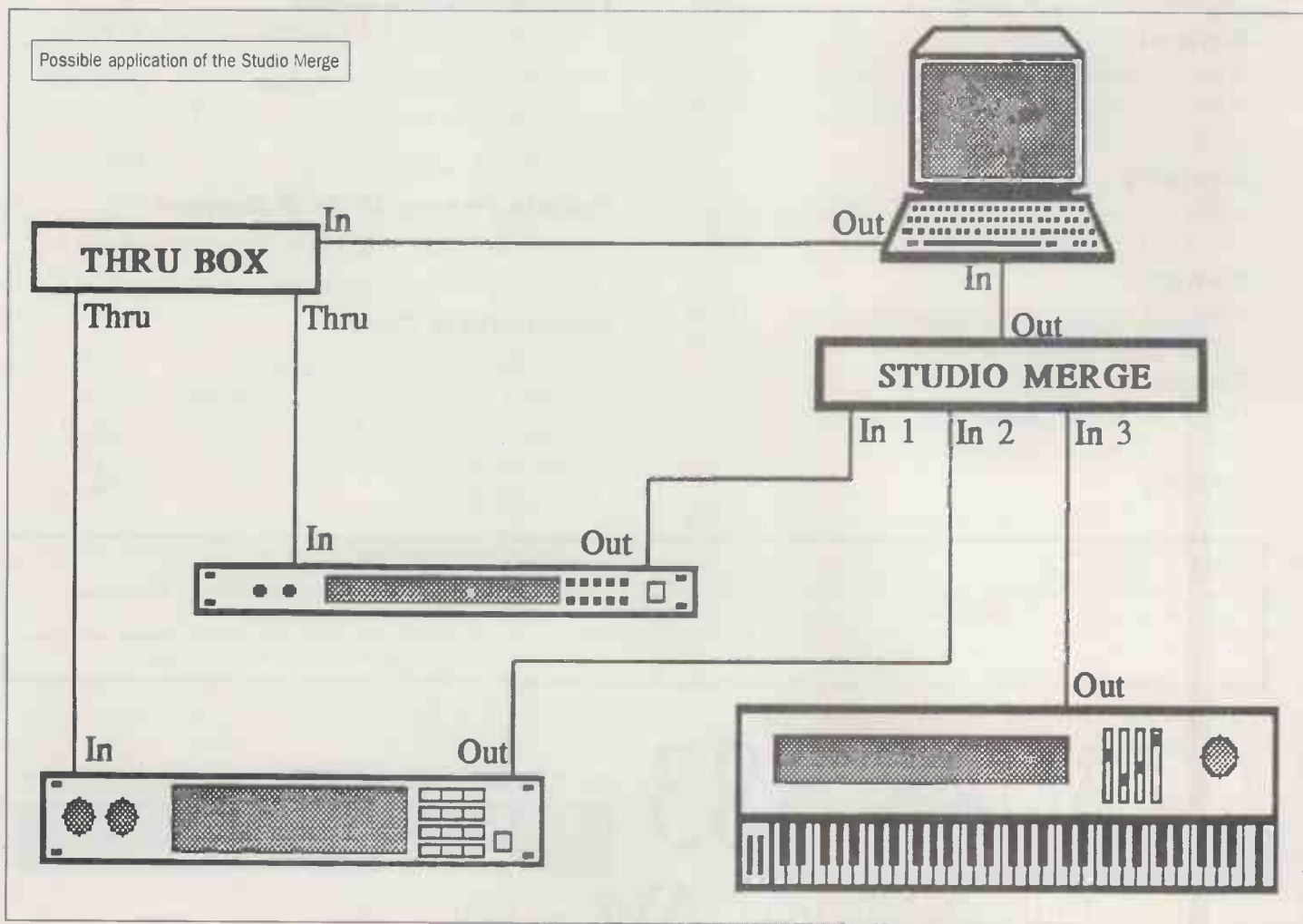
However, there are other uses for the Studio Merge, especially in the recording studio. Let's say that you have a master keyboard, two modules and a computer with sequencing software. There are two jobs required here: being able to play the modules from the keyboard whether the sequencer is being used or not, and dumping and loading banks of sounds from each module to a librarian on the computer. The latter requires a handshaking MIDI connection, which involves using two MIDI cables.

Using an additional Thru box (see diagram) you can set up the system to cater for both of the above situations. Keyboard and module MIDI Outs go to the Studio Merge, while the computer MIDI Out makes its way back to the MIDI In on both modules. The Thru box is optional because you could use the MIDI Thru on one module to feed the MIDI In on the next. (This arrangement is commonly known as a "daisy chain" and is adequate when only one MIDI Thru is being used. With more modules, data corruption can occur. When you consider that a ten-way MIDI Thru box costs around £35 (Philip Rees V10), it makes sense to use one).

By expanding the system in the diagram, you could include up to seven modules, some of which could be samplers or drum machines. As long as any "soft" MIDI Thrus on the modules (which merge the data on MIDI In with any being generated internally) are turned off, there shouldn't be a problem with MIDI loops.

## IN USE

ONE WORRY WHEN using an eight way merger is that of timing accuracy (ask any good British comedian). If you use large buffers, these have to fill up before MIDI data can be passed on which incurs delays. On the other hand, small buffers are likely to overflow and lose data, especially when doing a SysEx bulk dump to a computer. The best idea is to use small buffers and very fast





processors to get the MIDI information out of the unit as quickly as possible. This was a problem which Anatek's own Pocket Merge suffered from - it couldn't handle a SysEx dump of any real size.

Time to start inputting MIDI data and seeing what the Studio Merge does with it. To start with, it filters out Active Sensing from all inputs but reimposes it on the MIDI Out - thank God it doesn't merge it. The unit certainly doesn't appear to filter or thin any data, even pitchbend or aftertouch, but does have one quirk: MIDI data entering under Running Status is output without it. Bearing in mind that Running Status is a means of MIDI data compression, this is rather surprising and the opposite would have been expected. Its use with the likes of pitchbend can save one or two hundred milliseconds with a full pitch wheel bend, and if you have two or three keyboards each using pitchbend and aftertouch, MIDI notes would certainly be delayed as a result. The lack of Running Status probably won't affect the timing in normal use but its absence is surprising.

The Studio Merge has no trouble coping with SysEx MIDI data dumps. I checked a 35Kbyte Roland D50 dump and it was fine in one-way or handshaking mode. Any note data played while transmission of SysEx data is taking place is held back until an end of exclusive message is received. This is fine for manufacturers who use a single stream of MIDI data, such as Yamaha, but causes problems when the data is sent in packets. Roland use this method, with each packet containing 256 data bytes. Many computer librarians expect to receive a start of SysEx message after the previous end of SysEx to show that the next packet of data is being sent. If any other data is received, the dump is aborted.

A similar problem occurs with sample dumps. Studio Merge is perfectly happy with the speed of the dump but should you hit a key as sample data is being sent from the computer to the sampler, it will interfere with the acknowledgements from the sampler. This is because a sample dump is also sent in packets. At the end of each of these, a "thank you" message is returned which means that the previous packet was received OK. Without this message, the dump is aborted.

Another situation is that of interspersing SysEx with System Real-time data such as MIDI clock and start/stop/continue commands. This is permitted within the MIDI Spec but causes problems if the device receiving the SysEx dump is counting the number of bytes being received. The byte count will be wrong and an error message will ensue.

None of these situations is a failing of the

Studio Merge, but are worth bearing in mind. When data dumping, tie your hands behind your back and make certain that any device sending out MIDI clock is prevented from doing so. There again, it is most unlikely that you would want to be using the system as a whole when sending sample data or a SysEx bulk dump. The most important point is that Studio Merge does its job of preventing any MIDI data except for System Real-time from interrupting SysEx. Consequently, you can happily send out patch data and parameter changes via SysEx in the course of a performance or recording.

Regarding MIDI clock, there does appear to be a poor piece of planning within Studio Merge. If MIDI clock is being received at two of the inputs, it is merged. This would have the effect of combining the tempos. There should be a lock-out technique so that once MIDI clock is received at one input, it is ignored at any other.

Most of the above situations are unlikely but it is possible they will arise. If anything, they show up the inherent difficulties of using System Exclusive at the same time as MIDI note and controller data.

## VERDICT

A SMALL TO moderate sized MIDI studio could do a lot worse than to consider Studio Merge. It will let you run a complex setup with a minimum of fuss including the use of a computer as a bulk dump librarian. Live bands could use it to let them drive a single multitimbral MIDI module from four or five controllers.

Anatek units are not cheap and the Studio Merge is no exception. At a little over £350, the cost of the Studio Merge is likely to make many of us consider the alternatives carefully. If you're simply going to use it as a merger, do you need eight MIDI Ins? If not, Philip Rees' 2M merger (at £79.95) will happily merge two data streams. Or are you simply going to use the Studio Merge instead of a MIDI patchbay? In which case, XRI's excellent XR400 automatic MIDI patchbay (at £219.95) has to be considered. Similarly, Function Junction and MIDITemp's PMM88 will give you the merge facilities along with MIDI processing for around £60-£80 more.

The bottom line is that if you want to rationalise your current MIDI network, or need a heavy-duty MIDI merger for live or studio use, then there is currently no competition - the Anatek Studio Merge is out on its own. ■

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# PROFORMANCE / 1+



It's not easy fitting an \$18000 grand piano into a 1U-high half-rack box, but E-mu haven't let that deter them. Has their dedication paid off? Review by Simon Trask.

**O**VER THE YEARS, E-mu Systems have carved out a niche for themselves in the sampler market with their Emulator series and Emax samplers - and in the process they've built up a fair amount of sampling expertise and a sizeable and well-respected sample library. Bearing in mind that many musicians want sampled sounds without the hassle of having to sample them, it was a logical step for the company to make some of their samples available in a preset sample playback unit - which is precisely what they did last year with the Proteus.

The success of that unit has clearly prompted them to think about other variations on the sample playback theme, and what they've come up with are two 1U-high, half-rack, 16-bit true stereo piano modules, the Proformance/1 and the Proformance/1+. The former is given over entirely to sampled acoustic pianos, while the latter augments the acoustic pianos with electric piano, organ, electric and acoustic basses and vibes. These are purely preset sounds - there's nothing you can do to change them. Don't expect multitimbral MIDI operation, either, as the Proformance modules are designed to sit on one MIDI channel for one specific purpose: to provide keyboard players with performance-orientated sounds which can be used on an everyday basis.

## OPERATION

OPERATIONAL SIMPLICITY IS the hallmark of the Proformance modules. Fiddly multi-function buttons and parameters which can only be reached after ten button-presses give way to the immediacy of Transpose, MIDI Channel and Preset selector knobs. Two further front-panel knobs govern volume and

fine-tuning, while the green Power LED doubles as a MIDI reception indicator. Meanwhile, the rear panel provides MIDI In, Out and Thru sockets, Left/Stereo and Right/Mono audio outs (the left output can also be used as a stereo headphone output) and a power input for the external adaptor. The module has no on/off switch, and the adaptor which came with the review model was one of those irritating two-prong types.

The Preset knob allows you to switch between up to 15 preset sounds, which just happens to be the number of presets offered by the Proformance/1. The further 17 presets on the Proformance/1+ can only be selected via MIDI. On both modules, switching the Preset knob to "MIDI" allows you to select all presets via MIDI.

The Transpose knob allows the Proformance to be transposed up or down an octave in semitone steps or transposed  $\pm$  one or two octaves, while the MIDI channel knob allows you to select any one of channels 1-13, Omni, Split or Demo. A couple or so seconds after you select Demo, the Proformance starts cycling through a sequence of mainly jazzy keyboard performances, including a short rendition of 'Autumn Leaves' on vibes, which are designed to show off some of its sounds.

Split only applies to the Proformance/1+ (its position on the Proformance/1's MIDI channel knob is replaced by channel 14), and allows you to define a split-point anywhere on the keyboard for use with some of the presets, which offer two sounds in a split keyboard layout. All you need to do is turn the knob to Split, play the relevant note on the keyboard, then turn the knob to another setting. Sending the module MIDI controller 70 (from a programmable footswitch on your keyboard, for instance) has the same effect as selecting Split from the front panel,

and can be a useful hands-free alternative. The split-point isn't preserved through power-down. Incidentally, controller 70 is at present unassigned in the official MIDI scheme of things, so its Split function is purely E-mu's idea.

As well as controller 70, the Proformance can respond to pitch and mod wheel, volume pedal, sustain pedal, sostenuto pedal and soft pedal data via MIDI. If you connect a second Proformance module to the first's MIDI Out, the latter automatically switches to MIDI Overflow mode, which means that as soon as its 16-note polyphony is exceeded it sends subsequent notes to the second Proformance (in fact, this is the MIDI Out's only function). Consequently, two modules will give you up to 32-note polyphony.

## PRESETS

THE PROFORMANCE/1+ SENSIBLY provides a mixture of instrumental sounds in its first 15 presets, so that you're not confined to selecting only acoustic pianos from the front panel. However, although the Proformance/1+ has 32 presets in all, this doesn't mean that you're getting 32 different sounds. For one thing, seven of the presets are split combinations of sounds used in the other presets - acoustic and electric basses variously combined with piano, organ, electric piano and vibes - while presets 25-28 are presets 1-4 with more touch sensitivity and presets 29-32 are presets 1-4 with less touch sensitivity. A similar situation regarding touch sensitivity exists on the Proformance/1. However, anyone with a keyboard that offers a choice of MIDI velocity curves might feel that having presets with varying velocity responses is rather unnecessary.

The Proformance's acoustic piano presets are based on stereo recordings of a concert grand piano. The basis of the module is provided by the first four presets: 'Dark Grand', 'Classic Grand', 'Mellow Ivory' and 'Rock Piano'. These have been tailored to different musical requirements, so that 'Dark Grand' is intended for solo performance, the brighter overall tone of 'Classic Grand' makes it better suited to ensemble work, the dark, rounded tones of 'Mellow Ivory' make it suitable for, to quote the Proformance manual, "soft moods and textures", and 'Rock Piano' has a bright, penetrating quality which allows it to cut through a mix without having to be EQ'd. Other variations are the bright and slightly-detuned 'Modern Rock', the bright and heavily-detuned 'Honky Tonk', the rich, warm 'Mellow Chorus' (a detuned version of 'Mellow Ivory') and 'Exceptionally Bright Piano' (instant Wild West saloon bar).

Proformance's acoustic piano presets are clean, dynamic and well-detailed, with no glaring changes in tone between multisamples, no looping glitches, and minimal thinning-out within loops. And while many multisampled acoustic pianos have stronger and weaker ranges, Proformance's piano presets are uniformly strong throughout their entire range. The bottom end is the best I've heard on a sampled piano; where many start to get mushy,

Proformance's presets remain clear and detailed. The sounds decay smoothly to zero volume, with no noise on the tail end of the decay. If I were to make one criticism, it's that the decay isn't long enough; according to the manual, Proformance/1 includes versions of presets 1-4 with longer decay, but these aren't available on Proformance/1+.

The other sounds on the Proformance/1+ are a mixed bag. 'Warm Electric Piano' and 'Studio Electric Piano' are both very pretty sounds with not a lot of bite to them; the former has a dark, subdued character, the latter is brighter and buzzier. 'Electric Organ' and 'Rock Organ' are both gutsy sounds (the former is a Hammond B3 sample), and work well in combination with the gruff 'Electric Bass' - though a bit more dirt and distortion wouldn't have gone amiss. The 'Acoustic Bass' (which, like the 'Electric Bass', is only used in split presets) is a bit of a disappointment, its taut, clipped and distinctly woody quality being very inflexible in performance.

'Straight Vibes' and 'Bright Vibes' are both rather anaemic, to my ear - I've heard plenty better elsewhere. 'Bright Vibes' has an added glinting metallic quality courtesy of a mixed-in digital waveform. In fact, it would appear that the additive synthesis techniques employed in Proteus have been used to create such Proformance sounds as 'Synth Tines', 'Piano Bell' and 'Ice Keys': bright, sharp, glistening sounds with a subtle metallic edge and a distinctly synthetic quality to them.

## VERDICT

COMPACT, LIGHTWEIGHT, AND deliberately designed to be as non-technical and easy to use as possible, the Proformance modules represent technology at its most convenient. Fortunately they also represent technology at its most impressive, something which it doesn't take you long to realise when you sit down and play the acoustic piano presets. To my mind, however, none of the extra sounds provided by the Proformance/1+ are essential in the way that the acoustic pianos are. If the module is going to be sitting in a studio surrounded by racks of MIDI gear which can handle all the other sounds, a Proformance/1 is probably the best option. However, if you're looking for a module to take out as your only sound source on solo keyboard gigs then the Proformance/1+ could be worth investing in for the added flexibility.

If you're dissatisfied with the acoustic piano samples on your all-singing, all-dancing workstation synth and don't relish the prospect of investing in a dedicated electronic piano of invariably tank-like proportions, look no further than the Proformance modules: sheer quality without the weight. ■

*Thanks to The Synthesiser Company for loan of the review model.*

**Prices** Proformance/1, £449; Proformance/1+, £529. Both prices include VAT.

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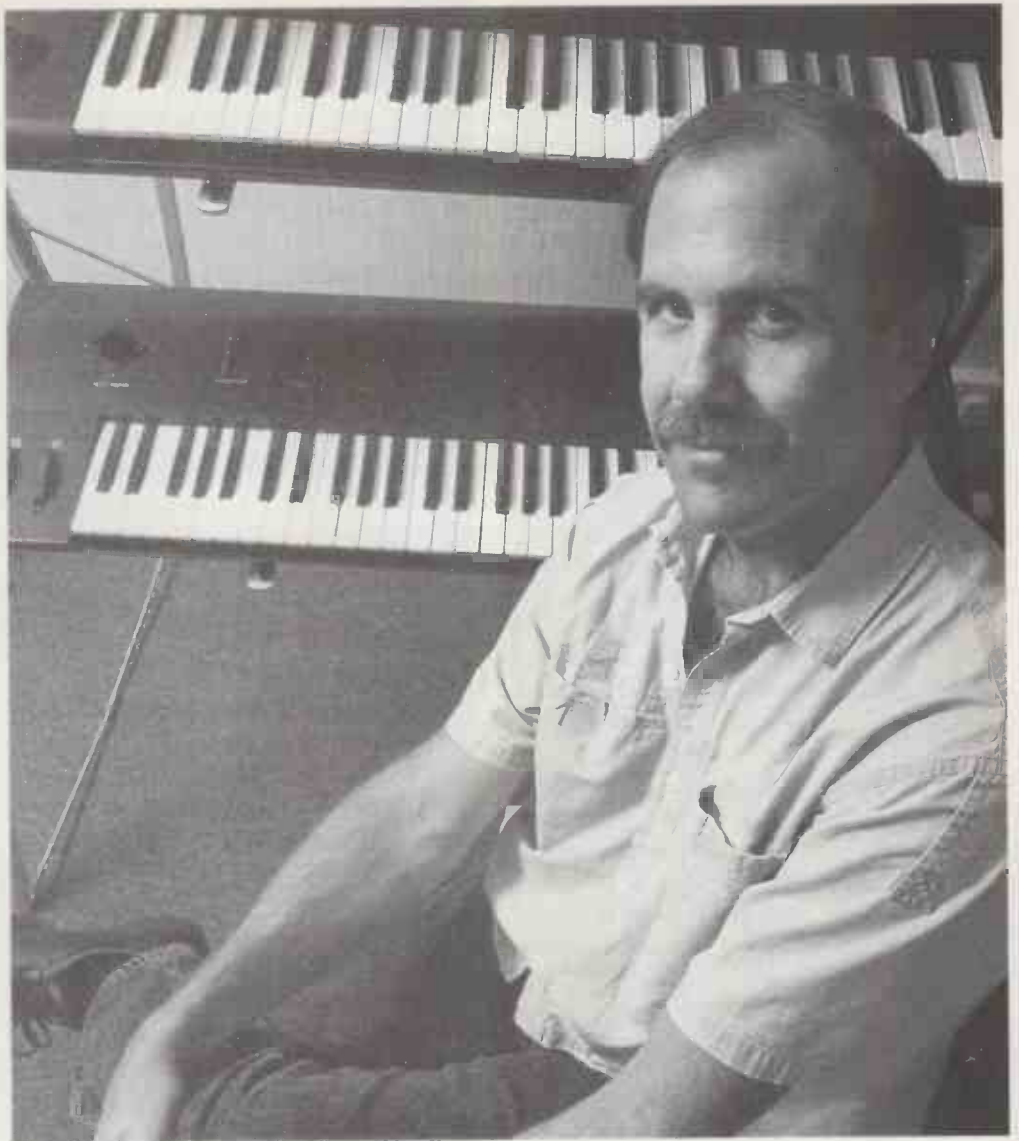
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# THE PROPHET AND THE



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# RISING SUN

**FOUNDER OF SEQUENTIAL  
CIRCUITS AND A PRIME MOVER  
IN THE DEVELOPMENT OF MIDI,  
DAVE SMITH IS NOW MAKING  
WAVES AT KORG. IN THIS TWO-  
PART INTERVIEW HE TALKS  
EXCLUSIVELY TO MT ABOUT  
SEQUENTIAL, YAMAHA AND THE  
INFAMOUS PROPHET 5.  
INTERVIEW BY SIMON TRASK.**

AMERICAN SYNTH COMPANY Sequential Circuits' petition for bankruptcy in December 1987 marked the end of an era, for during their 13-year history the company had become a cornerstone of the American synth industry. First coming to prominence in 1978 with a *bona fide* classic synth, the Prophet 5, Sequential were never slow to introduce new ideas to musicians and to the industry. Back in December 1982, the Prophet 600 was the first commercially-available synth to offer MIDI, a reflection of the fact that company founder, chairman and chief engineer Dave Smith played a leading role in the creation of the Musical Instrument Digital Interface. With the Prophet t8 in 1983 the company introduced a high-specification keyboard offering both attack and release velocity

along with polyphonic aftertouch, with optical sensing used to register velocity (an approach which Yamaha were to later adopt on their MIDI grand piano).

Also in 1983, Sequential ventured into effects processing territory in typically forward-thinking fashion with the Pro-FX 500 programmable modular signal processing system, which consisted of a Signal Controller and a 3U-high 19" rack-mount chassis which was able to hold up to six slot-in effects units drawn from a range which included digital delay, parametric EQ, distortion and phase shifter. Control settings for every knob and switch could be stored in up to 64 memories. Not a lot of people know that.

In 1984 the company explored the possibilities of multitimbral synthesis on the SixTrak, which also included a six-▶

► track sequencer, making it an early example of what later came to be called a workstation. The company also took advantage of MIDI sync to ensure that the SixTrak could be used with the Drumtraks, their first digital drum machine; it was even possible to program velocity-sensitive drum parts into the Drumtraks from a MIDI keyboard, a concept which MT's reviewer at the time found bizarre.

Around this time Sequential also brought out an early example of computer-based MIDI sequencing software, the Model 64 Sequencer for the Commodore 64. And getting wholeheartedly into the spirit of the computer music revolution, they followed up the SixTrak with MAX, a synth which was unusual in that it could only be programmed via MIDI from a Commodore 64 using the company's own editing software. Unfortunately it was too unusual for the punters, and didn't meet with much success.

Mixing innovation, inspiration, quirkiness and reliability problems in equal measure, Sequential were a source of both delight and exasperation to musicians. In fact, they were not so much a company you either loved or hated as a company you both loved and hated. Never able to call on the sort of financial resources available to the Japanese companies, if an idea didn't "take" first time round they generally had to drop it and move onto something else. While this assured plenty of innovation and an intriguing assortment of equipment, it also meant that other companies were better able to capitalise on Sequential's originality than they were.

At the same time, it wasn't unknown for the company to release equipment onto the market before it was properly tested so they could raise the capital to complete its development. The Prophet 5 was a prime example of both this strategy and the attendant infamous "reliability problems" - but it became a classic instrument, all the same.

Often lurching from one product to another, perhaps it was inevitable that Sequential should eventually lurch into bankruptcy. Sitting opposite me in the offices of Korg UK, Dave Smith is both candid about his company's shortcomings and sanguine about its demise - but then it would be difficult to imagine this affable, easy-going Californian not looking on the bright side of life.

"I'm the kind of person that rolls with the punches, so I didn't feel any deep remorse about losing the company", he

confirms. "Looking back, it's sort of sad, but on the other hand things have worked out very well for me so I can't complain. If anything, at the time I felt more for the other employees than I did for myself, because I knew I could always do something similar to what I'd been doing."

In his current position as Vice President of Korg R&D, Smith no longer has to contend with the day-to-day worries and burdens of running a company, and is instead able to concentrate on what he knows how to do best: conceiving and designing new instruments. He heads up a California-based R&D team of some 12 or 13 people ("I haven't counted lately"), mainly ex-Sequential, Ensoniq and Yamaha employees.

"Korg are a great company to work for", he offers. "In a lot of ways they're a very

**"I PERSONALLY  
GOT BORED  
PRETTY QUICKLY  
WITH SAMPLING -  
IT'S EASY TO DO  
TECHNICALLY,  
AND THEN IT'S  
JUST A MATTER OF  
FOREVER ADDING  
FEATURES TO THE  
SOFTWARE."**

non-Japanese company. They're just a lot looser, they're not quite so structured as most Japanese companies are. I think that shows in their products and in a lot of their innovations. That starts at the top and goes all the way down. They're personable people, looser. . ."

But where Korg's approach seems to gel with Smith's outlook, his time at Yamaha seems to have been less rewarding. As many of you will no doubt be aware, Yamaha (in fact, the Yamaha Corporation of America) stepped in as Sequential went down and took over the company. To this day, Smith isn't quite sure of their motives. While they bought up Sequential's assets, including all the company's technology and the rights to the names Sequential Circuits, Sequential, Prophet and Studio, they also

paid off the company's debts and took on some Sequential employees as an R&D team, easing what could have been a more unpleasant situation. At the same time they could hardly be accused of picking like vultures at the carcass of Sequential. For one thing, there was a lot of speculation at the time as to whether or not the company's Prophet 3000 stereo 16-bit sampler would be taken over by Yamaha.

"We had no idea, and I think the problem was that they had no idea either", says Smith. "We kind of got lost between Yamaha in the United States and Yamaha in Japan. They're a pretty big company, so it's easier for things to get lost in the shuffle, and I think that's what happened to our whole division. Things fell through the cracks."

So what exactly was Yamaha's intention in buying up Sequential?

"It's hard to say", Smith professes, "because they never really took advantage of what we could have done for them. I won't even start to guess what their thinking was. I assumed they got us for ideas we could have helped them out with, different angles and insight on products from how they would do things. But in the end it didn't really turn out that way, so. . . I don't know. It was a strange period of time."

"We did start out in the sampling domain, and we were going to do a range of things based on the 3000 technology, but I personally got bored pretty quickly with sampling. First of all, it's easy to do technically, and then it's just a matter of forever adding features to the software. We actually had a direct-to-disk system working which we were going to develop more. I did lose interest in it personally, but I don't think that's got anything to do with what Yamaha wanted us to do or not do. I became more interested in sound generation again, and we were working on ideas similar to the Wavestation, I can probably say that much."

Eventually the R&D team decided that they would go their own ways, and it was then - around May or June of '89 - that Korg stepped in.

"They wanted the group as intact as possible", Smith recalls. "They had to do some quick talking, because it was hard for us to get enthusiastic about getting involved with another Japanese company in that way. But like I said, it turned out to be a real good move. They're willing to let us do what we want to do - which makes sense, of course. If they're going to invest in us, the reason for doing that is to get our ideas. Now they have their Japanese ►

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► developers working on one set of products while we're working on another set, and a lot of times they're completely different. So if ours does well but theirs doesn't, they still do well, and the same if next time theirs does well but ours doesn't. That way the company as a whole has twice as good a chance of coming out with something that will maintain the momentum. That's obviously what we're able to bring to the table with Korg: after the M1 and the T-series, we're able to give them something that's totally off-the-wall from that stuff."

That "something" is the recently-released Wavestation, the first instrument to emerge from the Californian camp. And by being "off-the-wall" from the M1 it may also be the first synth to successfully maintain the momentum of a best-selling predecessor, in which case Korg's strategy will have been vindicated.

"With the Wavestation we were basically taking existing technology and coming up with something that would open up some doors for people - and which wasn't a workstation", explains Smith. "We wanted it to be a synthesiser and to be used as a synthesiser. Obviously we'll be coming out with drum cards and piano cards, so you can cover a lot of those bases if you want to, but its main thrust is to offer something new and fresh. People talk about stagnating markets and how nothing's selling, but that only happens when everybody's coming out with the same sort of thing, which is what's been happening recently."

Surely there must be areas of difficulty for Smith and his team working with a Japanese company, even one that's as "non-Japanese" and "loose" as Korg apparently are.

"Well, there's the obvious language problems", he replies. "We'll ask them about their custom chips and they'll send us some specs that are rough translations, whereas before they didn't have to translate technical information. Most of it's on that type of mechanical level. We've had a few philosophy differences as far as directions and markets and stuff, but even then I think it's all healthy arguments. You never know if you're going to be right or if they're going to be right until it happens. The market's pretty fickle, and you can't always be right there with the right things, so the more people you have input from, the better, as far as development of products goes. We like having their input and I think they like having ours. We can disagree and that's OK. I mean, we disagree among ourselves within the

team; if we didn't I'd be worried. It's great to meet and have everybody yelling at each other, that's the right way to do something."

And what might all the yelling be leading to in the future? I'm hoping for a scoop, here, but...

"Well, obviously I can't be too specific", comes the inevitable reply, "but I can say that we want to come up with something that'll be a radical departure, and so it's going to take some time. Sound generation is really where our interests lie. We want to make new sounds, different sounds, and come up with something that hasn't been done before - which is not easy these days."

No doubt Smith and his team will continue to work under the auspices of Korg. But as economic tensions between America and Japan rise, how does a former pillar of the American synth industry feel about working for a Japanese company? Is there really room for parochialism in today's world, where global communication networks, international economic interdependence and the worldwide reach of multinational corporations increasingly make a nonsense of national boundaries?

"After a point it's really a world market and a world economy these days, so I don't know at what point you stop getting rah-rah about what country your company's in and who you work for", Smith replies. "We have a group of Americans that make a living working for a company in Japan, and by doing that we get the best products for the best price out to the users, so it's kind of an everybody win situation. I don't know if that's really much different than if we had the old company in the States still. Obviously there were our famous reliability problems which we don't have any more because the product is Japanese-built and they have a lot of things over us in manufacturing and so forth. So in the long run the user comes out better 'cos they get our innovation with the Japanese benefits of reliable manufacturing. Of course it's obviously more of a synergy than that; I don't want to make it sound like they're not doing anything in Japan, 'cos they obviously are."

All of which is a far cry from the situation which Sequential were in when they launched the Prophet 5. Smith recalls the problems he had in bringing the Prophet 5 to market:

"Our biggest problem was that we were a real small company, only three or four people, and we had no capital so we

were doing things week-by-week. With the demand we had waiting there, everybody yelling to get units, and having a lot of technical problems with the unit when it first came out. . . . First we had to ship it before it was really ready, just to get some revenue so we could keep working on it. That was problem number one. Then problem number two was that we had all sorts of problems with the chips - first of all just getting enough of them, and then getting enough of them that worked.

"Those were probably our biggest problems in getting the thing going, but we also had some heat problems and some mechanical problems. We were all neophytes, so we had a learning curve there also. If we hadn't shipped things when we did, maybe we would have gone out of business and there never would have been a Prophet 5. So do you ship 'em and give people something to work with, and put up with the downside of all the problems with not really having things ready to go? It's a tough question. Most of our customers had a love-hate relationship where they loved the unit and couldn't bear to part with it, but at the same time they were having problems with it. There again, a lot of people were able to do good things with it, and in the long run I think things worked out pretty well."

There probably aren't many musicians who would disagree with that statement. But these days it's doubtful that any new instrument could come to market in such circumstances.

"So many sounds have already been heard that it's getting harder to come up with something that really stands out", Smith says. "Plus there's the amount of development that's needed now. I was able to do the Prophet 5 by myself in seven to eight months, all the software, all the electronic design, laying out the circuit boards, designing the case, silk-screening . . . Now it takes at least a year to a year-and-a-half to see a product through. The hardware's fairly easy: once you get the custom chips done, one person can do the hardware. But you need five, six, seven people to do the software. It's a long and complex job, but today you can't do something without having that burden, which of course has made it harder for startups. You can't just get two guys together and do something in your garage, because first of all you can't afford to build the custom chips, and second of all the software effort's going to be that much greater." ■



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Tascam TSR8 + RSD Proline 16"4"8	£2240 + VAT
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Alesis HR16	£175
Alesis MMT8	£850
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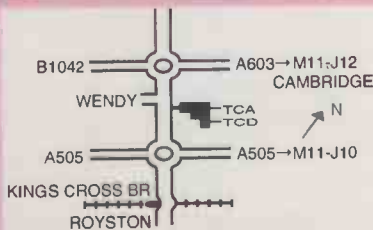
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# Thatched Cottage Audio

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688



PHOTOGRAPHY: ADAM JONES

**Eight-track made easy - where once there was a mountain of boxes and a tangle of spaghetti, Tascam's 688 Midistudio offers you the convenience of eight tracks, MIDI sync and mix automation in one friendly unit.**  
Text by Nigel Lord.

**W**ERE IT possible for a machine to be born with a split personality, the Tascam 688 Midistudio would be a prime candidate for the psychiatrist's couch. It's big and butch, yet surprisingly compact and neatly laid out. It will be out of the financial reach of many people, yet it's excellent value for money. It restricts you in some of the ways you might choose to use an eight-track recording system, yet it's capable of opening up wholly unexplored areas of control of the recording process. An obvious case of the Jekyll and Hydes, you'll agree. But let's look at these conflicting characteristics a little more closely. . .

First of all, size - though Tascam have been careful not to hang a "Portastudio" tag on it (a tag which *they* invented), the 688 is, undeniably, a studio which is portable - in a way that a ten-channel mixer, eight-track tape deck, electronic patchbay and MIDI sync unit usually are not. That said, it would take a healthy young gorilla to carry the 688 any distance - a human being would need to be equipped with a small cargo hold. The 688 is heavy, and very large by Portastudio standards. Yet in comparison with the equipment it replaces, it's beautifully compact, ergonomically designed and quite stylish in a quiet, businesslike sort of way.

Secondly, cost - as we emerge from the "economic miracle" of the last ten years, fewer and fewer people seem prepared to opt for credit as a means of raising finance for new equipment. The alternative, in this particular case, involves saving over two thousand pounds, and that, for most people, demands almost monastic self-restraint.

If, however, you decide that life is quite meaningless without an eight-track system (and the ink has not yet dried on your contract with the devil), then you're simply not going to find a more economic proposition than the 688 without going secondhand. And even then you'd be hard pressed to achieve this sort of quality for under two grand.

Thirdly, flexibility - inevitably, when four distinct pieces of recording gear are hardwired and packed together in a single shell, you're going to discover things you cannot do with them which you could with individual components. However, the logistics of combining a fully-featured, professional ten-channel (20-input) mixing desk with an eight-track logic-controlled tape deck (with simultaneous recording across all tracks) and built-in tape synchronisation has meant the inclusion of a programmable electronic patchbay was pretty much essential. And given the fact that it comes with almost 100 memory locations

and has been put under MIDI control, the possibilities opened up by such a system (particularly for the musician with MIDI at the heart of his or her existing setup) far outweigh any limitations imposed by the individual components being contained within one cabinet.

## EIGHT-TRACK MIND

FOR MOST PEOPLE, though, I suspect the most graphic illustration of the 688's dual personality would be the adoption of the humble audio cassette on what is clearly a high-quality eight-track recording system. Not that squeezing eight tracks onto  $\frac{1}{4}$ " tape is anything new. The first machines to drop this particular technological bombshell appeared a couple of years ago now. But the scepticism which surrounded the viability of the format has never fully dissipated and doubts still remain as to its validity - even on semi-professional equipment.

From my point of view, the 688 represents the first chance I've had to get to grips with an eight-track cassette-based system, having been using a  $\frac{1}{4}$ " reel-to-reel machine over the last three years. And I can only say that at the end of some fairly exhaustive listening tests, whatever doubts I had were completely dispelled. Using Maxell XL11-S on the 688 and Ampex Grand Master on the reel-to-reel, I could detect no appreciable difference in frequency response, and a barely perceptible drop in overall dynamic range. The differences became more marked after a first bounce, but with eight tracks and MIDI control over mixer channels, bouncing down clearly isn't the necessity it would be with (say) a four-track system.

Following the recording process through to its logical conclusion (mastering onto a stereo cassette recorder), whatever differences I had encountered in terms of dynamics weren't just reduced proportionately, they vanished completely. And the same was true of mastering onto a borrowed Aiwa DAT recorder. I was drawn to the conclusion that with the 688, I could produce demos every bit as good (or bad) as I could with my reel-to-reel system - but with much less cost, and much more convenience.

## MIX WITH QUALITY

AFTER REVIEWING THE 644 four-track Midistudio back in the July's MT, I had anticipated being impressed by the 688, but it's always nice not to be disappointed. I'll resist the temptation, however, to simply outline the differences between the two machines - that would be unfair to those who missed the 644 review as well as doing a disservice to the 688.

Starting (predictably enough), with the mixer section, the ten channels are fed from either mic or low-level line signals via XLR sockets or standard line level signals via quarter-inch jacks. Routing for these takes place in the main LCD matrix over on the right hand side of the machine. More on this later.

The controls associated with each channel are, for the most part, pretty standard on semi-

professional desks these days: trim control with overload LED, three-way EQ with mid-range sweepable from 250Hz-5kHz, two auxiliary sends, pan control and channel fader. I say "for the most part" because the auxiliary send controls are somewhat unconventional. Both stay at their centre detented positions when no signals need to be sent. Turning Aux 1 clockwise sends the signal post-fade to the effects unit, while turning it counter-clockwise sends it pre-fade. Turning Aux 2 clockwise also sends the signal out post-fade, but turning it counter-clockwise serves to change its rôle to that of an effects send for the Dual section.

Like the 644, the Dual section is effectively a complete in-line monitor mixer which sits within the main mixer and allows you to set up a mix of previously-recorded tape tracks without affecting the signals going to tracks currently being recorded. It features independent level and pan controls - and of course, the effects send associated with Aux 2 on the main mixer. On mixdown, it can also be used to provide a further ten input channels, which, providing they don't require any form of equalisation, effectively mean you have a 20:2 mixing desk at your disposal. The third option for the Dual section is to use it to provide two additional effect send signals which can be routed back through the effect returns in the normal way or (if these are already being used), through channels nine and ten (for example). In this way, you can add a further two mono or one stereo effect unit to the system.

The aforementioned effect returns are equipped with individual level controls in the section to the immediate right of the mixer channels, and here you will also find master controls for the two auxiliary sends and the Dual stereo mix which is output via jacks at the rear of the top panel. There's also a small push button whose purpose it is to sum the send signals from auxiliaries one and two, so that if the Dual section has been pressed into service to provide further inputs, the same signal may be sent from all 20 inputs to the effects unit you're using. This would make it particularly useful in a live situation.

The monitoring section provides fairly comprehensive facilities for listening in - either via 'phones or external amp and speakers - to what's going on during the recording process. The eight cue monitor level and pan controls cater for monitoring off tape during overdubs, and you can also monitor (individually or in combination) signals from both auxiliary sends, the stereo signal from the Dual section, and, of course, the signal from the main 1-2 stereo buss. A master level control takes care of overall output level both for the main monitor output pair (which, incidentally, are via phono sockets) and also for the two pairs of phones, which are connected via sockets just under the handrest at the far left of the machine.

The final section on the mixer side of the 688's operations provides faders for the four group output busses 1-2, 3-4, 5-6 and 7-8, the first of which, 1-2, also doubles as the main Left/Right output level fader during mixdown to two tracks. ▶

**"To my mind, the 688 Midistudio represents a major advance both in multitrack technology and the application of MIDI to the heart of the recording process."**

## GETTING IT TAPED

► THE 688'S TAPE deck caters for high bias tapes only and runs these at twice the normal cassette speed - 9.5cm/s (3.75ips). Needless to say, with eight tracks to worry about, there is no slower speed provided, so playing back standard cassettes on the 688 is out, I'm afraid. The unit does, however, feature a  $\pm 12\%$  pitch control and may also be controlled externally, via SMPTE, for example.

The cassette mechanism itself seems rather low-tech at first glance: there is no eject function so fingers are required to lift out the cassette, and the perspex cover relies on a very simple push-open, push-closed latching system. However, if you've ever had any experience of repairing cassette mechanics (unfortunately, I have), you'll know just what problems can be caused by complex loading and eject mechanisms - not to mention the difficulties involved in keeping the heads clean and demagnetised. To find such a simple, reliable system as this on the 688 might well come as a relief to potential purchasers.

I wish I could be as positive about the decision to include a drive system which leaves the capstan motor running even when a cassette is not being played. I know this is common amongst mains-powered cassette recorders and I'm sure this is one of Tascam's tried and trusted designs. But on a machine which for anything up to seventy-five percent of its time is likely to be used solely as a mixer, I cannot see the point of having a motor

spinning away to no good purpose. Surely a switch could have been included to turn off the tape deck when not in use?

Being a Tascam machine, noise reduction is dbx and this, according to the manual and the panel lettering, is switchable - on or off - in two groups: tracks 1-4 and tracks 5-8. But actually, the second group only includes tracks 5-7 as track 8 is permanently disconnected from the dbx system to allow it to be used as a sync track.

As mentioned earlier, the 688 is fully logic-controlled, and this goes well beyond the inclusion of lightweight electronic transport buttons. There is also a comprehensive autolocate section which, in addition to such features as return to zero or either one of two memory locations, boasts a repeat play facility between the two locator points and also the ability to relocate these relative to zero, if zero is reset at some other point on tape.

Also tied in with this section is the auto punch-in and rehearsal facility. This is particularly neat, as not only does it allow you to drop in and out without operating either hand or foot controls, it can play a predetermined pre-roll section of tape (along with a three-second post-roll period) for purposes of rehearsal as well as for actual takes. It also winds itself back each time so you can practise the whole exercise repeatedly until you're sure you're going to get it right on the take itself. The rehearsal facility doesn't have to be used solely as a means of tightening up drop-ins, it can be used prior to the recording of complete tracks or in any situation

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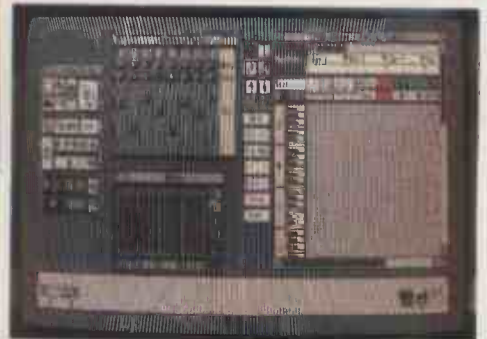
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where you need to repeatedly practise your playing. It's the kind of feature which one-person operated studios quickly become reliant upon, and which help convince you the machine really is on your side.

Needless to say, conventional drop-ins are also possible using foot (or hand) switches, and on the whole, these tend to be slightly more accurate than the auto-punch system (providing your timing is good enough). If this is your preferred method of dropping in, connection is made via a standard jack socket situated under the hand rest on the far right of the unit.

Keeping track of where you are on a tape is made particularly easy on the 688. A large (for a tape counter) LCD provides either a standard counter readout or by switching to TRT, a reasonably accurate display of your position in minutes and seconds. All the memory locations are also indicated here, along with a flashing icon to remind you you're in rehearsal mode.

With the autolocate and rehearsal facilities at your disposal, tape cueing isn't something you spend much time doing on the 688. However, if you do need to get somewhere in a hurry, you have the excellent Tascam shuttle system to make the going easy. A single rotary control which ordinarily sits at its centre detented position is turned clockwise to forward cue through the tape, and counter-clockwise to reverse cue. The further you turn the knob in either direction, the faster the cueing speed. Simple.

The only drawback is that the shuttle action makes it impossible to actually listen to the music when forward cueing - even when the shuttle speed approaches that of the normal play speed of the tape. I assume this is because the pinch wheel is drawn back from the capstan and the tape does not run past the heads at anything like a constant rate. So what you end up hearing is music subjected to extreme wow and flutter. It doesn't harm the tape in any way, and what you do hear is perfectly adequate for cueing purposes.

Recording is controlled by the main record button situated with the rest of the transport controls in the bottom right hand corner of the 688. However, individual tracks are switched in and out of Record mode by pressing the relevant record function buttons just above the tape counter display. Each of these has its own LED which, when flashing, indicates record ready and when lit continuously, indicates record on.

## UP THE JUNCTION

WE COME NOW to what could well be described as the Crewe Station of the 688 - the electronic routing system and display. Here it is that signals arrive, depart, meet other signals and, er... hang around in anoraks writing down numbers in notebooks. OK, so maybe it wasn't the best analogy. The fact is, in the 688 scheme of things, familiarising yourself with the workings of this area is absolutely essential. The Midistudio simply cannot be used properly without it.

Happily, it's not too complicated and certainly,

when you consider how much of the tedious signal routing and patching setups of conventional mixers/multitrackers it replaces, you'll wonder how you ever worked without it after a couple of weeks. All the relevant information is contained within the large LCD matrix which provides three pages for main assignments, effect assignments and input routing. Channel numbers run horizontally across the screen and main/effects groups or inputs sources (mic, line or tape) run vertically down the left-hand side. Making a connection comprises nothing more demanding than selecting the line on which the group or input is situated and then pressing any of the ten channel buttons immediately below the screen.

An entire patch consisting of all the connections you need to perform a particular recording or mixing operation can then be committed to memory and instantly recalled. Tascam's terminology here is Scene, and the 688 is capable of storing 99 such Scenes as well as loading or dumping them to tape (on the machine itself) or via MIDI data dump. The machine comes with 12 useful Scenes already loaded, but these can be overwritten if you find yourself needing the memory locations (and reinstated later by pressing the recall button during power-up). All the push buttons connected with Scene making are located down the right-hand side of the display. Here you will find the increment/decrement controls and the Recall, Store/Copy and Scene/MIDI Channel buttons.

## MIDI MATTERS

MENTION OF THIS latter switch will no doubt have alerted you to the fact that Scenes are recallable via MIDI on the 688. A Program Change command is all that's required, and the change is virtually instantaneous. Interestingly, this facility works the other way round too: changing a Scene on the 688 - using either the top panel buttons or an optional Up/Down footswitch - also has the effect of sending a MIDI Program Change command via the MIDI Out (or the Out/Thru) port on the rear panel. In this way, pressing a single button on the 688 instantly recalls all the signal routing requirements for a particular selection of inputs using a particular combination of mixer channels with a particular arrangement of auxiliaries (offering a particular choice of effects), for recording onto a particular number of tape tracks. Particularly clever, you have to agree.

And there's more: muting of individual mixer channels is possible using a single MIDI note-on command, providing a limited form of mixing automation. It works by using both high- and low-velocity levels - high level to mute the channel and low level to unmute it. And, like the Program Change commands, the system also operates in reverse by sending out note-on commands every time the relevant button on the 688 is pressed. If done in real time, as a song is playing, these commands can be recorded by a sequencer in the normal way and then sent back out each time the track is replayed. At the very least, this provides you with a means of using your eight tape tracks to their fullest potential. ▶

**“Being able to establish a line of communication between MIDI and your recording system should make the 688 the natural choice for anyone looking for an eight-track setup.”**

► Of course, this degree of MIDI control would be of little use if your MIDI sequencer could not be synchronised with the music on tape - and that's where the MIDI tape sync facility comes in. The problem is, in terms of interest, the sync unit built in to the 688 is very much the victim of its own success. You simply connect your sequencer to the Midistudio, switch the MIDI sync on, press Record (and Play on the sequencer) and that's it. When the song's finished you spin back to the beginning, press Play on the sequencer and Load on the 688, roll the tape and when it reaches the beginning of the song the sequencer will start up and follow it in perfect sync.

If you decide to stop the tape - no problem. Song pointer positions recorded with the sync track constantly update the sequencer and within a fraction of a second of restarting the tape the two are locked back into sync. It's that simple - though it might have been even better if the manual didn't tell you to record the sync code onto track four rather than track eight.

## VIVE LE DIFFERENCE

I SUPPOSE THE most striking physical difference between the 688 and the four-track 644, is the LED meter bridge which separates the mixer section from the main connection panel at the back of the unit. The meters - ten, in all - comprise 12 LEDs in ladder formation and offer visual monitoring of either the eight mixer group outs or the eight tape signal levels, as well as the left and right monitor signals. They all operate in the PPM mode, rather than as VUs, and feature a peak hold facility where high-level signals are held for a second or so to assist with setting up. The meter panel lies flat for transportation purposes, but can be raised to provide the optimum viewing angle and also to form a rather effective screen against the usual array of leads which sprout from the back of all mixing desks.

On the subject of rear panels, I was, at first, tempted to conclude that the socket complement on the 688 seemed rather spartan, then I remembered just how much the damn thing does without any assistance from the outside world. There are a few connections I haven't already mentioned, however, and amongst these are eight mixer group-out phono sockets (should you need to connect the mixer to another system), and eight tape outs, also on phonos. Using these, you can, if you wish, mix down using another desk or even take the 688 into a 16- or 24-track studio and transfer the tracks you have already recorded onto a bigger machine.

If, after buying the 688, your great aunt leaves you something in her will, you might consider spending it on the optional remote control unit which duplicates the tape transport and auto-locator controls on the Midistudio proper. It is connected via a special eight-pin DIN socket on the rear panel, just next to a 15-pin serial connector used to communicate with an external computer or Tascam's own MIDIizer. You can also use the 688 with an external sync unit. Recognising that the on-board tape sync may not be

compatible with all external equipment, Tascam have kindly provided sync In and Out sockets on the rear panel together with two small rotary presets to match signal levels. And that, if I'm not very much mistaken, is just about it.

## PAUSE FOR THOUGHT

THERE'S NO DOUBT in my mind that the 688 Midistudio represents a major advance both in multitrack technology and the application of MIDI through to the heart of the recording process. It is impressive both in scope of operation and quality of performance. With the exception of the capstan motor (which really should be switched), I could point to no deficiencies in the machine's operation which don't pale into insignificance by contrast with the kind of facilities it offers in practically every area. In fact, having used the 688 for over a month before putting pen to paper, I am still waiting to come up against my first major obstacle.

To date, I have experienced nothing more troublesome than the fact that the master monitor level control affects both the output pair and the headphones - and even that wouldn't be a problem if I cleared a few things away from the level controls on my monitor amp. A MIDI merge facility would have been useful - especially where a sequencer is connected to the sync track on the 688, but Tascam are hardly alone in not including this facility on their equipment. Merging MIDI signals is a relatively expensive business and on a machine already costing over two grand, you could argue that it's better to let those people who need the facility buy a separate unit.

Of course, £2000 is a hefty sum for any piece of equipment, but consider: excluding actual instruments, the average MT reader would need nothing more than a sequencer and a couple of effects units to complete what by any standards would be an impressive home studio setup. And while you're at it, you might also consider that the entire system would fit comfortably on the average office desk: I don't know about you, but as far as I'm concerned the days of trying to emulate Houston Mission Control are long over - we're talking single plugboards here.

It's been quite some time since I found myself rubbing my hands at the arrival of a new piece of equipment in the way I have with the 688. It's one of those machines which can fairly be said to be greater than the sum of its parts. Certainly, the prospect of being able to establish a line of communication between keyboards and sequencers and your recording system should make it the natural choice for anyone with a MIDI setup looking for an eight-track machine. In the words of the ad-execs, this would definitely be one of your better decisions. ■

**Price** £2149; RC88 remote control, £123. Both prices include VAT.

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"I was tempted to conclude that the socket complement on the 688 seemed spartan - then I remembered just how much the damn thing does without any assistance from the outside world."

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# T E C H N O

**While house threatens to become the disco music of the '90s, techno is emerging as a music of greater substance and durability. Detroit is techno's spiritual home, Derrick May its most influential exponent. Interview by Simon Trask.**

"DANCE MUSIC HAS BEEN EXPLOITED, maximised, profitised - the whole works. Now it's time to move left, because anybody that stays right is just going to get caught up in the whirlpool. Right now I don't think dance music has the charisma to last."

Derrick May is nothing if not forthright in his opinions. Unlike his soft-spoken, reticent Detroit compatriots Kevin Saunderson and Juan Atkins (interviewed in MT September and December '88 respectively), May is a livewire and a generous talker. Working under the name Rhythm Is Rhythm he also happens to have produced a string of instrumental electronic dance music tracks - from 'Nude Photo' and 'Strings of Life' in 1987 to the recent 'The Beginning' and 'Drama' - which have influenced a new generation of electronic musicians.

May recently visited Britain for several weeks to set up the UK arm of his record label Transmat, sign some new talent to the label and DJ at clubs around the country. During his visit he was able to assess the UK dance music scene, and what he saw were too many imitators and not nearly enough originators. So what's new?

"These days any kid can buy a cheap sequencer and a cheap keyboard and make a track", May replies. "It's really easy to lay down a drum track, a little bassline and some little shallow chord line or whatever. So many kids know how to start a track but they don't know how to finish it, how to make it just right so that it's got every element but it's not overbearing. They don't care about the integrity of the business, or where they're coming from mentally. All they care about is putting a record out so they can get some money, and they don't see the terminal damage that the injection of a garbage track is going to do to society. What that does in the long run is degrade the whole concept."

So what would May's message to these aural polluters be?

"I know it's hard to make something that's going to have staying power, but try and make the music with as much integrity as possible, because that's usually the stuff that will last. This quick little cash-in dance music. . . you could make a couple of thousand pounds, but what the fuck is that?"

"The kids have to understand that the music scene is based on the future, and they are the future. If they fuck around with the future then there will be no future. The integrity and the love has to keep it going - that's where the originality comes from. It's so easy to copy somebody else's style. They say imitation is the sincerest form of flattery, right? Bullshit. Imitation is the easiest way to make money. Kids today know it and they've accepted it. Commercialisation has become a part of the business on the artistic side. Why not spend a little time and put a little courage into developing what you believe in? You just don't know what you can do until you try. I think people should

take a bit of pride in trying to be original - you know - a little original?"

Transmat UK is an acknowledgement of the respect afforded Detroit's electronic dance music and its creators in this country. Nowhere has this been more the case than in the north of England, where the uncompromising electronic music of Model 500, Rhythm Is Rhythm and Reese and Santonio has inspired countless young musicians to get to grips with technology and produce their own music. Groups like 808 State, A Guy Called Gerald, Unique 3, Forgemasters, Rhythmatic and Nexus 21 have all taken inspiration not just from the style and sound of the music but from its integrity. What does May think of the so-called "northern techno scene" which he has helped to inspire?

"The concepts that they have are going to grow", he replies. "They followed us so far and now they're following their own path, which is great, but at the same time I think there's not enough of them that are original. I've only heard three or four original tracks, the rest of the stuff is weak, to be honest with you. Nobody's asked me to be a judge, I'm just giving my personal opinion."

"In Detroit, there may only be a few of us, but everybody has so much pride in what they do, and everybody appreciates each other's music and respects each other so much, that no-one would dare put out a song that sounds like someone else's song. But these kids here, it seems like everybody's using the same concepts, the same formulas, so right now I don't think that it has the potential to last, because it'll lose its credibility through lack of originality."

**WHEN IT COMES TO EQUIPMENT, MAY IS** an exponent of what could be called "appropriate" technology.

"Most of the electronic sound that comes from myself has got nothing to do with trying to be trendy with the latest equipment", he says. "It's about using what you use to the best of your ability, and that's all I care about. I started out with a couple of S900s, a DX100, a Poly 800, a Mirage, an SQD1, a 909, an 808, a 727 and a Fostex 260 four-track, and I still use that stuff. Also now I use a Kawai K3, a Yamaha DX21, some old ARPs, shit like that. One instrument that I'm trying to get hold of is a Korg 707. I'm into keyboards that are not popular, that everybody else slags off. I tell you one keyboard I used to use that had some phenomenal bass sounds: the Casio CZ5000. I had some fierce bass sounds on that which I used on some tracks I never released."

"I do keep my eyes open for the new stuff, though. The Korg S3 drum machine is definitely on my agenda to check out. Nowadays things change so quickly that if you sit back and close your eyes you'll miss out on



# RHYTHIM

something. You have to look towards the future in order to be able to know what to expect and what not to expect."

In Detroit, the synth of choice is Yamaha's budget DX100 four-op FM synth, valued among other things for its ease of editing and the grittiness of its output signal. Much of May's own music is characterised by the hard metallic bite of FM synthesis rather than the warmth of old analogue synth technology. However, recently he has had his DX100 customised as a digital/analogue hybrid by a Japanese electronics genius and Rhythm Is Rhythm fan resident in Detroit.

"I've had Matrix 12 filtering applied to the machine to give it a completely different feel", he reveals. "The board was almost destroyed in the process - it was like 'let's see what we can get away with'. It breaks down a lot, but when it works it works, and it's my sound, it's part of the Rhythm Is Rhythm sound. And, like my American Express card, I don't leave home without it."

It's this DX100 which plays the razor-sharp bassline on the Rhythm Is Rhythm track 'The Beginning'. But how would May characterise its sound?

"It's a harder sound than before", he replies.

"You're not going to get beautiful string sounds out of it, but for bass sounds I've got the fat filter sound. In a little keyboard like that, it's so funny."

For May, it's essential to find the right sounds for a track - and if he can't then he'll abandon it.

"There are sounds which can completely bring out the most in a song", he maintains. "I've got basslines that only sound right with particular sounds. I can actually hate a song because the sounds aren't right; I just can't take a sound for what it is in itself. And I will never use a preset; that is against the law where I come from."

May sees exclusivity as an essential ingredient of identity, and exclusivity is the last thing you get when you use presets. A case in point is R-Tyme, a collaboration between May and fellow Detroit DJ and musician Darryl Wynn. So far the group has released one 12" containing two tracks, 'R-Theme' and 'Illusions', which came out last year. May created all the sounds for those tracks but has refrained from using them since, simply because he wants to keep them exclusively for R-Tyme. As a result, they are part of the group's identity, part of its uniqueness. ▶



PHOTOGRAPHY: MING DE NASTY

**"For any young musician out there trying to make it, learn how to play your own music: don't let engineers play the shit for you - that won't do anything for you in the long run."**

► The distinctive string sounds May has been using in his Rhythm Is Rhythm tracks since 'It Is What It Is' have their origins in samples he took himself at Orchestra Hall in Detroit, where the city's symphony orchestra rehearses and performs. Typically, their introduction in 'It Is What It Is' brought about a significant change in the character of the music, in May's words "sacrificing some energy for greater depth and atmosphere". The track is certainly atmospheric, with the strings giving the music a new expansiveness and an icy quality.

"For my music, I'm not looking for commercial, warm sounds", May says. "My string sounds are very cold, very callous. I give them a sort of warmth through the way I overlay them, but it's not really warmth, it's just a dreamy sort of feel. It's got a lot of attitude, a lot of feeling, but it doesn't necessarily make you feel good about yourself. I try and create feeling and mood in my music. If I was making Whitney Houston records it would be very easy, but when you're doing the kind of stuff I'm doing it's very easy for the music to become sinister, to become hard and callous. I try my best to keep my insight, so I can feel what I'm gonna do and then just do it."

Not one to slavishly follow the supposed "advances" of technology, while manufacturers continue to produce samplers of ever greater audio clarity, May is experimenting in a different direction.

"At the moment I'm using cheap samplers like the Mirage and the Akai S612", he explains. "Sampling things, then recording them onto cassette, sampling them again, recording them onto cassette again, sampling them again and so on. The idea is to pick up noise, to create some sort of different feel to the music. It's working, but I haven't employed it in anything yet."

However, nowhere is May's refusal to rush into using the latest technology more apparent than in his choice of sequencer. Not only was Korg's SQD1 the first sequencer he ever used, it continues to be his sequencer of choice. But isn't it a bit simple compared to the sophistication of today's computer-based sequencers? May agrees, but sees its very simplicity as its strength.

"A lot of people think that simplicity is a form of lack of awareness", he says, "but I think that simplicity is a form of showing your actual talent. My whole viewpoint is that I enjoy the sequencer *because* it is simple, and if I want to link it up to another sequencer just to get a certain feel - which is something I do, because I have another SQD1 and also an MC500 and an MSQ700 - then I have no problem there. I like hardware sequencers. Kevin's brother Ronnie says he can't wait for my SQD1 to die so I can go out and buy a real sequencer."

May did own an Atari 1040ST at one time, but he never used it and eventually sold it.

"The reason I haven't started using computer-based sequencers is that I'm frightened of some of the concepts that go with them. Seriously. The computer can show you everything you're doing on screen, which is fascinating, but I think you lose a bit of insight. The fact that you can do everything, see everything completely and microscopically, break everything down. . .

"Personally I like to change things by playing them, rather than by saying 'OK, I can quantise that one note, I can change that one note until it sounds fine'. It's like writing an exam paper; it's not art any more, it's working with a computer, and a lot of the imagination has gone. Everything's at your fingertips. Computer-based sequencers are going to make the market more boring because it'll be easier for people to create boring music. What comes easy has no substance, what comes with determination and a bit of innovation usually survives."

The "decentralised" approach to music-making which May favours when working with hardware sequencers is also apparent in his use of drum machines.

"Most people nowadays use sampled drum sounds to make one composite kit from several different drum machines", he says. "But while they're using sounds from assorted drum machines, they're making them sound like one drum machine. See, my concept has always been to get the feel from all drum machines simultaneously, not just one feel from one drum machine. I try to connect all the feels so that they accent and bounce off of each other."

One of the newer instruments in the May arsenal is a Roland R8 drum machine, which he bought last year. Does it match up to its classic predecessors?

"I haven't had as much chance to apply it as I want to", he says, "but I did do an experimental track with the R8 by itself a while back, just to see how far I could take the machine. I've got the African percussion card and a couple of others. It's a good drum machine, but Roland need to give the drum sounds more parameters, let a person get deeper into the machine. They're a clever company, though: they introduce things gradually to people."

Although another Roland drum machine, the TR909, will forever be associated with Chicago house music, it has been just as much a part of the Detroit techno sound. However, it seems that, as far as May is concerned, the 909's days are numbered.

"I love the 909 but it's time to move on. I've used it for probably the last time - just outright, anyway. I probably always will live with the kick drum, though. In fact, I sampled it and ran tremendous amounts of dbx on it to create my own kick, compressing the fuck out of it and then taking it almost to the point of distortion. I'm in the midst of trying to experiment with sounds, and I don't know exactly what I'm going to do. Using live drums and percussion is something I have an interest in, but I haven't had a chance to try it yet."

Cheap samplers, ageing hardware sequencers, acoustic drums. . . whatever happened to the "third wave" of technology which May has espoused in the past?

"I know I'm supposed to be innovative and techno and all these things, but I just can't believe that going forward is the only way to go forward", he replies. "Sometimes you have to go backward to go forward. I believe that we can easily get stuck in a tremendous rut at this point in time because we've all become very complacent with the fact that it's easy to buy that cheap computer and some software, go into a studio ►

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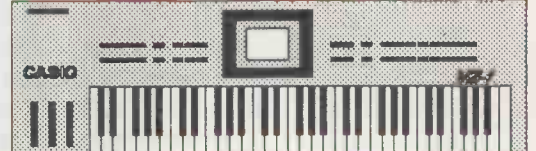


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## EQUIPMENT LIST

Ensoniq Mirage Sampler  
Fostex 260 4-track  
Hill DX500 Power Amp  
Korg Poly 800 Synthesiser  
Kawai K3 Synthesiser  
Korg SQD1 Sequencer (2)  
Roland TR808 Drum Machine  
Roland TR909 Drum Machine  
Roland TR727 Drum Machine  
Roland R8 Drum Machine  
Roland MSQ700 Sequencer  
Roland MC500 Sequencer  
TOA Monitors  
Yamaha DX100 Synthesiser  
Yamaha DX21 Synthesiser

► and have the engineer help you, or pull up that sequencing program that will help you assemble a song if you just follow the written directions on the screen. It's like baking a cake. So this is the point where my concern comes from for originality.

"I play all my own music. There's no engineer that sits back and makes the music for Derrick May, so I do take a lot of pride in my music. For any young musician out there that's trying to make it, learn how to play your own fuckin' music. Don't let engineers play the shit for you. That won't do anything for you in the long run, because when that engineer moves in you're lost. Plus you should feel like shit for letting somebody else do your music while you take the credit."

May has a dislike of working in studios, preferring to create his music in his living room at home.

"When you go in a studio it's work, not fun, and I don't want to work", he says. "I hate the idea of having an engineer sitting there while you prepare your ideas, and I hate the fact that there's a clock running. I'm the kind of guy where I'll do a bassline or a melody or strings line and I'll walk away from my synths for two or three days and just let the sequencer continuously play a loop of this line very low. Then I'll come back and maybe work on it or maybe just erase it."

Nonetheless, a few days after doing this interview May was scheduled to go into the studio with former Gong guitarist turned producer Steve Hillage. It seems that the cosmic one was exposed to some Rhythim Is Rhythim music, liked what he heard and got in touch with May.

"We sat down together and talked, found that we had a lot in common, and decided to collaborate", May says. "I felt like I could learn so much from working with him. Every time I mention his name to somebody the man has top-notch respect, and he has my respect simply for the fact that he's decided to give it another go at this point in the game and to go against the grain. There's not enough rebels out there."

And have the pair decided how they're going to approach their collaboration?

"The project is going to be based around future concepts", May replies. "The idea is to come out with something different and innovative. Not Derrick May Rhythim Is Rhythim music, and not Steve Hillage ambient guitar."

We can but hope that the result sees the light of day.

**LAST YEAR MAY UNDERTOOK A STRING OF** remixes and was less than overwhelmed by the experience. Today he has more or less turned his back on remixing.

"It's a dangerous thing to get involved in", he explains. "You try to figure out what a person was thinking when they recorded something, you can get really hung up on that. You're dealing with a lot of different engineers, running to different studios. . . Sometimes that's good for experience, but other times it can be a burden. You become an expert at readjusting your thinking every time you go in a studio, and at the same time you become a sort of prostitute, you become used."

"I think if you're trying to be an artist then you can't be a remixer, and if you're trying to be a remixer you can't be an artist, because you give up so much one way or the other. For me, being an artist is my number one occupation, running my record label is my second occupation, and after that I can do remixes if I like."

It seems that nowhere do issues of creativity and marketability become more intertwined than in the remix. Too much commercial exploitation and too little creativity could spell the end of remixing.

"I don't think remixing will die out, I think it'll just come into some sort of perspective", May says. "The A&R people that order all these remixes have got to be more realistic about what a remix means for the record and what it means for the lasting of the group. I mean, a group's image is tarnished from three or four remixes of the same record. This just shows you how shallow these record companies can be when it comes to looking after the integrity of their artists. If they had any respect for an artist, or any belief that that artist could create something of value, they wouldn't go out and get the record remixed three times. But sadly I don't think record companies respect artists at all, I think that's a thing of the past."

And what of the future for Derrick May? With the long-awaited Rhythim Is Rhythim album no nearer completion than it ever was, he looks set to remain an underground, cult figure, bathed in an aura of exclusivity. Perhaps this is the way he wants it to be?

"That exclusiveness is something that doesn't last forever. Once you reach the boundary of exclusiveness and you pass into popularity and commerciality, you become a product of society. And as a product you have a certain amount of marketability before your time is up, before it's time for a new product. I'd rather not be a part of that if I can help it."

May understands that a good reputation can be lost far more quickly than it was gained, and he's not about to accommodate the whims of major record companies on the chance that he might earn more money that way. As he explains, he has his own priorities:

"In the past I've been to Mute, MCA, Virgin, Warner Brothers. . . They all wanted to do something with Rhythim Is Rhythim, but they wanted to do it in the context that I was going to change. When you're talking about a black guy who's making electronic dance music for intellectuals, intellect dance music, you're talking about something that they have to completely bend themselves out of character for. They don't understand it, they don't know how to market it, and I think they'd really rather not touch it. OK, I've come to accept it, I know the score and I don't even worry about it any more; I'm not changing. If I have to lose out on millions of dollars, fuck it. I have to live with me, I have to be happy."

"What I've just said may sound quite noble, and maybe some people might not believe me, but. . . You have to understand that, to me, it's a very important thing to be happy. Happiness doesn't come in a dollar or a pound. Happiness comes with honesty and self-confidence, not self-denial, just being a happy person with free will, doing what you want to do."

And surely there can be no better philosophy of life than that. ■

# Monkey



THE STORY SO FAR.....  
CHARLIE THE MONKEY HAS TAKEN ALL HE CAN AND HAS MUTATED INTO A PRICE SLASHING BANANA MUNCHING SUPER HERO! HERE TO SAVE THE WORLDS MUSO'S FROM ALL THOSE EXTORTIONATE PRICES OUT THERE ON THE STREET...

HE PLEDGES...  
Read On...

"I WILL NOT BE BEATEN ON PRICE! EVERYTHING YOU SEE IN THIS AD IS IN STOCK! - READY FOR OUR SUPER HERO DELIVERY SERVICE!"

SPLURGE! SPLATTER!

OH NO... YET ANOTHER MUSO IS BEING STRIPPED UP BY THE EVIL...THE PRAGMATIC THE SNEAKY... ZAP!

PHEW! ITS OK... SUPER HERO MONKEY HAS JUST SAUBED ANOTHER MUSO LOADS A DOSH!

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## VALHALA D-501 & D-502

*D50 Sound Cards*

Let's face it - the D50 is getting a bit long in the tooth now. The Mega-synth of yesteryear becomes the secondhand bargain of today. Nowadays you'll probably pay more for a well-looked-after Jupiter 8 than a secondhand D50, some of which now change hands for as little as £650. This means that the D50 has finally drifted down into the second division of synths - loved by many, but definitely dated and less valuable than, say, an M1 or a VFX. But it's in the nature of a classic synth to run and run, and if musicians are still getting new sounds out of their Prophet 5s, there must still be scope for a few surprises from the D50's 4-partial LA architecture. All it takes is a bit of imagination and a lot of programming talent. Simple.

When it comes to programming ability, there is no company currently making a better name for itself than the American firm, Valhala. Their highly respected range of International Gold ROM cards, already available for the M1(R), M3, T-series, and VFXs, has now been extended to include the Roland D5/10/110 & D20 synths, as well as the evergreen D50. So now the spotlight falls on International Gold cards D-501 and D-502 for the D50 which, at £40 for 64 professional patches, already have a head-start on most of their rivals.

When Roland specified the design of the D50 RAM/ROM cards they didn't cut corners. D50 cards are built to last - and Valhala's ROMs are no exception. Very sturdy construction, with protected terminals and the now obligatory plastic wallet, means that these ROMs should give years of trouble-free use. The only luxury missing is the small finger grip provided on Roland's (and some other manufacturers') ROMs which makes insertion and withdrawal of the card that little bit easier. Also missing was the expected patch listing, but since these were review cards (not the fully-packaged commercial goodies) we can

hope that a list is included with the cards in the stores. But these are trivial niggles, not problems of life and death. The significant question is, "just how good are the sounds?". Since D-501 is, in my opinion, the weaker of the two ROMs, that's where we'll start.

Unlike the SSU cards (recently reviewed), there's no clear focus to the sounds on D-501, and the card is clearly intended to provide a broad palette of sounds for general use. There are nice fat patches ('Ring Modulated Pad', 'Christmas Strings', 'Cosmic Hugeness', 'String System'), digital ones ('Clicknology', 'Totally Ethereal', 'Bright Synth Bells', 'I get Excited', 'Try an Arpeggio'), Organs, Voices ('Isotopic Choirs', 'Synthetic Choir'), Pads ('Chapel Breathing'), and your obvious weirdos ('In a Horror Film', 'Sssh - Freddie's Home'). There are also a range of useful piano-ish percussive sounds, the inevitable basses, and the usual tentative guitars. However, despite the high quality of all of these, only one patch stood out as totally innovative, the very aptly named 'House Kut'.

Although D-501 is the weaker of the two cards, that certainly doesn't make it a poor buy. It's just that D-502 is better, and if that makes the second offering a truly great card, so be it. A great deal of attention has been paid to the sounds on this ROM, with especially good use made of reverb and intelligent use of the stereo output modes. The main thrust of the card is the sustain/pad type of sound, with particular concentration on "spectrum"-type patches. To list a few favourites; try the M1-ish 'Advertising Chords', 'Spectrum Pad', 'SlapBack Heavenly', or 'Breathe In'. For classic digital textures choose from (amongst others) 'Sakamoto in my D50', 'Ooh-Pick-Pad', the excellent 'Digitasia' and 'Across The Void', and 'Religion' (which sounds exactly like you always imagined a Fairlight in your bedroom would). There are rich pads ('Atlantic City', the inspirational, warm and shimmering 'Time Travelling'), Analogue Timbres ('Hold & Develop', 'Certainly not Tiny'), delicate textures ('Big as Star-Trek' - which it certainly isn't). . . The list, while not endless, is certainly impressive. Even if you're not into M1s, pads or analogues

(what are you, a guitarist?), you'll still find something amongst the basses, guitars, acid synth patches, sub-TR808 drums, organs, brasses. . . OK. I admit it. I'm impressed.

Both cards, in common with other manufacturers' offerings for the D50, benefit enormously from a little judicious tweaking. That doesn't mean that Valhala have got it wrong, simply that you can't satisfy even one of the people all of the time. But, if the basic sounds are good, a bit of quick manipulation of the reverb and "common" parameters can work wonders. Never settle for just what you get. Be adventurous. My favourite from both ROMs? Try the brassy 'A Slow Seven' on D-502, but edit out the Upper partials to leave a marvellous solo brass patch.

Here's an interesting discovery: if you do go to audition these cards try to play them from a six or seven-octave master keyboard - you'll be pleasantly surprised. The extra range brings out additional textures, and makes using some of the sounds much more interesting. I wonder if Valhala intended this, or whether it's a quirk of the programming?

The ultimate question for any reader of a review is "should I be interested in these sounds?". If you've got a D50 or D550 (why else would you be reading this?) you've probably already gathered that you should. There are (inevitably) a few dogs among the 128 patches on offer, but there are also a number of absolute gems - the overall impression is one that firmly lives up to Valhala's excellent reputation for quality.

It's tempting to conclude with some trite phrase such as; "there's something here for everybody", but that's true for any collection of sounds provided that there are enough of them. A better message would be that there is a breadth to Valhala's sounds, a quality, that speaks of programmers who understand what makes a patch valuable to us 'umble musicians. And, at only £40 per 64-patch ROM you are, in effect, saving a tenner against the very usable PA Decoder collections (128 patches for £99), and a full £60 against the SSU 64-patch cards. On that basis - quality plus value - what more do you want? ■ **Gordon Reid**

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# EVS1

Mix elements of FM, PD, additive and analogue synthesis in 1U of rackmount space and sell it for under £300, and you've created an implausibly powerful and attractive synth - the Evolution EVS1. Review by Ian Waugh.

**Y**OU'VE PROBABLY READ about the EVS1 in MT's news pages or heard about it on the grapevine already. It is, after all, pretty newsworthy: a 100-sound, 16-voice eight-part multitimbral expander with built-in sampled drum sounds and voice editing software for under 300 quid. And it's British - well, the concept and design are, although the technology comes from abroad.

So how have they done it? Have corners been cut? More importantly, should you rush out and buy one? Read on and all will be revealed.

The EVS1 is a 1U-high, 19" rackmount module, powered by an external power-supply-in-a-plug. The front panel has a three-digit LED to show program numbers and other numeric data values. There's a rotary master volume control to the right and a headphone socket to the right of that.

Nine functions and utilities are actually screened onto the panel (more about these in a moment) and selected with cursor buttons which light an LED beside them. There's almost none of the confusing multi-button syndrome and no tangled nests of menus and sub-menus. That's a new idea for starters.

## BANKS AND GROUPS

EACH OF THE EVS1's eight parts is called a Bank (why not something singular like Voice, Part, Tone or just Sound?) and can be independently set to respond to a different MIDI channel. The arrangement allows two or more Banks to be assigned the same MIDI channel to produce layered sounds. When you've set up a few Banks of sounds, they can be stored as part of a Group (essentially a collection of eight Banks - with me?). You can create up to 20 Groups and Bank sounds within a Group, which may be changed via MIDI. Furthermore, there's a Program Change Table which lets you select either sounds within a Bank or any of the 20 Groups, so sound selection is pretty flexible.

On initial acquaintance, however, this caused me a little head-scratching, as Banks set to the same MIDI channel number will change to the same sound on receipt of a MIDI program change instruction. Changing the sound from the EVS1's front panel, however, will only change the sound of the current Bank and produce a layered sound if another Bank is set to receive on the same MIDI channel. So, changing programs via MIDI produces identical sounds, changing programs from the front panel may produce layered sounds. Obvious really. The

moral is to read the manual. A Quick Start Guide recommends you read the manual, too, but leaves a lot unsaid.

The EVS1's sound generation system is digital, and generates 16-bit sounds with a 44.1kHz sampling rate. It includes 32 different stored waveforms which can be used in a number of ways.

Of the 100 onboard sounds, 80 are preset and 20 are user-programmable. What's particularly interesting is the fact that sounds can only be edited and loaded via software. The current software runs on the Atari ST, although software for the IBM PC should be available by the time you read this and a version for the Mac is being planned - nothing for the Amiga yet.

## BANK STATEMENT

IN BANK MODE, the upper set of functions in the middle of the panel are operative. The first is simply called Sound, which is the normal voice (Bank) select mode. Next is Channel which sets the MIDI channel for the current sound. Volume lets you give it a volume level (0-99) and Pan lets you position it in the stereo image (15 steps, -7 to +7).

Modulation Control toggles various MIDI-controlled parameters on and off. These include velocity, mod wheel, aftertouch, pitchbend, LFO output and controllers (more about controllers in a moment). Things get just a little cryptic here, as the LED has to rely on one character to show which control has been selected - a "U" for velocity and an inverted "U" for mod wheel, for example. Zero is used to represent off and 1 represents on. You've probably realised, too, that the LED does not permit sounds to be named.

Next we have Transpose which is oddly limited to an octave up or down in semitone increments. Detune operates over 19 steps and is particularly effective with layered sounds.

Split lets you set upper and lower note limits for each Bank, allowing you to create separate or overlapping zones. It is especially useful for live work.

## THE NINE UTILITIES

IN GROUP MODE, the nine utilities beneath the Bank options are operative. First are the Group select function and the Program Change Table which have already been mentioned.

Next comes Controller Change. This lets you assign any keyboard controller to the EVS1's Controller Modulation option in the Modulation





Control section in Bank mode (a few paragraphs back). For example, selecting Controller #6 would enable you to use the data slider to control parameters such as envelope amplitude, vibrato depth and so on.

Data Dump lets you save sound and parameter data as System Exclusive dumps. You can save one Bank, all Banks, one Group or all Groups. Memory Protect will safeguard against the unwanted arrival of a SysEx dump, although the software lets you override this for remote operation from a computer.

The MIDI Filter lets you filter out unwanted velocity, program change, controller, aftertouch, pitchbend and SysEx data. Master Tune lets you fine-tune the overall pitch of the instrument while Pitch Bend lets you set the sensitivity of the pitchbend range from zero up to one octave.

Finally, Key Mode determines what happens when incoming data exceeds 16 notes. You have a choice of last-note priority, which doesn't steal notes from other Banks; you can steal the most recent note from the current Bank; the oldest note from any Bank and the most recent note from any Bank. There's also a cascade function which shunts extra notes through the Out socket where, Evolution hope, they will be picked up by another EVS1.

## I GOT ALGORITHMS

EACH SOUND IS based on one of 28 internal algorithms. Now, if you've floundered in the deep waters of modulators and carriers before, you may be forgiven for breaking out into a cold sweat. But the EVS is actually not as frightening as you may think. Although there's not room enough here to examine all the algorithms in detail, I'll run through a few of them so you can get a flavour of the system.

The algorithms are based on various arrangements

of the building blocks of the system - oscillators, waveforms, amplifiers and so on. The manual includes schematic diagrams of all the algorithms (these are shown in the software, too) so you can at least see who is doing what and to whom.

There are four FM algorithms in which oscillators modulate amplifiers in traditional FM style. There are also four Phase Modulation algorithms which follow a similar arrangement but which produce less extreme results when you tweak a control. There are also four FM/PM combinations (don't ask, just tweak).

One of the easiest algorithms to start experimenting with uses three oscillators in parallel (additive synthesis). When you've got the hang of that - shouldn't take too long - you can progress to one which has an FM arrangement feeding a two-oscillator combination. There is also an algorithm called Flutes which is simply four sine waves added together.

There are three Waveshapers whose effect is to modulate an oscillator with one of the waveforms. Two of the Waveshapers additionally add FM and PM to the algorithm. There is a Formant algorithm which introduces ring modulation, a couple of algorithms which feedback the output into the input of the oscillators and an algorithm which adds noise with a low-pass filter to a PM arrangement.

While the synth offers you a generous 28 algorithms to experiment with, the sonic variation they provide is less than you might expect. However, some offer you easier control of sounds than others (the software helps enormously), and some just require patient programming before the best use can be made of them. ➤

**“For total overkill, set all the EVS1's Banks to the same MIDI channel and select different sounds for each one - big is not the word.”**

## SOUND SOFTWARE

- ▶ THE ST SOFTWARE is not GEM-based and it rather puts me in mind of early Dr T's programs. It can be controlled completely from the computer's keyboard and although most operations can be performed with a mouse, some cannot. For example, the Zoom function in the Envelope page (coming up) has to be triggered from the keyboard. It also has the annoying habit of asking for confirmation of various operations with a keypress - what's wrong with a dialogue box?

A desktop accessory version is supplied but this is almost 100K long and will take quite a chunk out of even a 1040's memory with the more up-market sequencers. However, if it can co-exist with your sequencer you'll be able to create and edit sounds without changing programs - the ideal way of working.

The current disk includes 12 sound libraries (including the default one) so there are plenty of sounds to use and examine before you start creating your own.

The software layout is fairly straightforward and is divided into nine pages. The first is the Sound page which is used to select one of the 20 sounds and its major parameters such as the algorithm, waveforms, LFO parameters and modulation routing. The waveforms, however, appear as numbers (0-31) -

so to identify them you have to turn to the manual where, incidentally, they are very nicely drawn, too. This is one area in which the software could have assisted the user.

The Envelope page gives you access to four six-stage envelopes. You enter the required number of stages in the End point and make one of the points a Sustain point if you want one. The stages each have 128-step rate and level settings and there's a helpful graphic display which shows the envelopes. There's no time calibration, however, so you don't know exactly how long they last. A very long envelope may move off the end of the graph but a zoom function will scale it and bring it back in.

You can't drag the nodes around the screen, which is a shame, although you can click on a node, move the mouse to a new position and click again to fix it. Envelopes can modulate two parameters such as oscillators, amplifiers, LFO speed or depth, waveforms and so on.

The Group page offers a simple method of setting up Groups and here the sounds are named - good. Everything is shown on one screen.

The Utility page contains the MIDI Filter section and Global controls such as System Channel, Master Tune, Key Mode and Memory Protect.

In the Library page you can copy, swap and exchange the 20 user sounds and the Dump page lets you load and save them to and from disk and the EVS1.

The Program page contains the settings for the Program Change Table. The Remote page shows a

duplicate of the EVS1 front panel which you can control by clicking on the switches.

Finally, there's a Help screen for each of the pages.

Apart from being essential in allowing you to edit the sounds, the software is helpful in showing you what is going on inside the instrument. However, in order to hear the sounds you are creating, you either have to press the ST's Alt key together with a numeric key, or plug your ST and keyboard into a merge box. If you intend to invest in a Merge, be sure to get one which can handle SysEx data.

If you know nothing at all about synthesis, operation is going to be largely trial and error. There are Undo and Compare functions which are very useful, although a randomise function would have been handy as well as helpful for the newcomer.

## SOUNDING OUT

SO WHAT OF the sounds? Are they as (r)evolutionary as the name may lead you to expect? Well, they certainly represent a useful cross between digital and analogue. If I had to put money on it, I would say they were closer, soundwise, to an analogue synth, although typical FM textures are easily obtained.

There are lots of immediately useable sounds here, including electric pianos, organs, gut guitars, analogue basses, chorus pads and just plain fat analogue brass, string and synth stuff. There's a fair smattering of sweeps, combination sounds and arpeggio effects with a few sound effects thrown in, along with several sounds which defy description.

Of course, you can create incredibly complex sounds by layering them. This can get really heavy. For total overkill, set all the Banks to the same MIDI channel and select different sounds for each. Big is not the word. But do it sensibly and you can more than double the range of textures available to you.

## KEEP ON DRUMMIN'

TWO OF THE presets call up drum kits which contain 61 sounds, each of which responds to a key in the range C1-C6. The two kits are similar except for the note allocation and the pan position of the sounds. One of the maps follows the setup used by Roland and the other is Evolution's own.

The drums deserve a special mention as they certainly compare well with the drum sounds inside other budget expanders (bearing in mind that there's not one quite so budget as this). They include a range of bass and snare drums, toms, hi-hats and cymbals as well as claves, agogos and tambourines.

Some noise is evident in certain sounds (toms, for example) but this could well be lost in a mix. I have to add that some noise is quite discernible in some of the main sounds, too.

In spite of the in-built waveforms, the EVS1's forte is not the recreation of realistic or acoustic sounds: it's strength lies in the *synthesis* of sounds. In a mix, the sum of the parts is definitely greater than the whole.

**“Perhaps its most ideal application is as a partner to Cheetah's budget analogue expander, the MS6 - between them the two units offer a tremendous range of sounds.”**

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## MANUAL LABOUR

► THE MANUAL IS not terribly long and crams both hardware and software instructions into 56 pages. It's not really enough, and some operations could be better explained. For example, it's unclear at first how to store Banks in Groups (although it is easy when you know how).

It's a shame the writers didn't heed the comments most reviewers make about manuals and put a little more effort into this one. Apart from the lack of any explanation about the various forms of synthesis used - which is, arguably, excusable on the grounds that other companies such as Yamaha and Roland, for example, don't include in-depth explanations of FM or LA synthesis in their manuals - a little more help, especially for the relative beginner would not go amiss. How about a tutorial section and some worked examples?

However, the system is reasonably easy to use once you get into it and anyone with a little experience of other synths shouldn't have too many problems.

## VERDICT

YOU COULD BUY the EVS1 and use it as a 100-sound preset expander but that, I think, rather defeats the object of the exercise. To make full use of it you really need a computer.

Therefore, it would appear that the EVS1 is targeting itself specifically towards musicians who

use a computer. It may also attract the home musician who wouldn't think of spending £400-600 - plus editing software - on an instrument but who just might consider £299 for an expander plus software specifically for his machine. It will be interesting indeed to see how it fares.

Of course everyone is going to say they would prefer to have 80 programmable sounds and 20 presets rather than the other way around and why not a full MIDI complement of 128 sounds? An LCD would have been nice, too, and there's no reverb either, which would have beefed up the sounds somewhat. Costs have to be kept down somewhere.

Don't expect to get a DX7, CZ1 and a Juno in one box - the EVS is its own synth. Certainly one of the best ways of assessing it is to consider it as a powerful digital addition to an analogue setup. Perhaps its most ideal application is as a partner to Cheetah's budget analogue expander, the MS6. Between them the two units offer a tremendous range of sounds for under £600.

In spite of the odd niggle, as a budget-priced package, the EVS1 will doubtless find a lot of eager buyers. If you like synths, you'll like this and if you enjoy programming or if you want an easy introduction to digital synthesis you'll like it even more. ■

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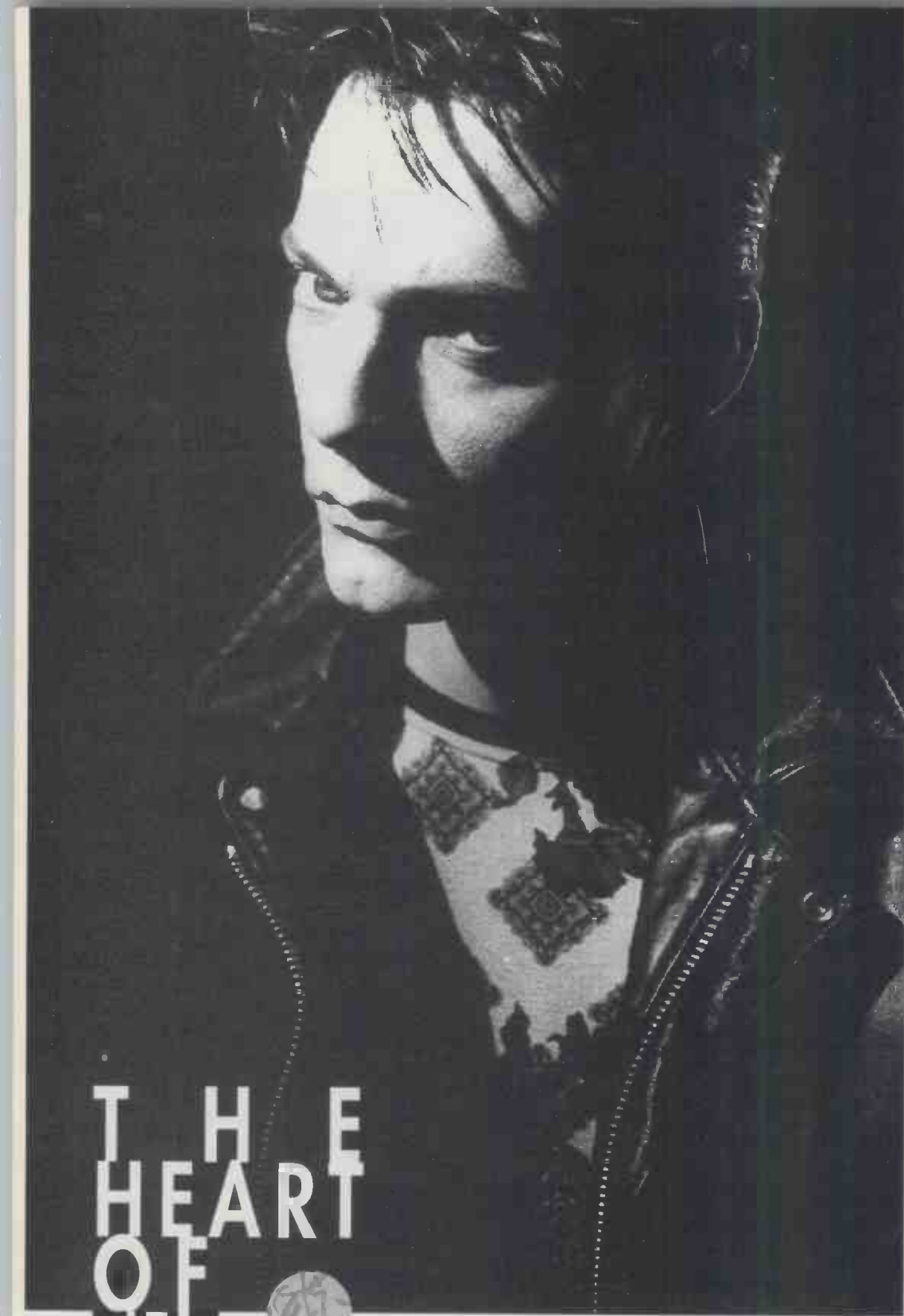
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**Interview by  
Tim Goodyer.**

# THE HEART OF THE BASS

THE NAME WILLIAM ORBIT will already be familiar to a select, but well-informed, few. As a founder member of the experimental electronic trio Torchsong, his musical activities date back to the early '80s.

Since Torchsong's demise he's been in increasing demand as a remixer, covering artists as well respected and wide ranging as The Cure, Malcolm McLaren, The Human League and Prince.

More recently, William Orbit has returned to making music of his own. Under the name Bass-o-Matic he's already released two singles, 'In the Realm of the Senses' and 'Fascinating Rhythm' on Virgin records; an album is also complete and awaiting release. He's still making great use of the

electronics that formed the backbone of Torchsong and have made him a sought-after - and expensive - remixer. He's also taken an interest in DJing, neatly reversing the current trend of DJs moving into music making. Another more traditional skill Orbit is promoting within the club circuit is that of live music.

The story effectively began back in 1983 with the release of Torchsong's first single, 'Prepare to Energise' on Miles Copeland's IRS label. Along with fellow technophile Grant Gilbert and singer Laurie Mayer, Orbit was pioneering sequencing and vocal looping using early Roland equipment and tape techniques. Already a multi-instrumentalist, Orbit set about learning his way around the formative synths and sequencers of the day. It was a route that was to lead him to build a comfortable 24-track facility in North London he calls Guerilla.

It's been a long haul from the days spent with a couple of cassette decks and "a load of hi-fi bits and pieces". Seated in the Guerilla offices, he identifies the studio downstairs as Guerilla 8 and takes me on a guided tour of the studio's previous incarnations and locations: a squat in London's Harrow road hosted a Teac reel-to-reel four-track, a move to Little Venice saw the four-track make way for a Brennell one-inch Mini 8, then there was a stint in a Hampstead basement. . . It was the deal with IRS, secured on the strength of demo recordings alone, that realised the cash for the 24-track. The deal also enabled Torchsong to get out a handful of singles and an album entitled *Wish Thing* before its members went their separate ways.

Orbit's "way" involved a solo deal with IRS and a couple of LPs. "I think my approach was wrong", confesses Orbit through the exhaustion of the previous night's *Vaguing Championship* and a complete night spent on the town. "The first album I did for them I don't actually like listening to, then I did the *Strange Cargo* album which I do like, but it's a low-profile project of instrumental music."

Then the remixing began: add Nitzer Ebb, Erasure, S' Express, Oleta Adams, Propaganda, Stan Ridgeway, The Human League and Les Negresses Vertes to the list above and you get some indication of the variety and stature of the artists he's worked on. To get your hands on a Prince multitrack is not only acknowledgement of your musical standing, but a unique opportunity to gain an insight into the work of one of the most influential artists of our time. Yet whatever clues to Prince's genius Orbit may have discovered are destined to remain a secret. "It was definitely a good thing to do", he agrees, but he's not talking. Where you or I might be tempted to enjoy the reflected success of Prince, Orbit dismisses the opportunity. Instead he exudes the confidence of a man who has outgrown hero and equipment worship, and would rather discuss the learning process itself.

"I used to play everything myself", he says, "and I was seriously obsessive about it as well. That's a mistake - when you bring other people in it really juices a project up."

Orbit's obsession necessarily extended to technology: "It eats you up inside", he says, ruefully, "and it caused me a lot of unhappiness. The thing is that a lot of equipment bought by professionals is bought on impulse by people who get paid large sums of money in one go, rather than smaller amounts on a regular basis. The 'aspirant' market - the people who want to be professional musicians - usually get their money in regular weekly amounts, so they have to save for what they want. Musicians don't, they get it upfront in chunks - they get to blow it in chunks, and regret it at leisure.

"I've worked it out of my system finally after being seduced by equipment for years and years. Now I don't really need anything, and when I do I'll search it out, but it took years to get to that state."

himself is the motivating force, taking care of much of the songwriting, programming and playing of guitars and keyboards. He's joined by singers Sharon Musgrave and MC Inna One Step, and percussionist Fergus Gerrand. On top of this there have been various "guest" appearances, not least from Steve Hillage who played guitar on a version of the album's title track as it appears on the 'Fascinating Rhythm' 12-inch ("He brought his gear into the studio, put this giant crystal on top of it and went into a trance to play. Great!"). The album they have collectively produced showcases a variety of musical styles and influences presented in a dance format. But don't get the idea that we're dealing with a succession of indistinguishable beats and inadequate tunes; Orbit's background has ensured a satisfying course between fascinating rhythms and infectious melodies. Thrown in for good measure are links taken from film and television, and sampled references to a wide variety of musical styles.

The musical "lifts" generally constitute embellishments to tracks rather than their basis - attentive listening will reveal such details as the bongo roll from the *Mission Impossible* theme. In addition to "straight" samples, there are plagiarised references such as that to Harry J's 'Liquidator' which graces 'Fascinating Rhythm'. The vocal samples, meanwhile, span classic feature films and cult TV series' like *Lost in Space*.

"You can spot them, but I won't admit to them", says Orbit diplomatically.

Given the fact that the music doesn't depend on unoriginal material, the question raised is why use copyrighted material when it is obviously within Orbit's capabilities to create original material to suit? Why choose to sample?

"It's part of modern dance music - it's based on recognisable icons", comes the reply. "I don't need to copy things, I can do it all, but it's part of the movement.

"A lot of DJs I know only like to work with things that are recognisable, and a lot of remixers put things on that they know other people will recognise as having come off another record, in preference to doing it themselves."

A further copyright question is raised by the inclusion of the track 'Set the Controls for the Heart of the Bass' - which bears more than a passing resemblance to Pink Floyd's 'Set the Controls for the Heart of the Sun', from 1979's *Ummagumma*.

"That's a publishing thing", comments Orbit. "I can't just say it alludes to 'Set the Controls for the Heart of the Sun', so I gave the publishing to Roger Waters. We contacted him and said 'this is what we want to do', he approved the song and it's all legit. It's cool."

And then there's the dialogue - possibly the easiest aspect of Orbit's sampling to have avoided.

"I love links", Orbit protests. "I've always wanted to ▶

**"Musicians get their money upfront in chunks - and they get to blow it in chunks, and regret it at leisure."**

AS ORBIT IS EAGER TO POINT OUT, Bass-o-Matic is the sum of a number of talents. Orbit

► stick links on an album. It keeps the album fresh - I did all those one night just before the cut and it means that there's something inspired about it.

"The samples came from all over the place. I didn't sit and watch a load of movies that night - you can't - but I had bits I've wanted to use for ages."

In addition to confirming his interest in sampling, Orbit's experience recording the Bass-omatic album caused him to seriously reassess his working methods.

"I've changed my style to work more quickly and spontaneously", he explains. "The album was done in about a month's worth of work. One of the tracks was done the night before the cut and a lot of the tracks are the original

demo mixes because they sounded so fresh - when I say demo mixes I put a lot into mixing. I never do rough mixes; I can never do anything that's a compromise, but if I'm working in a short space of time, the adrenalin flows and there are rougher edges. The mixes on the album are mostly like that.

"Sometimes in the middle of a mix I get inspired by something and I work on that instead. Because of that, when I go back later to do 12-inch mixes I discover all the things on the multitrack that I'd forgotten about - that's quite nice."

TURNING OUR ATTENTION FROM ORBIT'S music to the tools of his trade, we find a capable complement of equipment occupying Guerilla studio. Orbit is modest to the point of embarrassment about the quantity of gear, insisting instead that it's not what you've got but how you use it.

"Your readers will probably be shocked by how simple my gear is", he pleads. "For example, I don't believe in expensive reverbs - it's more important to know where to put reverb and where to take it away. Dynamics are very important - that's another thing it's taken me a long time to learn. Sounds are very important; equipment is becoming less relevant."

The two Akai S1000s - both with 8Meg memory, and one hooked up to a 45Meg hard disk - form the core of the sound production he describes as "minimal". The all-important basslines are courtesy of "just" a Juno 106.

The days of lusting over equipment (the same days that saw him building an E&MM Pitch Transposer) are long past. Technology has its place, even if it doesn't necessarily know it. But there are things Orbit is still eagerly awaiting - the demise of MIDI, for example.

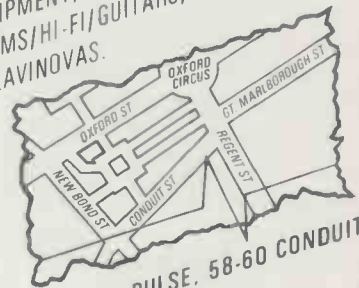
"I'm looking forward to optical data transfer" he proclaims. "Serial data transfer over MIDI is just a joke. It outgrew itself years ago, and now it can't cope with the amount of data."

"At the moment I master onto an analogue half-inch Otari; I'm very happy with that and I'm happy editing with a razor blade. I know there are systems that will ►

**"Serial data transfer over MIDI is just a joke; it outgrew itself years ago, and now it can't cope with the amount of data."**



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► let you do in software, but I'm happy to keep doing it that way. But when optical technology comes along, I'll be investing in that."

Alongside the analogue tape technology, Orbit is currently running an Atari Mega2 and Steinberg Cubase software. Surprisingly, it took him a while to come to terms with the computer technology.

"I'm a late starter", he says. "We bought the computer and the C-Lab for the studio and hired programmers to operate it. Then I thought 'this is ridiculous', the reason I got into engineering was because it was quicker for me. I had a go and didn't like the C-Lab, so I gave it to my engineer. Then I bought the Mega2 and Cubase and two days later I was kicking myself for not doing it before. Now it's like second nature. It's enabled me to be more spontaneous with music.

"Before that I used to muddle along with a Roland MC4 and then an MC8 - you'd be surprised how basic my stuff was considering the fact that I was doing 'sequencer' tracks as long ago as the first Torchsong single. Since then technology's done a lot of catching up with me. I'm not claiming to have invented sequencing - I got the idea off Tangerine Dream. It's like I did vocal looping long before S' Express did, but when Mark Moore came up, he made a much better job of it. In my mind I listen to that and think that's how I wanted it to be years ago. I'm not claiming anything too seminal, but I used to 'sequence' on tape - slowing the tape down, playing until I ran out of steam, dropping in. . . I developed this technique using two tracks, filling in the gaps on the second track.

"The way I work now, there are two stages to doing a track: the demo and the mix. The demo is very quick and I just throw everything down. Then in the mixing process, I change things as I go along. Making those changes as and when you're going along makes that very spontaneous too. What's relevant is what you feel then and there as you're mixing. I frequently play along with it - if there's a drum fill or a bit of strings needed I'll play along and splice it into that section."

#### ORBIT'S RECENT INTEREST IN DJING PUTS

it in an intriguingly different light to that cast by the DJ moving into music composition. Where the DJ's dancefloor awareness tells him what the music should do and leaves him learning the dots and the gear, Orbit's musical and technical background leaves him learning audience response.

"Technically speaking, I find mixing and cutting very easy", he claims. "The hard thing is knowing what to play at the right time.

"Tamla Motown was successful because it sold to the women rather than the guys. Men listen to music because of the 'tribal' thing, whereas women listen to something because of what's in there. Tamla Motown was bought mainly by women. People running those early soul clubs realised that women came because they liked the music, and where the women went the guys followed - that's how they packed a club.

"All the women I know who regularly go to clubs are far more discerning about their music than the



#### EQUIPMENT LIST

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Roland Dimension D  
Sony DTC 1000 DAT Recorder  
Trident 80B Mixing Desk  
Yamaha SPX90 (x 2)  
Yamaha SPX900

##### SEQUENCING

Atari Mega2 ST  
Roland SBX80 Synchroniser  
Steinberg Cubase  
Steinberg SMP24 SMPTE Synchroniser

##### INSTRUMENTS

Akai S1000 (x 2; 8Meg, 1 with 45Meg Hard Drive)  
Roland D5  
Roland Juno 106  
Roland SVC350 Vocoder  
Roland TR808 (MIDI'd)  
Yamaha DX7

guys. The guys are there because the women are there. It's the women who go dancing and so if you're a DJ, you watch what they're doing because they're the ones who listen. They're also very readable on the dancefloor; you don't have to give them a questionnaire to find out how they're feeling, you can tell by looking at them and reading their body language. And that's very useful to someone like me who spends most of their life locked in a studio.

"I'm going to start getting my mixes cut onto acetate and try it out. It'll only last about a dozen plays, but then I can come back to the studio and finish the mix."

Can we take it that the DJ isn't signalling the death of the producer, as so many of the old school fear?

"There's always going to be a call for producers", assures Orbit. "No matter what twists and turns music takes, somebody's got to help artists realise their music. Whether that person is a DJ with a grasp of what's working in the clubs is a good question. I've seen brilliant DJs get into serious trouble trying to keep control of 48 tracks on a mix. I struggle sometimes, and I've got a lot of experience. If things are going badly you need to be able to fall back on something."

What of the DJs' influence on the music currently being made, and their cavalier attitude to the technology Orbit once regarded so highly?

"I like records that have been put together DJ-style. I love all the dirt. People like me who have comparatively sophisticated gear and experience find it hard to make music like that. A lot of the stuff I buy is by people who are really inexperienced - your readers with a bedroom full of stuff worth a couple of grand can turn out music that sounds right to my ear.

"What DJs are producing sounds fresh because it's youth music and it's driven by rebellion. People will look back fondly on all this dancing when it's become a bit jaded and it's lost its impetus - like they do over rock 'n' roll.

"But there's going to come a point when dance music hasn't got anything to say", he warns, "because it will have lost that rebelliousness. At the moment it's changing so fast it's really exciting."

Looking back at the formative work of Torchsong it's easy to trace Orbit's metamorphosis into Bass-o-Matic. It almost seems pre-ordained.

"My moment is coming", he says confidently. "I was ahead of my time. I got my timing grossly wrong and there's nothing smart about that; you've got to get your timing right. But I think things are coming my way now. Dance music is opening up; in a sense dance is becoming more mainstream and the mainstream is opening up to dance.

"But there'll be something new along soon. You've just got to keep your eyes open because, by its very nature, you won't know where it's coming from. If you can teach yourself to trust your own instincts as to what sounds good to you, you're laughing. But it takes a while to do that. . ."

When the next musical wave breaks, it's a good bet William Orbit will be getting his feet wet. Maybe his advice will see you there too. ■

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## DD11



PHOTOGRAPHY: JAMES CUMPSTY

Whether you're searching for a budget MIDI drum expander or a cheap alternative to an Octapad, the latest addition to Yamaha's range of preset drum machines could well be your bag of maracas. Review by Simon Trask.

**W**ITH THEIR EMPHASIS on attracting the casual punter off the street, portable keyboards have always been strong on simplicity, immediacy and fun.

There's nothing more simple, immediate and fun than hitting drum pads, so it's no surprise that pads have

cropped up on some portable keyboards (Yamaha's PSS790 being the latest example). But could you imagine a manufacturer putting drum pads on a synthesiser? No, that would be considered frivolous.

Perhaps it's not surprising, then, that it should be left to Yamaha's Portable Keyboards division to make the logical connection between drum machines and

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But it's another kind of connection which makes the latest addition to the DD range particularly interesting to MT readers: MIDI. With the inclusion of MIDI In and MIDI Out sockets on its rear panel, the DD11 becomes both a MIDI percussion controller and a MIDI drum expander, with its eight velocity-sensitive drum pads able to trigger sounds from other instruments via MIDI note numbers, and its 35 PCM drum samples themselves triggerable as a preset MIDI "drumkit" on channel 16. As such it's a significant step up from Yamaha's previous MIDI-compatible DD machine, the DD5 (reviewed MT July '89), and knocks Roland's PAD5 for six (see review in MT October '89). However, unfortunately it doesn't rectify one of the DD5's shortcomings, namely the absence of MIDI sync capability - a strange omission for a MIDI drum machine, even a preset one.

Other features offered by the DD11 include 100 preset rhythms with optional auto-accompaniments, three chord-memories, 11 instrumental sounds which can be played multitimbrally via MIDI, built-in speakers, an auxiliary/headphone mono audio output, and footswitch triggering of drum sounds. The DD11 can be powered by an external PSU (not included with the instrument) or batteries.

Some of the above features may not be to your taste, but when you consider that it will set you back a modest £150, the DD11 appears good value for money simply as a MIDI percussion controller.

## SOUNDS

THE DD11's 35 drum samples provide a standard range of drum and percussion sounds, including three bass and three snare drums, several toms, open and closed hi-hats, crash cymbal, ride cymbal edge and bell, congas, bongos, timbales, agogos, cowbell, clap and cabasa. We're not talking 16-bit clarity and dynamism here - graininess and a certain amount of noise, yes. What's more, all the samples have been trimmed as much as they can be without losing their character, which does tend to impart a hard, electronic quality to them. All in all, they remind me of drum machines a few years back, perhaps with better top-end detail - some of the cymbals are quite decent. Also, you can't transpose or do anything else to the samples to change them.

The 11 instrumental samples, all of which could charitably be described as tacky, are synthbrass, acoustic piano, electric piano, vibes, marimba, steel drum, double bass, timpani, muted guitar, electric bass and orchestral hit. As with the drum samples, they've all been kept as short as possible. They're also fairly noisy - as is the audio output itself.

Each instrumental sound can be called up on any MIDI channel from 1-15 by sending the DD11 the appropriate MIDI patch change. The choice of patch changes - 0, 3, 5, 7, 8, 9, 14, 66, 70, 79 and 90 -

seems rather bizarre, but somehow in keeping with the general quirkiness of the machine. Perhaps it corresponds to some profound mathematical series which reveals the secret structure of the universe. Or perhaps not.

To deselect all DD11 sounds from a particular MIDI channel, send the instrument any patch change other than the ones listed above. Channel 16 is a special case, though: the DD11's preset "drumkit", containing all 35 of its drum samples, is always assigned to this channel. Additionally you can assign the "drumkit" to any other MIDI channel by sending patch-change 99 to the DD11 on the relevant channel(s).

The DD11's pads are quite sizeable (all 3.5" in diameter), but their sensitivity drops off noticeably as you move away from the centre of the pad. In fact, the only place you'll generate maximum velocity (internally and via MIDI) is at the centre. Although you can play them with your fingers, it's hard going, and the sticks which you get with the DD11 are your best bet. There's a modest amount of bounce in the pads, but not exactly what you'd call a natural response.

You can play the pads while the preset rhythms and accompaniments are playing and while the DD11's 'drumkit' and instrumental sounds are being played from an external MIDI source.

## GETTING KITTED OUT

THE DD11 HAS 12 (0-11) kit memories governing the assignment of its sounds to the eight pads and the right footswitch, but only kit 11 is user-programmable. You have to be careful here, because if you make any change to a preset kit, all its pad assignments are automatically copied into the programmable kit.

Kits 0-4 are preset arrangements of the drum sounds, while kits 5-9 spread the vibes, marimba, steel drum, timpani and orchestral hit sounds respectively across all eight pads in a rising pitch sequence C-D-E-F-G-A-B-C. The user-programmable kit, on the other hand, allows you to mix drum and instrumental sounds.

The pads and the right footswitch can be assigned to transmit on any one MIDI channel (1-16). The right footswitch allows you to trigger a DD11 drum sound with your foot while playing one of the drum or instrumental kits with the drumsticks. In the case of an instrumental kit, to play back the footswitch drum sound from a sequencer you'll need to be able to isolate its MIDI note and rechannelise it away from the MIDI channel of the instrumental sound (most straightforwardly to channel 16, the DD11's dedicated "drumkit" channel). The left footswitch must have some function, but I wasn't able to discover what it was (the review model was provided *sans* manual).

Kit 10 is an oddity, in that instead of triggering drum or instrumental sounds it triggers the currently-selected preset rhythm and its auto-accompaniment, with the choice of pad determining the transposition of the accompaniment parts. This kit uses the same pitch assignments as the instrumental kits, but with ►

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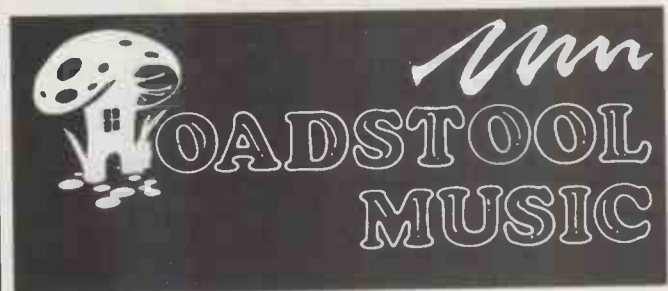
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- ▶ the difference that the sequence drops a minor seventh from F to G and then climbs back up to the initial C (so two pads duplicate one another). These transpositions simply shift the chord type of the currently-selected accompaniment style up and down, so that in most instances a transposition is in effect a key change rather than a different step within a single key.

The note data of the DD11's preset rhythms is always transmitted on MIDI channel 16, while the note data of the accompaniment parts is transmitted on channels 13-15 (melody on 13, chords on 14, bass on 15). When you're using kit 10, the accompaniment note data is transmitted via MIDI according to the selected transposition, which can give rise to some interesting clashes if the preset rhythm triggers an external pitched sound as opposed to drum sounds. It's just a shame that, if you want to record the results into a MIDI sequencer, you're going to run into syncing problems. There again, if you're going to be experimental, why bother about things like synchronisation?

The MIDI note numbers transmitted by the pads in the instrumental kits conform to the internal C-C pitch sequence, with the octave varying from kit to kit according to the octave of the internal sound. On the other hand, each pad within each drum kit transmits the note number of its assigned drum sound, which is the same as the drum sound's receive note number in the preset "drumkit" on MIDI channel 16. The advantage of this approach is that you can record your own rhythms into a MIDI sequencer using the DD11's pads and then have them automatically play back correctly on the 11's "drumkit". The shortcoming is that the MIDI notes which *don't* have drum sounds assigned to them in the "drumkit" aren't available for MIDI transmission, which could be a major pain if you're playing pitch sequences on an external instrument from the DD11's pads. The 11's instrumental kits are also limited, in this case to the notes of the C major scale.

## I GOT PRESET RHYTHMS

THESE DAYS, MANUFACTURERS are making serious efforts to discard the "Latin Pops" image of preset machines by providing a wider selection of rhythms and trying to be a little more up-to-date. Thus on the DD11 familiar rhythms such as the bossa nova, the cha-cha-cha and the habanera are augmented by the lambada, cumbia, mapeye, orisa and guaracha, while pop rock, rock'n'roll, speed metal, soul, funk and r'n'b rhythms rub shoulders with dixieland and big band jazz, rap, fusion salsa, reggae, ska and Euro beat. Perhaps inevitably, the DD11's drum samples work better for some rhythms than they do for others, while the regularity of the rhythms (they're all either one or two bars long) instantly introduces an element of artificiality - though you can break up the monotony with liberal application of the fill-in. The DD11 has five Rhythm Control buttons: Start/Stop, Fill-in 1,

Fill-in 2, Intro/Ending and Synchro Break (when the latter is enabled, hitting a pad causes the rhythm and its accompaniment to cut out for four beats, so you can drop in your own fill-ins or solos). Any one of these functions can be assigned to the right footswitch for hands-free operation.

To bring in the instrumental accompaniment parts you select one of the three chord memories from the front panel. These are programmable, allowing you to create your own chord sequences - after a fashion. Selecting record mode calls kit 10 onto the pads, allowing you to select chord transpositions by hitting the pads as the rhythm and accompaniment play. Up to 100 steps can be programmed per memory, with each step consisting of a transposition amount and the duration of the transposition in beats. You're limited to the root notes assigned to the eight pads, and to a single chord type (though the type varies from accompaniment to accompaniment). Not exactly sophisticated stuff.

## VERDICT

THE DD11 MAY be a cheap alternative to a Roland Octapad, but it's not an Octapad on the cheap. Roland's popular MIDI percussion controller in its various guises (Pad8, Pad 80 and now SPD8) offers greater ruggedness, superior pad responsiveness and more sophisticated MIDI control options. If these features are a priority for you, it's worth bearing in mind that you should be able to pick up a second-hand Pad8 Octapad for around the same price as the DD11.

But to criticise the DD11 for not being an Octapad is to miss the point. As a "domestic" unit, the 11's priorities are cost-consciousness and the earlier-mentioned simplicity and immediacy, so inevitably there are going to be compromises in such areas as ruggedness, programming flexibility and sound quality. But as long as you don't want to use the DD11 for gigging, heavy-duty studio work or heavy-metal drumming, it should stand the strain of some musicianly S&M, while the aforementioned mixture of tackiness and noise which characterises the DD11's sounds - especially the instrumental ones - will no doubt appeal to some people. However, amidst these "acceptable" compromises is one lamentable shortcoming: the DD11's inability to transmit or receive MIDI sync.

Nonetheless, if you want a cheap instrument which can function as a MIDI percussion controller, a MIDI drum expander and a (albeit very limited) MIDI multitimbral instrument expander, with a healthy selection of preset rhythms and accompaniments thrown in for good measure, and if you fancy the idea of a quirky and somewhat less than state-of-the-art instrument which you can mess around with, then the DD11 could be your surprise investment of the year. ■

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exclusive competition. For a full review, see the May 1990 issue of MT.

Alongside Boss' newest baby, A&M Records have offered five copies of their *Slammin'* compilation CD, featuring the DNA remix of Suzanne Vega's 'Tom's Diner' and Ben Liebrand's remix of Sting's 'Englishman In New York', as well as original tracks from Dream Warriors and Blue Pearl.

To join the elite of Roland drum machine users (or fill that hole in your record collection), you're going to have to do something for us - we hope you won't find the following questions too mind-bending, but in case you do, remember a bout of drunkenness costs you around 10,000 dead brain cells. . .

**1.** Which two Roland drum machines have found fame as the quintessential dance beatboxes?

- a. TR707 and TR727
- b. TR808 and TR909
- c. TR606 and TR626

**2.** How many onboard sounds does the DR550 offer?

- a. 16
- b. 32
- c. 48
- d. 64

**3.** What was the name of the original Boss Dr Rhythm drum machine?

- a. DR33
- b. DR55
- c. DR77
- d. DR505

**4.** Propaganda, Tangerine Dream and Bronski Beat have all recorded tracks whose titles share one of the following words. Which word is it?

- a. Dr
- b. Beat
- c. Rhythm
- d. Boss

YOUR ANSWERS SHOULD be called in to MT's special phone line on **(0898) 100768**, no later than Thursday 8th November. Please remember to give your name and address with your entry. As we're growing very tired of insisting, anyone submitting more than the permitted single entry will forfeit their chance of winning the small, but perfectly formed DR550. Furthermore, we will continue our controversial policy of naming names. Yes, Mr L Hall, alias Gaffny, alias Wilkinson, our eye is upon you. . .



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# ON THE RUN



***RUNNING STATUS IS ONE OF THOSE GREY AREAS OF MIDI THAT IS ONLY EVER DISCUSSED WHEN IT BRINGS PROBLEMS. BUT IT'S ACTUALLY A USEFUL METHOD OF OPTIMISING MIDI'S TIMING ACCURACY. TEXT BY***

***VIC LENNARD.***

THE SPEED OF MIDI, as the TV adverts might say, is fast - but not that fast. The fact that MIDI data travels at a speed of 31.25Kbits per second isn't really very interesting to most musicians whose main interests lie in music. The important fact is that it takes just under one millisecond for a key press on a keyboard to be transmitted along a MIDI cable - and in most situations, this is a musically insignificant period of time.

But let's take a closer look at what's actually going on. Each time that you play a note, a MIDI message for a note on event is transmitted from the MIDI Out port of the originating instrument. This message consists of three bytes; the first is a Status byte and identifies the message as being a MIDI note on a specific MIDI channel; the second and third are Data bytes and give the note value (pitch) and velocity respectively. Each byte takes 0.32ms to transmit so the entire message takes 0.96ms - a little less than 1ms.

MIDI is a serial protocol. This means that only one byte is transmitted at a time (a parallel protocol permits the simultaneous transmission of several bytes). When a chord is played, therefore, what you actually hear is a fast arpeggio of the notes in the chord. If you want to check this, try the following experiment: Set up a drum machine or sampler in Omni On mode and check the MIDI note value of a short percussive sound like a closed hi-hat - say, C3. Record a C3 on the first beat of the first bar on track one of your sequencer and assign it to MIDI channel one. Now copy this to the same position of tracks 2 to 15, adding one to the MIDI channel each time (if your sequencer has less than 16 tracks, you can use copy and then merge to achieve the same result). You should end up with 16 notes, each at the start of the bar, and each on a different MIDI channel. When you run the sequencer, you will hear a flammed hi-hat. Now set the drum machine to Omni Off and assign the hi-hat sound to two different pads, one receiving on MIDI channel 1 and the other on MIDI channel 16. Play back the sequencer again. This time you

should hear two distinct notes rather than a flam. All 16 notes are playing, but you're only hearing the first and last, with a 13.44ms gap in between. The reason you've probably never noticed this before is that the gaps are usually covered by the dynamic of the sound.

So how much of an effect does all this have on your music? The answer depends upon how much you rely on quantisation; it isn't inconceivable that you'd want a bass drum, closed hi-hat, crash, bass synth, eight-note piano chord and eight-note pad chord to

**“THE RESULT OF LOST  
MIDI BYTES CAN BE  
DECIDEDLY GHOSTLY - THE  
STAFF OF ONE STUDIO  
SMITTEN BY THIS  
PROBLEM BELIEVED THE  
PLACE WAS HAUNTED!”**

occur at the same point in a song. If you only quantise the drums and bass, the piano and pad chords will be spread over a short period of time lessening the problem. If you quantise everything, however, then you get 20 notes supposedly occurring at the same time - but actually spread over 19.2ms. Whether you hear this will depend on how your sequencer handles its data. It may give priority to data on the lower numbered tracks or MIDI channels, in which case this is where the bass, drums and any other percussive instruments should be recorded. However, life can get difficult if you have to think about your music in these terms.

But note information is not the worst offender when it comes to causing delays. Any continuous MIDI controller - like volume or mod wheel - transmits 128 sets of three bytes each time you move from one extreme to the other. Channel pressure (aftertouch) is

equally guilty and as for pitchbend wheel, the number of sets of three bytes transmitted will depend on the pitch wheel sensitivity of the keyboard - 128, 256 or 512 are typical values.

## RUNNING STATUS

THERE IS, WITHIN the MIDI specification, a process defined which will reduce the amount of MIDI data required to handle all these tasks. This is called Running Status and works like this: imagine you have a train pulling two carriages and you wish to increase the load. You could use another train with two more carriages but that would be wasteful. Why not just hook the extra carriages onto the first two to give one train pulling four carriages. The train in our case is a status byte and the carriages are the data bytes. If the status byte doesn't change from one MIDI event to the next, it can be left off. This will just leave the data bytes.

Let's look at an example:

```
91 3C 75 91 40 77 91 43 72
91 3C 00 91 40 00 91 43 00
```

This represents: MIDI channel 2, note on C3, velocity 117; MIDI channel 2, note on E3, velocity 119, MIDI channel 2, note on G3, velocity 114; MIDI channel 2, note on C3, velocity 0, MIDI channel 2, note on E3, velocity 0, MIDI channel 2, note on G3, velocity 0.

More understandably this represents a C major chord being played on MIDI channel two and followed by the same notes being released. The release is indicated by a velocity of zero. The whole string takes 17.28ms to transmit.

Now look at the same string under running status:

```
91 3C 75 40 77 43
72 3C 00 40 00 43 00
```

This represents: MIDI channel 2, note on C3, velocity 117; note on E3, velocity 119; note on G3, velocity 114; note on C3, velocity 0; note on E3, velocity 0; note on G3, velocity 0.

The time taken for transmission here is 12.48ms, a saving of nearly 5ms.

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▶ three bytes for a full movement, we get the following:

Without running status:

$$256 \times 3 \times 0.96 = 737.28\text{ms}$$

With running status:

$$(1 + 256 \times 2) \times 0.96 = 492.48\text{ms.}$$

We've achieved a saving of nearly a quarter of a second. And a quarter of a second is enough to cause an audible timing glitch if no data thinning or shuffling is carried out by the sequencer. The only care that needs to be taken with this system concerns notes off. Using a note on with a velocity of zero is one way of handling notes off, the other is to use a status byte of 81 (hex), but in this case running status can't be used. This is used by keyboards which can generate a release velocity dependent on how fast you release the key.

## GET TECH

ALL MIDI DEVICES capable of receiving MIDI data have to be capable of recognising and handling running status. However, not all transmitting devices have to be able to send data under it.

A receiving device will probably have a one-byte buffer specifically for the current status byte. This buffer should be cleared at power up and when any MIDI system exclusive or common data is received. This buffer would be used for MIDI data dumping or sample transfers, MIDI real-time messages (such as MIDI clock and start, stop and continue commands) have no effect on the contents of the buffer.

Another technical consideration is that if the running status buffer is empty, any data bytes will be ignored. This could occur if you turn on a keyboard first, which is sending MIDI data under running status, send a note on and then turn on a connected synth. The running status buffer will be empty and any ensuing notes on sent from the keyboard will be in the form of two data bytes only. In other words, you won't hear anything. If this happens, the easiest way to rectify the situation is to send a different MIDI event by moving the pitchbend or mod wheels - this changes the buffer. A note on will then change the buffer again and restore the functioning of the system.

MUSIC TECHNOLOGY NOVEMBER 1990

The way to avoid this situation is to always turn on the master last.

The danger of abbreviating MIDI messages in this way is that strange things can happen if you lose a data byte? In theory this should never happen, but let's consider for a moment what the audible result of a lost byte on our previous example would be:

```
91 3C 75 40 77 43
72 3C 00 40 00 43 00
```

Again this represents: note on C3, velocity 117; note on E3, velocity 119; note on G3, velocity 114, note on C3, velocity 0; note on E3, velocity 0; note on G3, velocity 0.

Now let's "lose" the data byte for the C3 note on (3C). We end up with this:

```
91 75 40 77 43 72
3C 00 40 00 43 00
```

Which translates to: note on A7, velocity 64; note on B7, velocity 67; note on F#7, velocity 60; followed by two more notes which are too low to be heard.

The result is decidedly ghostly - instead of mid-keyboard notes with high velocity, you get high notes with mid velocity. The staff of one studio smitten by this problem believed the place was haunted! To avoid such problems it's a good idea for most MIDI devices transmitting under running status to send a status byte after every ten or so MIDI messages. Some do, some don't.

Another problem you may meet is the non-implementation of running status in certain MIDI devices. This includes the early Yamaha DX7, Ensoniq Mirage and Sequential Circuits Prophet t8. This is because running status was not initially included in the MIDI spec.

The advantage of working with running status is that the system displays better timing characteristics than are otherwise possible. Some sequencers are now offering you the option of transmitting under running status. And unless one of your MIDI devices doesn't support the protocol, you would be well advised to take advantage of it. Just a final word of warning: be aware that no sound when hitting your keyboard or the expected presence of gremlins inside your computer will probably be down to your status doing a runner. ■

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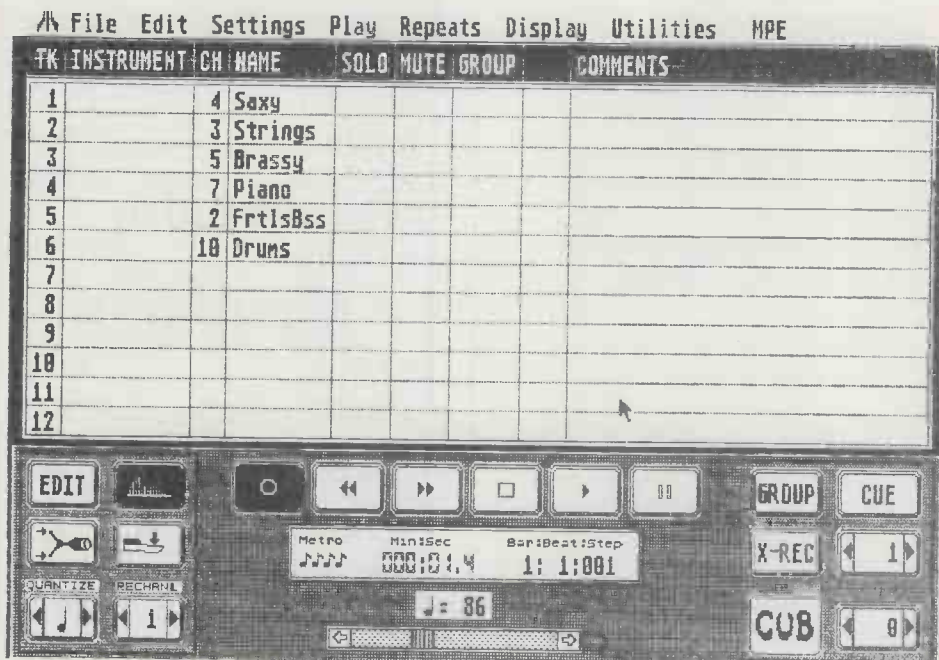
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# TIGER CUB



Son of Dr T's Tiger sequencer program, Tiger Cub brings cost-effective sequencing and scorewriting to the Atari, and GEM friendliness to Dr T's. Review by Ian Waugh.

**I**F YOU FOLLOW developments in the software sequencer market, you'll probably be rather blasé about *another* ST sequencer (software writers must be an optimistic lot, don't you think?). Well, Tiger Cub is worth sitting up for and taking notice of. Not only is it one of Dr T's new generation of programs - which use GEM instead of unfriendly numeric displays - but it's also the cheapest ST sequencer with notation facilities currently available. That's got your ears standing to attention, hasn't it?

## SON OF A TIGER

**BUT LET'S BEGIN** at the beginning. Cub (review v1.0) is based on Dr T's Tiger, has 12 tracks, and its operation centres around tape recorder-style controls. And you shouldn't be too surprised to discover that certain aspects of the program have their roots in other Dr T's programs such as KCS (Keyboard Controlled Sequencer) and MRS (MIDI Recording Studio).

Cub will run in mono or colour (the colour display shows fewer octaves on the Edit screen) but you need 1Meg of RAM. It has a maximum resolution of 384ppqn (pulses per quarter note) which is very high for a budget program. What's even more intriguing is the fact that you can alter this - should you want to - down to as low as 24. It defaults to 240 which seems pretty sensible.

There are two main screens - the Tape Recorder

screen and the Graphic Editing screen. The Recorder screen has familiar tape transport controls plus a variety of other icons whose purpose will be revealed presently.

## MAKING TRACKS

**BEFORE RECORDING**, YOU must set the length of the song in bars (although this can be altered later). Like most Dr T's sequencers, after recording a Track the program moves on automatically to the next Track so you can plough through a recording with the minimum of clicking. If you make a mistake, the X-Rec button stops recording, resets the sequencer and lets you have another hack at the Track in question.

You can loop on playback. A clock shows the time elapsed but, oddly, this is reset each time around the loop. You can define a section of music with two loop points and play it by clicking on the Cue button.

Each Track can be given a ten-character instrument name, an eight-character Track name and there's room for a further 28 characters in the comments line. Use them.

A slider is used to set the tempo, and the maximum and minimum values can be fixed from the Environments window. The range is from 20bpm to an amazing 600bpm - just the thing for the Minute Waltz - but don't expect all your gear to take too kindly to playing at top speed.

A large Edit icon offers quick entry to the Edit screen, a MIDI Merge button allows you to play through Cub to an expander, and a Rechannel control lets you transmit the data on any channel.

There's a button to enable and disable the recording of continuous controllers, pitchbend and program changes (although perhaps a separate filter window would be more flexible), and another button toggles aftertouch recording in the same way. There's also a real-time Quantise button which affects both notes and controller data during recording.

Solo and Mute controls are present for each Track, and a Group function lets you listen to a preselected group of Tracks at the press of a button. Useful for listening to all the tracks containing drums, for example.

Cub always records on the lowest empty Track. Now, I must confess I would prefer the flexibility to be allowed to record on a track of my own choice. I found it rather frustrating, too, not being allowed to



highlight a track for editing purposes, but this is done from the Graphic Editing Screen (just shows how used you get to certain methods of operating).

## GRAPHIC EDITING

ON THE GRAPHIC Editing screen notes are represented by bars. The higher up the screen the bar the higher the note and the longer the bar the longer the note. The start of the notes also have a vertical bar attached to them which represents velocity.

As you move the mouse around the display, an indicator shows the note it is on and its position in time in bars, beats and steps.

A range of edit functions are available from icons at the bottom of the screen. The Note icon, for example, lets you edit pitch. When you click on a note it becomes a dashed bar (as opposed to a doggone, darn blasted bar) and you use the mouse to change its pitch. You hear the note, but only when you stop moving the mouse, so you don't get a screech of scales (a new collective noun?). There are corresponding Length and Velocity icons which work in a similar way, and there's a Move icon which lets you adjust a note's position in time.

You can select several notes for editing at the same time, individually, or consecutively, by "rubber banding" a box around them. The mouse can then be used to alter their pitch and position in time. After an alteration, the whole string of notes will play. Their pitch, position in time, duration and velocity can also be altered from the ST's keyboard.

A Pencil icon lets you draw notes (including their velocities) onto the screen and - yes, you've guessed - an eraser (can't call them rubbers) rubs 'em out. There's also a Paste icon, although you Cut from the Edit menu. A Horizontal Range icon is used to highlight a section of track for editing.

The screen shows one Track at a time, and along the top of the display is the Track Information Line. This includes duplicates of the Mute and Group buttons on the Recorder screen along with the Track's MIDI channel number (this can't be altered from the Recorder screen). An initial program change number and volume level can be set here, too (watch out for volume level - you may set your instruments to zero volume and, if not corrected, they may have to be reset). You can also offset the Track in time.

Clicking on a controller button - Program Change, Velocity, Pitchbend, Aftertouch, Mod Wheel, Breathe Controller, Foot Pedal or Volume - raises the Note Display window and puts a Controller window beneath it. Yes, a graphic display of controller data. You can bring other controllers to the display if you wish.

You can transmit and record controller messages with the mouse, and you can edit the data graphically. This is beautiful. And fun. You can draw in controller data even if you don't have the relevant controller. With a little practice you can become quite adept at adding a touch of pitchbend or mod wheel here and there.

There is actually a 13th Track, visible only from the Edit Screen, which is used as a Conductor Track, one of Dr T's favourite ideas. In it you can insert time

signatures and tempo changes (watch the tempo slider move by itself) and these can be programmed, too, graphically with the mouse.

Another neat thing about the Edit screen is that you can play the piece and edit it at the same time. A marker along the bottom of the window tracks the music as it plays. You can zoom in and out of the music for precision editing.

What's rather odd - and annoying - is the fact that the sequencer slows down and hiccups when you access the menus.

## ENTRIES IN TIME

STEP-TIME ENTRY is selected from the Play menu. You can enter notes with the mouse, in which case they take their timing from the current Repeat Time set from the Repeats menu. If you enter notes from a MIDI keyboard, the values and velocities are taken from the Draw Attributes window. The function keys can double and halve the repeat time, insert a rest, delete the last step and set staccato and legato articulation. These functions can be duplicated by MIDI program change messages so you can work completely from a MIDI keyboard.

Personally, I don't think this is particularly friendly. Why not have a list of note durations which you can click on prior to entering a note? I can't think of anything simpler.

## EDIT MENU

THE EDIT MENU offers Transpose, Velocity (both fixed and scaled alterations), Quantise and Time Reverse options.

Time Reverse is a favourite Dr T's function and I wonder why it hasn't cropped up on many other programs. It can reverse the Pitch, Velocity and Duration data (think about this). It's great fun, especially with Bach.

Quantise includes straight, dotted and triplet notes, a variable amount of swing plus a user-definable quantise value. If you botch the job, press Undo and try again. Bach, again, is a quantise fetishist's delight. Instant Jacques Loussier. Well, almost.

Other facilities include Move (forward or backward by a number of steps) and Insert Space which inserts, er, space. There are Copy and Delete options which operate on a section of the song on a single track or across all the tracks. You can also Split Off or Copy a section of a Track to another Track.

The Repeats menu is used to Draw, Copy or Select notes that are separated by a certain amount of time, known as the repeat time. This takes values from 1/16th note to eight bars. Copy Left, Copy Right and Fill options copy and fill selected notes into the track separated by the repeat time (got that?).

It can also be used in editing to select notes separated from each other by the repeat time and to insert notes automatically at the interval set by the repeat time.

Editing is comprehensive, but many operations require the use of the keyboard as well as the mouse. Although familiarity fosters understanding (as well as ►

**"We're getting ever-nearer to the time when we will be able to call up sounds by name instead of by MIDI channel and program number. Full marks Dr T's."**

**“Tiger Cub contains a considerable number of novel and unique features - and these are all the more surprising considering this is a budget program.”**

- breeding children) you'll have to try the operations several times to get the hang of them all - and to remember them.

## KITS & INSTRUMENTS

THERE ARE TWO especially interesting options in the Utilities menu - Drumkit and Instruments. Drumkit lets you list the note assignments for each drum. The notes cover five octaves, initially from C0-C5 but you can alter this. If you want to print drum scores you may have to change the assignments to match those of the notation part of the program (coming up).

Instruments is even better - it allows you to create a list of the sounds contained in up to six MIDI instruments. You can specify the channels the instrument can receive on and if anything is recorded on that channel, the instrument's name pops up in the Instrument column of the track list (it works on a lowest channel priority). You can also choose the sound to be used by that instrument on a particular Track and that, too, will pop onto the Recorder Screen in the Name box. The program then automatically selects that program number on playback.

This is a brilliant idea, but why can't the program read the data from the instruments directly? It's a tall order, but a program module is already under development which will be able to do just that. We're getting ever-nearer to the time when we will be able to call up sounds by name instead of by MIDI channel and program number. Full marks Dr T's.

Other utilities include a single track Backup - useful if you're about to perform a potentially destructive operation. Track Copy, Delete, Merge (although there's no unmerge and a merge cannot be undone), Swap Tracks, New Track and Change Track Length are found here, too, and there's a useful Text area for making notes.

The Environment window holds all sorts of goodies. For example, you can set your own size of Paste and Select buffer if memory is tight. A MIDI Slow switch offers a fix for some early Yamaha instruments and adds a delay after each MIDI message. The MIDI Clock switch will send MIDI clock messages but there's no option to sync Cub to an external drum machine or sequencer (which probably won't be a major consideration for anyone contemplating this purchase).

You can even use the ST's internal sounds and several presets are included on disk to load into the program.

## QUICKSCORE

SCORE EDITING IS handled by a program module called Quickscore which loads into Cub's MPE (Multi Program Environment). The MPE is Dr T's custom memory-sharing application which allows up to eight other programs to share each other's music data.

As Quickscore is a MPE module you might expect it to work with other Dr T's programs. However the manual says that the version supplied with Cub cannot be executed from any other program. There's probably a very good reason for this (if I suggest it's pecuniary, please forgive my cynicism) but if Dr T's intend to

produce different versions of MPE modules it sort of defeats the (excellent) object of the exercise.

Tunesmith, however, loaded happily into Cub (although there wasn't enough room in a 1040 for both Tunesmith and Quickscore). One of the files read by the program on booting reserves memory for MPE modules and you can edit this with a word processor. One day (probably next month) even 4Meg of memory won't be enough.

Quickscore is actually a cut-down version of Dr T's Copyist, and there are similarities between its Display menu and Copyist's Transcription Options window and drum note assignments, for example.

But Quickscore doesn't, alas, permit editing of the notes which appear on screen - you have to get these right in the Graphic Editing Screen - it simply displays the music in notation form. You can't add music symbols or text or even a header. But that's the nature of the beast.

The Display window, however, has a number of options to help you get the display right. For example, you can select joined stems and ascending or descending stems or both. You can also determine how syncopated notes (notes off the main beat) are displayed (as a long single note or as two shorter tied notes). Another option extends notes which fall just a little short of full value in order to remove messy, short rests, while yet another button removes double notes which may occur in legato passages.

Quantise sets the minimum note value which will be displayed and Transpose is used to make adjustments for transposing instruments. The Track can be split and displayed on the grand staff, but the split point is at middle C and can't be altered.

You can set initial key and time signatures but the display doesn't reflect changes in either of these. Finally, you can select the clef - treble, bass, alto or drum. The drum clef uses a special set of drum notation symbols which correspond to the note/drum assignments on Roland's MT32 (these assignments are also used by Dr T's Copyist).

You can view a single Track or all the Tracks - the full score. The only way to view selected tracks is to delete unwanted tracks from the sequencer.

With a little judicious editing and quantisation, Quickscore can produce very impressive results. The convenience of having a notation program resident with the sequencer rather than having to load the file into a separate scorewriter (such as Copyist) is enormous.

Quickscore supports 9-pin Epsoms, 9-pin HP Inkjet, HP Deskjet/Laserjet, Atari Laser and 24-pin NEC printers. The printout, even on a 9-pin, is excellent.

## FILE HANDLING

MOST DR T'S PROGRAMS handle six or more file types. Cub adds another to that list. It can handle standard KCS ALL files plus files with a CUB extension which are similar but additionally contain the repeat time setting and various menu options. When it saves a CUB file it strips out redundant controller information (it does this when you enter the Environment menu, too) to minimise the file size.

You can save startup options, there's a useful Append command and it handles MIDI files, too (formats 0 and 1).

## MANUAL

THE MANUAL WAS written by Jim Johnson who appears to be Dr T's resident manual writer. He's come a long way from the self-indulgent twaddle of *Fingers*, and this manual includes tutorial sections on sequencers and MIDI for the beginner. There are illustrations where required - and an index. But to be told that "the menu bar... contains menus that do all sorts of things" may be chatty but it's not terribly informative.

One of the problems with writing a manual is that in order to explain how to use certain functions you often have to refer to features not yet covered. Jim cops out of these situations by doing just that - referring the reader to later pages. A more detailed tutorial wouldn't have gone amiss but considering the program's complexity, the manual is one of the software sequencer world's better efforts.

## VERDICT

EVEN THOUGH CUB has an awful lot going for it, it's fighting against approximately a dozen other sequencers under £130 (which, for some reason, seems to be the budget-price fall off point). Twelve tracks are a limitation (the Recorder screen could

easily have been compressed to accommodate another 12) but will be adequate for many users.

The program locked up several times (sometimes when I accessed some menus "too quickly") although control did return on a couple of occasions - perhaps it was doing its housework. It bombed out a couple of times, too - once while playing the demo tune with the internal sounds while accessing Quickscore - and the file selector was reluctant to let me change drives (using a hard disk), usually after loading Quickscore. These bugs need fixing - and probably will be soon.

Some menu options are only available in the Edit screen, possibly for reasons of association but I don't see why I shouldn't be allowed to change a Track's MIDI channel or name or perform track copy operations and so on from the Recorder Screen.

But Cub contains a considerable number of novel and unique features, all the more surprising in a budget program. It's a curious mixture of excellent ideas and strange limitations although none severe enough to cause much grief (except, perhaps, my personal dislike of the step-time entry system).

The publicity blurb bills Tiger Cub as "The music program for the rest of us". I wonder what the other 'alf use. But for all its pros and cons, Tiger Cub is no pussy cat - certainly a worthy candidate for your money. ■

**Price** £99 including VAT.

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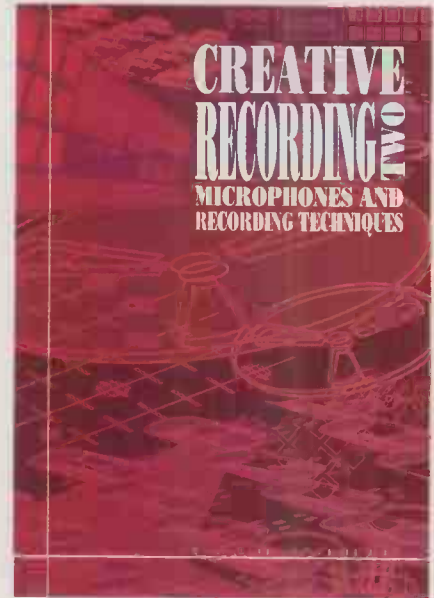
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**KAWAI K1** MkII synth, £425 ono; Roland MC303 micro composer, £300 ono, both boxed, as new. Tel: (0709) 701608, eves.

**KORG M1**, plus RAM, £900; Seck 12:8:2 desk, £700. Mark, Tel: (0553) 767553, eves.

**KORG M1**, with flightcase, manual, hardly used, £1050; Yamaha TX81Z, manual, £175. Jacek, Tel: 071-737 7152.

**KORG M3R**, one month old, £550 ono; Roland D50, excellent cond, plus four cards, £700. Tel: (0883) 717657.

**KORG POLYSIX**, programmable analogue synth, warm sound, inc case, excellent cond, £275 ono. Paul, Tel: Leeds (0532) 865197.

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**KORG POLY 61**, £140; Yamaha DX11, plus stand, £365; Kawai K1m, plus RAM card, £225. Bri, Tel: (0623) 651565.

**KORG POLY 800**, excellent cond, power supply, sound tape won't load, bargain at £119. Tel: (0494) 448457.

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**ROLAND D20**, as new, boxed, manuals, disks, flightcase, £775

for quick sale. Tel: (0642) 788182.

**ROLAND D20**, vgc, £800; Drumtraks individual outputs, £80; Steinberg Twelve, £40. Tel: Plymouth (0752) 766345.

**ROLAND D20**, as new, boxed, manuals, home use only, PN-D10-03 card, quick sale, £800. Tel: (0708) 747740.

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**ROLAND JUNO 2**, £300; Pro24, v3, £70; Boss BES multi-fx, £145. Tel: (0502) 731237.

**ROLAND JUNO 2**, £300, (p/x MS6/Poly 800II?); Yamaha RX8, £200 or RX17 plus £100. Tel: (0223) 312860.

**ROLAND JUPITER 6**, as new, with flightcase, hold pedal and manual, £450 ovno. Tel: (0475) 674034.

**ROLAND JUPITER 6**, flightcase, manual, X-stand, £450 ono. Ashley, Tel: (0532) 434541.

**ROLAND JUPITER 8A**, immac cond, £700; Yamaha RX5, cartridge, boxed. Steve, Tel: (0909) 771581, eves.

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- ROLAND U20**, £750; E-mu Emax, £1050; Roland D50, £750; Yamaha DX7, £460; Yamaha MT2X, £375. All ono. Tel: 081-462 6261.
- ROLAND U110** keyboard expander, £300; Korg Symphony expander, with cards, £200. Rob or Peter, Tel: 081-394 1176.
- SEQUENTIAL PROPHET 5**, Rev3.2, vgc, recent full service, original sounds, £575. Rob, Tel: (0403) 722810.
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- YAMAHA DX7**, 4 ROMs, £500; TX7 voice module, £225; RX21 drum machine, £100; QX7 sequencer, £80. All ono. Neil, Tel: (0761) 70526.
- YAMAHA DX7**, £525; CX5M keyboard, software, disk drive, £250; RX11 drums, £175; R1000 reverb, £100. Tel: 021-350 9023.
- YAMAHA DX7** Mk1, hard case, ROMs, plus 1000 sounds (Atari), £450 ono. Chris, Tel: Bristol (0272) 277359, work; 775747, home.
- YAMAHA DX9**, Simmons SDE, 16-note polyphonic MIDI keyboard with multitimbral expander, offers? James, Tel: (0609) 772631.
- YAMAHA DX11**, mint cond, flightcase, RAM cartridge, £365. Tel: (03543) 5239.
- YAMAHA DX21**, manual, £275 plus RX15 drum machine, manual, £150. Tel: (0734) 402013.
- YAMAHA DX21**, boxed, instructions, £250; RX15 drums, excellent, £175. Dom, Tel: (0732) 451909.
- YAMAHA DX21**, Carlsbro Hornet 45 keyboard combo, Alesis Midiverb, sold together for £400. Tel: (0734) 667175.
- YAMAHA DX21** synth, inc hard case, volume pedal and manuals, best offer over £320 secures. Phil, Tel: (0274) 541110, eves.
- YAMAHA DX27**, in excellent cond, manuals and hard case, £190. Andy, Tel: (0524) 53579.
- YAMAHA DX27**, great FM sounds, boxed, manuals, MIDI, extras, £195. Jason, Tel: (0449) 676151.
- YAMAHA DX100**, manual, power supply, cassette, ideal for home studio/computer, £150. Ivan, Tel: (0823) 331071 X337/321486.
- YAMAHA DX100**, good as new, only £125. Niall, Tel: 061-456 9587, after 6pm.
- YAMAHA DX100**, £120; Fostex X15, 4-track cassette, £130, both in excellent cond. Tel: (0273) 463328.
- YAMAHA FB01** module, eight-voice, multitimbral, stereo outputs, £160 ono. Paul, Tel: 081-889 5975, eves/weekends.
- YAMAHA FB01**, leads, manual, £90!! H&H 50W keyboard combo, £160, offers. Graham, Tel: (0736) 755195.
- YAMAHA KX88**, £825 ono. Tel: (0689) 54979.
- YAMAHA PF70** electronic piano, inc stand, Ideal master keyboard, home use only, must sell, £600 ono. Tel: 091-529 4788, anytime.
- YAMAHA PF70** piano, £600; DX100 synth, £150, both c/w flightcases, accessories. Tel: (0484) 646858, eves.
- YAMAHA PSR6**, adaptor, case, music stand, boxed, vgc, £95 or p/x? Tel: (0476) 63303.
- YAMAHA PSR90**, immac cond, 800 voices, drums, 4-track, pedal, MIDI, manual, boxed, £195. Wayne, Tel: 081-428 7509.
- YAMAHA PSS580** synth, boxed, PSU, immac cond, £80. Tel: (0273) 493659.
- YAMAHA PSS680** FM synth, auto accompaniments, sequencing, PCM drums, MIDI, boxed, adaptor, £130. Tel: (0296) 651140.
- YAMAHA PSS680** soundstation, sequencer, PCM drum pads, auto rhythms, boxed, superb, first £110. Tel: (0204) 697716.
- YAMAHA SY77**, new, plus flightcase and £160s worth of new sounds, £1600 ono. Tel: (0792) 582222.
- YAMAHA TX7**, with Steinberg Synthworks editor, excellent cond, £265 ono. Norman, Tel: 091-284 8115, after 6pm.
- YAMAHA TX802**, £550 ono; Seck 12:2 mixer, aluminium flightcase, £350 ono; Kawai 8:2 rack mixer, £200. Tel: (0934) 622528.
- YAMAHA V50**, boxed, £700; Roland D20, £750, home use only, mint cond. Andrew, Tel: 071-607 0969.
- YAMAHA YS200** user friendly workstation, 8-part multitimbral, great mother keyboard, perfect cond, £400. Tel: (0703) 769053.

## SAMPLING

- AKAI S900**, mint cond, £695; Yamaha RX11, mint cond, £95. Tel: (0272) 221881.
- AKAI S900**, with library, £700 or swap for DX7II/TX802, 150 plus disk Emax library, offers/swaps. Tel: (0606) 77823, after 6pm.
- AKAI S950**, almost new, £1000; Roland Juno 106, £425, vgc. "Seelan", Tel: 081-514 3674.
- CASIO FZ1**, with 2Meg upgrade, lots of sampling time, extra disks, manual, £750. Tel: (0602) 411185.
- CASIO FZ1**, £650; K1, £425; TX81Z, £200; QX21/RX17, £135 each; Mliverb II, £155, showroom cond, phone for details. Tel: (0633) 894889.
- CASIO FZ10M** plus loads of pro samples, £650 ono. Chris, Tel: (0272) 277359, work; 775747, home.
- EMAX** sampling keyboard, substantial library, £1350 ono; Casio DA1 DAT, £549 ono. Tel: (0603) 698355, days; 611144, eves.
- E-MU SP12** sampling drum machine, with SMPTE and very large library, £370 ono. Sean, Tel: 081-902 3841.
- E-MU SP12** sampling drum machine, large library and disk drive, £400. Tel: 071-249 7700.
- ENSONIQ EPS** sampler, plus 2x memory, plus 8x out expander, under guarantee, £1300 the lot. Gerry, Tel: 071-703 7133.
- ENSONIQ MIRAGE** input sampling filter - allows high sampling rates, up to 50kHz! Mike, Tel: (0337) 31172.
- OBERHEIM DPX1** sample player for Ensoniq Mirage, S900, Prophet 2000 etc. also Optical Media CDS3 CD-ROM unit, £600 each or £1000 for both. Rob or Peter, Tel: 081-394 1176.
- PROPHET 2000**, £450; Prophet t8, £1100, both in excellent cond, with flightcases. Tel: Blackburn (0254) 247199.
- ROLAND S10** users wanted to swap samples, I have over 120 disks. Paul, Tel: (0772) 39124.
- ROLAND S330** sampler, really good sampler, 28.8 seconds max sample time, boxed, mint, library, Atari patch copy software, £740. Also Director S sequencing software for S330, doesn't use sample time, £75 or £800 for the lot. Tel: (03543) 5239.
- ROLAND S550** sampler, 28 secs, 16 voice, £1000; Akai X7000 sampler, £450. Tel: (0359) 31800.
- ROLAND S550** sampler, with 90 disk sound library, mint cond, £1200 ono. Tel: Swindon (0793) 618511.
- SET OF 20** S1000 sample disks, £30. Tel: 061-480 3656.
- STEREO** 4-channel sampler for Atari ST, MIDI keyboard and sequencer, £150 ono for the lot! Tel: (0932) 786185, eves.
- SWAP** my S50, monitor, disks, stand, for S330, S900 or £780 ono. Marc, Tel: Luton 420332.

## SEQUENCERS

- ROLAND MC202**, perfect, boxed, manual, £120; Boss DD2 digital delay, boxed, £90. Stuart, Tel: (0434) 633363.
- ROLAND MC202** microcomposer, great analogue acid sounds and

sequencer, mint, boxed, with manuals, only £79. Tel: (05242) 62258.

**ROLAND MC300**, perfect cond, boxed, manuals, £350. Tel: Walsall (0922) 643255.

**ROLAND MC500**, SMRC.MRP, perfect studio/live performance sequencer, £450. Tel: Halifax (0422) 356214, anytime.

**ROLAND MT100**, sound module and sequencer, plus software, six months old, immac cond, £600. Tel: (0223) 233684.

## DRUMS

**ALESIS HR16**, boxed, instructions, perfect, £200 ono. Tel: 081-682 0905.

**ALESIS HR16** drum machine, as new, £190; DX100, £150; QX21 sequencer, £100. Danny, Tel: (0634) 404050.

**D.DRUMS**, bass, pads, brain, £180; RX5 rhythm box, excellent cond, Simmons Portakit, £280. Tel: (0294) 53819.

**KORG DDD1** and cards, £195 or offers. Tel: (0254) 823871.

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**ROLAND TR505** drum machine, inc PSU, £100. Tel: 061-480 3656.

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## COMPUTING

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**AKAI S900**, preferably with library of samples. Tel: Plymouth (0752) 766345.

**AKAI X7000**, cash waiting. Neil, Tel: Luton (0582) 591038.

**CASIO FZ1**, (2Meg), disks? Mint, will pay £650-700, cash waiting. Tel: (0536) 761014, after 6pm.

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**KAWAI K4**, reasonable price paid, please Write: L McKay, 14 Sycamore Avenue, Guidepost, Choppington, Northumberland, NE62 5PE.

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Paul, Tel: Wisbech (0945) 76671.

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Eddie, Tel: (0736) 796805.

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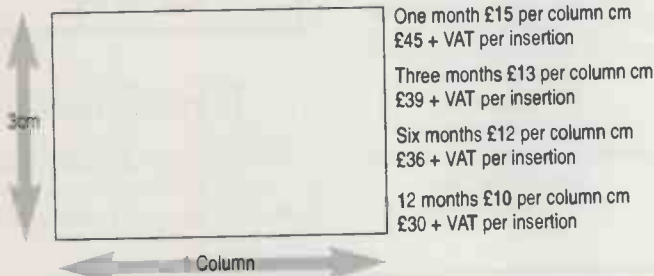
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# THE END OF AN ERA

All good things must come to an end - and so it was with the Music Technology logo that served the magazine so well between November 1986 and August 1989. The familiar triangle and quiet, sophisticated lettering identifying the world's longest established and best respected hi-tech musicians' magazine made way for a larger and more flamboyant logo better suited to the aggressive use that was being made of the technology itself.

The problem that left us with at MTHQ was a pile of sweatshirts, T-shirts and binders that were no longer in-line with the magazine's styling. However, you can now turn this to your advantage. . .

Yep, the old stock is being chopped out at bargain prices - you can check the figures below. But be warned, numbers are *strictly* limited (there are only 15 extra-large T-shirts, for example), so waste no time in filling out the order form.

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# A NEW AGE - A NEW CONCEPT

It is now over ten years since TASCAM gave the world – cassette multi-track recording with the introduction of the 144 PORTASTUDIO.

Since that time TASCAM's commitment to the musician has resulted in the development of the outstanding MINISTUDIO and PORTASTUDIO ranges, staying in front of the increasing sophistication of multi-track cassette recording.

Although there have been times when digital sequencers and synthesizers have threatened to completely overshadow multi-track recording, the warmth and vitality of acoustic sound has never lost its appeal.

The current trend in music production shows a demand to combine the best elements of digital and acoustic origination.

This need requires a wholly new approach to Multi-Track Recording.

The new age MTR must be capable of synchronisation and control via MIDI; provide sound quality & editing control versatility that is as close as possible to that of digital equipment and provide a greater number of mixer channels to handle an increased range of analogue and digital sources.

TASCAM have created such a machine – a totally new concept in recording – the MIDISTUDIO.

The unique eight track TASCAM MIDISTUDIO 688 which along with its little brother – the 4 track MIDISTUDIO 644 – gives the recordist access to a level of versatility and control unprecedented in cassette multi-track recording.

The 688 features a 10 channel mixer

section which gives access to a total of 20 inputs via a special on-line multi-function Dual Mix System.

The DMS can function as a monitor mixer, auxiliary input channels or as a stereo effect mix/send system.

A powerful MIDI tape synchronizer is built-in enabling modern MIDI-based sequencers to lock to tape from any point within a recording. The totally new TASCAM Scene Display is a comprehensive graphic display of all mute, input and assignment configurations. Up to 99 different scenes can be stored in the internal memory for instant recall via the panel controls or from external MIDI patch change.

Channel muting can also be controlled in real time via MIDI note information. The 644 and 688 MIDISTUDIOS are directly compatible with the TASCAM MTS-1000 MIDIIZER giving the capability of synchronising to other tape and video recorders.

Both MIDISTUDIOS share many of the advanced transport features first introduced on the TASCAM 238, including gapless auto punch in/out, 3 point auto locate and the unique shuttle control.

TEAC as a company has a 35 year long history of innovation in the fields of audio, video and digital recording, not forgetting our expertise in computer disc drive manufacture. This vast store of knowledge puts us in a unique position to respond to the changing requirements of the audio industry.

The MIDISTUDIOS represent the first step into a new age of recording – for as we have discovered in the past – the future belongs to those who seek it.

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