

THE  
**MUSIC**  
**TECHNOLOGY**  
MAGAZINE

September 1992

£1.75

# The Christians

Henry Priestman's Divine inspiration

**Omar**

Stirring The Soul

**Pat Metheny**

Jazz With No Axe To Grind

**On Test:**

**The drumKAT**

The Most Effectual?

**Cubase Version 3**

Steinberg's Third Coming

**Features:**

**MIDI By Example**

Step-By-Step Practical Guide

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**Moog Series III**

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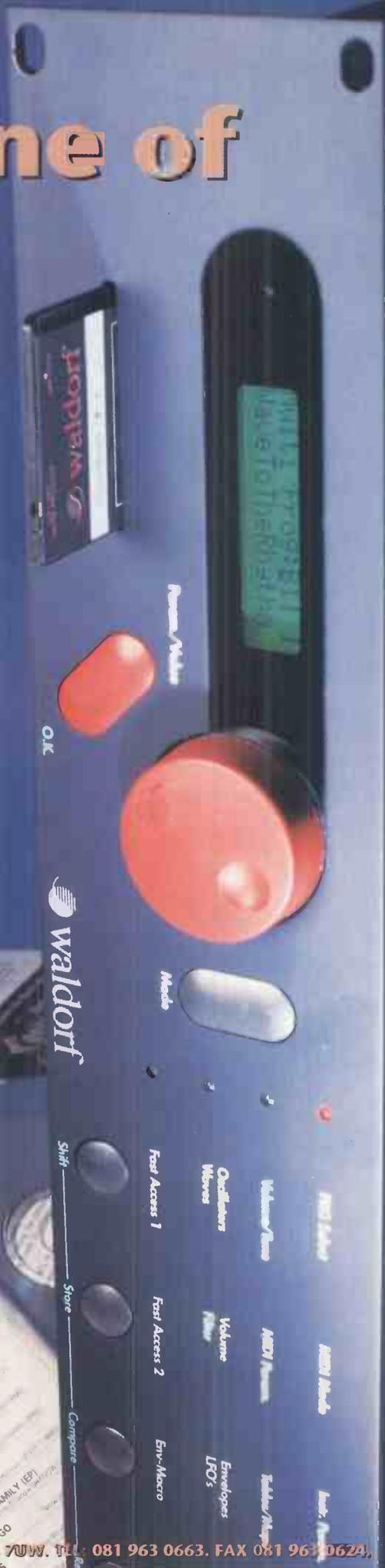
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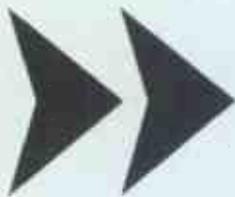
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I saw Gary Numan on TV the other day. You remember Gary – dyed his hair blonde, played around with wires and for a brief period in the late seventies threatened the fabric of society. Well, it seems our Gazza still likes to keep his hand in at the ol' music game and when he hasn't been flying vintage aircraft or helping Mrs Thatcher to a third term in office, enjoys nothing more than strapping on his guitar and playing a little straight ahead rock 'n' roll. Sadly, as the clips from his latest video revealed, this new development in his career has taken him back, stylistically, to point somewhere before he entered the public eye – which doesn't exactly sound like development to me, personal or otherwise. But that didn't stop him taking time out to condemn recent sampled-based music because of its 'repetative' nature.

Of course, the example of Gary Numan could be supported by a dozen others. This really is not the time for anyone to admit to a liking of technology for technology's sake. As we know, the technology is still there and it's influence on all musicians continues to grow (who, I wonder, will be the first artist to record an entire album on ADAT?) – just don't make it too visible on stage and remember to tell everyone you prefer working with real musicians.

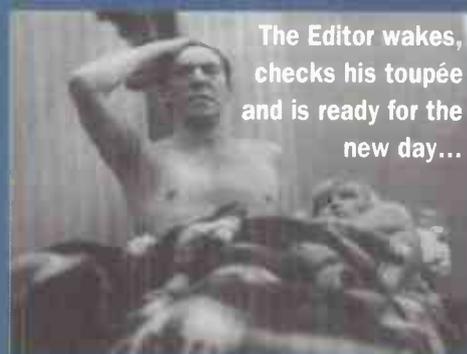
It's perhaps ironic that the greatest antipathy towards technology is often shown by musicians whose association with it has been their means of entry into rock's great er... pantheon. It's equally ironic that optimism and genuine insight into the use of keyboard-based technology should come from a musician who's name has traditionally been associated with the guitar – check out Phil Ward's excellent interview with Pat Metheny in this issue.

Finding someone to blame for the downgrading of technology in the public eye isn't difficult (...and it's certainly good fun). Personally, I'd cite the musicians who's overzealous use of machines first turned their audiences away – not to mention the fickleness of the audiences themselves. We could also take a poke at the manufacturers who's impressive speed at introducing new products has been matched only by their sloth in providing musicians with technology they could relate to. And then there's MT.

Yes, we are partly to blame, too. Our enthusiasm and willingness to defend our corner of the music business has not been all it might have been of late, and we've certainly fallen into the trap of assuming everyone is fully conversant with the level of technology as it currently stands. Clearly, this is not the case and in order to address the imbalance that has arisen, we are launching a couple of new regular features – *MIDI By Example* and *Technically Speaking* – designed to provide a little solid practical advice for those struggling with MIDI and associated technology. – NL

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FEATURES EDITOR *Simon Trask*  
TECHNICAL EDITOR *Vic Lennard*  
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The Editor wakes,  
checks his toupée  
and is ready for the  
new day...

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Cover Photography Courtesy of Island Records

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# Communiqué

**Send Your Letters To:  
Communiqué, Music  
Technology, Alexander  
House, Forehill, Ely, Cambs.  
CB7 4AF.**

**Dear Editor,**

May I congratulate you on your new job and wish you very many years in it. I have followed your 'On The Beat' series from the very first article and found your text fascinating. I did try one or two of your patterns but only having an organ and no sequencer I have left it at that for the moment – although at nearly 70 suppose I had better get cracking soon.

Secondly, the feature on Audio Delays in MIDI was most welcome. Trying as I do to get the best from my TG77 using an MEP4 to process my MIDI information, I thought it was the fault of the processor's speed in the MEP4. My wife (6 months older) looks up over her reading glasses and sympathetically says "Yes, dear" to my complaining about the slowness of processing. Even the mention of multitasking doesn't raise an eyebrow with her. (Well she's the only audience I have).

So the best of luck anyway and don't take any notice of Anon, perhaps his mum dropped him on his head. You see the benefits of old age when you think of people like that.

**Bill Simpson  
Upminster**

► Thanks for your support Bill. We always appreciate our readers feedback on articles featured in MT

**Dear MT,**

There's a lot of talk about seminal influences in electronic music but I've yet to come across a mention in MT of Hawkwind. In 1971, before they got to gig they released their second album In Search Of Space. Now, by 1974, I had lost interest in Hawkwind's further output; their sound had altered completely, becoming what most people are familiar with as 'Hawkwind' (and I know what most people think of Hawkwind!). Indeed, I.S.O.S. sounded utterly different from their debut album.

Twenty years later I still have my copy and I know of the existence of several others in friends' collections. At that time they were using one of the original EMS VCS3's and various audio generators put through tape echo.

The effect of the ambient opening of Side A on a 15 year old in 1971 was irreversible! In the sixties I had heard a little of the Musique

Concrete and all the experimental tape splice stuff and found it intriguing, but these guys were actually playing unimaginable atmospherics and it was quite exhilarating. No matter if you can't stand the pounding monotony of the later band, really organic sounding synth playing got going here as far as I can tell. Del Dettmar was the guy with the VCS3. Could MT track him down?

**Rob Norman  
Edinburgh**

► Yes, I find myself broadly in agreement with you on this one, Rob – though I think we're both in serious danger of losing our credibility here. Hawkwind were a pioneering influence with a lot going for them in the (very) early days. It's easy to underestimate the radical act that using a synthesiser actually was in 1969/70. Though it's just a pity they came to rely so heavily on the stereotypical whooshes and oscillator sweeps that characterised their music for the next decade. And a little less of Michael Moorcock's influence wouldn't have been a bad thing either, methinks – NL

**Dear MT,**

Regarding your review of the Coldcut Kleptomaniac CD. I think you gave a good impression to what in my opinion is a bad product. Normally when you review equipment you're very critical of any noise or quality control problems – which the buying public want.

I actually bought this CD a few weeks before you reviewed it but was surprised when you didn't give it the slagging it deserves. Along with a lot of people I run my samples thru a (budget) desk and amp onto cassette. These are my demos and the last thing I need is any more noise.

I'm lucky enough to have Datafile 1 by Ed Stratton. By comparison the samples are brilliant, clean, well recorded and interesting. Above all, this CD is useful. As for Coldcut's "If you can't make a dance smash out of this lot get out of town" as your recent success proves eh boys? Not!

'Say kids, what time is it?' Time to rip the kids off for £50 a go 'cos we're not having any more hits.

**Richard Jungles  
Leicester**

► Actually, Richard, I would have thought that living in Leicester, any entreaty to 'get out of town' would have been warmly received, but anyway...

Whereas in normal circumstances we wouldn't hesitate to condemn high noise levels in audio systems (in either hardware or program

material), I do think sample CDs are something of an exception. Despite what you may think, an awful lot of people would regard noise of this kind as something of a plus point. Witness the inclusion of static and crackle noise tracks on a number of recent collections.

Where I think MT has perhaps been somewhat remiss is in not pointing out such things where they exist. Having said that, I would have thought any release with the Coldcut name on it would have led you to suspect these were primarily dance samples and in that genre, noisy loops are considered perfectly acceptable – as I said, even desirable.

My main concern about the makers of (some) sample CDs is their reticence in pointing out which samples have been specifically created by (or for) them and which have been obtained from 'other sources'. (And this, clearly, ties in with anticipated level of background noise.) When the first case comes to court over the use of someone's copyrighted material, who's going to face them from the dock – the person who put the sample on the disk or the person who used it? Perhaps it will be both. We shall see – NL

**Dear MT,**

I was shocked and offended to see the following in your August edition of Music Technology:

**Page 44** Andy Bell in thigh boots and corset.

**Page 80** The words, 'hard drive'.

**Page 81** The words, 'stuff, swallow and blow'.

**Page 84** The words, 'Percys'.

**Page 88** The word, 'beat'.

**Page 94 & 95** Were awash with porno ie, software, hardware, hands on, expansions, RAM, Italian seqs, big time, pms, bandits, brush, load, coming, body printing, exact length, fast friendly service, relaxed country setting, height, width, depth.

**Page 97** See it, hear it, touch it. All combined with such ads as Axe Mail's phallic X.

**Page 4** Arsewiffery? Sounds interesting. As you have been accused of this, could you please send me details as I'd like to try it.

To finish, my gripe is: Where has the 'Letter of the Month' gone? (Maybe to me? Please!).

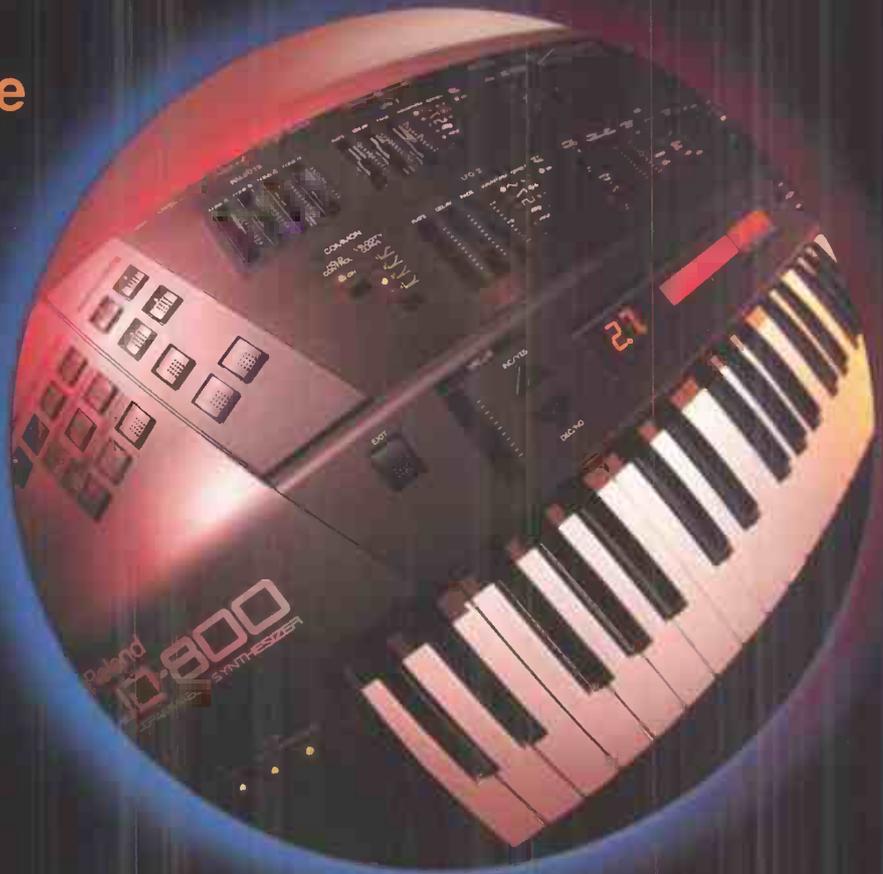
Yours, a subscriber,

**K Dermott  
Oldham**

► There's filth everywhere, isn't there Mr Dermott? And just like Mrs Whitehouse you had to read every page to find it. Perhaps now you realise what clever gits we are. Letter of the month? It'll have to get a lot better than this – NL

# Roland JD-800

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# Incoming Data

News compiled by Simon Trask and Phil Ward

## a REPTILE is BORN

Lizard, the £165 universal editor/librarian program for the ST which is distributed by Music Pro Import (UK), has now spawned Lizard Single, a dedicated editor/bank manager retailing for just £35. As with Lizard, you can add editing support for specific MIDI instruments by buying disk Volumes containing software drivers for several instruments from a particular manufacturer.

The current library of drivers supports most of the E-mu, Ensoniq, Kawai, Korg, Roland, Waldorf and Yamaha ranges. Because the Lizard approach is open-ended, it can incorporate new instruments as and when they appear – recent additions include Roland's JV30 and JV80 and Yamaha's TG100 and SY99. Planned are drivers for all(!) the MIDI-compatible effects processors on the market.

Each Volume costs £35, so you can be up and running with Lizard Single for just £70. Should you subsequently decide that you must have a Lizard in your studio, a £130 upgrade option will ensure that you aren't penalised for starting out with the cheaper program.

Music Pro have joined forces with Heavenly Music (a holy alliance, perhaps?) to create style libraries for another program they distribute, the sophisticated ST arranger program Feeling Partner (reviewed *MT April 1992*). Five disks are available at £20 per disk, with each disk containing two style libraries.

All quoted prices include VAT.

More information from Music Pro Import (UK), 15 Gartmoor Gardens, Southfields, London, SW19 6NX. Tel: 081-789 8641 or Fax: 081 780 9541. Heavenly Music, 39 Garden Road, Jaywick Village, Clacton-on-Sea, Essex CO15 2RT. Tel: (0255) 434217 or Fax: (0255) 430699.

## STANDING FIRM

Every now and then you have to make a stand – or, if you're keyboard stand manufacturer Cambridge Innovation Systems (International) Ltd, quite a few of them. The company are augmenting their existing range of one H-frame, three centrepole stands and microphone boom (reviewed in *MT June 1992*) with the GT Pro MIDI Workstation stand (£99.95), the GT-KS1 Mini Mixer X-frame stand (£19.95), the GT Bench music bench (£39.95) and the GT-MS1 Music Stand (£24.95), all of which are shown in the accompanying picture.

Also new, but not shown, is the £29.95 GT-X1 'Crocodile' X-frame stand (see advert elsewhere in this issue), which features a newly-developed tooth-locking mechanism for extra stability.

The GT Pro is a combination of H-frame and centrepole stands. H-frame width and arm-length can be adjusted to accommodate different sizes of keyboard, while the two fixed-width pairs of arms on the centre pole are height-adjustable for optimum positioning. Although designed to take an Atari ST keyboard and monitor, the arms are also suitable for supporting 19" rackmounting units.

More from Cambridge Innovation Systems (International) Ltd, CIS House, Mildenhall Business Park, Building No.2, Leyton Avenue, Mildenhall, Suffolk IP28 7BL. Tel: (0638) 711570, Fax: (0638) 718964.



## PC ULTRA

PC-based music making takes another step forward with the release of the Ultrasound card from American company Advanced Gravis. For just £149 plus VAT and P&P you get eight-bit stereo sampling into 256K of onboard memory upgradeable to 1Mb, 32 digital audio channels (16 stereo), a 16-bit, 32-voice Ensoniq Digital Wavetable synthesiser, and a built-in MIDI interface offering MIDI In, Out and Thru connections.

Not only that, but the card comes with software which provides sample mixing, merging, dubbing, reverb and echo effects, visual waveform editing, zoom, fade and an unlimited undo function, together with the ability to store samples direct to hard disk and to synchronise recorded sound to SMPTE.

Supported sampling rates range from 1.44.1kHz in both mono and stereo, and an optional upgrade to 16-bit sampling is due at the end of October (price to be announced), along with software which

will add 20-track sample playback capability and unlimited soundtrack length.

Ultrasound provides both microphone and line inputs, a line out, and a 2-watt amplified out which supports desktop speakers and headphones. Other features include a joystick port, compatibility with the popular Ad Lib and Sound Blaster soundcards (allowing Ultrasound to be used with existing games that use these cards), support for Microsoft's Windows 3.1 and Windows Multimedia Extensions, and on-card mixing of internal and external audio sources. Due at the end of October is an optional CD ROM interface (price to be announced), available in SCSI, Sony and Philips versions.

For more information contact Optech Ltd, East St, Farnham, Surrey GU9 7XX. Tel: (0252) 714340 or Fax: (0252) 711121.

## LIVE Electronics

Central Hall, Renshaw Street, Liverpool is the venue for a 12-hour electronic music festival being staged by Space Rider Music Promotions on Saturday 12th September. Artists so far confirmed for the festival – which is called UK Synthtasia '92 – are Corporation, VXS, Brian Evans, Dave Thompson, Synthetik, Paul Ward and headline act Ian Boddy. It's also anticipated that there will be about 16 trade stalls selling CDs, vinyl and cassettes.

For more information on the festival, telephone Brian Evans on 051-638 7628. Tickets, which cost £14 for the day (11am-11pm) or £7 for the evening (6-11pm), are available from Dave Roberts at 11 Valkyrie Road, Wallasey, Merseyside L45 4RG (enclose an SAE when you write).

## Manchester HITMAN

The 'Manchester scene' may have come and gone as far as the press are concerned, but it seems that the rainy city still has some allure for the music biz. Pete Waterman's company PWL Ltd, which has a turnover of £50 million a year, is in the process of converting a former Congregational Chapel in the Castlefield area of Manchester into a major, £1.5 million recording studio. Scheduled to open in September, it will also be the base for the music millionaire's new '380' record label (named after the street number of the Chapel) and will feature a wharfside public restaurant giving Mancunians the chance to 'dine with the stars'.

"The North West has oodles of talent," comments Waterman. "I simply want to give it a home. I'm looking forward to seeing the kids beat a path to my door just as they have done at the Vineyard Studios in London."

## MIDI goes to school

Culcheth High School in Warrington has become one of the first schools in the country to create a purpose-built music technology studio. Aimed at ensuring that pupils of mixed ability have the opportunity to create, perform and enjoy music regardless of their differing skills and interests, the studio is also able to deliver elements of the Technology curriculum.

The studio design is based around eight 'workstation bays' designed by Manchester-based company Energy Facilities Management. These are set

up around the perimeter of the studio room, leaving a large open space in the centre for group demonstrations, rehearsals and choral work. The bays provide portable keyboard, computer-based and multitrack recording setups wired to a central recording station where the teacher can selectively listen to and record pupils' progress and finished compositions. Software in use consists of commercial programs such as Notator, Notator Alpha and MIDIgrid as well as programs specially developed at the school.

Head of Music and developer of the

studio concept Martin Sayer comments, "The studio provides pupils with the standard of technology they are used to seeing and using outside school. The finished effect is a music environment to which pupils respond positively, and which maintains the fine balance between 'new music' and traditional music-making with conventional orchestral instruments."

For more information on EFM's workstation bay designs, contact the company at Labtec Street, Manchester M27 2SE. Tel: 061-793 9333. Fax: 061-728 2233.

## DANGEROUS MISTAKES

Just about the only things former Editor Tim Goodyer left us here at MT were a drawer full of reject demo takes, an underwatered pot plant - and a couple of inaccuracies in his review of the Dangerous CD in the August issue. We have been asked to point out that contrary to Tim's assertion that the Dangerous 1 sample CD contains "some

280 breaks' worth of samples" - the actual figure is 330 breaks with 20 fills. It might also be worth pointing out that unlike many sample CDs currently doing the rounds, Dangerous 1 is, in fact, individually indexed for each sample and this does make cueing up much easier (...I know, I've tried it).

If you'd like to hear Dangerous 1 before

buying, it is actually available through a number of retail outlets (and that's something else that separates it from most sample CDs) - a quick call to Dangerous on 081 368 8271 should put you in touch with your local dealer.

Our apologies to Dangerous for the inaccuracies which crept into the review.

## CMS on the move

PC music software and hardware specialists Computer Music Systems have moved offices from Camden to Isleworth in West London. The move coincides with the announcement by CMS-distributed Voyetra Technologies of a series of Windows-based software products to run in parallel with their existing Sequencer Plus range of MIDI sequencers.

The first in the series, AudioView, is due for release in September and will

offer comprehensive graphic editing and playback control of audio files recorded on Multimedia PC soundcards. The second program, SoundFactory, will provide a set of software development tools and drivers for both Microsoft Windows and DOS multimedia applications.

CMS can now be contacted at 17 Waterside Business Centre, Rallshead Road, Isleworth, Middlesex TW7 7BY. Tel: 081-758 0311. Fax: 081-560 2564.

## Future age music

UK Electronica 1992, The 2nd International Future Age Music Festival, is set to take place at the Astoria Theatre in central London on Sunday 25th October.

Artists appearing will include stalwart UK synthesist Ian Boddy and the Brazilian new age composer May East, with French avant-garde electronic band Lightwave headlining. And, in his first live appearance since leaving Tangerine Dream in 1990, Paul Haslinger will be previewing his recent work for fellow ex-TD member Peter Baumann's Private Music label.

To go with the music, the organisers are promising spectacular visuals combining automated lighting, video projection and computer graphics. Tickets for the day are £13.50 each, and can be ordered by sending a cheque or PO with an SAE to Future Age Music Express, PO Box 387, London N22 6SF.

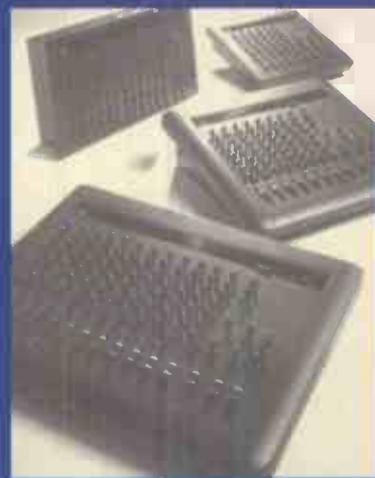
For general information, ring 081-889 0616; alternatively, there's a premium-rate line (0891 313439) which plays new music from the artists involved and gives the latest information on timings and running order.

## The Italian mix

Audio-Technica Ltd have taken on UK distribution of Italian company FBT Systems' range of mixers, amplifiers and speakers. Apart from their strikingly stylish design, the company's two mixer lines, called Basic and Top, are notable for including mixers with built-in digital effects processing.

The Basic line starts at £288 and consists of seven models offering from 6-12 channels, including two powered versions at 70 and 120 watts per channel respectively. Four of the seven models feature a 40-program digital effects module.

The eight-strong Top line starts at £887 and ranges from 84 to 244 configurations, again with two powered versions, and with five models featuring a 128-program digital effects module. All Top models feature extra parametric EQ



and phantom powering, while all mixers in both lines feature shock-mounted pots, precision sliders and rugged cases.

For more information contact Audio-Technica at Technica House, Royal London Industrial Estate, Old Lane, Leeds, West Yorkshire LS11 8AG. Tel: (0532) 771441, Fax: (0532) 704836.

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Truly affordable 16-bit sampling on the Atari ST has just become a reality with the release of Replay 16 from Microdeal. Just £129.95 including VAT buys you a sampling unit, sample editing software, Drumbeat rhythm programming software and MIDIplay keyboard emulator software.

The sampling unit plugs into the ST's cartridge port and provides 16-bit audio input and output via phono connectors together with an input volume control. Replay 16 supports sampling rates up to 48kHz, and provides sample conversion between 8/12/16-bit formats, mono and stereo. The editor software can be used for volume adjustment, digital filtering, 3D frequency analysis and crossfade looping of samples. Then, to make musical use of your samples, you can either organise up to 30 of them into a 'drumkit' and program up to 50 patterns in real-time or step-time using the Drumbeat software. Alternatively, you can map any sample to any note or range of notes in a nine-octave range using the MIDIplay software. Four-voice polyphony is available in both cases, while MIDIplay additionally provides a single-voice mode with three levels of velocity sensitivity.

Replay 16 runs on any ST or STE with 520K RAM (although 1Mb minimum is recommended).

For more information, contact Microdeal Limited at PO Box 68, St Austell, Cornwall, PL25 4YB. Tel: (0726) 68020. Fax: (0726) 69692.

## A Borderless Land

California music software company Passport have been around since the early days of MIDI software – and no doubt they intend to be around for some time to come. But where exactly does the future for music software companies lie? Are they doomed to a life producing software updates to their existing programs for little recompense? Or are there new applications which will earn them money in the coming years?

Passport are a case in point. Their manageable rather than comprehensive software range consists of MIDI sequencing software in the form of Master Tracks Pro, Trax, Turbo Trax, and Audio Trax; notation software in the form of Encore and Music Time; and sound design/sample editing software in the form of the industry-standard Alchemy – all of which are familiar applications, no matter how well presented.

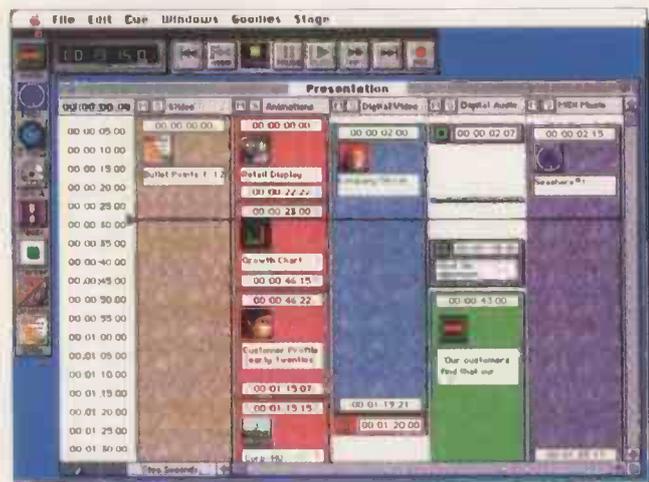
Although traditionally a Mac software developer, Passport have produced PC/Windows versions of several

or 16-bit, mono or stereo). A further two tracks could contain digital slideshows and animation. As Producer is able to output MTC locked to its SMPTE timebase, you could have a MIDI sequencer running on a second Mac in parallel with Producer if you wanted to do more interactive music/video work.

All tracks show static visual 'cues' which give you some idea of track content, while the actual multimedia presentation is via an onscreen 'stage' display. Producer, then, is 'merely' a means of bringing together files created in other programs and organising them in a multitrack fashion. You don't need the original programs in order to use these files. However, providing your Mac has enough onboard memory you can hold relevant programs in memory along with Producer and flick between them. Any changes you save to a file within one of these programs will automatically update Producer. Of course, you're also going to need enough external digital storage to handle the large amounts of audio and video data you could be pushing through the software.

Supported hardware for digital audio includes Macromedia Mac Recorder, Digidesign Audiomeia, Sound Accelerator and Pro Tools, and Macintosh internal audio. For MIDI, any Mac MIDI interface will do, together of course with any MIDI instrument, while video cards supported include all RasterOps cards, Truevision NuVista+ and Radius VideoVision.

Supported software includes Alchemy, Macromedia's Sound Edit and Digidesign's Sound Designer for digital audio, Macromind



of these programs in order to increase the size of their potential market. At the same time, they've stopped supporting the Atari ST range, citing among other reasons a lack of co-operation from Atari. So what's new?

But it's a new piece of software called Producer which provides perhaps the most important way forward for Passport. Available on the Mac from November, and on the PC from the second quarter of next year, Producer provides a straightforward, intuitive way of integrating MIDI, audio, video, animation and slides into a single presentation which can be run on the Mac or, with the appropriate hardware, recorded onto video cassette. Yes, we're talking the 'M' word here – multimedia.

Passport have perceived that what people want (or will want) is a program which will let them draw together the various strands of the multimedia tapestry in an intuitive, fun sort of way. To this end, the company have adopted a multitrack Visual Cue Sheet approach (see picture) which lets you assign one file type per track. For instance, one track could be assigned a Quick Time movie, another a Standard MIDI File, and a third a digital audio file (eight-

Director and Gold Disk Animation Works for animation, Adobe Premier and DiVa VideoShop for Quicktime movies, Master Tracks Pro, Vision and Performer for MIDI, and Aldus Persuasion, Microsoft PowerPoint and Symantec More for slide presentations. Producer also allows you to incorporate text files from any Mac word processor into your multimedia presentations.

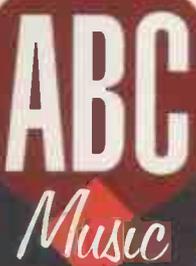
Producer will cost somewhere between £300-400. This isn't vapourware – An alpha copy has been seen up and running (and periodically crashing) on a Quadra at Passport's UK distributors MCM.

Further news from Passport concerns the next upgrade to their Alchemy sound design and sample editing software. Due towards the end of the year, it will include support for Peavey's SMDI protocol, which allows sample data to be transferred via SCSI in MIDI Sample Dump Standard format. In this way, Alchemy will be able to act as a 'bridge' between SMDI-compatible instruments (currently Peavey's SP sample playback unit and Kurzweil's K2000 synth) and other samplers which implement their own form of sample transfer via SCSI.

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## the new wave



It's taken them quite some time to do it, but Korg have finally got round to producing a version of the Wavestation which retails for under a grand. At £899 including VAT, the 1U 19" rack-mounting Wavestation SR (yep, that's Single Rack) is the M3R and the O3R/W of the Wavestation world, and like those modules it has substantially the same sonic capabilities as its more expensive relatives, but cuts a few corners here and there. Its 1U height inevitably means a less informative display and a less accessible user interface, and the familiar Wavestation vector joystick has had to go.

In some ways, though, the less

expensive instrument actually has more to offer. Specifically, it can access a lot more sounds – in all, there are 600 Performances, 420 Patches, 384 Wave Sequences and 6000 Wave Sequence Steps available. The best sounds from the existing Wavestation card library have been included as standard on the SR – which is a good thing, because the new module isn't compatible with EX and A/D cards. Instead, it uses the higher-density cards which Korg adopted with the O1/W series instruments. In fact, the SR can apparently read O1/W PCM cards, which, ironically, gives it a sonic edge over its more expensive relatives.

Talking of the O1/W series, Korg are giving away free sounds to anyone who buys an O1R/W or O3R/W module during the months of September and October. You just send Korg a registration card which your dealer gives you when you make the purchase, and Korg send you £234 (O1R/W) or £135 (O3R/W) worth of sounds for free.

Nearing completion is the first issue of a new 80-page free magazine produced by Korg UK, featuring interviews with name Korg users and technical features on Korg instruments. The magazine, which the company plan to produce three times a year, will be circulated through dealers and by direct mail to anyone who requests it.

Last but not least, this year sees Korg appearing at the Scottish Music Show for the first time.

For more information on any of the above, contact Korg UK at 8-9 The Crystal Centre, Elmgrove Road, Harrow, Middlesex HA1 2YK. Tel: 081-427 5377, Fax: 081-861 3595. Details of The Scottish Music Show can be found on the inside back cover of this issue.

## E-MU playback

New from E-mu Systems is the Emulator IIIxp sample playback module, a 3U-high rack unit which offers compatibility with the entire 16-Gigabyte Emulator III sample library. The EIIIxp features a constant 44.1kHz sample playback rate, up to 32Mb of RAM, 32 mono voices (16 stereo), AES/EBU digital I/O connections (allowing the unit to accept audio in digital form from, say, a DAT machine), balanced XLR main stereo outputs and three additional pairs of balanced polyphonic outs, advanced SCSI link software coupled with dual 50-pin SCSI connectors, proprietary H-chip resonant filter technology, 18-bit DACS, and support for the EIII Remote Controller/Librarian software for the Mac.

Two models are available: the standard version with 8Mb of RAM and a built-in 3.5" floppy disk drive for loading future software enhancements, and the turbo version with the full 32Mb of RAM and an onboard 105Mb hard drive loaded with a variety of EIII sound banks.

For more information contact E-Mu Systems at Suite 6, Adam Ferguson House, Eskmills Industrial Park, Musselburgh, EH21 7PQ. Tel: 031-653 6556.

## Making light of MIDI

Following the addition of MIDI Show Control to the official MIDI spec last year, the Musical Instrument Digital Interface has been finding a role in applications other than specifically musical ones. Reflecting this development, the seminar programme for this year's PLASA Light & Sound Show at Earls Court 2, London, from

6 – 9th September includes a session entitled 'MIDI Show Control and Lighting Controllers'.

Aiming to tackle "what MSC means to lighting manufacturers with products including MIDI, and what it all means to the end user", this seminar could prove of interest to performing MIDI musicians – after all, what is a live

show without a light show?

The fee of £10 per session includes free entry to the show – your opportunity to soak up all the flashing lights, dry ice and loud music you can take. For more information and bookings (there are only 75 places per seminar) contact Anna Pillow of PLASA on (0323) 410335.

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# Getting it o

Interview  
by Phil  
Ward

Synclaviers, sampling,  
sequencing, system exclusive...  
is this a jazz guitarist or what?

The word for Pat Metheny is mellifluous. In conversation, the words flow not unlike the notes from his guitar. Even a sea of strange faces at an official reception presents no problem, and for Pat Metheny it is a smooth crossing. Shaking hands, promoting an album, running up and down the fretboard: it's all done with the measure of a man at ease with himself.

And so he should be. Not many jazz guitarists notch up album sales like his, and since the mid-Seventies when he first trod the boards with one Gary Burton, he has taken his place among that jazz elite whose names crop up on the lips of those who have no interest in jazz. Like Chick Corea, his virtuosity has not prevented him from seeking out new sounds and new formats, and it's won him a wider audience. The search has led him into film music, in and out of various aggregations of jazz alumni – and now to a sweeping new 80-minute album which he sees as a culmination of all his musical experiences away from the straight and narrow.

This wider success is due in no small part to Metheny's broad palette of sounds and styles. The album is called *Secret Story* but it's no secret that the 30-something guitarist from Kansas City loves technology, and loves to use it to extend the vocabulary of the jazz guitar in the face of many a furrowed jazz brow...

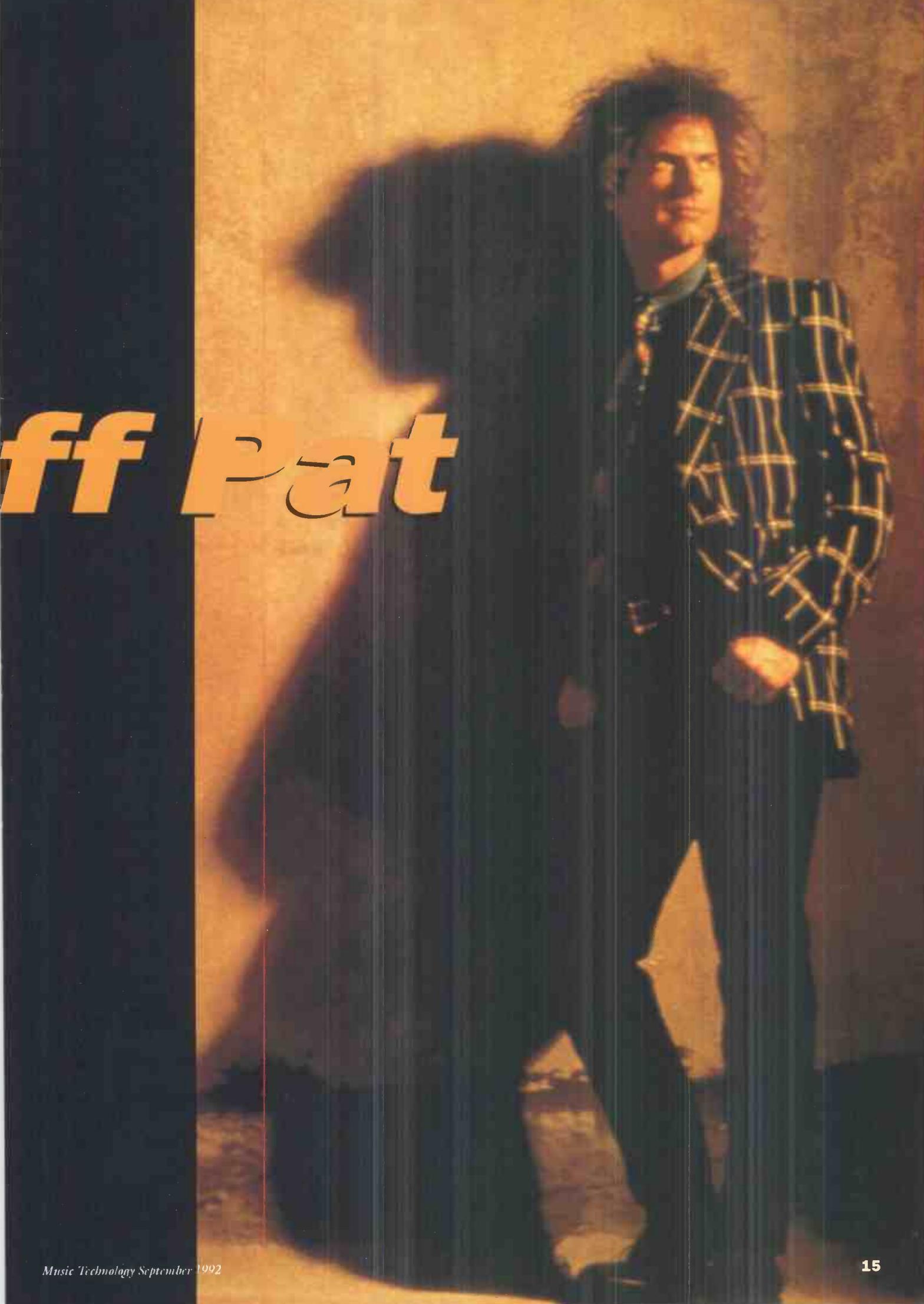
"I'm always having to reassure people that technology is OK", he admits. "I run into a lot of jazz guys who are into this thing of 'it's killing music' but I just don't buy it. What I will say about a lot of electronic instruments is that they

basically want to sound bad. You've got to really work to get them to sound good. But that could also be said of a violin. The point is that it's not that easy to make anything sound good. The thing about synthesisers is that you can get them to sort of sound like something, just by laying your hands on the keys, but, for example, in my case there's one particular guitar-synth sound that I've been working on for 10 years. I've used it on different records, and it's gradually becoming something that's really part of me.

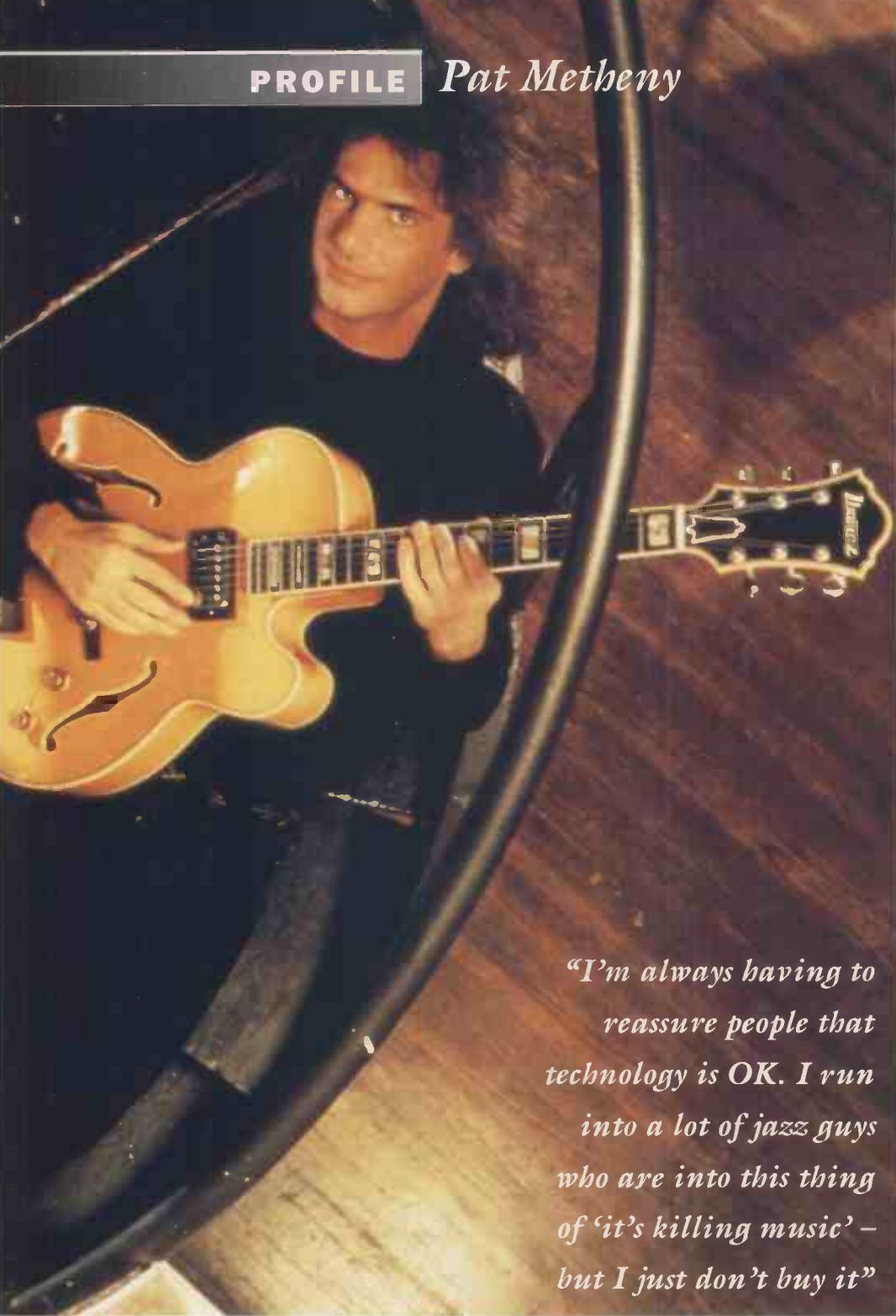
"If you get a synth and it's got 250 presets, you go through them and next month you get a new RAM card – or a new synth – but you never really learn any one sound that becomes part of you. It takes a long time to graft yourself and a sound together. Part of this is because the instruments themselves have been under such incredibly rapid development, you never have the chance to settle in on them. But in the last few years things have started to calm down a little. You've basically got your Yamaha stuff, your Roland stuff, each of these core manufacturers have their own basic language and architecture, and also have their own basic sound. As much as people say 'it's got 250 sounds', a Yamaha synth will have that sound no matter which preset it is. The mixing of manufacturers is what gives a richness of texture. And you really do have to practise your sound."

The instrument Pat Metheny chooses to practise his sound on is the Synclavier – his chosen form of synthesis for nigh on 13 years. But has it always been a happy marriage...?

"The Synclavier appeared about 4 years before MIDI existed, and I remember what attracted me was an ad that they ran in all the music magazines. The headline was 'The Last Synthesizer You Will Ever Need!' Every now and then I'd like to take that ad and cram it in their faces! But it talked about this 16-track recorder built into it – this would be 1979 or early '80 – and I thought 'Wow!' Then I checked out how



**ff Pat**



*"I'm always having to reassure people that technology is OK. I run into a lot of jazz guys who are into this thing of 'it's killing music' – but I just don't buy it"*

► much it was and it was, like, \$30,000 – even now that's a lot of cake for a 'thing'. But the salesman came and gave us the demo, and I just went for it. I've been in that world ever since. I think I had the 16th system ever made, and I've been really deeply involved in it throughout its development.

"I've always done most of my writing on keyboards. The main attraction of the Synclavier was the recording and storing aspect. Being a little bit disorganized, working in that environment has saved me dozens of songs that I would have just lost. You can come back two years later and it's right where it was. Something that I like about the Synclav system is the total recall aspect; you actually get all the sounds, all the files back. You don't have to go through that thing of 'let's see, at that time I was using Opcode MIDI Merger on channel 7 – or was it channel 8?'. People I know with MIDI systems find it impossible to reconstruct things from 3 years ago like

that. I know it's getting better with the System-Exclusive stuff, but the Synclav comes back just where you left it."

Having also looked at the Fairlight back in those early sampling days, Metheny made his commitment. "Back then they were really the only two things available. They competed for a while, improving the sampling with each step, but for me the Synclav sort of won, you know? – so I always felt like I made the right choice. All those systems were very expensive, so you were taking a risk. Those were very small, adventurous companies."

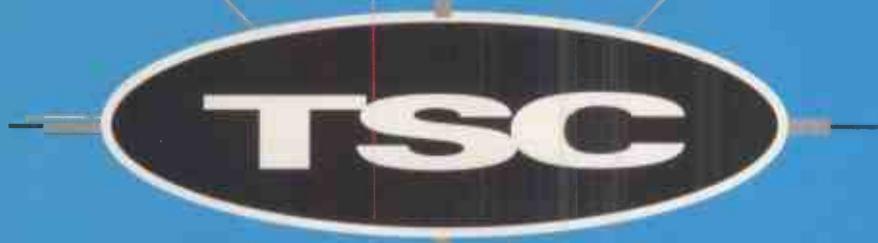
His chosen technology is matched for significance only by his chosen instrument, which offers some clues to the origins of his easy relationship with both. "Basically, because I'm an electric guitar player, I've been dealing with electricity, knobs, switches and everything, from the second that I started playing. All that stuff is very natural for me. I've always been aware of and involved with the technology. I think that as long as it's kind of a natural instinct to use that stuff it's OK. People who have a resistance to it should stay away from it. They're not gonna have much luck with it anyway. I guess I've always had kind of an affinity for it, and I've also never seen it as anything that threatens anything else, I just see it as an addition."

It's an addition that has long played a critical part in the Metheny modus operandi, never more so than on the latest album. But there is a point where even Pat Metheny draws the line... "On the new record I did all the string parts on the Synclavier, but I knew that wouldn't sound anywhere near as good as gettin' the cats to play it at Abbey Road – and it didn't. It's almost laughable how much better it sounds when you get

real guys playing it. You think 'well, maybe nobody will really tell the difference', then when you hear the real thing it's like, God, y'know, it's not even close."

It emerges that this line is drawn with a very pragmatic hand, guided by a staunchly musical brain. "In fact I did the entire album first on the Synclavier, exactly as it is now, all the arrangements. The Synclav is fantastic for things like laying down time code onto multitrack tape, and then just having it slave to that, which allows me to have 24 or 48 tracks of tape plus the sequences. On this record there are several tunes that use as many as 160 sequencer tracks, and all 16 tracks of the Direct-to-Disk as well!

"On 'Finding And Believing' which is this massive, 10-minute tune, we had outputs from all the small faders and all the big faders of a 96-channel SSL! We took a picture of it! If we'd had a recall it would have taken two days to set it up. But ►►



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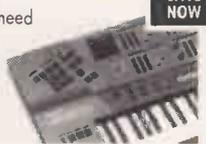


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» the Synclav slaving to tape is something I've been doing now since *Still Life Talking* (1987), and it really works great. You can continually move around notes of the track until the final second you're mixing – and I do! Adding things, taking things away – it's a very malleable form.

“But the thing about acoustic instruments is that there's a power in the air, things vibrating in the air. I've already got into this a lot with the Synclavier because it has so many outputs, using lots of different speakers, like, 16 separate amplifiers with lots of different things coming out of it. That's a completely different experience to having everything jammed into two speakers.”

But how does Pat make the decisions involved in replacing sequenced parts with real instruments? “I just try it. I actually doubled a lot of the things in the Synclav with real people, including myself. I've never done a record quite like this. I even thought about doing the whole record just by myself. I did, of course, but then I went through it and said how can I

make this better? Like, nothing beats real drums, or an orchestra, but there is some kind of glue thing that happens when you combine a good player with a sequenced track. It gives it a life that it doesn't have otherwise. It's not a question of replacing one with the other, it just opens it up.”

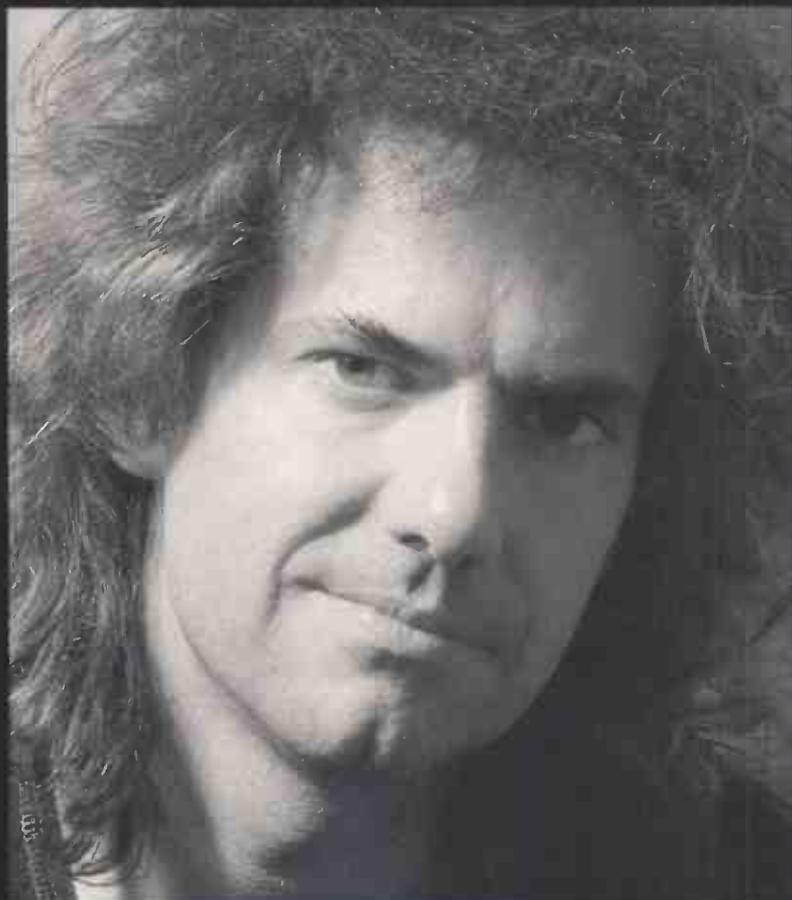
The presence of harmonica legend Toots Theilemans on the album prompts the notion of a potential conflict between the real thing and the guitar-triggered harmonica sample – one of Metheny's favourites – and the threat, maybe, of confusion in the gob-iron department... “No one has ever fooled me,” comes the reply, “and I assume it's that way with everyone. It's just a different kind of effect. There are clues that real instruments give us, as synthesists, that we can respond to, emulate, change, mess around with.

“There are musical functions that definitely exist: a cello section does something not unlike what we want to do with synthesisers – a rhythm or a pad – but the synth is never going to really sound like a cello section. It's just something that's functioning in that register. We use a lot of harmonica-type sounds on the new album. Besides Toots, I'm playing guitar-synth with a harmonica sound, but to me it sounds like a guitar-synth playing a harmonica sound! And if it was someone else's record I would hear and identify that. It's just another possibility, one of many.”

Mention is made of composer Steve Reich, whose influence is felt in the attention to layers of texture that makes *Secret Story* such a rich, dense listening experience. The influence, it seems, was a direct one. “I recorded one of his pieces about two years ago, called ‘Electric Counterpoint’, and it was the first time that I know of that a major contemporary American composer has addressed the electric guitar. It was just me working with tape; I played 10 electric guitar parts and 2 electric bass parts. Working with him was really fascinating. I'd been a fan of his music for a long time, but only when I got involved with playing that piece did I begin to understand how it was made up. He showed me a sound that I didn't even know I could make. Overdubbed things; this whole process that I really loved. I used a hint of it on ‘Cathedral In A Suitcase’ on the new album, this technique of locking lines together to create other lines.”

*Secret Story* is a magnum opus. It's a culmination not only of Pat Metheny's personal and musical adventures to date, but also of his experiments with technology, reflecting a serious and clearly defined attitude to machines and their place. This jazz guitarist has come a long way, and wants to go further... “The thing I'm most interested in is combining everything. Probably the most interesting part of technology for me is sequencing, where you can mess around and try things and get a very clear picture of what you're working on. The tail-end part of it – the sounds and samples and so on – is the least interesting.

“I wish there was a way (and I bet there will be some day), where you could have a sequencer actually triggering acoustic instruments. We're seeing signs of that, with the Disclavier, but I've been imagining this for years, and I'm sure it's going to happen. Somebody soon is going to come up with a drum robot, something that actually moves air,



## Discography

Passengers (1974) with Gary Burton  
 Bright Size Life (1976) with Jaco Pastorius  
 Watercolours (1977)  
 Pat Metheny Group (1978)  
 New Chautauga (1979)  
 American Garage (1980)  
 80/81 (1980)  
 As Falls Wichita, So Falls Wichita Falls (1981)

Offramp (1982)  
 Travels (1983)  
 Rejoicing (1983)  
 First Circle (1984)  
 The Falcon And The Snowman (1985)  
 Film soundtrack, includes ‘This Is Not America’  
 with David Bowie  
 Song X (1986) with Ornette Coleman  
 Still Life Talking (1987)  
 Letter From Home (1989)  
 Secret Story (1992) released 12th July

that's something I'm really interested in. Chips are chips, speakers are speakers, and the dynamic range of speakers just does not compare with, say, a snare drum. You cannot get a speaker to do what a snare drum does in real life, but you could get something whacking a snare drum. I think that will happen, not even sampling any more but robots.

"But good sequencing depends on the writing, too. In the case of my band, 60-70% of what we've done since Offramp (1982) as a group has been played with a sequencer. But almost no one knows it because, first of all, we never have just a drum beat playing over and over. When I hear that I think, guys, come on, try a little bit! In fact, we rarely have a drum beat at all. It's usually a musical part that we lock to, and I put dynamic changes just like in real playing. If you have a metronomic, boring part, just like if you had some guy in the band who was playing with no dynamics, it would kill everything. But it's not the fault of the machine if people put in garbage. Those machines are way more sophisticated than 99% of the input they're getting.

"Theoretically, I like the idea of non-musicians being able to come up with music, but in practice music is unfortunately very

difficult, and there really is no short cut to understanding it. There's no quick way to the wisdom you get when you finally know, say, why D wants to go to G, and G to C. Eventually you get insight into why music works the way it does, and as that insight improves and you gain confidence about your skills, the

input that you give to your synth will be better. Then, the synth sounds better and it sort of comes back to music."

But can't you learn music from a synth/sequencer package just as well as from a guitar? "That's going to be interesting to see. I think it probably will be possible to have incredible, virtuoso musicians who don't play an

instrument, that do everything in the context of non-real time. But so far it hasn't really happened. Most people who don't play an instrument have come up with things that are kind of catchy, or quirky, y'know, interesting for three minutes, but substantial musical developments that have a long term impact can only come from musicians. We'll see. You're right, we're gonna have a whole generation of kids whose first instrument has an onboard 16-track sequencer, but I really believe that music has no short cuts. Eventually you're gonna have to get your hands dirty."

*"Nothing beats real drums, or an orchestra, but there is some kind of glue thing that happens when you combine a good player with a sequenced track. It gives it a life that it doesn't have otherwise"*

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# Alesis ADAT

## Digital Audio Recorder



Text by  
Simon Trask

You've seen the advert, you've read the brochure, you've waited an awful long time... and now, at last, the real thing is here

**E**ight tracks of 16-bit 48kHz digital audio on an S-VHS video cassette which costs less than £20, recordable on a 3U 19" rack-mountable unit which costs just £3499 including VAT. The kind of statistics guaranteed to set pulses racing in studios across the country. Of course many of these studios, and indeed a number of individual users, may have decided they need more than eight digital tracks with which to ply their trade. For them the good news is that multiple units can be synced together to create a composite multitrack recording system consisting of up to 128 tracks! Welcome to the world of ADAT...

Despite the novelty of recording multitrack audio onto a video cassette, the underlying emphasis in ADAT's design is on familiarity. Rather than opt for the all-in-one digital recording system approach favoured by some manufacturers, Alesis have designed ADAT to fulfill the role of a traditional multitrack tape

machine in the studio. The idea is that you can simply take your existing analogue multitrack out of your recording setup, slot in one or more ADATs in its place, and be up and running as quickly as possible thanks to a minimal learning curve.

And I have to say that Alesis have succeeded admirably in this aim. Even the concept of a front-loading video cassette should be familiar to most people, thanks to the prevalence of video recorders these days. In fact, ADAT is probably easier to use than the average VCR – at least you don't end up with Channel 4 News when you meant to record Coronation Street.

But seriously, ADAT is a cinch to use. All you have to do to be up and running is hook the eight analogue inputs and outputs on the unit's rear panel up to your mixer, switch the machine on, push in a blank S-VHS cassette (there's one supplied with the machine) into the familiar horizontal front-panel cassette slot and follow a simple procedure explained in the manual for formatting the tape with Alesis' proprietary timecode. Then you rewind the tape to the beginning, press one or more of the eight track select buttons to record-enable the track(s), press the Record and Play transport buttons, and begin recording.

Well, that's the theory; in practice, I had a little trouble getting the formatting to go beyond the initial leader/data stage which precedes the writing of timecode, but that soon righted itself – or perhaps it was me that eventually got it right.



Photography: James Cumpsty

be providing for the price, or anything else, put them aside. This is no-compromise digital audio and it shows in terms of clarity, dynamic range, punchiness, presence and a well-balanced overall sound – and, of course, silence where silence is meant to be. Also extremely impressive are the seamless punch-ins and punch-outs, which are completely devoid of gaps or glitches, and the glitchless pitch-shifting. If you get one of these units into your system, believe me, you're going to have a hard time getting it out again.

So what exactly do you have to get to grips with in using ADAT? The left half of the unit's front panel is taken up with eight 15-segment bargraph LED meters and associated record and input status LEDs, eight track select/record enable buttons, and the power on/off button. To enable one or more tracks for recording, you just press their track select buttons; they will then accept signals from the relevant inputs on the rear panel.

If you only have jacks plugged into inputs one and two, signals appearing at these inputs are routed to the remaining inputs as well – one goes to three, five and seven, two to four, six and eight – so you can record consecutively on all eight tracks from just two inputs if you want. Plugging a jack into any one of inputs 2-8 automatically overrides this assignment in favour of its own input.

The right half of ADAT's front panel contains the cassette slot, a four-digit real-time tape counter LED showing minutes and seconds, the tape transport controls, and buttons governing input/tape monitoring, tape formatting, pitch shifting, digital input selection, tape autolocation and looping. Virtually all functions are activated from dedicated buttons. Pressing the All Input Monitor button so that its built-in LED lights causes all tracks to monitor their input signals regardless of their record enable status – a useful way of quickly checking all inputs. If you're not hearing anything off tape when you should be, it's probably because this function is enabled.

The normal status for recording is to have the Auto Input function set to off: all record-enabled tracks monitor the input signal, while all other tracks monitor the taped signal. If you need to do punch-ins, you'll want to have Auto Input on, as ADAT will then monitor the taped signal for a record-enabled track up until you enter Record mode, at which point it will switch to the input signal. When you drop out of record, it will revert to the taped signal.

ADAT also allows you to set three auto-locate points. Locate 0 is effectively a return-to-zero function in its default setting, in that it indicates absolute time 00:00; however, you can also Set Locate 0 to any location on the tape – if, for instance the song you're working on begins at a point several minutes into the tape. Locate 1 and Locate 2 reference absolute times always, and are best used to 'pick out' a section of a song on which you want to work.

Enabling ADAT's Auto 2>1 function (again available from a dedicated button) causes ADAT to automatically return to the Locate 1 point after it has reached the Locate 2 point. If the Auto Play function is also enabled, ADAT will automatically enter Play mode whenever any auto-location procedure is completed. Locate points are defined on the fly by pressing and holding the Set Locate button and then pressing the required Locate button ►►

Alesis have fitted ADAT with both balanced and unbalanced audio inputs and outputs (the former on a 56-pin ELCO connector) to cater for professional and home studios alike. A sensible move, as ADAT is good enough to be used in pro studios whilst being affordable enough to be found in the better-off home studio too. Perhaps the only distinction between pro and home studios will be how many ADATs are hooked up together.

The timecode which ADAT writes to each S-VHS tape during the formatting procedure is accurate to a single sample ie, 1/48,000th of a second – somewhat more precise than SMPTE! ADAT writes the code to a non-audio track, leaving you with a full eight tracks of audio on each machine. What's more, you don't have to bother with setting levels, or worry about crosstalk (not that crosstalk is a problem on this system anyway).

As Alesis' timecode also forms the basis of synchronisation between multiple ADATs, the units should lock together very tightly and precisely – though, only having one unit for this review, I can't vouch for the how well the syncing works (*I can – Ed*).

What I can vouch for is how good ADAT sounds – or should I say how well ADAT records. If you had any reservations about the recording medium, the quality of circuitry that Alesis would

## Transport & Audio Systems

**Recording format:** ADAT (Alesis Digital Audio Tape) rotary-head digital recording using S-VHS tape  
**Recording time:** 40 minutes typical per S-120 cassette  
**Fast Forward/Rewind Rate:** Approx. 20 x play speed unwrapped, 10 x play speed wrapped.  
**Fast Audio Scan Rate:** Approx. 3 x play speed.  
**Number of Audio Channels:** Eight  
**A/D Conversion:** 16-bit linear audio, Delta-Sigma 64 x oversampling, single converter per channel  
**D/A Conversion:** 18-bit linear, single converter per channel  
**Sample Rate:** 48kHz nominal; user-variable from 40.4 – 50.8 kHz (-3... +1 semitone)  
**Frequency Response:** 20Hz – 20kHz, +/-0.5dB  
**Dynamic Range:** Greater than 92dB from 20Hz – 20kHz, A: weighted  
**Distortion:** 0.009  
**Total Harmonic Distortion + Noise at 1kHz, 0.5dB below maximum output, A weighted**  
**Channel Crosstalk:** Better than -90dB at 1kHz  
**Wow and Flutter:** Unmeasurable

▶▶ at the appropriate time during Play. You can use Locate 1 to define a start point for recording and Locate 2 to define a punch-out point. If Auto Play is enabled, ADAT will rewind to the Locate 1 point from Locate 2 and play back through the section you've just recorded.

In addition to the balanced and unbalanced audio connections mentioned earlier, ADAT's rear panel provides optical I/O connections for digital transfer of all eight audio tracks using Alesis' ADAT Proprietary Multichannel Optical Digital Interface protocol. There is also a socket for connecting up an RMB 32-channel Remote Meter Bridge (due towards the end of the year), two 9-pin D connector sockets for sync I/O using Alesis' ADAT Proprietary Synchronisation Interface protocol, and a jack socket for footswitch-activated punching in and out.

A further jack input is provided for connection of the LRC Remote Control unit which comes supplied with each ADAT, and lastly there's a mains input socket. The compact LRC unit (which comes with an eight foot cable attached), simply provides remote control of ADAT's tape transport controls together with its monitor select and tape autolocate functions.

**A**lesis haven't stopped development of the ADAT system. Planned for release towards the end of the year are three units which will expand the functionality of ADAT in various ways and degrees. The aforementioned RMB Remote Meter Bridge will provide 32 channels of remote LED monitoring for a multiple ADAT system, while the AI-1 ADAT To AES/EBU And S/PDIF Digital Interface will allow two channels of digital audio data to be transferred in the digital domain (so no degradation of audio quality) between ADAT and a range of digital audio products including CD players, DAT machines, digital samplers and disk-based digital audio recording systems. The AI-1 will also provide sample rate conversion, allowing ADAT to record digitally from, say, 44.1kHz sources such as CDs.

But it's perhaps the BRC Master Remote Control unit that will most enhance the flexibility of ADAT. This will allow you to bounce tracks back and forth between multiple ADAT units, and also, if you have two or more ADATs, to perform cut-and-paste editing and assembly of tracks – a feature more usually associated with disk-based digital audio systems. Again, this is done in the digital domain for perfect reproduction, using the optical connections mentioned earlier.

Digital connections can be made to the BRC, the AI-1 or, of course, another ADAT. In fact, with two ADAT units hooked up digitally you can make perfect copies of your tapes in real time,

whether for backup purposes or to send to a musical collaborator. The S-120 S-VHS tapes which ADAT uses provide 40 minutes of recording time.

Apparently, the BRC will also take advantage of the precision location provided by Alesis' proprietary timecode to allow you to cut and paste, autolocate and punch in and out to individual sample resolution – providing as fine a degree of control as you'll get from a disk-based system.

ADAT will no doubt find itself co-existing with a MIDI sequencer in a lot of studios, so what are the options for synchronisation with MIDI? Well, the simplest and the cheapest option if you're already using a SMPTE/MIDI synchroniser is to stripe an audio track with SMPTE code – just as you would on an analogue multitrack. You can do this while the S-VHS tape is being formatted with Alesis' own code, as ADAT allows you to record audio during the formatting process.

Alternatively, you could invest in a forthcoming inexpensive unit called Datasync being produced by JL Cooper, which will read the sync data from ADAT's rear-panel sync output socket and convert it to MIDI Time Code data, thus bypassing the need for a SMPTE code track. Apparently, Datasync will also be able to generate MIDI Machine Control deferred play, pause, record, rewind, fast forward and search commands. The BRC remote unit will remove the need for SMPTE to be striped on tape, as its features will include the ability to generate SMPTE, MTC and ▶▶

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**Unbalanced:** Sixteen quarter-inch jacks (eight input, eight output)

**Digital**

**Connectors:** Two EIAJ fibre-optic jacks (one input, one output)

**Communications Protocol:** ADAT Proprietary Multichannel Optical Digital Interface

**Synchronisation**

**Connectors:** Two 9-pin D-Sub connectors (sync in and sync out)

**Capability:** Automatic master/slave syncing of up to 16 ADATs (128 audio tracks), with single-sample accuracy, using ADAT Proprietary Synchronisation Interface

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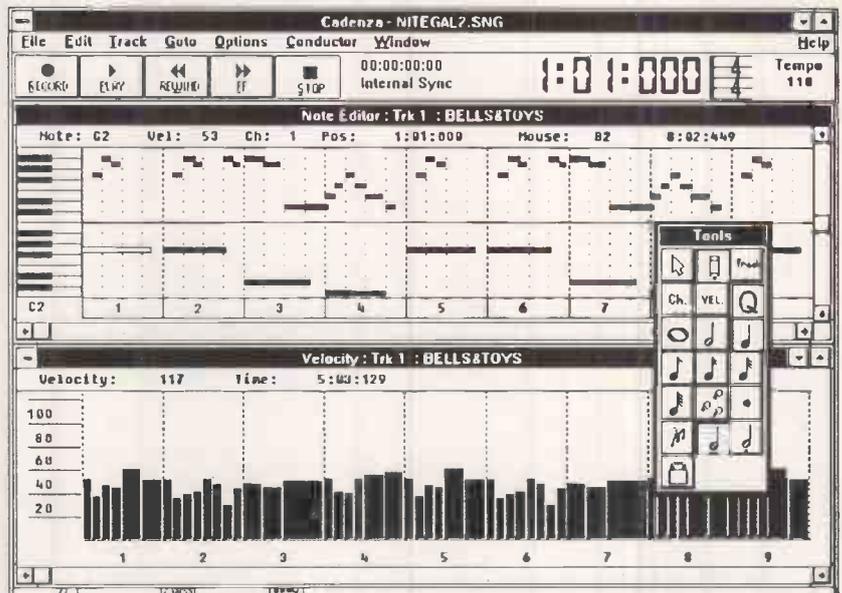
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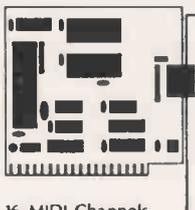


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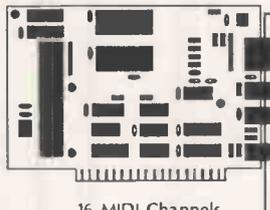
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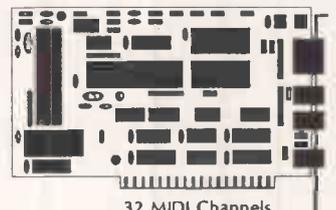
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▶▶ standard MIDI clock sync – referenced, presumably, to internally-generated Alesis sync code.

If you have an AI-1 and either a BRC or a Datasync, you'll be able to transfer two tracks of digital audio between disk-based recording systems like Sound Tools and Pro Tools and an ADAT unit and have them synced up at the same time. If Alesis succeed in getting their multitrack audio transfer protocol

one inexpensive and readily-transportable 40-minute S-VHS tape can store up to 1.8Gb of digital audio data in playable form, and compare that to disk-based storage media, it's apparent that digital tape has a lot going for it.

At the same time, the operational simplicity and functional familiarity of ADAT, not to mention its affordability and, of course, its recording quality, should ensure that plenty of



## Info

Prices: ADAT Digital Audio Recorder £3499  
 BRC Master Remote Control £2000-2500(TBA)  
 RMB Remote Meter Bridge £TBA  
 AI-1 ADAT to AES/EBU and S/PDIF Interface c.£1000 (TBA)  
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accepted and implemented by manufacturers of multitrack disk-based recording systems, a whole new era of harmonious co-existence between tape-based and disk-based digital recording systems could begin. Apparently the company are already in discussion with various manufacturers with a view to getting their protocol accepted more widely. Another possibility under discussion, it seems, is remote control of ADAT functions implemented on mixing consoles. And while we're looking ahead, a computer-based graphic front end for the BRC is a possibility at some stage – though considering the BRC has yet to reach the market, let's not get too far ahead of ourselves.

ADAT has the potential to be widely accepted by recording musicians, and to exist in a symbiotic relationship with disk-based systems for some time to come. When you consider that

studios and musicians who wouldn't consider disk-based systems will be only too happy to go for digital tape.

However, Alesis may not have it all their own way. Tascam will apparently be launching a comparable system in the Autumn, though how it will compare unit-on-unit and whether it will be able to compete with the larger 'ADAT system' remains to be seen. No doubt other manufacturers are beavering away on their own systems, because the market is potentially huge as musicians begin to cross over from analogue to digital multitrack tape recording. Will Alesis steal a march on their competitors, or are they destined to be forgotten pioneers? Only time will tell, but I'd say they're in with a strong chance of making ADAT the standard against which other systems are measured. ■

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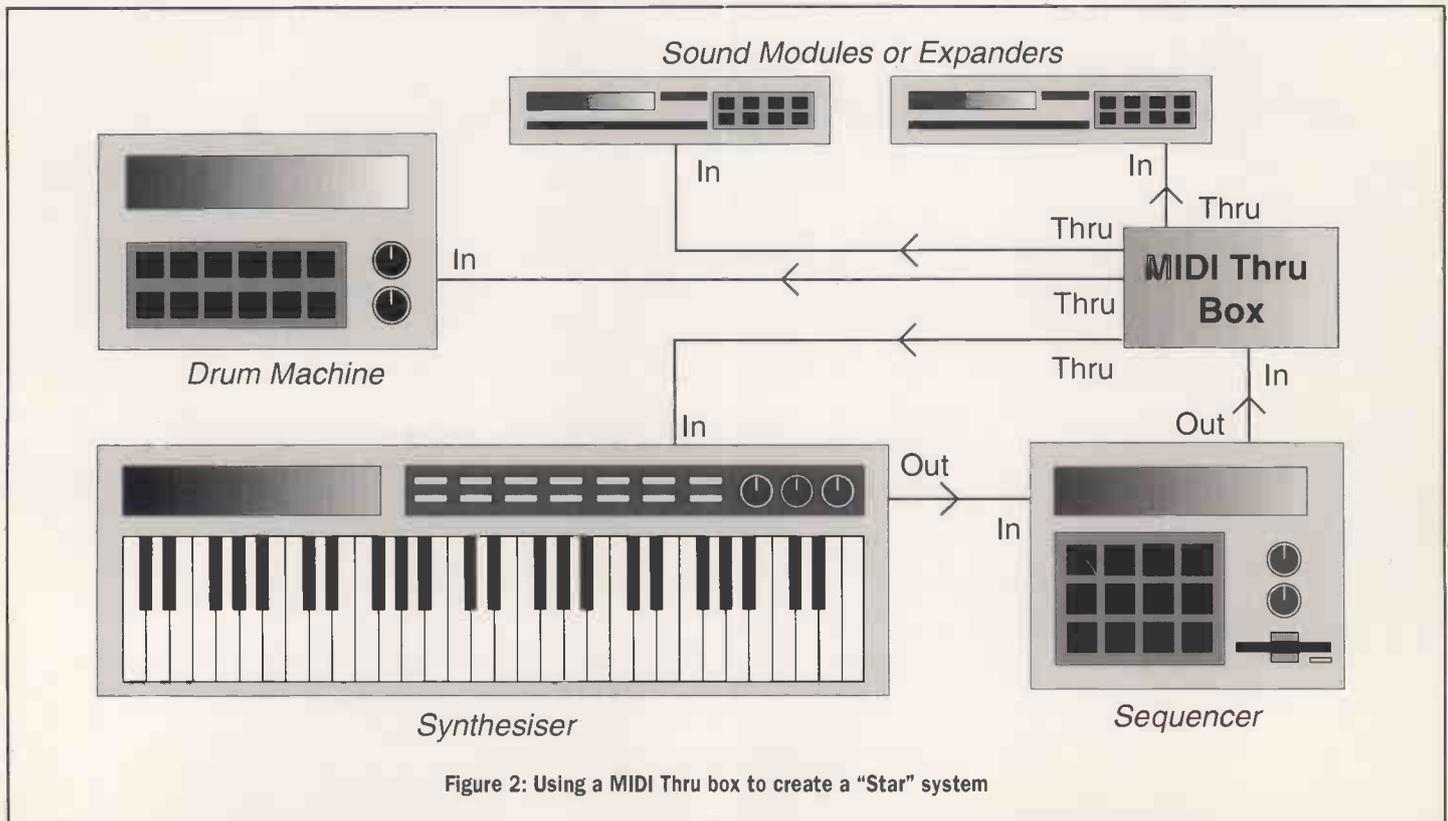
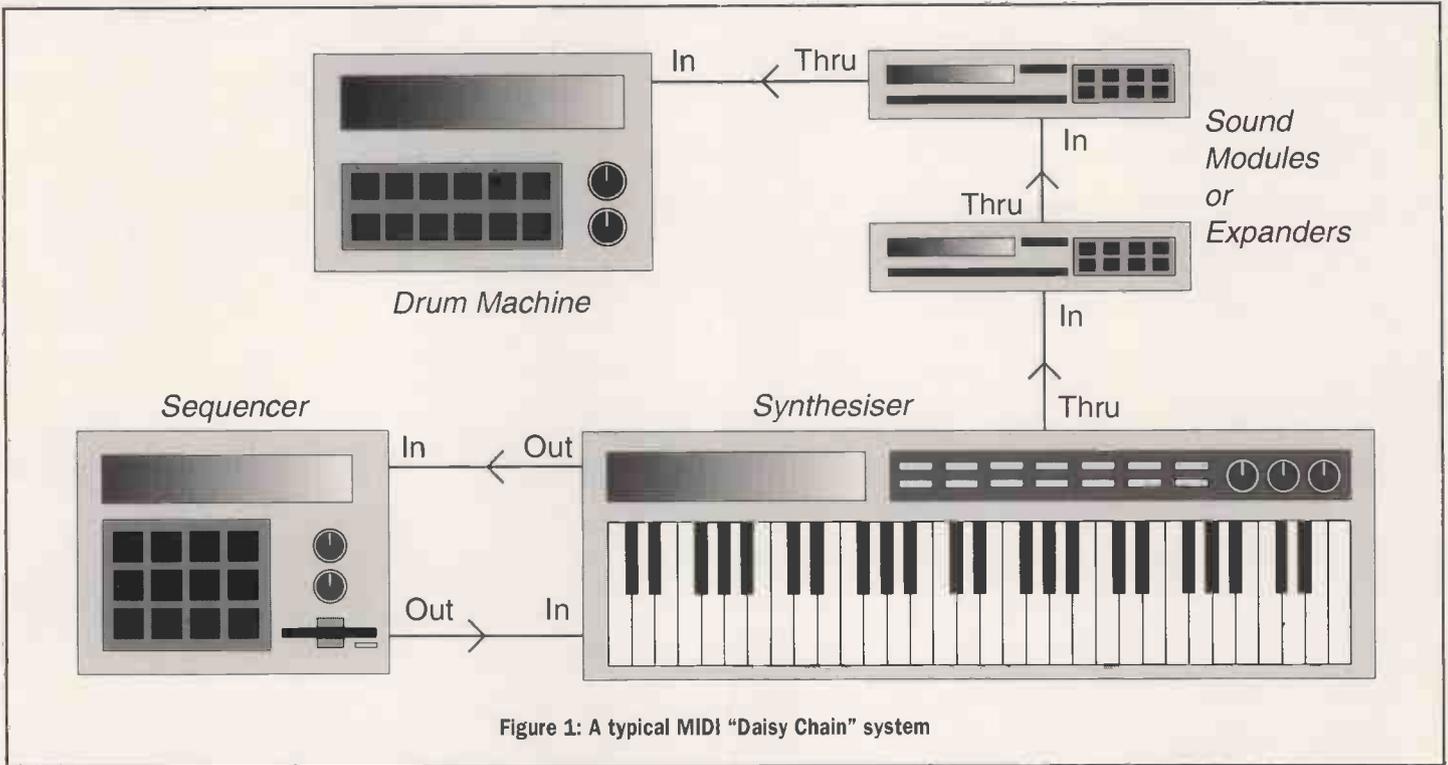
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# Cabling a MIDI system

**Text by Vic Lennard**



**MIDI was designed as an essentially practical solution to the problems of connecting equipment together. So how come it ended up spreading so much confusion amongst those who it was intended to help? In the first of a new series, we get back to practicalities and look at ways in which MIDI can help rather than hinder...**

**T**hough it should be a relatively simple system to configure, getting your set-up up and running is often fraught with difficulties – particularly when there don't appear to be enough MIDI sockets to go round.

**Figure 1** shows a typical 'daisy chain' method of connecting a sequencer, synth keyboard, a couple of sound modules and a drum machine. The MIDI Out from the synth sends information to the sequencer which it then records. On playback, the recorded data is sent to the synth's MIDI In, a duplicate of which is provided at the MIDI Thru socket and passed on to the first sound module and then to the second. The MIDI Thru from here ensures that the information is received by the last instrument in the chain, the drum machine.

Although the MIDI Thru is designed to duplicate the signal received at the MIDI In, too many synths in the chain can cause this signal to be distorted and the data to be corrupted. A better alternative would be the 'star' set-up shown in **Figure 2** using a relatively inexpensive MIDI Thru box. This takes a single MIDI In and duplicates it a number of times so removing the problem of multiple MIDI Thru to MIDI In connections.

Using this system, you should, if you wish to play the keyboard, set the Local Control facility to 'off' so that the sequencer controls the sounds. You should also turn the sequencer's 'soft thru' facility on (if it has one) so that you can hear sounds from the modules while you are playing the keyboard.

But what happens if you want to choose between using the pads on the drum machine or the keys on the synth to enter notes in the sequencer? Answer next month...

## MIDI Glossary

**M**anufacturers do it. Music magazines do it. Instruction manuals do it. Happily rattling off MIDI terms in the belief that everyone knows what they're talking about. Many people don't – especially those getting involved in synth and sampling technology for the first time. The result? People never fully exploring the potential of the machines they own, or worse – finding themselves lured away by the simplicity of the guitar and other 'low-tech' instruments.

In an effort to stem this tide, MIDI By Example is including a month-by-month explanation of commonly used words and phrases which will build into a complete glossary of MIDI terms. Where do we start? There's only one place really...

### MIDI

In 1982, a small group of manufacturers decided that there needed to be a means by which all their different products could be connected together. As in many other fields, the inability of equipment from one manufacturer to work with that from another was seen as a real disadvantage and a potential limit on people's creativity. What was needed was standardised means of connection between all hi-tech music products so that they could 'communicate' with each other. Thus was born the Musical Instrument Digital Interface – a system quickly adopted by hi-tech equipment manufacturers all over the world.

MIDI comprises two quite distinct parts; the digital information (relating to notes, pitchbend and so on) produced by the machine's internal MIDI circuitry, and the MIDI hardware itself. This culminates in the IN, OUT and THRU sockets (or 'ports') found on MIDI instruments and used to transmit and receive MIDI data.

The degree to which MIDI instruments are compatible with each other depends largely on how much of the standard MIDI specification is implemented on each piece of equipment, and this, of course, relates to the nature of the product itself – synthesiser, sampler, drum machine, processor etc. Obviously there would be no need for an effects processor (for example) to send out information relating to the playing of individual notes.

MIDI has come a long way in ten years and apart from extending the ways in which instruments can communicate with each other, has been adopted as the technology behind a number of creative tools incorporated in both hardware and software-based instruments. For example a computer can be synchronised with, and even remotely control, a tape recorder. MIDI can also be used to produce effects similar to those found on signal processors.

### MIDI sockets or ports

MIDI Information is sent out from a MIDI Out port and received at a MIDI In. Thus, in a simple two-instrument set-up, a cable would be connected from the MIDI Out of one instrument to the MIDI In of the other – and vice versa. In more elaborate systems, however, the MIDI Out information from one instrument may need to be sent to two or more instruments. This is where the

MIDI Thru port comes in. It carries a replica of the data sent to the MIDI In of an instrument and makes this available (via another MIDI cable) for the next instrument in the line.

Sometimes, when a number of MIDI Thrus are needed (or where none is provided on a particular instrument) a dedicated Thru box is used.

### Channels

With different synths and sound modules connected to a MIDI system, there has to be a way to individually 'speak' to each of them. A method similar to television is used; MIDI data is sent on one of 16 possible channels and each synth or sound module is 'tuned in' to recognise the information intended for it. Because of the design of the MIDI system, however, MIDI information from all 16 channels may be sent down the same cables at the same time.

### Note numbers

Each note on a keyboard has a different MIDI number associated with it; in order to cover the ten or so octaves used in music, there are 128 of these. The middle C of a standard synth is usually numbered 60; add or subtract one as you go up or down a semitone. On MIDI-equipped instruments, notes are normally referred to by their MIDI note number, however, they may also be referred to by letter/number combinations such as C2 or A#4.

### Notes on & off

Hitting a key on a synth generates a MIDI Note On message; releasing it produces a Note Off. Each of these includes data for the MIDI channel, note number and velocity (see under 'Velocity') for that note.

### Velocity

Velocity is a measure of how hard a note has been pressed, in the case of a Note On, or how fast the note has been released, in the case of a Note Off. In either case, MIDI determines the value on a scale of 1 to 127. If the velocity is zero, it acts as a Note Off.

### Aftertouch

Extra pressure brought to bear on the key of a synth after it has been initially played is called Aftertouch. Most sound modules recognise this and it can be used in various ways to alter the character of a particular sound that is held on – through the introduction of vibrato, for example.

### Multitimbral

Meaning, literally, 'many sounding' – a multitimbral synth can be viewed as being a number of independent sound modules in a single box. By setting each module to its own MIDI channel, one multitimbral synth can produce a number of different sounds playing at the same time. This is subject to the maximum number of notes which the instrument allows you to play at any one time – commonly called the 'polyphony'.

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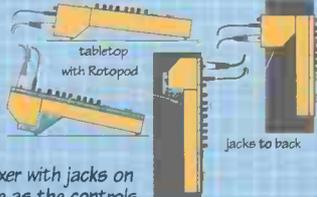
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**GNARLY CIRCUIT BOARDS.** Unlike brittle phenolic, the CR-1604 and MS-1202's horizontally-mounted, double-sided, through-hole-plated fiberglass boards and rigid, multi-point suspension prevent damage from external impact.

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# Steinberg Cubase

## Version 3.0 Software

With the upgrade to Version 3 came the promise of new features and easier use. But have unreliability problems tarnished Cubase's crown?

When Cubase first appeared in 1989, the dramatic change from Steinberg's previous sequencer, the Pro 24, came as a surprise to many. The user-friendly Arrange window, from where an entire song could be created, won many converts from the other ST sequencers of the day.

Though regular updates followed, and with them a significant number of new features, the release of Version 3.0, prompted Steinberg's then distributors in this country, Evenlode, to make a charge for the upgrade. With the excellent new features this brought, most users were happy to pay the additional dosh. What they were not happy with was a program "riddled with bugs" (to quote a letter from last month's issue) which is what they got until the problems were eventually put right.

Coming in at the tail end of all this, Steinberg's new distributor in this country, Harman Audio, now find themselves with a fully functioning version of Cubase to sell, but with a somewhat clouded reputation attached to it. Is it justified? Or can Cubase claim to have regained its standing? Let's see...

The most immediate change (apart from the red dongle) is a visual one; the transport icons have been redesigned and the screen font is rather more Mac-looking. Various features have been moved around, too. For example, there's an extra menu option called Modules from where you load the MIDI Processor, MIDI Mixer (which used to be called MIDI Manager), Score Editor and IPS modules. With the Score editor loaded, Cubase will still run on a 1040 with around 20 KBytes of memory remaining for song data.

But if the Module selection has been moved from the Preferences menu, what has been put in its place? Well, double-clicking on a part now automatically enters one of the three main edit pages – namely Key, Score or List (previously Grid edit) – and the default selection is set from Preferences.

Double-clicking on a part used to bring up the Part Information box (the bane of those trying to work at speed in real time) – but not any more. In version 3, to the far left of the bottom bar of the Arrange window you are provided with access to the Inspector which comes into view on the left of the screen to reveal all the Play Parameters for either the selected part or track. This now includes Bank Select for synths which have this relatively new MIDI feature implemented.

And how many times have you opened a dialogue box and had to close it to see what was underneath? All dialogue boxes can now be grabbed and moved to a convenient place to eradicate this problem. The problem of selecting a menu and having to keep the mouse button depressed while choosing an option has also been addressed: menus now stay down until you make your selection.

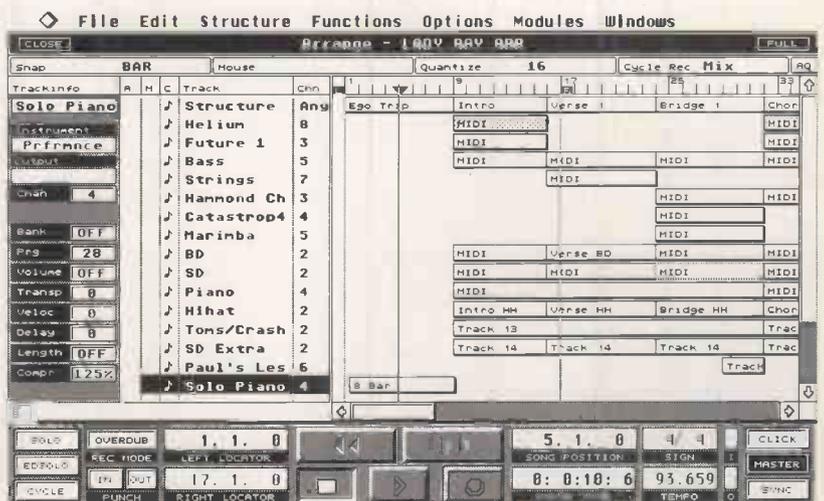
As for the other bugbear of changing numbers on-screen using either slow scroll or click-and-type methods: if you use both mouse buttons, scrolling is now lightning fast, while holding down the Control key gives you a virtual slider where you can move the mouse vertically and change values quickly. Welcome additions.

Different kinds of Cubase data can no longer be combined in a single track – MIDI Mixer and normal MIDI data, for example. Next to the Track name is a symbol which depicts the type of track; MIDI, Drum, Group, Mixer or Tape – the latter being for use with tape machines such as the Fostex

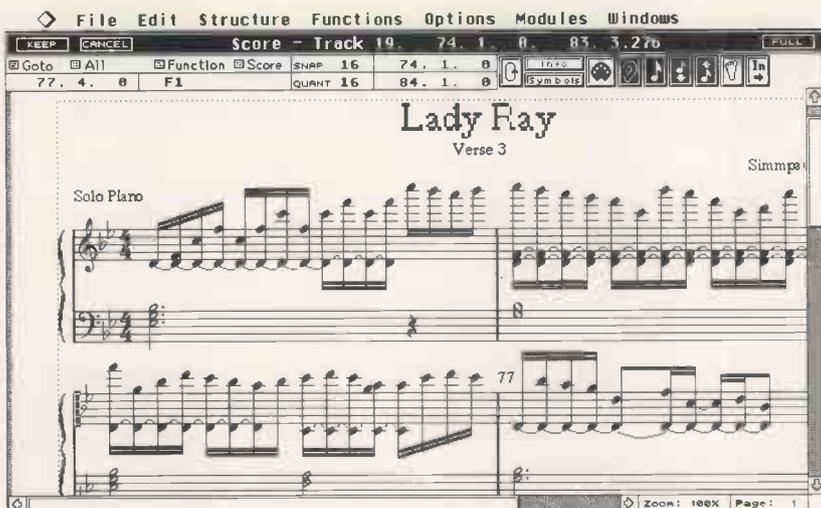
**Review by  
Vic Lennard**

### Upgrading to V3.0

The Version 3 upgrade is a serious one – and this is reflected in the cost. Included are a new key, two new manuals and three disks. The package can be obtained directly from Harman Audio (see info box) who, incidentally, are currently asking all Cubase owners (even those who already have Version 3) to re-register with them so that they can keep in touch with existing users. So, if you want to be kept up to date with new developments, make sure you send them your name, address, version and serial numbers of your program.



The arrange page of Cubase 3 showing the new screen icons and the inspector on the left



The Score Editor has been substantially altered. Equal note spacing is now included as is the ability to show up to four MIDI channels of note information over two staves



A typical Cubase 3 print out; equal note spacing makes the score very legible.

►► R8 or E16. Conversion between drum and MIDI parts can now be carried out from here as can the switching of the drum map. And with the Output Port and MIDI Channel being accessed from the Inspector, you should find you rarely have to move the vertical dividing line between parts and track names – another point which speeds up the general use of Cubase.

The Control and Alternate keys are used far more often in Version 3. Take the example of the Alternate key; with the Glue tool in the Arrange window, all consecutive parts are glued together. Renaming a part gives the new name to all parts while opening a second editor prevents any currently open editor from closing, so you can view a particular part on, say, the Score and Key editors at the same time. To help, the new manual starts off with five pages of reference charts for the toolboxes and Control, Shift and Alternate key uses.

The pencil can now extend a part in either direction: no

more having to create a new part in front of an existing one and gluing the two together. Other enhancements include the ability to snap to a half bar (previously you had to use either whole bar or quarter note), hiding the transport bar for better access to a larger number of parts and Freezing Play Parameters for writing real time edits into a MIDI File.

One other point; the Reset On Stop command has moved from the top of the Options menu to the MIDI Setup menu. More to the point, you can now turn off Reset On Track Change – an option that was not available on Version 2. Moving from one track to another often caused severe glitching problems because over 240 bytes of reset data were transmitted each time. Not any more.

Both scrolling and zooming in and out on the Key and List edit pages seem noticeably faster and there are certainly more steps available zoom-wise. Also useful is the ability of the Key and List editors to display song positions in terms of time instead of just bars, beats and ticks.

Logical edit has, until now, been one for the mathematicians, but Steinberg have taken a couple of steps to rectify this. There are now two modes: easy and expert – the easy version having fewer alterable parameters. Despite this, I suspect it will still leave musicians cold. Perhaps that's why Steinberg have set up ten presets in the Functions menu which include commonly required edits such as Delete Short Notes and Fade Out Velocity. More of the same, please!

The MIDI Mixer has more than just a new name. If you are using several MIDI sound modules and wish to carry out edits in real time, this entails continuously loading and unloading the relevant MIDI Mixer map. Version 3 now allows you to have up to eight mixer maps resident in memory, and have a specific map allocated to a particular track. For the more technical who enjoy working with this side of MIDI, the MIDI Mixer can now handle Non-Registered Parameter Numbers (NRPNS) which means that you can set-up a map for the various Roland GS synths.

Cubase already had a Remap Controller facility where you could transform, say, a modulation wheel to MIDI volume. But Cubase 3 goes one better with an Input Transformer which lets you convert any kind of MIDI input into something different. For instance, you can convert Aftertouch into any MIDI Controller – MIDI volume, perhaps, where the extra pressure controls the actual level. It's really a kind of logical editor, but one which works on the input.

To say the Score Editing facility has been revamped is something of an understatement. Though the Edit and Page modes are as before, you now have far more control over the layout and use of symbols – you can even freely move staves and bar lines. A double-click on the clef sign now only allows you to edit the clef and key signature; the other edit functions which used to be here having been given their own menus.

But the major difference is in the introduction of Staff Settings. While the older functions of Split Point and

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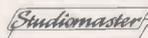
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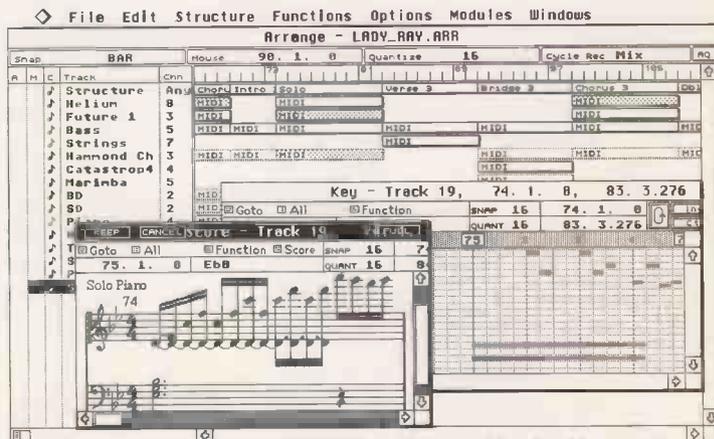
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Editors can be tiled and moved between with ease.

Quantise have been transferred here, Polyphonic Voices is a new feature where, by using two staves and tails up and down, up to four MIDI channels of instruments can be shown on a single score. Various flags such as Auto Quantise, Auto Clef and No Beams are also included.

In Page Mode, you have control over the number of bars across a page so that a heavyweight piece of music, for example doesn't end up with notes climbing over one another. The options of Equal Spacing (for clear legibility),

*"Version 3 allows you to have up to eight mixer maps resident in memory, and have a specific map allocated to a particular track"*

and Slanted Beams (which is likely to be turned off if you are using a dot matrix printer), are also here. One very nice feature is being able to zoom in to 200% or out to 75% or 50%.

MIDI Meaning is an attempt to translate certain symbols - drawn onto the page via the pencil tool - into MIDI information by assigning a percentage change to the velocity and length values of the notes. The manipulation of symbols such as slurs and crescendi is similar to that of Masterscore II (reviewed in *Music Technology* last month) and whilst the appearance of text on-screen is rather jagged, the print out quality is very good, and pretty fast if you use the Spooler desk accessory.

Is it worth upgrading? Most definitely. Steinberg have implemented a range of features which make life much easier and the general handling of Cubase much faster. The Score Editor is still a little clumsy, but the quality of score which can now be obtained really is very commendable for a program of this kind.

There are still a few minor bugs, but this is to be expected in a program of this complexity - there isn't a piece of software in existence which is 100% perfect. If you're a Version 2 user, I can only advise you to upgrade now and enjoy the new facilities. If you are thinking about buying Cubase for the first time - go ahead, you won't live to regret it. You should remember, however, that Harman are Steinberg's only official distributors in this country so if you want full after-sales service and on-line technical support it is to them you should turn.



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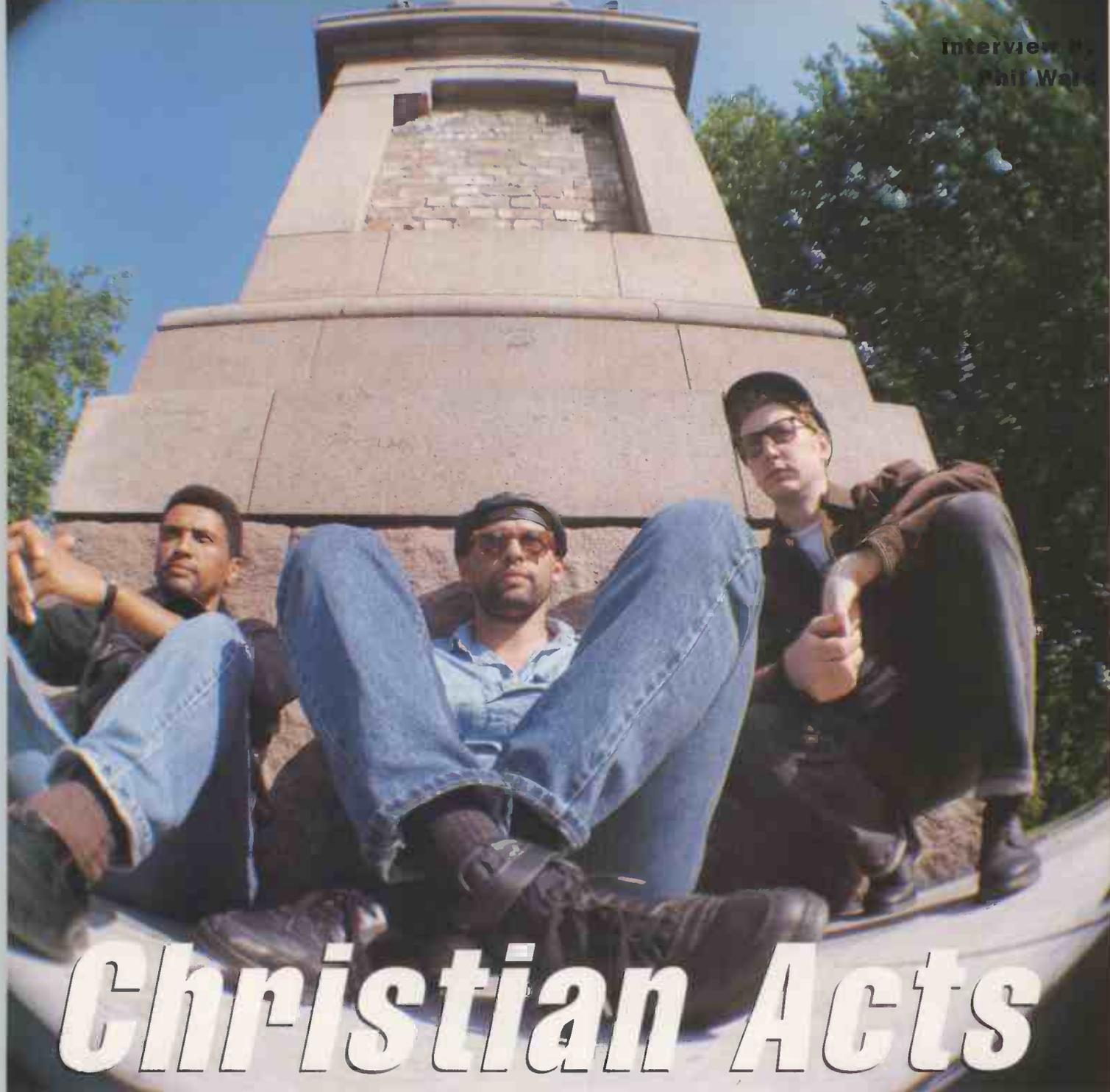
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SOUNDS FROM THE O-ZONE



Photography: James Cumpsty

# Christian Acts

The Christians are back with a third album called 'Happy In Hell'. Will they return to the lions or will they find their salvation?

... 'What's In A Word', is a fair...  
... still very much song-based,  
... last two and a half years.  
... going to turn into a  
... you can't help being  
... still song-based,  
... guitar or even  
... me than it

just took you to read them. For Henry Priestman – keyboards, guitar, backing vocals and one third of the band named after the singing Christian brothers – is feeling enthusiastic about their new album. And rightly so. Following soft on the heels of 1990's *Colour*, which itself was a long-awaited sequel to The Christians' eponymous debut in 1987, *Happy In Hell* has a lot to live up to, with the emphasis on quality rather than quantity. But if there seem to be long pauses between The Christians' musical statements as a band, ample compensation is provided by Henry's uniquely pauseless statements as a musician. And, to the strains of a local patron's yeasty rendition of 'Imagine', we quickly got on to the subject of Henry's chosen sequencer...

"I use MasterTracks Pro. I think there's only me and OMD who use it, and maybe Thomas Lang. It's American, and everyone else looks down their noses at it. Gary and Russell laugh at me and tell me I'll change, but I haven't yet. They're on Cubase, but it's too complicated for me. Apparently, Cubase did take a lot of their stuff from MasterTracks, but of course with Cubase you can put the cat out and make the tea at the same time. I don't need all that.

I've just done a soundtrack for the first in a new series of *The Natural World*,

with David Attenborough, going out in January, and I did it all in the bedroom with the MasterTracks – perfectly adequate. Nothing went to tape, it all went straight to DAT. It's the first thing like that I've ever done, but I'd love to do more – they seemed very pleased with it. That's why it's great that we're all writing for The Christians now, because it gives me time to do these other things as well. I was the main songwriter on the other two albums, but on this one all of us have written.

"We all write music and lyrics ourselves, rather than co-write, apart from maybe one or two I've done with Gary – and the actual title track – but generally we just hide ourselves away in our respective studios. I think that's what's going to surprise people – the strength of the material coming from all of us, which is great for me because it does take some pressure off. It's difficult coming up with 10 or maybe 12 good songs, so I'm certainly glad that everyone's writing. And I can concentrate on getting a few really great songs, no fillers. As I always say, you have 25 years to write your first album, and about five months to write the second. Obviously it gets harder to keep up the quality, which is another reason why we take so long, we want to be known for consistent product. We don't want to rush out an album of sub-standard songs."

The new collection of (clearly up-to-standard) songs does reflect a consistency of melodic style and content, but also a new angle. Much of the rhythmic urgency found on the album is actually consistent with developments in the dance field of recent years, not least because of Henry's relatively late arrival at the samplers' ball...

"We're just getting into that whole area. The last time I did an interview with a music mag, I didn't even know how to work an S900, let alone an S1000. I used it merely as a library. You know, hang on – I want a string sound, wallop, that'll do, thank you Mrs. But now we've got into the whole thing of sampling our own breakbeats, sound effects, and my own instruments, so I can have all those MIDI'd as well. I've got autoharps, clarinets, Hammond organs... in fact, my Hammond sample is a good deal better than what you get from a library. If you take the trouble, you can get it loads better. The archetypal Hammond sample is atrocious, it doesn't come anywhere near the original.

"So that's the joy I've found in sampling; I've just been awakened to all the possibilities. I've always said that we're all basically Luddites; there's that fear of getting to grips with how things work, that distrust. And then suddenly you look again at the S1000 and think, this isn't as complicated as I thought! I know this is probably old news, and some people have had them for years, but I've just got into it since the last album. And now all I want is more Meg!"

Caught up in the zest of Henry's conversation, I almost miss his very personal alternative to the technical phrase 'hard disk'... "I've got an 8-Meg S1000, but I've also got one those DAC oofah-doofahs..."

Oofah-doofahs? This must be an *MT* exclusive. "SyQuest make the cartridges, and it just basically saves you dozens of floppies. It's really quick, and it means you really can make your own good samples of things, and not worry about filling up floppies. So there's plenty of samples on this album, as well as real Hammond and piano. Obviously I'd rather use a real Hammond in the studio than a sample or one of those new ones with MIDI – the XB2.

"We are going to use an XB2 on tour, which will be great. But apart from that, it's mainly S1000s, plus the typical Christians 'crud' factor, provided by the good old standby – the Casio 230S – and the Cheetah MS6, which is a great analogue synth. People go 'What, a Cheetah?!' and then you play something and they go, 'wow, what's that sound?' I call it my hook machine, it's just great. Synths are best when you can just go into them and start messing about. Again, there's that same fear which makes you use just the preset programs,

but then you start thinking no, let's mess around with this. I do enjoy programming, but on a very limited scale. If I get a sound that I like, but it doesn't do quite what I want, I'll try it. But usually only on certain machines. I don't tend to do anything with the D50 or DX7."

Who does? Meanwhile, as our impromptu serenader moved seamlessly into a medley of Abba hits before falling onto the pool table, I wondered just exactly how the rich tapestry of contemporary rhythms on the album was achieved. "We looped real drummers, we used samples, and a TR808 and TR909 – a real mixture. We do run some things live, although we try not to. At least at the end we try and put it all onto tape. We had about four recalls, and it can get very frustrating trying to remember what sound was what. And of course the Casio switches off every five minutes, and it's all gone! You suddenly think, hang on, there's something missing... it used to drive Mark Stent wild!"

Mark Stent's name appears amongst a generous list of production credits on the album. The band produced four of the tracks themselves, and the rest were divided between Stent, Laurie Latham, Martyn Phillips and a certain William Orbit... "William did two of the tracks. Ideally we'd have done more with him, I think, but he was busy doing Bass-O-Matic, Sharon Musgrave and his own *Strange Cargo* album – plus he was going to Vietnam for two months! But he's brilliant, he had about seven projects on the go but he just said yeah, of course I'll fit it in, so he parks his spaceship for a few hours and comes down to earth and deals with you! I wouldn't be surprised if we work with him again, because it worked out really well, it was effortless.

"But then it became apparent that we weren't going to be able to do any more with William. In the meantime we'd ploughed on with the ones we were doing ourselves. That's why the album appears like it's taken a long time, because when you're working with other people you can suddenly find that they're unavailable for a while. I think the next person we worked with was Martyn Phillips, in fact. He'd just finished working with Erasure, and then he was going to do London Beat, I think, so we slotted this in when we could. He did 'What's In A Word', and Mark did some additional production. And then we worked with Laurie on a few tracks."

Laurie Latham, you may recall, produced both of The Christians' previous albums single-handedly. "Laurie is my best mate, and I want to keep involved with him, so we thought let's pick the tracks which are best for him. He's done 'Father', which is one of Gary's songs, a bit in the 'Words' vein – the big Christians 3/4 ballad which we usually put on each album. Laurie was just the right man for that. He had the great idea of using real strings for it, so we went to Angel Studios in London for the day and got a string section in.

"But we did most of Laurie's tracks round at Jools Holland's studio in Deptford. That was very good. Around the same time I was doing some production for Ian McCulloch. Through that, I got to know Mark Stent, who was mixing on that session. He's done KLF, and, well, who hasn't he done...? So that worked out really well, there's another future partnership there. In the end he mixed half the album, and co-produced the last two tracks that we did, because we got on so well."

Whatever the ramifications of production schedules in the long haul towards a finished product, the story of *Happy In Hell* begins at home.

"All of us have got little setups at home. Gary and Russell have both got the Akai MG14D; I've just got a Portastudio. I tended to work mainly just using a computer; you can generate so much stuff, especially if you've got quite a lot of memory. Unless you're actually working out vocals or guitar lines, most of it >>>

*"It's difficult coming up with ten or twelve good songs... as I always say, you have 25 years to write your first album, and about five months to write the second"*



» comes straight off the computer onto cassette, just my own ideas.

“The next stage was to go into Square One studios in Bury to do the demos. We were in the lucky position of doing demos to 24-track, but there is always this thing of doing demos to quite a high level, then trying to re-create them and it not being the same. This is especially true, for me, with things like Hammond parts, when the first thing you play is totally spontaneous and sounds great. And Gary will ad lib some vocals... there’s so much where you think well, this isn’t going to go on the album, so you let rip, you’re relaxed. You’d be more self-conscious if you thought it was going on the album. So consequently most of the backing vocals, on the tracks that we demo’d there, were used on the album. Quite a lot of the lead vocals, too... we were able to use composite bits. For one song, we did some vocals in July, some in September, and others in January. All for the same song. You come back to it, and re-assess it each time.

“So by this time we were just working on those demo tracks. We did all the tracks ourselves, and Island were a bit worried about this. They heard the demos, and they couldn’t fault anything about the melodies, the hooks, the singing, but they thought we needed some help in the rhythm department on certain tracks. So for those, we decided to co-produce. We started the first ones in September, and that was with William Orbit. His way of doing it was for us to send him the album track for him to fiddle around with. I’d usually come down a couple of days later and add some guitar or keyboards and he’d fiddle around with that – cast his magic spell over it – and then throw it back to us in Bury. We’d put any extra vocals on it, and then send it back to William for him to mix it. It was great; recording by proxy. A definite co-production.”

And so, as the proxy music developed, the courier bills mounted. But the overall recording costs were kept in check by the judicious choice of studios. Such frugality is an increasing trend within the recording industry, and Henry Priestman knows why... “With the last two albums, we were thinking how come we can sell 1.2 million and still owe the record company £250,000? We know that we take ages doing an album, so we were keeping an eye on the budget, which is why we recorded at Bury and Deptford. People don’t believe you when you tell them how much it can cost to record. But you don’t need the most expensive facilities all the way down the line, as long as you mix somewhere good.

“With technology the way it is, you can do a hell of a lot in your bedroom, or wherever, and you can do a hell of a lot in a cheap studio. You only really need all this amazing outboard and everything when you’re mixing. So it was great being at Jools’ place, especially as, in a place like that, you feel more relaxed, you don’t worry about having a sore throat and missing a day’s recording, or whatever. Jools gets a credit, actually: Julian Holland, studio management! That’s the feeling we got in Bury, as well: you know, good people, dead relaxed.”

Was there no opportunity to make the most of Liverpool’s newly relocated and refurbished Amazon studios?

“Amazon wasn’t sorted out when we started. I’m sure we would have done a lot more there, if it had been. We ended up doing quite a lot of the later stuff there, in this tiny room which became known as The Christians Room because we seemed to be there all the time. But again, you don’t need much space, especially when you’re just doing overdubs, so it worked out really well being able to use that room. But »

**Discography**

**Albums:**

**With Yachts:**

- Yachts (*Radar*, 1978)
- Yachts Without Radar (*Radar*, 1980)

**With It’s Immaterial:**

- Life’s Hard And Then You Die (*Siren* 1986)

**With The Christians:**

- The Christians (*Island*, 1987)
- Colour (*Island*, 1990)
- Happy In Hell (*Island*, released 28th September 1992)

**Singles:**

- With Yachts (*Radar*, 1978-80): Suffice To Say
- Box 202
- Santovani’s Hits
- A Fool Like You

**With It’s Immaterial:**

- A gigantic Raft In The Phillipines (1981)
- The Worm Turns (1982)
- Fish Waltz (EP 1983)
- Space (*Siren* 1986)
- Driving Away From Home (*Siren* 1986)
- Ed’s Funky Diner (*Siren* 1986)

**With The Christians (all on Island):**

- Forgotten Town (1987)
- Hooverville (1987)
- When The Fingers Point (1987)
- Ideal World (1987)
- Born Again (1988)
- Harvest For The World (1988)
- Words (1989)
- I Found Out (1990)
- Greenbank Drive (1990)
- What’s In A Word? (released 24th August 1992)

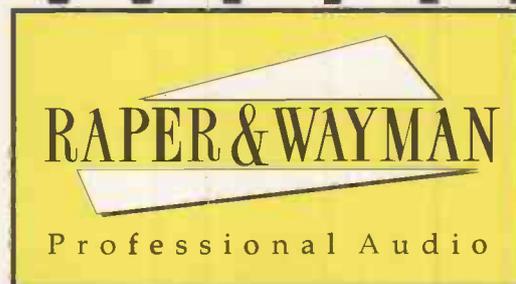
**With Ian McCulloch (as producer):**

- Lover Lover Lover (1992)
- Dug For Love (1992)

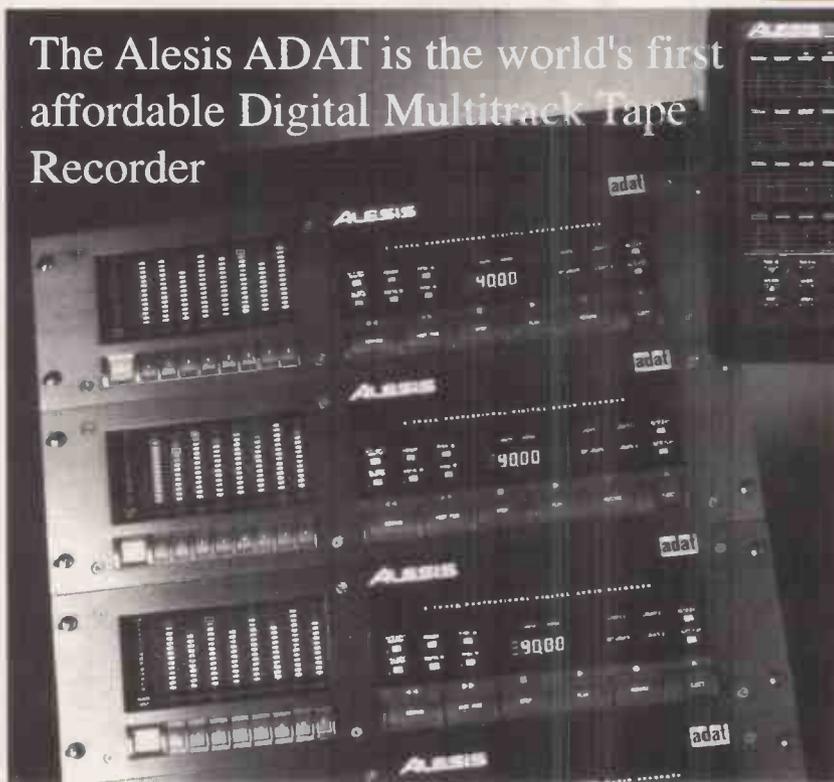
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► the whole studio is going to be great – well, it *is* great, and if we can ever get in there we will. The big room is booked out, which shows it seems to be doing well.”

In the autumn of 1988, The Christians did pretty well themselves. A cover version of the Isley Brothers classic ‘Harvest For The World’ took them to number eight in the charts – which remains their highest singles placing to date. But Henry remains unconvinced of the wisdom of covering songs that are too well known...

“About March last year, knowing it was going to take us ages to do the album, we thought about doing a covers EP to keep things going, and maybe surprise a few people – maybe put a Temptations number on there, and also do ‘Soon I Will Be Gone’ by Free, and a Gil Scott-Heron track ‘The Bottle’. The Gil Scott-Heron idea came up again about a month ago, so we went in and did it, and it turned out so well it’s going on the album. And it sounds like a single, so it could well be single number three or something.

“We wouldn’t have done ‘Harvest For The World’ but for the fact that it was for charity. We are aware of the attitude of people who think you can’t write songs if you put out covers, and I don’t think we’d ever attempt to do another cover that people know so well – only Gil Scott-Heron aficionados are going to know ‘The Bottle’. But with ‘Harvest’ we were specifically asked to do that song, for the animated film. Normally we’d have said no, you can’t touch songs like that, and I still think that. No doubt there’ll be purists who say we’ve ruined ‘The Bottle’, but I think we’ve done a pretty good job, as we did on ‘Harvest’.

“Actually it sounds surprisingly in the same vein as ‘Harvest’, maybe we have a way of approaching cover songs. There’s definitely a pressure that’s taken off you when you do them; we did this latest one in about five days, definitely the quickest track on the album. It just sounded great so it went straight on there.”

The glittering array of top-drawer session musicians which characterised the last album, *Colour*, has not been retained on *Happy In Hell*. Despite the presence of some fine home-grown musicians, there is more of a DIY feel about the album, and not only because of the aforementioned discovery of the joys of sampling.

“I play guitar on most of the tracks, actually. Although it takes me ages, I usually work out something. It might take me a day to get one line, but it would take days to explain to someone else how I want it to go. With enough drop-ins, I can do it. So there’s not so much ‘muso-ness’ on this album – which was a deliberate policy. On the last album, all you read about was, ‘Ah, Manu Katché on drums...’ and nobody discussed what the songs were like. Nothing against that – those musicians were brilliant, but so what? That’s why it’s been good to try out people we haven’t used before, like Harry Morgan on percussion, and the string arranger Peter Whitfield, who we met through the studio in Bury.”

So despite the increased use of samplers, arranging a real string section remains preferable? “Yes, but you can’t always afford it, can you? And some things don’t need it. Sometimes I just can’t tell the difference. Then again, there’s a bit on ‘Father’ where I’m thinking how on earth are we going to do that live – a really manic, meshing of strings. But hopefully the song’s strong enough to stand up without all those embellishments. That always happens when it comes to playing live; you start trading off one hook in order to have another, because you haven’t got enough hands to physically do everything. We’ve got all the cheesy little Cheetah and Casio bits, so it comes down to what you actually listen for in the song, the main thing – rhythm, voices, the odd hook.”

Do I detect a certain frustration with having to play live? “Yes, but you’ve got to gig, otherwise people think you’re not confident with your material – at least that’s

what our record company tells us. I don’t actually like gigging that much, neither does Russell; Gary likes it, but there is that thing if you don’t go out there, that someone will start asking questions. But of course we’re competent, we just can’t be bothered gigging all the time.

“Reluctantly, I do agree that if you’re seen as a live band, it gives you more authority – you’re a real band, you can do it live. But for me it’s just frustrating, the rehearsing, the waiting around; I don’t get that huge buzz when I’m on stage. I’m sorry to say that – no doubt there’ll be Christians fans reading this thinking, ‘What a miserable bastard’. But I’d rather be in the studio. I’d rather be writing. I see myself more as a writer and producer.”

Well, the record company may say playing live imbues you with some kind of authenticity, but the real function of gigging is to promote recorded product. “Of course, I accept that, and we’re quite blatant about saying the only reason we’re touring is because it’s the best promotion for the album. But I still don’t get that huge thrill out of it, and in some ways I wouldn’t mind never doing it again.”

By now, most of the pub has descended into a drunken chorus of ‘We Are The World’, proving that some sections of the Liverpool community are quite happy to do cover versions of anything – and do them live – even if Henry isn’t. But he still has plenty to say, and as we leave the cabaret his enthusiasm remains undiminished.

“Like most songwriters, I get a thrill in the studio. What the technology is doing is making it easier for me, as a hamfisted keyboard player and guitarist, to get my ideas down. I can have loads of goes at getting it right. Otherwise you have to get session musicians in and say, ‘Can you play that?... No, that’s not quite what I meant’. Obviously, I know that some people are better than me at playing guitar, and sometimes you get them in. But I’m pleased to have played a lot of guitar myself this time.

“So technology is great as a songwriting tool, and the idea that you can do so much at home before you get into the expensive studios – where all you’re paying for is time – I think is great. Obviously it can be abused, but I’m not worried, because the song will out. There’ll always be songwriting; it’s not suddenly going to go away. That’s why I don’t jump on the pessimistic bandwagon. Look back 15, 20 years: there was plenty of nonsense around then, too. But you don’t remember that, you just remember Isaac Hayes, The Temptations, all the funk going on, and then a few years later the Punk thing, Television, Talking Heads... You just think of the good things, but don’t forget that there was loads of crap around then as well, and there always will be loads of crap around. And, of course, Neil Young’s been around forever!

“In a way the increasing sophistication of sequencers does make it harder to come to decisions; there’s sort of no final version of anything, you can always say well, I can change that, or we’ll run the drums again... but I try to look on the positive side. If, in the past, you put the drums down first, then that was it, you were stuck with them. But what happens if you then come up with a great rhythm that doesn’t work with those drums? I think it’s great that you can run the drums again and again. It’s down to discipline and knowing your craft, basically; knowing when the song is finished. I know the album appears to have taken a long time, but we haven’t been trying to get every note perfect. If anything, we’ve tried to be more ragged on this album – using bits from the demos, as I said before, when it was more spontaneous, when it was more relaxed. So it’s knowing when a song is finished. We are learning our craft, and we’re getting better at it.”

Getting better all the time – as that other Liverpool band might put it. ■

*“Like most songwriters, I get a thrill in the studio. What the technology is doing is making it easier for me, as a hamfisted keyboard player and guitarist, to get my ideas down”*



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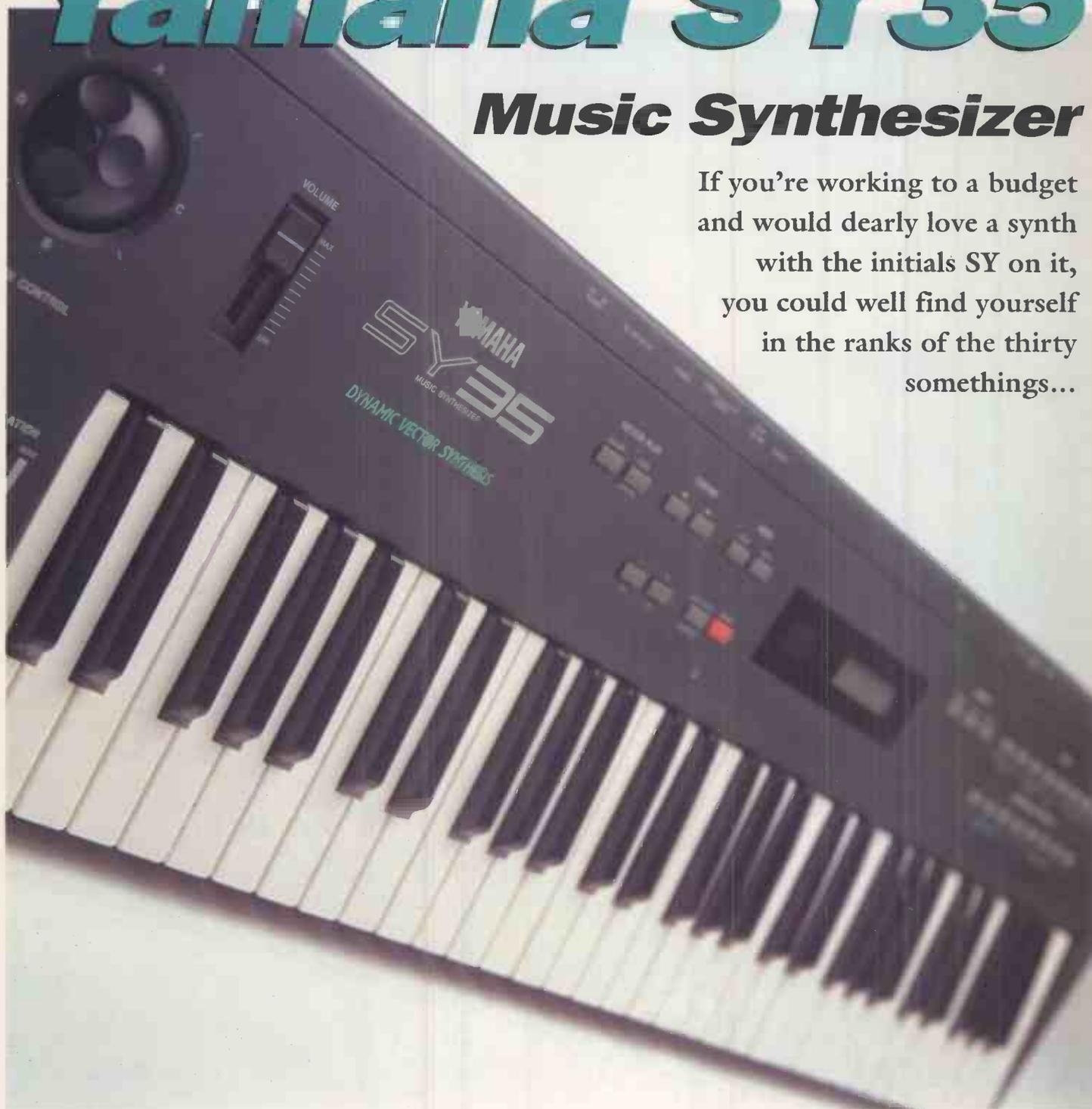


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# Yamaha SY35

## Music Synthesizer

If you're working to a budget and would dearly love a synth with the initials SY on it, you could well find yourself in the ranks of the thirty somethings...



Photography: James Cumpsty

Yamaha's SY35 is just the latest in a long and prestigious line which began with the legendary DX7. The immediate descendants of that model – the DX21, DX27 and so on – were more affordable, and in that same tradition, the SY35 is to some extent an entry level synthesizer.

However, the considerable flexibility of this new instrument derives from the fact that AWM (Advanced Wave Memory) as well as FM synthesis is on offer, and the

amount of AWM memory available is in fact pretty enormous. The SY35 has approximately twice the ROM wave memory of its immediate predecessor, the SY22, including 128 preset AWM and 256 preset FM waveforms, 64 preset voices in ROM, and 64 user-programmable RAM memories. There are 16 programmable Multi memories to store split or layered sounds and 15 preset Multi sounds featuring additional splits, layers, and multiple MIDI channel setups, as well as one setup used purely for an internal demo tune. >>

**Text by  
Chris  
Jenkins**

►► Additional sounds can be recalled using MCD64 or MCD32 RAM memory cards (which start at about £50), and each of the SY35's sounds can use two or four elements – one FM and one AWM, or two of each. The two-line LCD display shows a colon between sound number and sound name for two-element sounds (which are 16-note polyphonic) and uses an asterisk for four-element sounds (which are eight-note polyphonic).

The SY35 also features the Dynamic Vector Synthesis (DVS) system already familiar from the SY22 and originated by Sequential Circuits on the Prophet VS. One niggling problem on the early FM synthesizers was always the lack of a conventional envelope-controlled analogue filter, so handy in setting the overall tone of a sound and varying this through the course of a note. Of course, there is an



### Effects List

- Reverb Hall
- Reverb Room
- Reverb Plate
- Reverb Club
- Reverb Metal
- Short Single Delay
- Medium Delay
- Long Delay
- Doubler
- Ping Pong Delay
- Panned Reflections
- Early Reflections
- Gate Reverb
- Delay/Reverb 1
- Delay/Reverb 2
- Distortion & Reverb.

alternative to altering the filter setting during the course of a note – choose two different waveforms with audibly different tones, and fade from one to another as the note progresses. This is exactly how DVS works, the SY35's Vector joystick defining the mix of waveforms and the Dynamic aspect indicating that the mix can be changed during the course of a note.

To hear the effect of DVS, pick a complex sound such as 'Internal 77; Space' and hit the Vector Play button. Once activated, the vector joystick can control either volume or tuning of each sound element. Move the joystick – up and down only for two-element sounds, left and right also for four-element sounds – and you'll hear a crossfade from one element to another. It's possible to record the way the joystick moves during the course of a note: in the Voice Vector Edit Mode you're given a choice of rates at which the joystick's movement is scanned, and simply playing a note and moving the joystick creates a new vector. If you don't like the effect, try another, and when you're happy, go through 'Store Voice' to save the new vector along with the current voice.

Since the dynamic vector always consists of 50 recorded positions, you need to set these to come close together for good definition on short sounds (say at 10ms intervals), or far apart on longer sounds (say at 50ms intervals). It's possible to edit each of the 50 recorded vector positions in terms of volume or pitch individually after recording.

Many, but by no means all, of the SY35's factory sounds use the DVS. There are eight Bank and eight Number buttons which select 64 Internal and 64 Preset sounds, and these are mostly arranged in logical groups. Presets include eight pianos, eight electric pianos, eight brass sounds, eight strings, eight basses, eight wind instruments, eight guitars and eight chorus sounds; the general character of each sound is identified by a two-character prefix, such as AP for acoustic piano, KY for keyboard, WN for wind and so on.

In the Internal voice list, which comprises editable RAM sounds, you'll find eight synth pads, eight synth 'comp' sounds, eight leads, eight organs, four brasses and four strings, eight sound effects, eight spacey 'musical effects', six percussive sounds and two drum kits. On the review model, the final drum kit had been replaced by a rather ordinary electric piano, giving the initial impression that there were no drums on the machine. There are certainly none used in the internal demo, which while it has a very pleasant selection of guitar and string passages, arpeggios and harmonica-like lead lines, doesn't have the impact of some of the demos we've become used to in recent years.

In fact, the drum kit, when you find it, is pretty impressive – apart from straight and processed bass and snare drums and toms, there are plenty of percussion sounds, several voice-based effects, and some pretty hip percussion voices such as fast scratching, metal clangs and so on.

So what are the SY35's sonic strong and weak points? The basic pianos are pretty good, with no noticeable looping or octave transition problems, and the strings are quite decent, with a particularly impressive tremolo ensemble – an effect most synths don't seem to attempt. Basses and woodwinds are good, but some of the guitars such as 'Gypsy' are a little thin, and the rock guitars with added distortion are pretty ordinary. More on the effects later.

Synthy sounds in the Internal section are also reasonable, with a good selection of thick, detuned analogue imitations such as 'Brash' and 'Sand'. Lead line sounds are surprisingly good too, perhaps because they use 'genuine' analogue waveforms such as square and sawtooth waves doubled up in patches such as 'Power' and '2 VCO'.

It's also possible to find sounds more typical of current 'sampler' synthesizers – inevitably rather short orchestral hits, a fairly basic sax, bells and other metallic sounds. Lovers of the bizarre will be pleased to hear that the Sound Effect bank includes wacky presets such as the pitch-bending 'Go Up!' and the even more cryptic 'and >?', which, as its name suggests, is pretty indescribable.

Does the SY35 have any real sonic weaknesses? Since it can produce decent analogue chords, some metallic digital stuff, good synth lead lines and weird spacey effects, it ►►

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Akai PM76 Module	£499	£479	Yamaha FX500	£299	£289	Tascam Porta 05 Hi Speed Porta Studio	£299	£295	Crate B40XL 40w 1x10 Bass	£319	£309														
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Yamaha SY35	£599	£549	Art Multiverb LT	£179	£149	Yamaha DTR2 DAT (new product)	£950	£929	Trace Elliot GP12x graphic pre amp	£375	£370														
Yamaha SY85	£1399	£1325	Boss DRP II Drumpad	£55	£45	Tascam DA30 DAT	£1195	POA	Trace Elliot RA300 Power amp	£425	£420														
Yamaha TG100 Sound Module	£349	£339	Boss SE50 Multi FX unit	£349	£339	Teac DAP20 DAT (new product)	£586	POA	Trace Elliot 1048 4 x 10 cab	£499	£494														
Yamaha TG55	£449	POA	Boss AW2 Autowah	£55	£53	Casio DA100	£549	£499	Trace Elliot 1518 1 x 15 cab	£475	£470														
Yamaha TG33	£349	POA	Boss BF2 Flanger	£96	£94	Casio DAT	£359	POA	Fender Twin	£699	£690														
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Roland JW50 Workstation	£1349	POA	Boss CH1 Super Chorus	£69	£67	Yamaha NS10M Speakers	£129 each	£115 each	Fender Studio 85	£289	£285														
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Roland D70 Super LA Synth	£1349	£1349	Boss PS2 Pitch Shifter	£127	£125	Marshall 8080 80w combo	£320	£320	Carlsbro Stingray 65 Lead Combo	£228	£210														
Roland PC200 Mother Keyboard	£235	£199	Boss PH2 Super Phaser	£79	£77	Marshall 8040 40w combo	£259	£259	P.A.																
Roland E70	£1299	POA	Boss SD1 Super Overdrive	£47	£45	Marshall 8020 20w combo	£185	£185	Marshall PA 400w	£585	£585														
Roland E15	£499	POA	Boss FC50 Midi foot controller	£125	£123	Marshall 8010 10w combo	£94	£94	Marshall 1 x 12 plus Hom Cabs	£147	£147														
Roland E5	£390	POA	Digitech "The Vocalist" VHMS	£899	£879	Marshall 8001 10w micro stack	£180	£180	Marshall 1 x 15 plus Hom Cabs	£147	£147														
Korg O1/FD	£1795	POA	Digitech GSP21 pro (S/H)	£495	£495	Marshall 8004 40 + 40 stereo power amp	£182	£182	Hughes & Kettner Stagehand 240w																
Korg O1	£1695	POA	Digitech DSP128P	£299	£279	Marshall 8008 80 + 80 stereo power amp	£229	£229	PA Mixer Amp	£699	POA														
Korg WS1 Wavestation	£1299	£1275	Digitech DSP16	£275	£249	Marshall JCM900 hi-Gain Master Volume			Hughes & Kettner 1x12 Cabs (pair)	£399	POA														
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Ultimate support stealth stand	£63	£60	DOO 7 band EQ	£65	£63	Marshall 2101 100w valve 1 x 12 combo	£520	£520	Carlsbro GRX7 Mixer Amp	£469	£449														
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**FM Voice List**

E Piano	1-6
E Organ	1-8
Brass	1-14
Wood	1-8
Strings	1-7
Vibes	1-4
Marimba	1-3
Bells	1-8
Metal	1-6
Syn Lead	1-7
Syn Sust	1-15
Attack	1-5
Move	1-7
Decay	1-18
SFX	1-7
Sine	4'/8'/16'
Sine	2'/2 2/3'
Saw	1&2
Square	
LFO Noise	
Noise	1&2
Digi	1-11

**AWM Wave List**

Piano	1-5
Organ	1-4
Brass	1-7
Wood	1-4
Guitar	1-8
Bass	1-10
String	1-5
Vocal	1-3
Perc	1-9
Synth	1-10
SFX	1-9
Hits	1-6
Tran	1-9
OSC	1-29
SEQ	1-8
Drums	

► would appear the perfect all-round synth keyboard. And that's true to an extent, but the bottom line is that none of these sounds is quite as impressive as on more expensive rivals. Some of the sampled waves are short, there's a certain sterility and lack of movement in many sounds despite the use of DVS, and above all, the effects are not all they could be.

Most modern synths rely on the quality of their effects, and never have quite the same impact when these are turned off. Obviously this can lead to problems if you decide that the sound you're using is wonderful except for the chorus, and then find that it's pretty dull without it. Where the SY35 is concerned, there are no amazing 65-second reverbs to be found and the sixteen basic effects are not editable except in terms of level, which can be limiting. On the other hand it's pleasing to discover that a synth in this price range has any effects at all.

As you'll see from the accompanying list, the range is pretty comprehensive, but there are limitations; if you want distortion followed by echo for a guitar effect for example, you can't have it, and adjusting a delay to work in time with a particular piece of music isn't possible either. Reverbs are of reasonable quality, if a little short, and though generally programmed at fairly low level, you can always increase this on the RAM sounds.

**S**o what else can you do to edit and improve your own sounds? The first major editable parameter for single mode sounds is Configuration and this offers two-element sixteen-note polyphonic playing, or four-element eight-note polyphonic playing. The pitch bend range can be set for each patch, and aftertouch and modulation wheel can be set to amplitude, pitch, or both.

Although detailed editing of envelopes is possible, there's also a quick Attack and Release adjustment display, as well as an unusual and potentially useful Random Element setting. This offers a random selection of waves, levels or detune settings each time the Yes button is pushed, coming up with two or four randomly chosen waves depending on whether the sound being edited is in two-element or four-element mode.

All elements involved in a sound can be edited individually, and of course the most important aspect of each element is which preset wave it uses. Although the AWM waves are, as discussed above, generally fairly decent, the many FM waves are rather thin, and quite unlike the powerful six-operator synthesis of the DX7.

Four- or even two-op synthesis seems to be the order of the day, and the actual editing that can be carried out on FM waves is pretty limited. In fact, the only parameter available apart from envelope control is called Tone, and this simply

changes the feedback level of the loop in the FM synthesis algorithm. Generally this will make waves sound brighter and harsher when set to higher levels, but the effect is different for different waves.

It's possible to copy all the parameters of a voice element from one sound to another, as long as AWM parameters are copied to AWM elements and FM to FM; it's also possible to shift the frequency of each element in a voice up or down 12 semitones and alter the volume, pan and velocity sensitivity of each. The keyboard's LFO can control amplitude or pitch modulation using triangle, saw up or down, square or sample and hold (random) settings, and of course, can be introduced either by aftertouch or using the modulation wheel. A delay can be set before the LFO effect is introduced, together with the rate at which the effect then appears, and of course the LFO's speed is programmable.

Editing envelopes is not too difficult – you can stick with the envelope originally programmed for each sound, which is referred to as the Preset Envelope, or switch to Piano, Guitar, Pluck, Brass, String or Organ envelopes. If you need something more specific, go to the User Envelope and you can program a Delay before envelopes begin, an Initial Level, Attack Level and Rate, Decay 1 Level and Rate, Decay 2 Level and Rate, Release Rate and Level Scaling (to determine how the level of the current element changes in different areas of the keyboard).

The Level Scaling display is accompanied by cute little LCD drawings of the 16 available curves – offering sounds louder at the top or bottom of the keyboard, cutting off suddenly towards the middle, or fading gradually in and out around Middle C (C3 – handily marked on the front panel).

Obviously this sort of facility comes into its own in Multi mode, which allows the SY35 to assign 8 different voices to different MIDI channels. Any voices which are assigned to the current MIDI Send channel of the SY35 can also be played from its keyboard – although you also have a Local Off option if you only want the keyboard to control external modules.

Multis can be given an eight-letter name and use any one of the sixteen digital effects with variable depth. Preset, Internal or Card voices can be used in Multis, and the MIDI Receive channel, Volume, Detune (plus or minus 50 cents), high and low note limit, and semitone shift (plus or minus 24) can be set for each voice.

Preset Multis include layered orchestra, layered harpsichord and strings, powerful brass, layered strings and choir, and bass/piano splits all with the same MIDI channel, and multi-MIDI channel splits for pop, rock and jazz composition. Reprogrammable Multis include layered backing pads, spacey multi-layers with names like 'Mikado', 'Prologue' and 'Epilogue', and a bass/synth lead split.



**Info**

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There's also a selection of Utility parameters many of which remain in memory when edited – Master Tune, Master Transpose, Save/Load/Format/Bank Select for memory cards, Voice Initialise, Multi Initialise, Memory Protect, Factory Voice/Multi Restore, and a handy Recall Mode which lets you bring back the last voice or Multi setup as edited in the buffer memory if you forgot to save it – even if you've been playing other setups in the meantime.

MIDI utilities are as expected – Basic Receive and Transmit channels, Local Control, Pitch and Modulation, Aftersound and Prog Change Send On and Off, System Exclusive Send On/Off for patch dumping, and options for transmitting all or single voices by Sys Ex.

As usual, Yamaha's documentation is excellent, with a 40-page 'Getting Started' manual, a 60-page 'Features' manual and an Edit Reference/Waveform List card included with the synth. Physical features of the instrument hold no surprises – at 7kg it's pleasantly lightweight, the five-octave keyboard is smooth, sprung pitchbend and unprung modulation wheels pretty standard, rubbery pushbuttons pleasant enough, and back panel provision of MIDI In/Out/Thru, Sustain, Volume, Stereo Out, 12V power, Phones and Card sockets unremarkable. Of course, there are some disadvantages to having a synth powered by an external PSU, but this does help to keep the weight of the keyboard down.

One slightly unexpected feature of the SY35 is what Yamaha refer to as "Overlapping voice selection" and what others refer to as dynamic voice allocation. In other words, currently sounding or held notes will continue to sound when you select a new voice. This was not implemented on Roland keyboards until the JV80, but is standard on Kurzweils and Ensoniqs. Apart from avoiding unpleasant glitches when you change voices during performance, it allows you to hold a drone chord with one sound and change to a new sound to play a melody over the top – quite invaluable. In eight-note Poly mode or in even less polyphonic Multi modes however, voice allocation is not particularly clever, and is perfectly prepared to cut off a held note when you exceed the number of voices currently available.

As should be obvious from the general tone of this review, the SY35 is not the kind of synth which excels in any particular area. But of course, that needn't be a real disadvantage providing the machine does a little of everything. And this is indeed the case. Included are some typical FM effects, some nice analogue-ish pads and leads, some samplid sounds, some digital-ish vector synthesis effects, a reasonable stab at multi-channel MIDI composing facilities, reasonable drums, a good balance between full editing facilities and the simplified systems demanded of an entry level synth.

For a velocity and aftersound sensitive synth with sensible pitch bend and modulation wheels, which could happily become the centre of a small composing setup, the price is not too distressing either. No doubt the SY35 will sell in very respectable quantities to first-time synthesists or those looking for an inexpensive all-rounder. Don't expect it to set your musical world on fire, but it should give you a great deal of fun...

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## Heavenly Music's Beat 'n' Bass

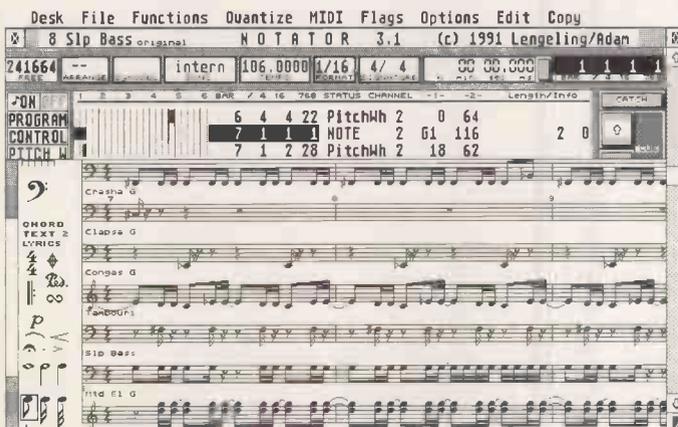
Text by Ian Waugh

Heavenly Music, the folks who brought you Dr Beat, Ram Jam and other sundry MIDI files now bring you Beat 'n' Bass – a collection of drum, bass and guitar grooves in MIDI file format. There are 50 patterns in total, all very modern, including Rock, Dance, Disco, Funk, Soul and even some Tangos (OK, perhaps not all of them are modern). And though some do not feature a guitar track, a lot do.

The patterns vary in length, some are 12 or 16 bars long but others are over 50. I find long patterns much more useful than those of one or two bars as you can loop sections and extract, cut, copy and paste together the bits you need much faster and easier.

All the instrumental parts (that is the bass and guitar bits) are in the same key. Now wading through 50 sets of patterns all in the key of G can cause severe ear fatigue, but the object of the exercise is to transpose sections of the patterns into suitable keys to follow the chord progression of your tune.

The way to work, I'd suggest, is to concentrate on the drum track. Get that to fit your tune first then transpose the instrumental parts and finally edit them. I know a lot of people actually work out the drum track first and build a song around it – but each to his own. The point is, if your rhythm programming isn't quite as accomplished as you would like, these



The Boogie Dance file showing heavy Pitch Bend Wheel twiddling in the Slap Bass part.

will save you a lot of time and effort. Same goes for your bass and guitar licks.

As with other Heavenly Music disks, all the parts have been carefully 'fine tuned', quantised where necessary and blissfully humanised where it counts. There are a couple of demo files to put you in the mood, but they don't really show the full potential of the system.

There is a comprehensive Read Me file on the disc which includes a drum map; Heavenly Music favour Roland's U220, although the files are mapped to the MT32. The drums are on channel 10, but you may have to select suitable channels and/or instruments if you have different gear.

And the patterns? Yes, they're grrrrreat! I can see me nicking one or two the next time I'm in a hurry. Well, no one's perfect...

**Info:** Price: £19.95

More From: Heavenly Music, 39 Garden Road, Jaywick Village, Clacton, Essex, CO15 2RT.  
Tel: (0255) 434217, Fax: (0255) 430699

## Alfa Data Optical Mouse

Text by Vic Lennard.



Having mice always causes problems – ask anyone who's got one. The switches pack up and the small rubber ball picks up dust and dirt and happily deposits it around the internal rollers making the movement as smooth as treacle. No matter how often you take it apart and clean it, the problem re-occurs. It's an unavoidable fact of life.

Or is it? There are mice without balls – and Alfa Data are one of the companies that have developed one. The two rollers which are normally used to translate mouse movement into cursor motion on the screen have been replaced by a couple of LEDs which are situated underneath the mouse. The light beam from these is reflected off the special mat, included with the mouse, and picked up by a sensor. Obviously, less moving parts are used, so there is less to wear out.

The mouse mat is a sturdy, plastic-backed affair which should stand up to extensive use. With a resolution of 300 dots per inch, the Optical Mouse causes the cursor to speed back and forth across the screen and as long as good contact is made with the mat, the movement is very smooth. The other advantage of not using a ball-operated mechanism is that it is practically impossible to make it 'skate' – a problem that often occurs when you move a conventional mouse very quickly and the cursor on-screen doesn't keep up.

The switches are of the high-quality micro-switch type and produce a very positive 'click' when pressed. They *should* last for years – the manufacturers rate them at one million operations. The overall design of the mouse ensures it fits very nicely into your hand with none of the squat, box-like feel of most mice. And with six feet of cable, you can happily position it wherever you wish.

The Alfa Data mouse may be used with either the Atari ST or the Commodore Amiga – a switch on the base selects between the two – and the package also includes a mouse holder which can be fixed to the side of your monitor. The price is about double the cost of a standard mouse, but remember, the longevity of the Optical Mouse is likely to be measured in years. The manufacturers certainly seem to believe so; they provide a two year warranty. Go on, treat yourself!

**Info:** Price: £29.95

More From: Alpha Data, Unit 2, Millmead Business Centre, Millmead Road, London N17 9QU. Tel: 081-365 1151, Fax: 081-885 1953



## Volume 1 - Pascal Gabriel's Dance Samples

Pascal Gabriel is one of the leading lights on the current dance scene. He has worked with such well-known names as **Bomb The Bass**, **S-Express**, **Coldcut**, **Jimmy Somerville**, **Erasure**, **EMF**, and many more. This CD is different to any other available. It is NOT A COMPILATION of sounds from last year's records, but a resource of new sounds to help you make the HIT RECORDS OF NEXT YEAR. People are describing it as 'fabulous', 'fresh', and 'superb value'. In the past a library like this would take years to build-up and a huge amount of work and skill to achieve. Now it can be yours in days for only £49! - Why wait! ■ "...house gold dust...breaks new ground..." - MT, Dec '91. ■ "...off-beat, quite distinctive, and highly usable. Better still you almost certainly won't have heard them before...useful and memorable...a revelation...uniformly excellent...the basis for many a hit." - SOS, Jan, '91. ■ Used by **Pet Shop Boys**, **Propaganda**, and **Technotronic** ■ Loads of Drum & Percussion Loops & Breaks ■ Guitar Hooks and FX ■ Vocal Riffs & Effects ■ Hits, Scratches & Drop-Ins ■ Countless Snares and Kicks ■ Synth FX & Bases ■ Brass & String Hits, FX and Runs! ■ Film & Media Snatches ■ **Orchestral Effects** ■ And Much, Much, Much More! ■ Over 1000 Samples, 72:23 minutes



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## Volume 3 - Dancin' Dave Ruffy's Drum Samples

There are a number of drum sample CDs on the market. Their quality varies, we felt they were all somewhat out of touch with current trends in drum sounds. This CD is the result of exhaustive recording sessions with top session drummer David Ruffy and features modern acoustic drum sounds. Dave's worked with some of the best in the biz - **Sinead O'Connor**, **Mica Paris**, **Yazz**, **Nenah Cherry**, **Alison Moyet**, **Aztec Camera**, and **World Party** to name but a few. Not only does this CD feature what we believe to be the finest and most modern set of drum samples - but also some brand new loops that are really far too good to make so widely available. If you've a sampler and you ever use drums - you need this CD! ■ "Recording quality is good...patterns employed cover a wide range of styles...He more or less has a beat for all seasons, including emulations of many commonly used breaks, and there are no copyright problems." - SOS, May 92. ■ Over 263 hits and 140 loops, 70:53 minutes ■ Snares, Kicks, Hats, Toms, and Cymbals ■ Performance Velocities - 4 or more! ■ Miking Variations ■ Modern Usable Drum Sounds ■ RSS Samples ■ PLUS over 140 brand new hot drums loops - too good to sell! ■ Live & Sequenced Loops! and Much More! ■ Superb value at Just £49!



## Volume 4 - Coldcut's Kleptomania! Volume One

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Pete Gleadall's worked with the very best - **Pet Shop Boys**, **George Michael**, **Aswad**, **Soul II Soul**, **Living In a Box**, **Sly & Robbie**, and loads more. We were honestly expecting his sounds to be extremely solid, but perhaps a little 'boring'. You know really good synth sounds, drums, etc. but not the kind of thing that most people find instantly exciting. How wrong can you be? Of course we still have the great synth **bases**, **pads** and **leads** from **MKS80's**, various **Moogs**, **Prophet V's**, etc. but on top of this there are loads of really choice **drums and percussion loops**, a phenomenal collection of really **kicking guitar samples**, amazing **string sections**, **hits**, **gospel choirs**, **house pianos**, **Brass**, **FXs**, **Sub-bases**, and more! All this for the amazingly small sum of £49 fully inclusive.



## Volume 6 - Norman Cook: Skip to my Loops

**Beats International's** Norman Cook has remixed such household names as **James Brown**, **Fine Young Cannibals** and **Double Trouble** aside from producing a string of hits, including international number ones, in his own right. Along with Coldcut's and Pascal Gabriel's CDs, this CD completes AMG's unholy trinity of dance samples. A massive selection of tempo-grouped, **totally devastating drum and percussion loops** project this CD into totally uncharted territory. Loops range from 84 BPM to obscenely fast and are complemented by a sensational collection of **vocal ad libs**, **FX**, **Bases**, **Drum & Perc. Hits**, **Guitar**, **Reggae**, **Flute**, and **Synth** samples plus loads more. Pascal, Coldcut, Norman - Great, Smashing, Super. Each unique and perfectly formed volume complements the other - totally different, uniformly original. If you require the best - there's no alternative. ■ Over 70 minutes of samples ■ Just £49 fully inclusive.



## Volume 7 - Neil Conti's Funky Drums from Hell

Neil Conti may be familiar to you as **Prefab Sprout's** drummer but he is also one of the UK's most respected session drummers and a main mover behind London's Backstage jam sessions at the Borderline. He has worked with the likes of **David Bowie**, **Robert Palmer**, **Annie Lennox**, **Primal Scream**, **Thomas Dolby**, and many more. ■ This CD was specially recorded by Daniel Lazarus at London's famous **Metropolis Studios** and features some of the most serious breakbeats ever recorded. ■ These drums breaks have **real attitude** and are sure to become **classics**. ■ The CD also features **specially extracted single hits** that you can use in perfect context to customise breaks for yourself plus a selection of much sought after **hi-hat patterns** to inject a human touch into any production. ■ Funky Drums from Hell should be available by the time you read this for just £49 fully inclusive.



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### Why are Producer Series CDs the BEST?

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To get your copy of 'Now that's what I call Sampling!' simply order any product currently held in stock by AMG and we will supply your order along with your free copy of 'Now that's what I call Sampling!'. This offer is applicable against any sampling CD, synth card, software, expansion, etc. order but NOT MIDI sequences. AMG reserve the right to reject any order. One one CD per household. Any customers who have already ordered 'Now that's what I call Sampling!' should contact AMG to arrange for their FREE copy. Enjoy your CD!



HitMusic's Producer Series Sampling CDs are well-known as market leaders. Their Synth sounds have been equally popular and successful whilst being marketed as Valhala's® International Gold® Series. Now the existing cards have been refined, re-packaged, re-priced and relaunched by HitMusic as the SoundFoundation range of cards. HitMusic's sounds are used by such well-respected names as **Vangells, George Michael, Pet Shop Boys, Talk Talk, Mike & the Mechanics, Midge Ure**, and more. Their first cards earned a reputation for unparalleled quality their new cards are sure to maintain.

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\* Please note these sounds have previously sold as International Gold® cards - please be careful to avoid buying the same sounds twice. Please call to check if you are in any doubt.

## SoundFoundation PCM Cards at LAST!

AMG are pleased to announce the release of **brand new PCM Cards** for the Roland U-Series and D70 - **The Classic Collection from the SoundFoundation**. Here's the first 10 titles, more will be forthcoming (also R8 format). Please call for more details or to let us know what new cards you would like to see. All cards are £59 each fully inclusive and should be available in the very near future.

- TR Drum Classics +** - Classic Beatbox samples.
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  - Sample Waves Classics** - A wide selection of short waves ideal for the D70.
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  - Classic Dance FX** - Hits, Scratching, Hooks, DJ FX and more.
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  - Classic Dance Drums** - Hard and Happening Drums for the 90's.
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# WIN!

## A Mackie 1202 mixer and Novation

Yep, it's competition time again. This month we're giving away this wonderful little twelve channel Mackie mixer and the excellent Novation MM10 MIDI Controller keyboard. A neat combination, you have to agree, and they're both up for grabs by the first correct entry drawn from the Editor's hat (...it's a big one).

### The prizes

The arrival of Mackie onto the mixer scene over the past twelve months or so has been greeted with enthusiasm by everyone who has heard one of their superb range of mixers. With eight channels and twelve mic/line inputs, two band EQ on all channels and two auxiliary send/returns, the 1202 would make an ideal desk for small home set-ups or as a keyboard mixer for recording or live work.

If you read our very favourable comments about the Novation MM10 portable MIDI keyboard in last month's issue, you'll know what an excellent controller it would make in any small MIDI system – particularly for those using the Yamaha QY10 Walkstation. Battery or mains powered with a 25-note keyboard, pitchbend and modulation controls, the MM10 is straightforward to use and easy to program.

### How you can win

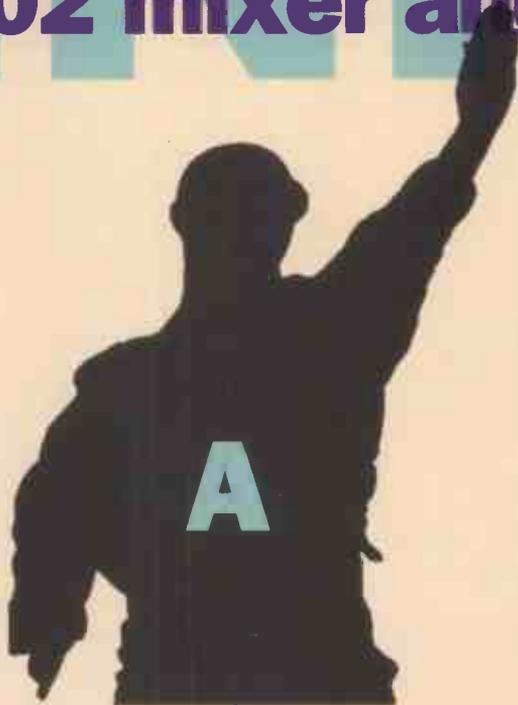
By way of a contrast to the usual list of questions, we decided to opt for something a little more visual. As you can see, there are five 'silhouettes' reproduced here – all of them taken from photographs of artistes featured in *MT* this year. What you have to do is identify who the artistes are. That's simple enough isn't it? And this month, we're not even setting a tie-breaker. The winner will be the first correct entry drawn from the hat on Thursday 1st October, 1992.

When you think you know who these five mysterious shadows are, simply fill in the attached coupon (or write your answers on a post-card, if you prefer not to cut the page), fill in your name, address and telephone number (if you have one) and send it to:

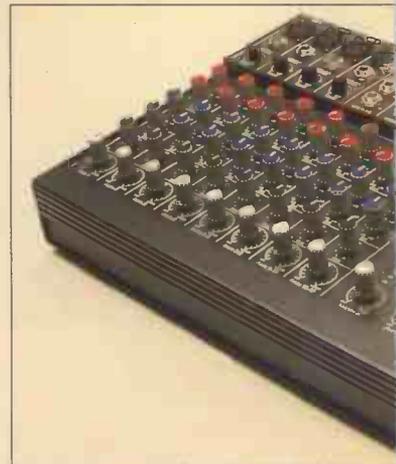
**Mackie/Novation Competition**  
**Music Technology**  
**Alexander House,**  
**Forehill,**  
**Ely,**  
**Cambs,**  
**CB7 4AF.**

All entries must be received by 2nd post on the 1st October 1992. Only one entry per household will be permitted and the Editor's decision will be final.

Good Luck!



**August 1992**



**February 1992**



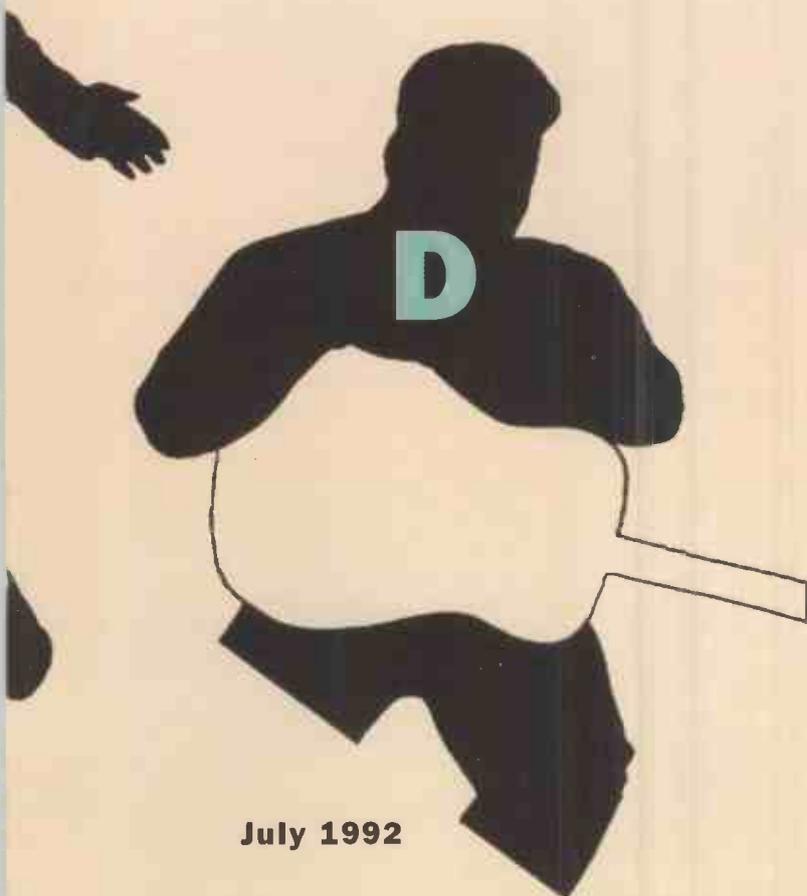
**January 1992**

# n MM10 MIDI keyboard controller



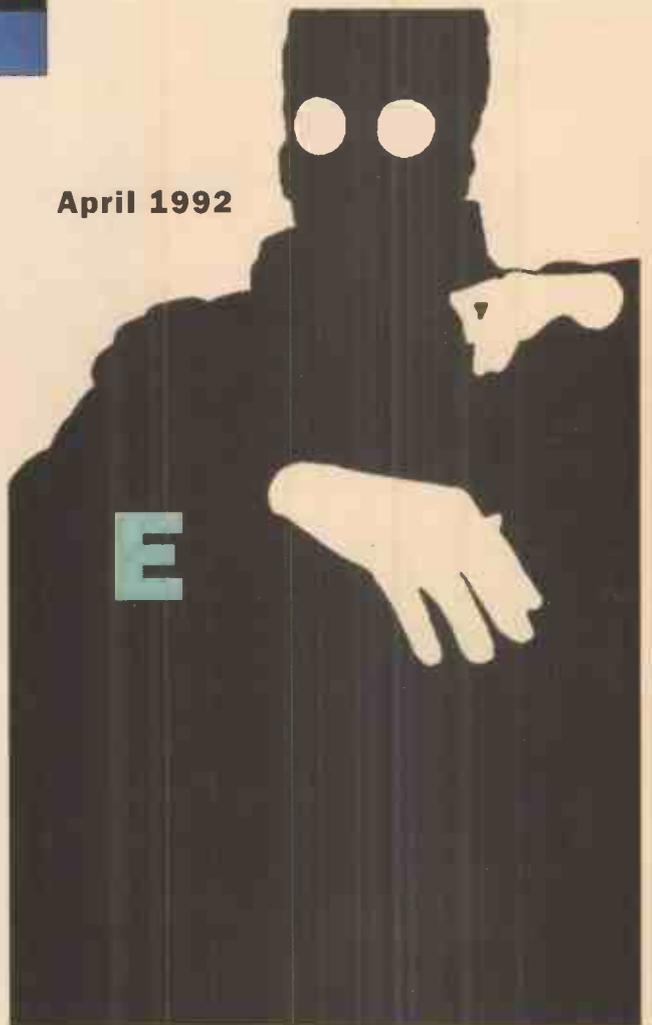
Yamaha QY10 not included

A	Artist.....VINCE CLARKE.....
B	Artist.....FELTON PILATE.....
C	Artist.....JOE ZAWINUL.....
D	Artist.....RONNY JORDAN.....
E	Artist.....LARS TRENTØKLAARSKUL.....



July 1992

April 1992



### MasterBits Sampling Collection

**Sampling Collection 500** - M1 - D50 - K1 - K5 - K1000 - MiniMoog - TR808 - HR16 - Linn 9000 - Plus!  
**Sampling Collection 600** - MicroWave - T1 - Proteus - K4 - VFXsd - VS - Xpander - Plus!  
**Sampling Collection 700** - WaveStation - SY77 - SY22 - TR909 - TR806 - Prophet V - Eika Synthax - Plus!  
**Sampling Collection 800** - VFX - PX1000 - HX1000 - R8 - Matrix 1000 - MKS70 - Plus!  
**Sampling Collection 900** - Just Released! - Emu ProCussion - JD800 - SY99 - 01/W - Plus loads more!  
**Sampling Collection 1000** - Coming Soon - Kurzweil K2000 - Extended JD800 - Plus!  
 Each volume costs £29. Buy the set of five for just £125.

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**Climax Collection Volume One** - Just Vocals - 664 Samples - A range of vocalists and styles featured - from Motown to Opera! Sustained, Percussive & Freestyle Vocals.  
**Climax Collection Volume Two** - Classic - 551 Samples - Orchestral samples recorded with the Gothenburg Symphony Orchestra. Typically 3 performance styles from every instrument in the Orchestra, full range of pitches at intervals of a minor third.  
**Climax Collection Volume Three** - Guitar - A wide range of guitar samples including HM and Soul, Single notes plus highly processed licks.  
**Climax Collection Volume Four** - Grooves - New! - 280 New House, Dance, Rap, Funk and Techno Grooves.  
 Each volume costs £45. Buy all three for just £120.

### Uberschall Collection

**Volume One** - Guitar samples from hard rock to funk - Synths - Samplers - Mellotron - Holophonic effects and much more - 787 samples.  
**Volume Two** - Drums - Holophonic samples - percussion - FX - Synths - 921 samples.  
 Each volume costs £45 or buy both for just £80.

### MasterBits Special Editions

**Klaus Schultze Sampling CD**  
 Numbered Limited Edition featuring countless rare synths plus RSS samples Over 25 years of synthesis! £75.

### DANCE SERIES 1 by Megamidi

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

### AudioQuest SAMPLE IT!

Breaks, Grooves & Rhythms 1 & 2 - Superb selection of newly created loops that sound as if they're off vinyl! Volume 2 features TR-Loops and Kraftwerk-style electro loops! ■ Sample Wave Sounds & Textures 1 & 2 - Prophet VS, Vocoder samples and more. ■ Classic Synths & Beatboxes 1, 2, 3 & 4 - Featuring such classics as the Jupiter 8, MiniMoog, Prophet V, TR808, TR909, and many many more. Call for details on each volume. ■ FX's & Bizarre Samples! & 2 - A collection of natural and synthesized effects - sonic icing for your music. ■ £39 per CD

### HitSound CDs - £35 each or £70 for the set of three

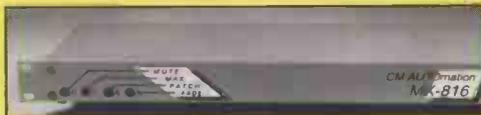
**Volume One - Pure Gold Synth** ■ assorted pad and atmosphere sounds include some stunning textures, and these are complemented by a superb range of bass sounds, and some quite surprising, quirky sounds dotted around... All in all, a good mix of high-class bread and butter sounds with a hefty dose of sonic icing on top. - SOS, Sept 1991 ■ 490 of the best samples in Valhalla's International Gold Series from WaveStation, T-Series, D70, M1, VFX, SY77, SY55, D50 and More!  
**Volume Two - Old Gold Synth** ■ This volume is a (Gold)mine of glorious sounds that, whilst certainly biased towards dance music, should be useful to anyone with a sampler and a little imagination. - SOS, Sept 1991. ■ A huge collection of classic synths - ARP2600, Moogs, MC202, Octave Cat, MKS70, Xpander and many more! Superb synths, superb sounds all on one £35 CD ready to sample! 721 Samples, 63:44 minutes  
**Volume Three - Guitar** ■ instantly useable...perfect for creating a basic 'instant rock guitarist' on your sampler...Things get even better...it's really just like having a good selection of records from which to sample useful snatches of guitar, but without all the other music happening on top. - SOS, Sept 1991. ■ "...devastating results...Handle with care: highly recommended." - Music Technology, Oct 1991. ■ Chords, Bands, Solos, Licks and Effects from Electric, Wah, Wah, Acoustic and 12 String Guitars - Clean and dirty versions! 605+ Samples, 63:18 minutes - Just £35  
 ■ "Altogether or individually, the HitSound CDs offer good value for money...an excellent start in bringing a great selection of expensive-sounding and highly usable instrument sounds to anyone with access to a sampler." - SOS, Sept 1991.

### MasterBits DAT-RAM

These DATs contain well over 300 Megabytes of ready to use samples for your Akai S1000/S1100 fitted with the IB104 Digital IO board and any DAT player featuring digital output. Samples are quick to audition and use. Three volumes are now available - Each for the new low price of just £199, please call for more details on each of them.

## CM AUTOMATION MX816 MIDI Automation System

CM AUTOMATION's new MX816 is a breakthrough in terms of **affordability, simplicity** and **quality**. It brings MIDI controlled mixing & muting into everyone's reach for the first time. It's unique memory features allow it to be used in the **studio or live** with equal success. The MX816 can be programmed and controlled by any MIDI device and then used independently if desired. ■ High quality dbx VCA system ■ Separate receive channel for patch change ■ 8 or 16 channel versions, easily upgradable ■ Channel mute assignable to key number ■ Compatible with any MIDI sequencer ■ S/N better than 95dB ■ No need for expensive custom wiring ■ Frequency response 10Hz-30kHz +/- 1dB ■ Mute & Max buttons for easy manual control ■ Dynamic range better than 106 dB ■ 100 internal memories to store and recall snapshots ■ Noise level better than -95 dB ■ 28 internal pre-programmed autofades, up or down ■ All outputs in phase with inputs ■ Groups of 8 channels are summed to produce mix/send out, in addition to each channel's in/output. ■ The MX816 comes in three versions: 8-Channel - £345, 16-Channel - £579 and an 8-Channel Expander for the 8-Channel unit for £235.



## Double Dutch's SAM-1 Sample Expander for Korg M1, WaveStation, M3R and T-Series

This new expander fulfills a range of important functions: ■ Primarily it is a **sample expander that allows you to inject half a Meg (Soon expandable to a full Meg) of your own samples into most Korg synths**. ■ It is also a **MIDI Data Filer** that allows you to save any SysEx info to disk, it even plays back MIDI Song Files! ■ Because it can load **S1000, EPS, S330 and S550** disks and transfer samples via MIDI it can act as a **sample converter** - more formats will be supported in the near future such as Emax 2 and Prophet 2000. ■ The SAM-1 is available now for £649 inc. VAT but supplies are scarce so hurry, please call for more details.



## COMING SOON Musitronics SY/TG77 and SY/TG55 PCM.EX Expansions

New expansions for the SY/TG77 that add 4 Megs of new PCM samples doubling the total PCM memory to a staggering 8 Meg! The SY/TG55 version now also will add 4 Meg taking total memory to 6 Meg! Each also adds a new bank of programs that utilise these new PCM waveforms. A wide selection of new PCMs will be featured - Keys, Strings, Brass, Synths, Drums, TR Drums, Percussion, Bases, FX, and more. Exact spec and prices TBC, please call for the latest information.

## JUST RELEASED! SUPERB STRING SAMPLES

**MasterBits Special Edition Orchestra CD**  
 MasterBits have just released the second of their Special Edition CDs which is packed with hard-to-get quality full Orchestra samples. In addition to a full range of multi-samples with varying velocities, this CD also includes a selection of impossible-to-imitate hits, runs, swells, etc. This CD was originally developed for the Synclavier but now is available on CD for any sampler for just £65 - So you needn't sell Grandma after all!

### Denny Jaeger's Master Violin Library

Denny Jaeger's World famous Violin library has now been released on a much more digestible single CD-ROM format for the S1000/1100. The price is now also more accessible at just £399 inc. VAT. Only 80 Megs have been lost from the original library and all the samples have been re-looped and their programs re-organised. The whole thing has been repackaged and improved to make it more accessible than before. Please call for more information.



## Editing Software for the Atari ST from EMC - Einstein Music Software

EMC's famous line of highly affordable easy-to-use editors has just been bolstered by the introduction of SY22/TG33, JX1 and Sound Canvas Editors. All are very easy to get into and make your synths so much easier to use. At just £55 they cost less than you'd expect to pay for a RAM card, so they're a cheap means of storage, an aid to editing, and the SY22 and JX1 editors also come with sounds.

Other Synths supported include - SY55, U20/220, D10 Series, K4, M1, M3R, Proteus 1/2, D70, JX1, D50, K1, VFX, OBB, LXP5, PCM70, etc. with programs being added all the time!  
 ■ "Impressive...it's a competent, comprehensive program which can be highly recommended to anyone...it could well be selling for two to three times the amount - it really represents excellent value for money. Buy it before they read this and put the price up." - Music Technology SY/TG55 Review, May 91.  
 ■ SY/TG55 Editor/Manager - £55 ■ K4 Editor/Manager - £55 ■ SY22/TG33 Editor/Manager - AVAILABLE NOW - £55 ■ U20/220 Editor/Manager - £55 ■ LXP1/5 Editor/Manager - £55 ■ D10/20/5/110 Series Editor/Manager - £55 ■ D70 Editor/Manager - £89 ■ M1/M3R Manager/Combi Editor - £55 ■ Proteus 1/2 Editor/Manager - £75 ■ Please call for full details and prices! ■ All programs run under M.ROS and SoftLink and require a hi-res mono monitors and at least 1 Meg (except the K1 Manager) of RAM.

## Musitronics D50 Expansions

If you own a D50 or D550 then these expansions are bound to interest you:  
**M.EX** - Multi-Timbral Expansion offers ■ 8-tone multi-timbral operation with dynamic voice allocation ■ Additional MIDI transmit channel ■ Loads of new parameters ■ Optional 128 patch memory expansion ■ £199 or £245 with additional RAM  
**Speed System** is an optional extra for the M.EX that makes your D50/550 run up to 40%+ faster. Quicker responses from keyboard or over MIDI are now possible. The Speed System costs £45.  
**PCM.EX** offers ■ 50 new waveforms including 3 complete drum kits and new piano waves ■ Accessible in addition to existing waveforms ■ £245 (not available for D550)  
**D50 Power Pack** offers ■ M.EX with RAM ■ Speed System ■ PCM.EX ■ Usual price £535 - Special offer price £399

# AMG

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# The drumKat

## MIDI Percussion controller

**If you find yourself with nothing to do with your hands on stage or prefer to maintain an element of spontaneity in your rhythm programming – try beating a Kat...**

**Y**ou'd expect an instrument called Kat to have a distinctive appearance, and the first of the breed, the Kat Percussion Instrument (designed with mallet players in mind), certainly was remarkable if only for its utilitarian design – foam rubber pads and battleship grey boxes. Anyone with an interest in such things may remember its release back in 1988, when the general consensus of

opinion was that it was one of those machines which was brilliant in concept but lacking in visual appeal and (probably) durability.

Now there's a new instrument – the drumKat – this time aimed at all percussionists (not just mallet players), but equally distinctive in appearance – though with its two, rounded, ear-like protubances on top of a larger, rounded, head-like cluster of pads, that appearance is considerably closer to a mouse than a cat. In fact, without wishing to seem to be taking the Mickey, there's something decidedly Disneyesque about it. It definitely takes a little getting used to. Kat themselves, would, I'm sure, claim this to be a sensible and ergonomically sound design for a drum pad controller. Myself, I'm in two minds about it – for reasons I shall come back to later.

Though it may not be obvious from the photographs, the playing area of the drumKat is actually divided up into ten separate pads, though programming allows you to >>

**Text by  
Nigel Lord**



► combine these to form fewer, but larger, playing 'zones'. Much like a MIDI controller keyboard, the drumKat provides no sound of its own, but rather, generates MIDI information which can be used to trigger sounds from any MIDI source, of which the drum machine is only one example. In addition to the onboard pads, it is possible to connect up to nine further drum pads – or bugs attached to drums or other surfaces – and derive MIDI triggers from these.

Given centre stage on the top panel is a four-line (4 x 16 character) display which provides you with all the information you require when programming, and this is back-lit for use in darkened areas and adjustable for viewing angle to remain readable irrespective of how the drumKat is adjusted on its stand. Round t'back, you'll find all the connection hardware – a three-pin mains socket, a set of nine jack trigger inputs, a 'click' out jack, the four footswitch sockets and a generous complement of MIDI in and out ports – two of the former and four of the latter. In addition, there's a miniature jack socket for 'breath control', an extra 9V power supply input socket and a 'CV' input on the side of the drumKat.

These latter items all relate to new features and facilities which will be included in the drumKat with its next software upgrade. The review model came with software version 2.5 installed, but apparently this is soon to be upgraded to version 3.0. The upgrade is offered free to users of the drumKat (as, presumably, future upgrades will be).

It may have occurred to you from looking at the accompanying pictures, that for a sophisticated MIDI control device, the drumKat seems to have precious few switches and knobs with which it can be programmed. More specifically, it doesn't seem to have any switches and knobs with which it can be programmed. In fact, the onboard pads are used to enter data and perform the many editing functions which are provided across the three main operational modes: Play, Pre-Edit and Edit.

Play mode, as you might imagine, is where you should be if you wish to simply play the drumKat; Pre-Edit moves you around the various editing pages – or 'Screens' as Kat refer to them – while Edit is where the actual programming and editing operations are carried out. In this mode, the pads cease to be referred to by their Play Mode numbers, but take on the name of the editing function they are used to perform:

- Pad 1** = Screen Advance
- Pad 2** = Cursor Advance
- Pad 3** = Reverse
- Pad 4** = Sound Advance
- Pad 5** = Hear Sound
- Pad 6** = Value Advance
- Pad 7** = Save
- Pad 8** = Default
- Pad 9** = Duplicate
- Pad 0** = Recall

The system works by selecting Pre-Edit Mode, and hitting one of the pads. At this point the screen tells you

the number of the pad you've just hit and what screens – or editing functions – you then have access to. For example, Pad 1 (Screen Advance) is used to move through the Screens, Pad 2 (Cursor Advance) allows you to move the cursor around within the current screen, Pad 3 (Reverse) reverses the direction of movement through the other functions, while Pad 6 (Cursor Value) is used for increasing (or decreasing, after hitting the Reverse Pad) the value of parameter underlined by the cursor.

**M**ost of the editing that takes place on a MIDI controller of this type has to do with determining the parameters associated with each of the pads. On the drumKat this takes place within the Kit Edit screen – selected by hitting Pad 2 in Pre-Edit mode. Here you can name the current kit you are working on, view the overall pad assignments and edit individual parameters including MIDI channel and note settings, velocity levels (minimum and maximum) and velocity curve.

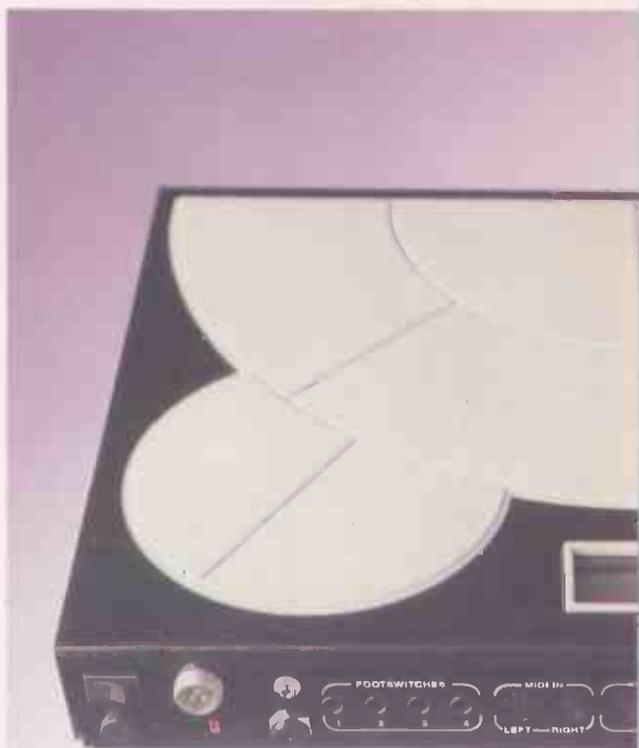
There's a choice of fourteen of these available and they include gentle and steep gradients, linear and stepped curves (...if that isn't a contradiction in terms) and also reverse curves which produce less volume the harder a pad is hit. Some quite fascinating effects can be produced here, or alternatively, curves may be selected simply to suit your playing style. But quite often, you find yourself having to adapt your playing style to suit the

## External Control

With the same control parameters being extended to the external pad inputs, you have, in total, some nineteen playing surfaces with which to work. This effectively makes the drumKat two machines in one – a MIDI triggering unit and a self-contained Instrument which, like the Roland Octapad, may be stand mounted and played with sticks. As with most triggering devices of this type, extensive use is made of the player's feet in switching parameters and altering kit set-ups; in addition to the supplied single foot switch, a triple unit is available from Zildjian (the distributor in this country), and really is to be recommended if you are to get the most out of the drumKat as a performance machine.

## Info

Price: £487 excluding VAT  
 More from: Zildjian Music Ltd  
 4 Kings Ride Park  
 Ascot  
 Berkshire SL5 8BP  
 Tel: (0344) 872262  
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selected curve – particularly where this involves non-linear settings.

Also adjustable within Kit Edit is the Gate Time associated with each pad hit. On most drum machines and percussion expanders this isn't really necessary, but where you wish to trigger longer sounds – perhaps on a sampler or synth – you need to be able to produce a long enough trigger to ensure the sound does not cut off prematurely. On the drumKat, gate times from 25ms to 6.325 seconds are programmable and it is also possible to sustain a trigger simply by continuing to press down on a pad after hitting it.

All the above relates to programming simple one-sound-per-pad set-ups, but it is also possible to generate multiple triggers (in what is known as Complex mode) capable of sounding three different notes, either together or staggered over a predetermined period of time. All the programming parameters available for single notes may be applied to each of the notes making up a Multiple trigger, and you can direct individual notes to specific MIDI output ports to make routing easier.

Having set up a Complex trigger, it is a relatively easy matter to relate the triggering of each sound to the playing dynamics you bring to bear on the pads. In other words, you can produce different sounds the harder you hit the pads. Obviously this can be used for special effects, but perhaps more interesting would be the assignment of different sounds derived from the same instrument to

simulate the change in timbre with increasing dynamics – as occurs in the natural, acoustic world.

In a similar way, you can also use a multiple trigger to generate notes which rise in pitch relative to playing dynamics, or, alternatively, which increase in length. Clearly, the choice of velocity curve will have a significant effect on all these functions, and of course, changes in pitch, length and note assignment will be reversed, should a Reverse curve be selected.

To make programming easier, and hopefully less time-consuming, the drumKat is equipped with a number of copy and duplication features which allow you to transfer existing parameter set-ups to other pads and kits, etc. In addition there's a wide variety of utility functions to aid the setting up of pad, kit and MIDI parameters. Principle among these is a MIDI program change enable/disable function, the viewing angle adjustment I mentioned earlier and the provision of a Song Creation Screen where kit set-ups may be chained together in up to 16 steps of eight songs and stepped through using one of the foot switches.

Also here, you'll find a function for setting the overall threshold level for each of the ten pads to determine the point at which they trigger, and linked to this, is a Pad Interaction Suppression facility intended to overcome any problems you might encounter with one pad triggering another. It should be stressed that the pressure sensitive material underneath the pads makes this somewhat unlikely, but there are circumstances in which it could occur particularly in extremes of temperature and/or humidity.

Finally, there's a facility for writing into memory two of your own velocity curves (this is in addition to the fourteen already included) and this clearly will be of use in ensuring that you obtain a playable response from any external trigger devices. Coupled to it is a learn or 'Training' facility through which it is possible for the drumKat to recognise the shape of a trigger generated from external sources and also to respond to your anticipated minimum and maximum dynamic playing levels.

So that, in broad outline, is what the drumKat does. The question which remains to be answered is how well does it do it?

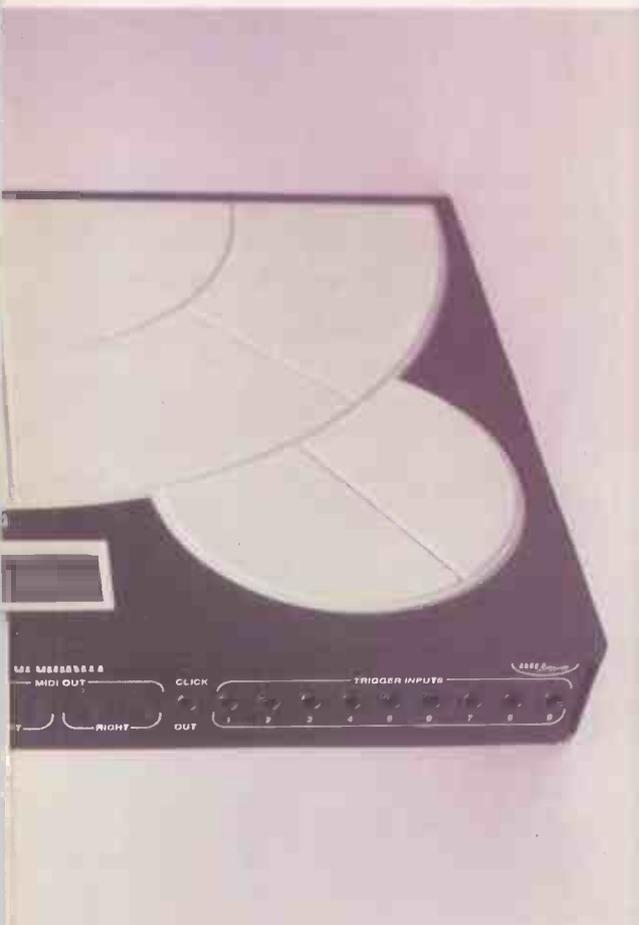
As a performance instrument the drumKat has clearly been thought out in great detail and would serve as an excellent central control unit at the heart of any electronic percussion set up. It has been designed to be easily programmed, and perhaps more importantly, to be re-programmed on the hoof – so to speak. With the display right in front of you and the ability to enter data using the pads (and footswitches) – making adjustments mid-set (or even mid-song) becomes possible. And that's something you can't say about all MIDI triggering units.

The programming system itself is relatively >>>

## Motifs

Of considerable potential is a facility on the drumKat which allows you to record note sequences and trigger these by means of a single tap on one of the pads. A total of eight different sequences – or 'Motifs' – may be recorded – one up to 380 events in length, four up to 104 events and three up to 52 events. How these figures were arrived at is unclear, but in practice they are pretty usable. Recording is quite straightforward and there's a simple Tap Tempo function which allows the drumKat internal clock to follow you, rather than vice versa. A quantisation function may be pressed into service to correct your playing as it is being recorded, and this is adjustable so that note placements aren't rounded down to an unacceptable degree.

Having recorded your motif, you have a choice of four playback modes to select from. In Infinite mode, the pad (or external trigger) acts simply as a toggle switch: hit it once and the motif begins to play, hit it again and it stops. In Loop mode, the motif plays through a pre-determined number of times unless the pad is hit to stop it. Once mode causes the motif to play through once and then stop, while Slice allows you to play successive 'slices' or sections of your motif each time the pad is hit.





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► straightforward and once grasped, is easily remembered. Sadly, learning is made rather tedious by what I can only describe as an overly-helpful instruction manual. It's not that it's badly written or anything, it's just that the writer always insists on going back over what's just been learnt and what's just about to be learnt before actually giving you the information you require. Apart from anything else this has the effect of making the manual much longer than it need be,

*"As a performance instrument the drumKat has been thought out in great detail and would serve as an excellent central control unit at the heart of any electronic percussion set up"*

and making it impossible to turn straight to a particular page to find out how to accomplish a certain task. It's also, perhaps, why the drumKat arrives with its own video tutorial, which is in all ways superior to the manual, though not actually a replacement for it.

Of far greater concern, of course, is the question of how playable the drumKat is. Personally, I got on extremely well with it as an instrument - it's sensitive and yet you really can give it a good wallop and get an appropriate thwack out of

the speakers. That said, as I mentioned earlier, I am in two minds about the layout of the playing area. The problem centres around the rather peculiar shape of each pad, arranged in a semi-circular pattern. When playing any percussion instrument one tends to form a mind's eye image of the size, shape and layout of the playing surfaces. Once formed, we rely on this image to ensure the accuracy of our strokes - particularly as we play the instrument in conditions where we cannot rely on our sight.

What concerns me about the drumKat is that the pad areas are rather small, and it's extremely difficult to form an accurate mental image of their perimeters. Obviously there's nothing to stop you looking at the pads until you get used to playing them, but with no real divisions between adjacent pads (the rubber is simply indented), even this is difficult - especially under stage lighting conditions. A layout like that of Roland's Octapad (two rows of four square pads) though considerably less imaginative, is actually much easier to hold in mind, and that can be crucial when attempting to place one's sticks in such a small area.

That aside, it would be difficult to fault the physical construction of the drumKat. It's extremely well built and certainly looks like the kind of instrument you'd want to get to know ...and it's not often you can say that these days.

Operationally, I cannot conceive of any rhythmically useful function that could be provided by a MIDI controller that isn't included on the drumKat. As I said earlier, it is effectively two instruments in one, and with a full complement of external pads or drum bugs connected, you would have a set-up of potentially awesome flexibility. Even if you're only involved in the programming of drum machines, playing an instrument like the drumKat has a whole lot more to recommend it than pressing buttons or clicking mice. Anyone for whom rhythm plays a major part in their work should find this an instrument worth investigating.

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# Tascam 464

## Portastudio



Photography: James Cumpsty

**Text by Ian  
Waugh**

It's all very well putting a studio in a box and cutting the price to the quick, but if you end up with a machine that looks, well... 'Amstradian' – it could prove to be a mixed blessing...

Even though multi-track cassette recorders have traditionally represented good value for money (when you see what you get and add up the cost of the individual components), it is important that they preserve the feel of quality about them – particularly when you consider the

amount of work they are expected to perform.

Where the 464 Portastudio is concerned, quality definitely seems to have been put high on the agenda. In fact, at the risk of pre-empting those who immediately turn to the concluding paragraph of a review, let me just say Tascam seem to have done their sums and put together a very well-engineered, professional machine.

The restrained grey finish is easy on the eye and nicely complimented by the curves at the back and front. The push-button controls all have a positive click action, while the sliders are responsive – if just a might uneven in their travel – and the rotary controls click nicely into their centre détente positions. The knobs themselves feel rather like the erasers you find on the end of pencils – a little slim, but not difficult to use.

A large LCD shows the meter levels, tape counter, record indicators and several other functions which we'll come to presently.

The 464 has a 12-input mixer section. The first four inputs are the main ones and have jack and XLR inputs – but you are warned in the manual not to use both of these at the same time. Each channel has a Trim pot followed by an Input selector which determines where the signal is coming from and where it's going. As well as being able to select Mic/Line or Tape you can also select a third option here which sends the tape signal directly to the left or right Master output – effectively creating a Bus Input. In the conventional way, channels one and three go left and two and four go right.

Next along is a three-band EQ section with a sweep control in the Mid range. The High shelving point is 10kHz, the Low is 100Hz and the Mid range is variable from 250Hz to 5kHz. You can be creative with this if you've a mind to. I generally don't use much EQ (though many's the 'discussion' I've had with pro-EQ friends) but then most of the stuff I record comes direct from an electronic source and I reckon the shaping should take place before it hits the mixer. Audio sources are another furrow of fourier frequencies of course, and it's standard practice to use the EQ to compensate for tracks which have to be bounced – so it's perhaps as well to have the 464's comprehensive facilities there if you need them.

There are two Effects Send controls which receive signals after the channel fader (post fader send) and route it to two Effects Masters. After these comes the Pan pot followed by a fader which feeds the Master fader.

The remaining inputs (jack only) are grouped together in stereo pairs – five and six, seven and eight and so on – but each run through a single signal route. You can also use a mono signal with these which will be fed to both left and right channels. Inputs five and six, and seven and eight, have a slightly simpler signal path compared with the first four inputs. There is no Trim control (the level being nominally set to -10dBv), no Mid EQ (a blank fascia marks the place) and the Pan pots become Balance controls.

The Input switch has three options: Main, Off and Cue. The Main setting sends the signal to the main stereo bus for recording, while Cue sends it to the Cue mix for monitoring. The manual suggests that if you are using sequenced 'virtual tracks' you should use channels 5 to 12 so they can be sent to the Cue without being recorded. This is good advice and makes obvious sense unless you're prone to heavily EQing your sequenced material – which is where my anti-EQ argument, er, discussion comes in again...

There are four Master Cue controls – one for each track – which control the balance between the tracks, plus a Cue Master which adjusts the overall volume in the headphones. Channels 9, 10, 11 and 12 each have a control to vary the level going to the Assign switch which, again, has three positions L-R, Off and Cue. The L-R setting sends the signal direct to the left and right sides of the main stereo mix for recording. There are no EQ, Effects Sends or Pan controls in this section.

The input sockets are all located at the rear of the console but face upwards so you don't have to fiddle around the back of the machine to make connections. On the back

panel itself there are two Inserts, two Effect Outs, four Tape Outs, two Line Outs, two Monitor Outs, Cue Out and two sockets labelled 2TR In which provide a route from an external two-track mixdown recorder to the 2TR In switch in the Monitor section.

Also on the back is a dbx On/Off switch, Sync In and Out sockets for connection to a MIDI Sync unit or SMPTE timecode generator, and a Sync On/Off switch which switches out dbx from track four so it can be used for a sync signal. Other sockets include a headphone jack and a remote Punch In/Out jack – both situated just below the front panel.

Recording on the 464 can be done two modes. In Direct mode you hold the Direct switch below the LCD and then press any of the Record (track) buttons from one to four. The selected track(s) will be recorded with the direct output from the corresponding channel. For example, channel one goes to track one, channel two to track two and so on – the recording level being adjusted by the channel fader.

If you don't use Direct mode then tracks one and three will be recorded with the Left mix and tracks two and four with the Right. You can, therefore, record any input channel on any tracks using the pan pots. The recording level is adjusted with the channel and Master faders. The four meters show the level of the respective tracks and the two Monitor meters show the level of the mixes selected by the Monitor switches. There are six of these located just below

## Auto Drop In

Like many better quality multitrackers, the Tascam 464 features an Auto Drop-In function. Set a track to record, cue the tape a little before the section where you want to punch in, press Rehearsal then Play. When you reach the point at which you want to punch in press Record, when you reach the point at which you want punch out, Press Play. The tape will rewind to the start point. Having entered the punch in and out points, if you now press Play the machine will drop you in and out at these positions and switch the monitor from tape to 'live' correspondingly.



*"First generation recordings on the 464 are very good. Anyone using a MIDI sequencer and requiring a couple of acoustic tracks should be able to produce excellent results"*

the Monitor Level control: Left, Right, Effect 1, Effect 2, Cue and 2TR In.

In addition to the usual tape transport buttons and the record select switches, the recording panel is replete with a series of buttons and controls. A real-time tape counter, for example, shows the current tape position in minutes and seconds, while a Reset button changes the counter to

» '00.00'. In conjunction with this, an RTZ (Return To Zero) button switches the tape to fast wind (in either direction) to the zero point. If Play is pressed after RTZ, the tape will immediately begin playback, whereas if Pause is pressed the tape will stop and enter pause mode.

There are two Locator buttons which load the current location counter position into memory; press Repeat 1-2 and the tape will loop between these two points. This is great for



rehearsal and working out additional parts to go with a recording – something you take for granted with a MIDI sequencer.

You can select High or Normal tape speed, though you probably don't need me to tell you that for best results you should use the higher speed whenever possible. The control centre is completed by a large Pitch Control knob should you decide you want to record the school piano. The LCD display advises you as to what buttons you've pressed, what mode the machine is in and generally tells you what is happening at all times. The only omission here is, perhaps, a pitch control indicator, which might have been useful.

Noise is the bane of any multitrack user's life, but all things considered, the 464 acquits itself pretty well in this regard. The mixer is respectably quiet, so most of the noise you're likely to encounter will come from the recording source and the tape. The dbx (Type II) noise reduction helps enormously, of course, and the manual suggests you record at an average of 0dB with a peak of +6dB and use only high bias Type II cassettes.

I know there's a widespread belief that you should get as

much signal level onto the tape as possible – and most brands of tape can be severely overdriven without any ill-effect. However, this can lead to the well-documented dbx 'pumping' effect. If you're having this sort of problem, let the noise reduction do the work for you and don't overdrive the tape. After all, that's what it's there for.

Overdubs are easy as you can route any input to any track. It's also easy to record several inputs onto one track and indeed, multiple sources onto two tracks – although there are restrictions here: the mixer section only has two main mixes, so you can only record two tracks at once. But I think that's pretty good going for a multitracker. If you need more sophisticated routings you need to look at a more sophisticated set-up altogether, probably incorporating a separate mixer.

The manual is well-written and informative. It includes a brief Guide section and step-by-step coverage of each operation, while the reference section explains clearly what all the individual controls do. On which subject, the machine is laid out very logically and even the relative newcomer to recording should be able to get to grips with it fairly painlessly. The main thing to understand is how the inputs are routed, but a few minutes with the manual and a little experimentation should soon sort that out.

Just about the only niggle is the cassette cover, which looks as though it should come off to give you better access to the heads for cleaning – but doesn't. Still, cotton buds are flexible, I suppose, and the unit actually has a 'Clean' mode which brings the heads forward and rotates the capstan.

First generation recordings on the 464 are very good. Anyone using a MIDI sequencer and requiring a couple of acoustic tracks should be able to produce excellent results. Inevitably, any bouncing will involve a loss of sound quality, but the 464 handles bounces as well as any multitrack in its price range. Even after a number of bounces the results were still acceptable – though if you expect to do a lot of third-generation work, I think you should seriously consider whether a four-track recording is the right format to be working with.

If you decide it is, the Tascam 464 is a worthy machine and should prove an excellent workhorse for the small recording set-up. It certainly makes a welcome change from those machines which suffer from multi-function button syndrome, and has all the features, inputs and routings that most users are ever likely to require. Full marks for user-friendliness, too.

Of course, the most important decision you have to make in these recessionary times, is whether or not it lies within your price range. There are, of course, machines on the market significantly cheaper than the 464. But if you do decide you can afford something more than a budget model, I can only say that the 464 represents excellent value for money and a considerable step up from 'entry level' multitrackers. This shows in the quality of the build, the thoughtfulness of the layout and design and, perhaps most importantly, in the quality of the recordings it can produce. ■

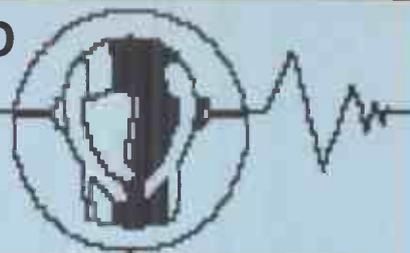
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Text by  
Peter Forrest

## The Moog Series III

# THE START OF SOMETHING BIG?

What's the most desirable keyboard instrument in the world? A Bosendorfer or Steinway grand? Maybe a Synclavier? It seems that age and rarity value have combined to make the Moog Series III the ultimate acquisition for the devotee of vintage synthesizers. But don't bother scouring the Readers' ads...

**H**ad you been a member of the audience at New York's Museum of Modern art on August 28th, 1969, you would have witnessed a unique musical performance by two men – Herb Deutsch and Chris Swanson. Depending on your perspective, you would have considered the performance a product of either hi-tech electronic gadgetry or a bona fide musical instrument. Either way, what you would have been listening to was the world's first live performance of an electronic sound synthesiser – a Moog synthesiser...

Robert Moog had been working through most of the sixties on making sound synthesis more manageable by improving the giant RCA MkII punched tape machine. By the middle of the decade he had published a paper on the secret to his eventual success – voltage control – and had demonstrated a voltage controlled oscillator and other modules to the AES convention in America.

It didn't take long for his instrument, the Moog Synthesiser, to be seized upon by musicians and not long after that before it spawned a massive hit in the unlikely form of Walter Carlos' *Switched-on Bach*. This became the biggest-selling classical album of all time with sales of 50,000 in the first six weeks, rising to virtually a million. Suddenly everyone knew what synthesisers sounded like and when Keith Emerson used a Moog live with the Royal Philharmonic playing the *Five Bridges Suite* – everyone knew what they looked like, too. Moog became a generic

term – like Hoover or Tannoy – and new models of greater sophistication and diminishing size were developed.

The most impressive-looking (and sounding) of all the Moog modular systems was the IIIc – three consoles each in a handsome walnut casing stacked on top of each other. If you wanted to gig with a Series III, you could opt for the IIIp version on which the walnut was replaced with leatherette-covered ply. But Keith Emerson seemed to manage OK with his standard IIIc – although this had all three consoles joined together in a single large walnut case.

The largest of the three consoles was situated at the bottom of the stack (raked at an angle of about seventy-five degrees), and the other two were positioned vertically above it, on rubber feet. The lower-most console contained the oscillators, mixers and noise generators; the centre unit held the filters, envelope generators, multiples (see later) and amplifiers; and in the top cabinet were the sequencers and interfaces.

**A**t the heart of the Series III were the VCOs – switchable from 32° to 2°, with sine, triangle, sawtooth and pulse waves all available simultaneously. As you might imagine, these produced a very fat sound – though this was as much to do with their tendency to drift as anything else! On the MiniMoog there were three VCOs; on the IIIc there were nine – and a tenth which was usually used as an LFO, but could just as easily be pressed into service as an ordinary VCO if things were sounding a bit thin.

Though adjustable manually, there was no input for pulse-width modulation, but really, this development only came about through the need to fatten up weak or static sounds. With the huge complement of oscillators on the Series III there was little likelihood of that. Later, a more stable oscillator (module number 921) was developed for the 35 and 55 models, and was actually made available to Series III owners as an update. But despite having sync and pulse width modulation, and being less liable to drift, these are not considered as desirable nowadays as the 901B's. As former Moog developer (and owner of two of the very few IIIc's in England) Zak Matelon puts it, "In the hands of a sensitive operator, the earlier VCOs are superior". In other words you have to keep your ears open and your wits about

you – and be able to tune accurately. Looking to technology for a solution, Keith Emerson opted for an early forerunner of a digital readout tuner now commonly used by guitarists.

Below each bank of oscillators was a four-input mixer used to combine several signals into a single output, switchable to provide positive or negative voltage. On the same panel there were four jacks which formed a 'multiple' – a patching system which routed input signals to jacks at the rear of the synthesiser – and four switching panels which could duplicate the job of patching control voltages into the oscillators. There was also a white or pink noise generator, a 4 x 4 matrix mixer with bass and treble cut on each of the four outputs, and a patchbay which could link keyboard outputs to any other part of the synthesiser.

Incidentally, each module carried the quietly understated 'RA Moog' trademark along with a symbol that looked like a stylised version of the top of a semi-quaver. Later Moogs had an altogether more 'brash' logo with this symbol incorporated into the first 'o' of Moog, and the initials 'RA' discarded (presumably in the interests of modernity and mass appeal). I know which I prefer.

In the middle of the three consoles came the modules that shape, filter and modify the VCO and noise outputs. First off were a bank of fixed filters: every electronic music studio in the '60s used filters of this kind, and the

perhaps difficult to imagine a time when a simple set-up like this was considered state of the art. But the fact remains that even today, only a system like the Neve EQ module could better it for warmth and sound quality.

Perhaps even more crucial to the sound of the Moog were the famous voltage controlled filters. Unusually, the Series III included a high-pass version of the design, which could, for instance, eliminate the fundamental from a timbre, making it instantly thinner, more cutting and less inclined to clutter up a mix. Where this differed from using the EQ (say on a mixing desk or outboard processor) to take out bass or lower mid frequencies, was that through the use of voltage control, every note up or down the keyboard could be given the same degree of timbral alteration.

When the action of the low pass filter was taken into consideration, the possibilities were further enhanced: used in series or parallel, or forming a band-pass/band-reject system (by using the Filter Coupler), the two major voltage-controlled filters could produce almost limitless variations on a basic sound.

For many people, the low-pass filter represented the heart of the Moog synthesiser. Even on the subsequent (and comparatively insubstantial) Minimoogs, the VCF was reckoned to be the key to its great sound. Indeed, early Minimoogs are judged by aficionados to sound better than those with serial numbers over 6000 – in other words, after the take-over by Norlin. One explanation of the difference in sound may

*“Remember that in those days, sequencers were used as much for changes in tone colour as for playing tunes or bass lines. What might appear to be an astonishingly primitive sequencer was actually a useful, and even quite versatile piece of equipment”*

fact that Moog had pioneered the use of voltage control didn't stop him including a fixed filter bank on the Series III. Fourteen separate controls were used to set up the low-pass, high-pass, and twelve band-pass filters.

Although the latter were only 12dB per octave, the fact that they were band-pass meant they could produce resonant peaks and troughs suitable for the recreation of double reed sounds, for example. With the widespread availability of cheap (and occasionally musical) graphic EQs, it is

be that the later models used 3080 op-amps, as opposed to the discrete transistors of earlier models – and of the Series III modular Moogs, of course.

You might be forgiven for thinking that a VCF is a VCF, but in the case of early Moog filters, common-sense just doesn't apply. They were, and possibly always will be, the best. Their 24dB per octave cut and boost gave them a power which, right up until the patent ran out, always ranked them well above the competition. And even after 24dB became the norm, there was still an

►► indefinable something – perhaps the signal path to and from them, maybe the pleasing distortion they introduced – which made them so distinctive.

It may be a little hard to credit that the Series III with a retail price of approximately \$8995 in its day (...something like five times that in today's money) should have had a rather crude spring reverb included in its complement of modules. On the other hand, it is, perhaps, an indication of the machine's quality that the basic sounds were so good even without complex digital signal processing. That said, I love using digital effects with old analogue synths (and equally, warming up modern sounds with a bit of Space Echo or AC30). With vintage Moogs,



even a fairly thin and ordinary reverb like that on an SPX90 seems to work them really well. But I digress...

Next in the middle console come the three VCAs – voltage controlled amplifiers – which, interestingly, included linear as well as exponential responses. What this meant in practice was that you had more control over how the envelopes affected the overall sound – exponential was more useful for struck/percussive sounds, and linear for more 'bowed' type sounds.

Though VCAs and VCFs are still common in analogue synths, the other principle Moog module certainly isn't. The Dual Trigger Delay's job was to delay the trigger to the envelope generators by variable amounts. This being the Series IIIc, you were provided with considerable flexibility in how you choose to use the delays. You could have them both independently triggered, or direct a trigger voltage to the top unit, starting the timing

circuit of both simultaneously. Alternatively, the second envelope could be triggered only after the first has run its course.

Complicated stuff, but useful if you needed to maintain full control over complex envelopes. In the 1980s, many synthesiser manufacturers seemed to reach the conclusion that ADSRs have inherent limitations, and as a result added extra stages to their envelopes (Korg's Poly 800 was a good example). Very few of these, however, even approached the complexity of the Series III system.

The final module in the centre cabinet was the Envelope Follower – an early example of a manufacturer trying hard to interface 'real' instruments with synthesisers. Here, various functions could be controlled by the voltages provided by an external instrument. For instance, you could produce automatic wah, or use the external instrument to trigger the envelope and raise or lower the VCA controls – useful as a noise gate or as a more subtle volume control.

Being modular meant that there could always be variations in individual Series IIIs, but because it contained the least essential of the modules, the top panel often tended to reflect the individual requirements of

the buyer. Though in the usual run of things you could safely assume the cabinet would house the sequencer and interface equipment, this was by no means always the case.

The Moog on which this retrospective was based included an interface, two sequential switch modules, and a double complement of sequencers – though the standard format comprised only one sequencer, with a blanking panel. The sequencers were driven by an analogue voltage controlled clock oscillator and provided a maximum of twenty-four steps in three rows of eight – your position in the sequence being marked by a series of indicator lights.

But hang on a minute – how did you set up a sequence in the first place? The answer lay in the twenty-four pots, which could be adjusted to provide a different voltage for each step. Further, for each row you could control the voltage range – doubling or

halving the value from a nominal centre figure of four volts. Using this facility, it was possible to vary the pitches of different rows of the sequencer for different octaves, or produce different degrees of VCF or VCA change for each row. And of course with two parallel outputs for each row, you could (for example), control VCAs and VCOs simultaneously.

You could also use the output jack under each column to trigger anything you wanted. This was in addition to the jacks for trigger inputs beneath each column (which could trigger voltages independently of the clock) and (one of my favourite bits on any modular synth), the manual trigger buttons.

Remember that in those days, sequencers were used as much for changes in tone colour as for playing tunes or bass lines. And what might at first appear to be an astonishingly primitive sequencer was actually a useful, and even quite versatile piece of equipment. You could skip or stop with dedicated switches; you could treat a sequence as three rows of eight, one row of twenty-four, or eight rows of three – or you could reduce it to sixteen steps, using the third row to determine the length of the steps. Being in the analogue voltage control domain, you could also use an external clock voltage either exclusively or (...and this is the interesting bit) in combination with the Moog's internal clock.

As I said, this was sequencing quite unlike anything heard today. People produced things on the Series III sequencer which I've never heard anyone achieve on Cubase or Notator. It's not that computer software isn't up to the job – it's just that no-one seems to investigate the possibilities of working with a strictly limited palette – not when there are virtually limitless possibilities available to them at the click of a mouse button.

In addition to the sequencer, Series III Moogs all had an interface module in the top cabinet combining various circuits – all available individually or in combination. One of them was for audio-in to voltage-out, another linked S-trigger in to V-trigger out, and a further two converted V-triggers to S-triggers. It was a pretty utilitarian module; its function was simply to enable all the other modules to talk to each other. The conversion of V-triggers to S-triggers, for instance, was often used to change a voltage trigger from the sequencer into an S-trigger needed to trigger an envelope.

The last of the modules on the Series III

was the Sequential Switch system. As its name suggests, this was used to select the various sequencer parameters outlined earlier: whether you used two or three rows of eight voltages, for example, or how you chose to program the steps. It was also used to step sequentially through different VCOs when you were playing the keyboard – a facility that Oberheim were later to assimilate into their machines. You may also have come across it on something more recent like the Yamaha TX81Z.

The whole instrument could be controlled by the voltages from two performance sources – a ribbon controller (a beautifully engineered piece of gear ideal for portamento or smooth changes of volume or timbre) and a keyboard. The keyboard was monophonic, of course, but it did have a generous (for the time) five-octave range, and variable portamento. You could also alter the scale and range of the keyboard, for microtonal work.

With talk of the sequencer and keyboard, this tour of the IIIc may seem to have

### Series III MOOG Modules

- 901 – oscillator (usually low frequency)
- 901A – oscillator driver
- 901B – oscillator
- 902 + voltage controlled amplifier
- 903A – noise generator
- 904B – voltage controlled high-pass or low-pass filter
- 904C – filter coupler
- 905 – spring reverb
- 911 + envelope generator
- 911A – dual trigger delay
- 912 – envelope follower
- 914 + fixed filter bank
- 950 + keyboard controller
- 956 – joystick controller (optional extra)
- 960 – sequential controller
- 961 + interface
- 962 – sequential switch
- 984 + 4x4 matrix mixer
- 992 – control voltage panel
- 993 – trigger and envelope voltage panel
- 1150 – ribbon controller
- CP3A – mixer

finished on something of a low note for devotees of the Moog sound. Undoubtedly, the real power of the instrument lay in the combination of VCOs and VCFs: there is still

nothing to touch it in the eyes of many people. If you're on the look out for a series III... good luck. This is one very scarce machine. Only about three hundred Moog modulars systems were ever made and only a handful of these ended up in the UK. They are, as a result, one of the most valuable late twentieth-century instruments. For any IIIc, you're talking about a price tag of five figures and for one in pristine condition, you can expect to pay in the region of £20,000.

The machine supplied for this article was bought by ace synth collector Bob Williams, and lovingly restored to its original condition by Stephen Dyer of Cornwall, who has made something of a speciality of restoring and renovating Moog products for the growing band of enthusiasts for whom only the best is enough. Bob owned it for less than a year before he had an offer (he couldn't refuse) from an intermediary for a 'well known name', but this was time enough for him to reach the conclusion that no synthesiser yet made has rivalled the awesome power of this, the king of modular synths. ■

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# The Digital Maze

**ADAT, ADAS or ADAP? – You could be forgiven for being confused by the choice of digital audio systems currently available. Vic Lennard attempts to shed a little light...**

The appearance of ADAT in January 1991 at the Los Angeles NAMM Show, and the subsequent reports on its specification and capabilities, caused quite a stir in the music industry. For less than the price of a 16-track analogue multitrack recorder, here was an 8-track digital machine running on low-cost S-VHS tape. And there's been no secret about Tascam's intention to launch a similar recorder - at a not dissimilar price - but using the Video-8 tape format.

On the other side of the coin there is currently a variety of direct to disk systems running on the PC, ST and Apple Mac as well as free-standing units such as the Akai DD1000, Plasmec ADAS, Roland DM-80 and Yamaha CBX-D5. Clearly, there's never been a better time to start thinking about going digital - but how do you decide which system is best for you?

## TAPE-BASED SYSTEMS

Digital multitrack recorders have been available for some years - at a price. When Akai launched A-DAM, a 12-track 'budget' unit using Video-8 tape, it broke a number of barriers at £20,000 when balanced against comparative recorders from Sony and Mitsubishi. ADAT from Alesis is the first of the next generation of price-breaking digital recorders, costing around £3,500.

Compared with a direct to disk system, the tape-based recorder has the immediate advantage of price. Part of this is down to the relatively cheap medium of tape and the fact that the system works without the aid of a computer, monitor and hard drive. In terms of pure audio quality, there should be little to choose; although the tape is used, it is handled in a similar way to DAT and therefore should generate no tape noise.



However, the fallibility of tape has to be considered, as flaws can occur in spite of rigorous quality control checks, and such faults will not be heard until playback.

When it comes to comparing the audio quality of a digital recorder with that of an analogue machine at this end of the market - you simply can't. The budget 8- and 16-track machines from Tascam and Fostex are undoubtedly excellent value for money, but their sonic quality is certainly coloured in the low and high frequency ranges. While Dolby S has gone a long way to improving the inaccuracies of both dbx and Dolby C, a multitrack digital recorder should be capable of exhibiting a far superior audio performance.

At current prices, eight tracks on ADAT is a little cheaper than 16 tracks on a Tascam or Fostex analogue recorder. But then, your decision may not come down to audio quality; it may be a simple fact of life that you need 16 tracks for recording. This is still possible using two (or more) ADATs synced together, but of course, at double the price. I suspect, however, that many ADAT recorders (and the Tascam equivalent when it surfaces) will find their way into MIDI-based studios whose primary requirement is for the recording of high quality vocal and acoustic instrument tracks to accompany the virtual tracks played back via sequencers.

It also has to be remembered that the maximum recording time is

restricted to the tape capacity – though in the case of S-VHS this is not likely to be a problem. However, the use of any tape means that cueing to a particular part of a song does take time, but, of course, this will be less on a small ‘cassette’ based system such as S-VHS than it is on a reel-to-reel machine.

## DIRECT TO DISK

In the last year or so, it has become commonplace to see direct to disk recording systems as an extension to sequencing programs on a computer. Studio Vision, Digital Performer and Cubase Audio all require an Apple Macintosh with a sampling board, (based around a Digital Signal Processor DSP) installed in the computer. Standard is two tracks of audio, but by using special sampling boards, this can be increased to eight tracks and beyond. Digidesign's Protools is a good example of a true multitrack system, but eight tracks will cost about £14,000 – in addition to the cost of the Macintosh and hard drive(s).

The main advantage of such a system is that to all intents and purposes, the digital audio is simply another track (or pair of tracks if you're working in stereo) on-screen. These can be viewed and treated in many ways like those containing MIDI information. By opening up an Edit window for a digital audio track, you are presented with the audio waveform instead of a list of MIDI events, and it is possible to carry out cut, copy and paste routines from there. Using this system, you could record a vocal part, trim off the beginning and end and cut up the remainder to precisely fit the MIDI data recorded on the same sequencer. This highly visual approach is not to be underestimated – but remember, digital audio cannot be mixed and then unmixed in the way that MIDI data can.

Yamaha launched the CBX-D5, a 4-track digital recorder at the Frankfurt Show this March and in doing so introduced an interesting idea. The system requires a computer-based program to provide a remote control facility and both Steinberg (with Cubase Audio) and Mark Of The Unicorn (with Digital Performer) are providing the necessary software for the ST and Macintosh respectively. Other companies may well follow suit, especially with the launch of the Atari Falcon (see last month's *Newsdesk*) which has an in-built DSP – and an extremely low price tag.

With the use of a hard drive to record data, the maximum time allowed is directly proportional to the size of the drive itself – with approximately 10 Mbytes being required per minute per track of stereo (16-bit audio, recorded at 44.1 kHz). Of course, hard drives are now available with capacities measured in Gigabytes – or thousands of Megabytes – so maximum recording time isn't a problem, although price is!

There are also various stand-alone systems which work with or without a host computer. The Plasmec ADAS system is now multi-platform, and as such, can be used on the ST, PC, Mac and as a freestanding unit. It only provides a 2-track system, which is fine for editing or spooling-in vocals etc, but cannot be used for multitracking purposes.

Other similar offerings come from Hybrid Arts, with ADAP and Digital Master on the ST, and Digidesign, who produce Soundtools on the Mac.

Such systems may be capable of using removable Syquest cartridges – a relatively low-cost alternative to the fixed hard drive. The standard capacity is 44 Mbytes which allows a little more than four minutes stereo recording at CD quality and 88 Mbyte cartridges are now becoming available. Typical price for a Syquest drive is around £350-400, with cartridges retailing at about £50.

Another possibility is to use a Magneto-Optical (MO) drive which utilises a CD-style cartridge. The standard version has a capacity of 650 Mbytes, but uses a single-sided drive which means that the cartridge has to be turned over when one side is full. Still, this gives around 30 minutes of stereo, CD-quality digital audio per side, the drives costing around £2,500 and the disks about £200.

Roland's DM80 is a true, multitrack direct to disk recorder with the 8-track version costing just under £8,700 – including the remote controller and two 100 Mbyte hard disks as standard. The system is aimed squarely at the high-end professional user and Roland have now developed software for the Macintosh which acts as a remote control system.

Akai are currently developing the HDR100, a 4-track system which can be expanded to 16 tracks. The starting price for four tracks will be around £1,400, but this does not include a controller or the hard drives. Other Akai products include the evergreen DD1000 – which can record on two tracks and playback on four and uses an MO drive – and the version 2.0 software for the Akai S1100 sampler which allows for 2-track digital recording thanks to the S1100's onboard DSP.

Balancing the pros and cons of a stand alone unit and a computer-based system is difficult. While direct to disk recording via a computer has the advantage of easy incorporation into a sequencing program (and so very little extra to learn), it has the disadvantage of the fallibility associated with a non-dedicated system. For instance, the Apple Macintosh has its operating system installed onto hard drive and so can be damaged by system crashes – often without the user realising it. This can lead to programs freezing, or locking up, a situation which is far less likely to occur in a stand-alone unit. A further disadvantage is the need to regularly clear the hard drive by dumping data to a tape based medium such as DAT.

The cost involved in multitrack direct to disk systems also needs to be taken into consideration and would preclude their use by all but a select handful. However, many of the 2-track systems are affordable, especially if they run on your existing computer. Like many things, it is very much a question of need versus desire. Most of us would

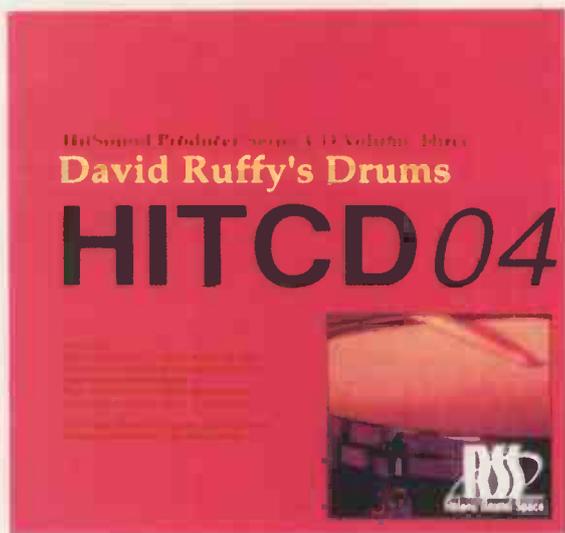
love to have an 8- or 16-track direct to disk system with full random access of tracks, and cut, copy and paste facilities. But is it something we actually need?

With the advances in MIDI, many studios use their multitrack recorders less and less. These days even backing vocals can be recorded onto a sampler and triggered from a sequencer, thereby cut out a generation of signal degradation. The release of ADAT is likely to make many of us consider the option of recording all of our various instruments onto eight tracks doing any tracks, bouncing as and when necessary. On the other hand, the fact that up to 16 ADAT recorders can be linked together to give a maximum of 128 tracks is also interesting... ■

*“Most of us would love to have an 8- or 16-track direct to disk system with full random access of tracks, and cut, copy and paste facilities – but is it something we actually need?”*



# David Ruffy's Drums



Swing Loop With Fill, Dance Loop On Eights, Grungy Loop Swing Variation, Funky Laidback, Garage Loop, Ambient Multiloop, Ride Cymbal Layback, Ambient Congas, Manic Bongos, Ballad Offbeat, and Groovy Loop with Cymbal Crash! The overall recorded sound quality is slick, professional, sparkling clean, while the individual kit sounds are crisp and punchy with a contemporary-sounding brushiness.

The CD's collection of individual instrument samples covers kicks, snares, toms, hi-hats and cymbals. As mentioned earlier, there are 265 single hits. This isn't to suggest there are 265 different instruments: many of them have been sampled several times in order to capture the timbral nuances produced by hitting a real drum with different strengths and at different positions on its playing surface. You can easily work these variations into your own programmed rhythms by sampling them and assigning them to different MIDI notes or to MIDI velocity splits.

Fourteen samples have been treated with Roland's Sound Space 3D sonic imaging system, but, it has to be said, the results aren't particularly impressive. What's more, you need a sampler which can play back stereo samples if RSS is to have any effect at all.

Not only David Ruffy's drums, but also David Ruffy's drumming can be found on this HitSound sample CD, which contains 140 drum loops and 265 single drum hits. Although a few programmed electronic loops have been included, the emphasis is firmly on live acoustic kit playing by Ruffy, an established session musician who has played with artists as diverse as Sinead O'Connor, Mica Paris, Alison Moyet and Aztec Camera.

Many of the loops on the CD are actually one-bar rhythms which have been cut'n'pasted in the digital domain at the editing stage to create eight-bar loops, though there are also loops which contain fills and variations. All samples on the CD have been level-matched, so you only need to set the input level on your sampler once. Track one of the CD gives you 20 seconds of 1kHz test tone played at maximum level for this very purpose.

Ruffy has provided a rich vocabulary of dance-orientated rhythms for you to draw on, ranging in tempo from 61.9 to 139.5 bpm (every loop is bpm'd with great precision in the accompanying booklet). To give some examples, loops include Swingfill: Straight 4s With Ride Variation, Shuffle Loop With Tambourine, Clean Hippy (!), Clean

The subject of copyright on the individual drum loops and samples is covered by one ambiguously-worded sentence in the accompanying booklet: "Purchase of this CD entitles the purchaser to use the audio material featured in their music." Er... quite. Presumably, Mr Ruffy won't come knocking on your door if your smash hit single features one of his loops - or one of your own!

If you idea of a good sample CD is Coldcut's *Kleptomania!* or Norman Cook's *Skip To My Loops* - in other words, the DJ approach to sampling - *David Ruffy's Drums* might not be so appealing. There's something much more self-contained about these loops, the sounds are very clean and respectable, and this does tend to make the CD a little lacking in sonic diversity. However, the wealth of rhythm loops on offer provide a great resource for anyone who wants to learn how to put rhythms together. And if you like the idea of working with the sonic nuances of individual drums to create more realistic, natural-sounding rhythm tracks, the single-hit sample variations are a great idea.

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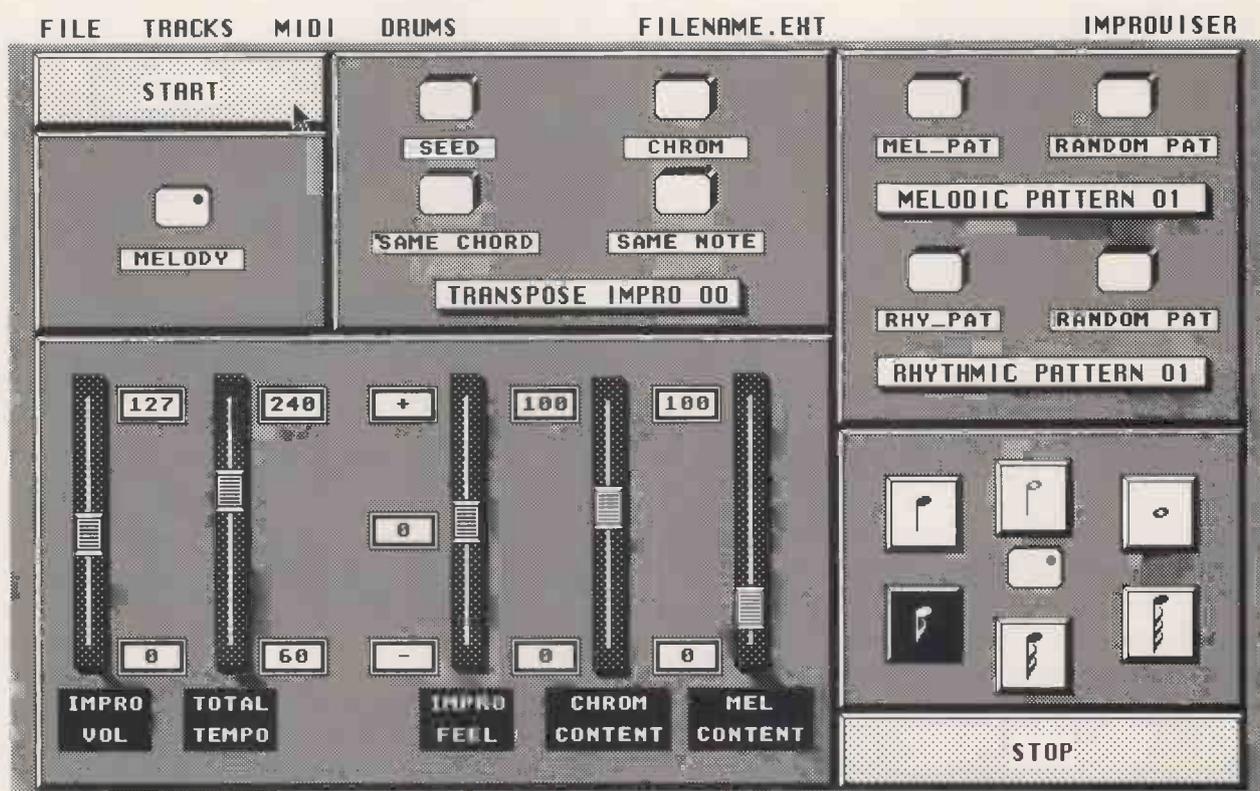
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## Creative Sounds

# Improviser

## Software



**Text by Ian Waugh**

One of the major drawbacks of sequencer systems is their ability to rob your music of spontaneity – unless they're specifically designed to create it.

We are currently enjoying an epidemic of composition/arranger programs. Critical opinion concerning their actual worth seems to be divided – you tend to love 'em or hate 'em. But for anyone interested in computer assisted composition, there are lots of programs around at the moment to play with.

Personally, I love 'em. It's fascinating to see just how 'musical' (or not) the output of a collection of silicon chips can be. After all, they are attempting to imitate one of man's most unique abilities – music composition.

Improviser (review v1.1) was developed by jazz saxophonist

Paul Hodgson and is described as a real-time interactive dedicated editor with the aim of assisting in the learning of instrumental improvisation and to help with composition. The declared intention of the program is not to replace human improvisation, but to use the computer as a tool to demonstrate different structures used in improvisation and to encourage exploration on your own. Worthy stuff. Let's see how it shapes up.

The first step is to set up your MIDI equipment to suit the program. It handles five parts – Bass, Drums, Harmony, Melody and Improvisation each of which can be set to transmit on any MIDI channel.

The program requires four tracks of music – Bass, Drums, Harmony and Melody – as raw material on which to do its stuff, which you load as a standard MIDI file. You can create your own input material (as long as you follow the format) in a sequencer which supports the MIDI File format.

However, Improviser has been designed to load files produced by Band-in-a-Box v5 and these work a treat. Load or create a song in Band and save it as a MIDI File. It's a lot easier doing this

than creating a harmony, bass and drum track from scratch. Once you have an improvisation, of course, you can alter the other parts of the song if you wish.

The program derives its 'inspiration' from the Harmony and Melody tracks and it will follow the harmonic structure of a piece more closely if chords in the Harmony track use four or more notes.

The program was written in C and assembles and performs an amazing number of computations. As all actions take place on the fly, it reads ahead to analyse the harmonic content of the next bar in order that the settings you make on screen are correctly applied.

Adjusting the settings alters the improvisation line. The other four music parts stay the same although you can switch them on and off. This doesn't stop the on-going analysis, just the output.

Improviser was designed to be used in real time. In other words, as it plays a piece of music, you take charge of the improvisation it produces. There is only one screen which is divided into five areas.

The Melody button has an area to itself. It makes the Improvisation follow the melody line exactly and offers an instant "back to the tune, lads" option.

The area to the right-hand side of the screen contains four buttons. Same Chord will lock the harmony to the current chord and Same Note locks it to the current note. These are useful for analysing some of the other functions (coming up) although the Same Chord button could be used for extended improvisation (but bear in mind, this doesn't hold up the other parts – they trundle on regardless).

Seed gives the random number generator a jolt and the Chromatic button introduces a 99.9 per cent probability of chromaticism. At the bottom of the box is a Transpose function for altering the pitch of the improvisation.

In the top right of the screen is the Pattern box. There are 16 Melodic and Rhythmic patterns which can be scrolled through by clicking on the numbers. The patterns themselves are activated by toggling the Melodic and Rhythmic Pattern buttons on and off. If you select Pattern 17 and click on the Random Pattern button, the program will produce – you guessed – a random pattern. The manual says there are over 16 million possibilities. I didn't count 'em.

The best way to hear the patterns is to select the Same Chord button and run through the Melodic patterns one by one. Then select the Same Note button and run through the Rhythmic patterns. Try different combinations of Melodic and Rhythm patterns. You may well find some favourite combinations and some will lend themselves to certain tunes. Also bear in mind that the output is still dependent on the underlying harmony chord so you may well get different results depending on how complex this is.

At the bottom right of the screen are a set of note icons which the manual confusingly, I believe, calls Tempo Boxes. These set the note duration which the improvisation will use. A button in the middle of these icons switches the improvisation on and off – silence is important, too.

To the left are five sliders. One controls the volume of the improvised output, another the tempo of the whole piece and a third pulls or pushes the timing of the improvisation behind or

ahead of the beat. The final two sliders control the chromatic content of the improvisation and the amount of "melody" which will be present in it.

Once you know what all the controls do, the program is fairly easy to use – natch – but the manual could be rather more helpful in this respect. For example, it doesn't explain that the Melodic and Rhythm Pattern buttons and the note duration buttons (Tempo Box) and sliders are mutually exclusive, the Pattern buttons taking precedence.

**N**ow we load a file and improvise. One of the demo pieces is John Coltrane's 'Giant Steps'. It's probably worth mentioning – and it will no doubt come as no surprise to learn – that jazz, modern jazz in particular, works especially well with Improviser.

Here's how a typical session might go: select the Bass, Drums, Harmony and Improvisation parts to play, switch the Melody button on (so the improvisation part plays the melody) and click on Start. You'll hear the tune. While it's playing you can select a Melodic or Rhythm pattern, a note duration in the Tempo Box and adjust the Chromatic and Melodic Content sliders. This is just setting up as nothing will happen until you deselect the Melody button.

Let the chorus play once or twice then switch off the Melody button. If the Melodic and Rhythmic pattern buttons are switched on, these will kick into action. As you probably know, one 'aid' to improvisation is to repeat a melodic riff and/or a rhythmic riff. This is what these two buttons control. After a straight chorus you can jump into such a riff which, if you've selected it to compliment the music, can sound amazingly, er, life-like.

After a few bars of this your ears may twig that something rather mechanical – certainly repetitive – is going on. It's time to change the Melodic and/or Rhythmic patterns.

For more variation you can switch the Rhythmic Pattern off in which case the durations will be taken from the Tempo Box and you'll get runs of straight quavers, sixteenth or 32nd notes (longer durations are also available, for those sedate moments). Of course, you can't take more than a few bars of this either – without it appearing that the soloist is showing off – so while it's going on, select a different Rhythmic riff to return to.

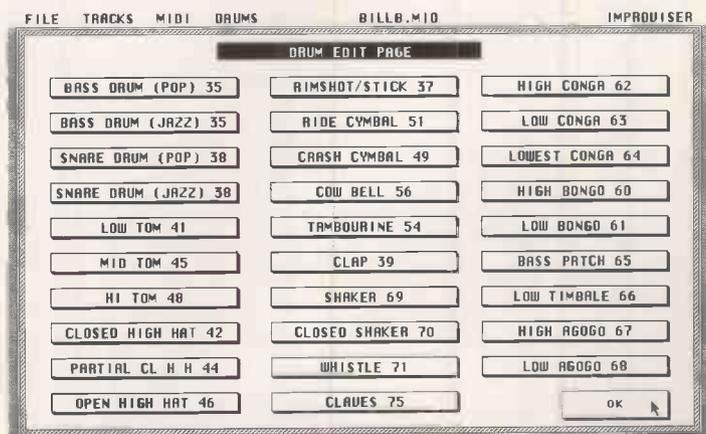
The Melodic Patterns and the Chromatic and Melodic Content sliders have a similar relationship, so if you switch off the Melodic Pattern button you can alter the melodic nature of the improvisation with the sliders while retaining the rhythmic one. ➤➤

## The System

Improviser will run on any ST (in mono only) and uses a key disk for protection. There's only one screen which looks deceptively simple. It's not GEM-based although it works like a GEM program, being completely mouse-driven, and it will run with C-Lab's Softlink.

## Exercises

The manual includes exercises which can be performed with Improviser which pertain to the National Curriculum. It suggests that the program could be used by a five-year old and, to the extent that they could click on the buttons to see what happens, it's probably true. But I would venture to suggest that an understanding of the principles involved would be well beyond their grasp.



## Improviser Update

Since the review was written, updates 1.2 and 1.3 have followed in quick succession - some ideas being in response to users' comments. New additions include an Alert Box to ask if you really do want to quit the program and a very useful Drum Edit Page which lets you enter the MIDI note numbers of 28 drum sounds which you can save and load.

The Save Improvisation function now also saves chord symbols in a separate track. These appear as text in a sequencer and are useful for seeing where the program got its 'ideas' from and for adding extra parts of your own. It's also useful if you want to print out the score for musicians to jam along to.

Depending on the notes in the sequence, the program may not be able to analyse every chord exactly, in which case it does a 'best guess' and places a "?" after the chord name.

Finally, the program now recognises 240 different chord shapes. The next update should include extended chord recognition.

▶▶ Perhaps the most amazing thing about the program is that it actually works. It is quite possible to produce convincing improvisations with it in real time. As ever with all things computerate, garbage in equals garbage out, so you have to select the options to suit the music and select music which the program can suitably analyse.

The improvised data is stored in memory and can be saved as a MIDI File for loading back into your sequencer along with the original material ready for editing.

Although the improvisation is based on the Harmony and Melody lines, you could select a less busy setting and create a bass line. There's no reason why you can't send the output to the drum channel, too, although the result is more likely to be a 'texture' than have any direct relationship to the structure of the music.

The temptation to run some Bach through the program was too great for me to resist. It was necessary to fudge a drum track (which isn't used during the calculations but which is necessary for the file format) and I mixed a few music lines together to give the harmonic analyser something to work on. If Improviser doesn't have enough harmonic material it can't work out the correct chords from which the scales and the notes for the improvisation will be derived.

I also constructed a harmony line for 'Flight of the Bumble Bee' - nothing like giving a program a challenge, is there? Credit where credit's due, Improviser handled it very well indeed, considering the volume of melodic data although it did trip up a few times. I used some carefully-selected Melodic Patterns and set the Tempo Box to 16th notes. Jumping back and forth between the Melody and Improvisation produced quite convincing results. One tip - if you are using complex material, slow down the tempo to give the program thinking time. You can always speed it up when it's back in your sequencer.

I also fed it Steeleye Span's seminal 'Gaudet' and although you could force it to keep up with the four-part harmonies - most of the time - you got the impression that it wasn't very happy. Still, it produced some lines which were useable and the whole thing sounded reasonably impressive using a vocal pad.

The current version of the program allows you to create and load your own Melodic and Rhythmic patterns. Essentially, you construct a 16-note melodic pattern in a sequence - following carefully the instructions in the READ.ME file on disk - save it as a MIDI File and load it into Improviser. You can construct up to 16 consecutive patterns, each of which will replace the corresponding default patterns.

Rhythmic phrases can be constructed in a similar way but these are only one bar long. The pitch values used are ignored. Example melodic and rhythmic patterns are supplied so you can learn by example.

This opens up Improviser considerably as you can tailor the patterns to suit any particular tune or style of music. Many of the default riffs have their basis in modern jazz and simply don't work well with classical music - or heavy metal or rock for that matter.

Substituting some sedate scales for the patterns produced more convincing classical improvisations while concentrating on sixths and ninths produced an MOR feel. HM fans can chop out the thirds...

While the output has bursts of what, in a human player, would probably be described as inspiration, you must accept that it is also likely to contain the results of some less than inspired moments. The program is optimally designed to be used with a sequencer in which you can make the most of its glowing, muse-filled moments.

The default patterns demonstrate Improviser's predilection for jazz and I suppose I wouldn't disagree with any cynic who describes it as "A medium in which the odd wrong note is not only tolerated but encouraged". However, within that free harmonic and rhythmic framework, Improviser works very well and can be, I repeat, extremely convincing.

One of the program's main areas of operation is education, an area in which Paul Hodgson reports considerable success. He hopes the program will be used to train pupils to listen to and analyse the output rather than making them rely on printed notation. He's already had one, er, difference of opinion with an educational buff who insisted that such a teaching aid should use notation. Our children's musical future is in these hands?

Of course, an improvisation can be saved and loaded into a scorewriter for analysis later, but Paul believes that education's reliance on printed music over the past 200 years (we're talking heavy trends here) has led to a dramatic reduction in the ability to improvise, especially in the classical field. Thought for discussion perhaps, but what price a cadenza now?

While working with the program, I did come up with a few wishes and wants. These include on-screen MIDI channel and Program Change controls rather than having to pull them down from a menu, and the ability to send Program Changes on the fly. Also, Program Changes are, unreasonably, limited to the range 0 to 99.

The program has been designed with "no moving parts" (at least during play) deliberately, in order to encourage listening rather than watching. I also wonder if the Start and Stop buttons couldn't be closer together. And what about a Pause button, some fast forward and rewind controls and a Loop function so you can concentrate on getting problem areas right?

The program has a few bugs and inconsistencies although it now detects an incorrect file format (which caused lock-up problems with v1.0) so it protects itself from the worst excesses of your imagination and MIDI programming.

Although the program is easy to use - once you know how - the manual could be rather more helpful. The functions, the way they react with each other and their effect on the improvised output, unfortunately, are not really adequately explained. Some areas of the screen aren't adequately named, either. For example, the Melodic and Rhythmic Pattern area at one point is referred to as the Melodic Pattern Loop Box. Minor points, perhaps, but they need addressing. The good news is, the author is considering a completely new manual which will not only detail all the functions but also include comprehensive instructions on the art of improvisation. Definitely something to look forward to. Experimentation is the order of the day and you'll have to spend time with the program rather than with the manual to suss it out. But don't let that put you off. Improviser is a fascinating program with much potential not only in education but for anyone interested in computer-assisted composition. If you're a jazzer you'll love it. ■

## Info

Price: Improviser £99.50 inc p&p and VAT

More from: Creative Sounds,  
PO Box 877, Bristol, BS99  
5AU. Tel: (0272) 244395.  
Fax: (0272) 232037.

# Technically Speaking...

## Technical Questions Answered by Vic Lennard

**Q** *Dear MT,*  
My current set-up is a Korg M1 and an IBM XT computer which runs Voyetra SP1 sequencing software. Is there an editing package for the M1 that will run on my PC? If so, how much?

*I also want to get hold of a sampler; is there a decent package that will run on any PC? If there is, will it run together with my sequencing software? As I'm a student, I don't want to spend too much money, so I'd appreciate any information you can give me.*

*By the way, why is there so little software music-wise on the PC, considering it has the advantage of a hard drive over an Atari ST?*

**Michael Keeley**

**A** There is a dedicated Korg M1 editor for the PC in the shape of the MIDIQuest M1 editor which retails for £69; details from Turnkey on 071-379 5148. If you have any other MIDI equipment that you want to edit using the PC, it might be worth looking at a generic editor. The MIDIQuest Universal Editor can edit over 130 different MIDI products including synths, drum machines and effects units. Retail for this is £175.

The most obvious choice of sampler for your PC is the SoundBlaster Version II card, which retails for just under £140. This is an 8-bit mono sampler with a sampling rate of up to 15kHz, but it can replay samples at 44.1kHz. It includes an 11 voice FM synthesiser with either six melodic and five percussive voices, or nine melodic voices. Also included is a MIDI interface and a four watt power amp. SoundBlaster Pro – effectively a stereo version of Soundblaster – gives you four channels of digital audio, which can be configured to provide two stereo pairs, and has a socket for the Panasonic Multimedia CD-ROM drive. Price is a little under £235. More information from West Point Creative on (0743) 248590.

Incidentally, if you were to update your sequencer to Sequencer Plus Classic, this has built-in support for the SoundBlaster cards. Consequently, you would be able to access sounds while using a sequencer.

Who says that there is little music software support for the PC? There are a wealth of sequencing programs which will run under DOS or Windows including Cadenza, Sequencer

Plus, Cakewalk, Prism, Cubase and a shareware package called Winjammer. There are also various synth editors (in addition to the MIDIQuest series mentioned above), some excellent music DTP packages including Encore and Finale, and auto-accompaniment programs such as Band In A Box and Jammer.

Your comment about the hard drive giving the PC the advantage over the ST doesn't really hold up as any ST owner can use an external hard drive if they wish and few programs actually require a hard drive out of necessity. In fact, ST owners could justifiably argue that the lack of a built-in MIDI interface on the PC is far more of a disadvantage. But it has to be said that as far as music software is concerned, the PC has come on in leaps and bounds over the past nine months or so. The principal reason for this, of course, is the low price of PC compatibles. Software writers are now prepared to support it in a way that they were not two or three years ago.

**Q** *Dear MT,*  
After talking to my local electricity board it would appear that I have a problem that must surely affect thousands of other home studio owners everywhere. I have connected approximately 20 pieces of equipment via extensions to one socket in the wall, the idea being that all I have to do is switch on at the wall to power up the studio.

*According to some, but not others, this is a gross overload and so unsafe. Can this be true? Do I really have to modify the circuitry to use the equipment safely?*

**Simon Hawkins**  
**Andover**

**A** There are two points to cover here, namely the current draw on the mains socket, and the safety of the connections.

It is highly unlikely that the total current being drawn by your equipment is anywhere near the standard 13 amps which the fuse in the plug connected to your mains socket is capable of passing. Working out the total current draw of your system is quite simple; there's a plate on the rear of most electrical

equipment which usually has the model number, the serial number and the power required for that unit, in Watts. Add up the power figures for each item in your system and divide this by 240. This will give you the total current drawn. While you may find that a 16-track tape recorder (for example) requires 2 or 3 amps – synths, samplers, expanders and the like usually draw about a tenth of an amp or less. Consequently, your entire system will probably have a current draw of less than about 5 amps. This, clearly does not represent an overload of any kind – even from a single mains socket.

It is important, however, that after finding the current draw for each piece of equipment, you use suitably rated fuses in the individual plugs through which they are connected to the mains. This will mean getting hold of a supply of 1, 2 and 3 amps fuses and substituting them for the 13 amp variety which come as standard with UK mains plugs. Using these will ensure that if a fault occurs in a piece of equipment drawing, say, a quarter of an amp, only the fuse in its plug will blow. Any mains blocks you are using should have 13 amp fuses fitted so you don't need to worry about the total current draw for all of the equipment connected to this block.

Turning on some pieces of equipment, may cause an initial surge which results in more current being drawn than under normal running conditions. If you leave all of your equipment on and then turn on at the wall socket, the instantaneous current draw for all of your equipment could exceed 13 amps and blow fuses. Other damage is also possible when current surges happen. You would be best advised to turn equipment off at the end of a session and then turn on individually when you next need to power up.

As for the connection safety, make sure that you used plugs which have plastic shrouds on the live and neutral pins, and that you also use good quality mains blocks. Try to avoid 2 and 3-way adaptors if possible – these are often pulled half-way out of a socket by the combined weight of the plugs and cables. Apart from the danger this may cause, it is all too easy to suffer a temporary break in the mains supply and lose precious, unsaved data.

**Got a problem? Vic has an answer.**

**Write to: Technically Speaking, Music Technology,  
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# On The Beat...

(slight return)

Text & Examples by  
Nigel Lord

This month's pattern confirms my long held belief about the ubiquity of many rhythms. With a few minor adjustments here and there, most patterns can be used in a variety of rhythmic settings – from dance to rock and funk to pop. This is one of the reasons it can be so difficult to categorise patterns, especially those which just evolve without reference to the music of which they will eventually become a part.

Though not a complex pattern to program, there's quite a lot going on thanks to the number of different parts. It's also a fairly tolerant pattern, which is to say it will stand

up to considerable experimentation, particularly when it comes to selecting different voices. The snare drum, for example, may be either long or short in duration, heavy or light – the choice is yours.

To some extent, it is the selection of voices which will determine the ultimate destination of the pattern – that and the tempo, which can fall to as low as 85 bpm and still leave it suitable for use as a dance groove. At the other end of the range – 110 bpm – things start to get rather frenetic, but the patterns still just about holds together. ■

PATTERN: 1a		TEMPO: 85-110 BPM	
BEAT:		1	2
Clsd HiHat	◆	◆	◆
Open HiHat		◆	◆
Cabasa	◆	◆	◆
Cow Bell		◆	◆
Hi Bongo			◆
Lo Bongo			◆
Snare Drum		◆	◆
Side Stick		◆	◆
Mid Tom			◆
Low Tom			◆
Bass Drum	◆	◆	◆
TIME SIG: 4/4		BAR 1	

PATTERN: 1b		TEMPO: 85-110 BPM	
BEAT:		1	2
Clsd HiHat	◆	◆	◆
Open HiHat		◆	◆
Cabasa	◆	◆	◆
Cow Bell		◆	◆
Hi Bongo			◆
Lo Bongo			◆
Snare Drum		◆	◆
Side Stick		◆	◆
Mid Tom			◆
Low Tom			◆
Bass Drum	◆	◆	◆
TIME SIG: 4/4		BAR 2	

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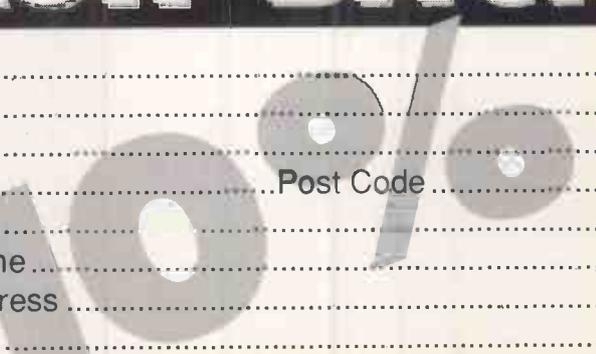
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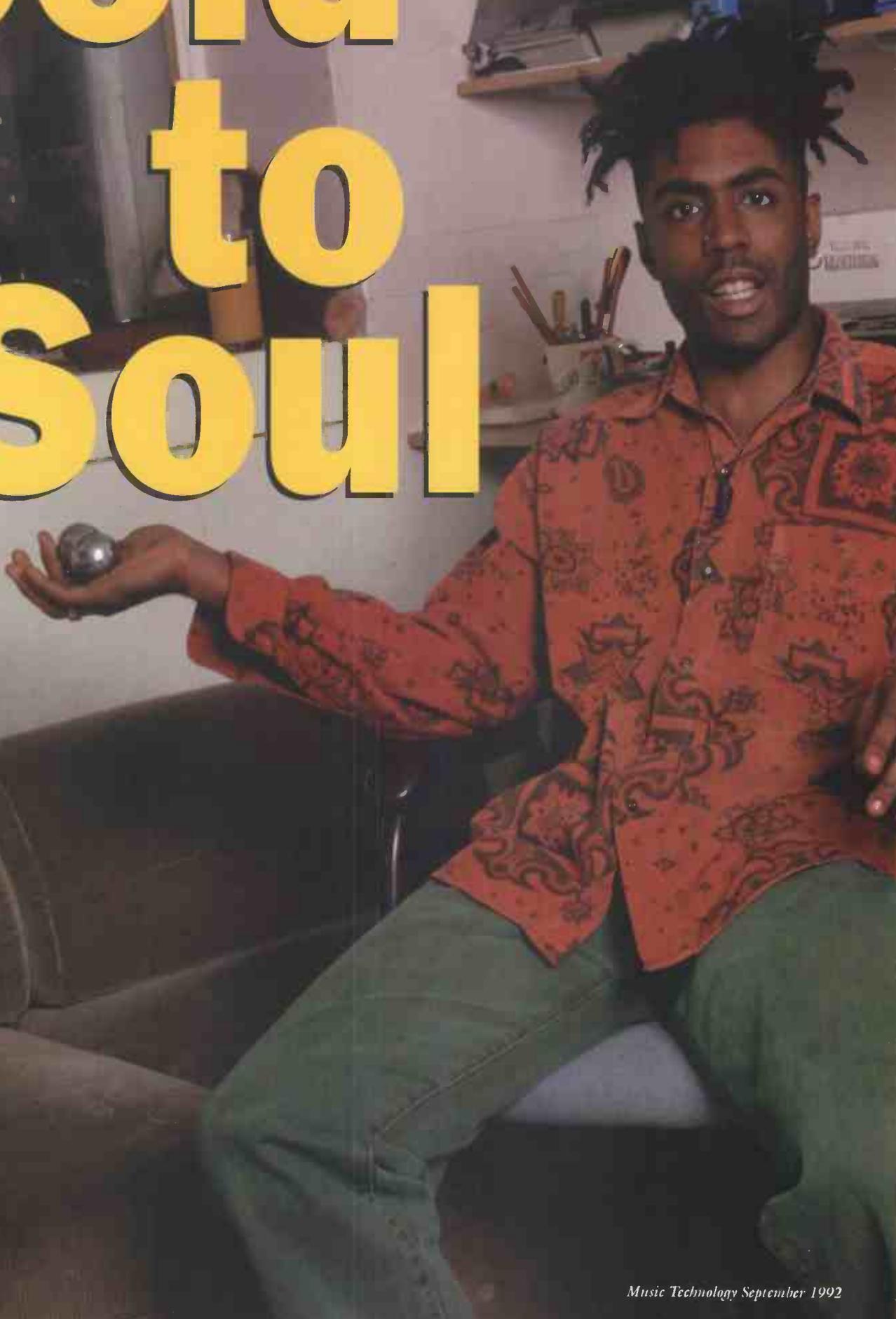
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# Sold to Soul



## Emerging from the British soul underground, Omar's latest album is called simply, *Music*. And it is – to Simon Trask's ears...

When young British soul singer, songwriter and multi-instrumentalist Omar released his debut album *There's Nothing Like This* on his dad's record label, Kongo Dance, in June 1990, it went straight into the UK Top 50 and also took up residence at the top of the UK soul charts for nine weeks, going on to sell in excess of 30,000 copies and receive a number of music industry awards. The title track, an instant mellow soul classic, no doubt had a lot to do with its success, but that shouldn't obscure the fact that the album as a whole was a remarkably assured and well-rounded debut, marking out Omar as an artist with a distinctive voice and the potential to go far.

The lion's share of the writing, arranging and playing on the album is down to Omar himself – a typical track credit reads 'Omar: lead vocal, background vocals, Korg M1 synthesiser and drum programming', with others variously contributing female backing vocals, guitar parts and scratching and mixing. Soul music done the Omar way is rootsy yet contemporary, drawing inspiration from the intensity and warmth of Stevie Wonder's classic seventies albums while ensuring that the beats have a typically eighties tightness and hard-edged funkiness. Thankfully, it's all a million miles from the blandness of much eighties mainstream soul.

In December 1990, Omar and his live band played to a packed house at the Hammersmith Odeon, making him the first independent British soul artist to play a sell-out date there. His popularity confirmed, he took another step up the ladder of success by signing to Phonogram's Talkin' Loud label, which reissued *There's Nothing Like This* some six months later, after Omar himself had remixed most of the tracks on the album. Then in October of last year he began work on his second album, *Music*, with a bigger budget that allowed him to take more time and care over not only the music, but also the production and mixing. The result is a more mature, more sophisticated album than the first, characterised by a sound which is fuller, warmer and somehow more organic.

"When I recorded *There's Nothing Like This*, they were only meant to be rough mixes, but when I'd done them they sounded good enough so I thought 'Put it out. It's the music that's going to sell it, not how many hours you've been spending on it,'" the 23-year-old musician recalls as we sit in a small basement recording studio in southwest London, "I only had ten days in the studio to record the first album, whereas this time I started last October and had five days in the studio, then the next month I had another five days, and so on until I finished recording in March. And it wasn't just a matter of being happy with the first mix, but listening to it again and thinking 'I want to add this' or 'I want to take that out', which I think shows in the end result."

The M1 is still present, providing some very characteristic Omar sounds, but programmed drums have been all but usurped by live drums (played by Omar himself, of course) in an attempt to go for a more 'old-fashioned' sound and feel. At the same time, he's introduced the sound of analogue synth technology into the music in the form of a Roland SH101 monosynth. Building a track around the tonal and rhythmic characteristics of a sound is a typically Omar thing to do, and the burpy basslines and snaking toplines which he coaxes from the 101 have a significant influence on the character of

Interview by  
Simon Trask

» the music on the new album.

Another significant new element is the real string section which the album's budget has allowed Omar to bring in on selected tracks – most notably 'Who Chooses the Seasons?', a lush duet with ex-Young Disciples singer Carleen Anderson, and the closing track 'Last Request.' Omar is well pleased with the results – and with arranger Chris Cameron's approach to his task...

"Using live strings just adds a whole extra dimension to the music," he enthuses. "Chris knew exactly how the music was supposed to sound, and how to complement it as opposed to putting his arrangement on it. People are asking me if I've done the arrangements, which shows you how close he's got it to what my sound is; you would think it was the same person doing the music and the arrangements. They fit, they're not too big."

Omar's propensity for playing most of the parts on his records himself comes to the fore again on *Music*. But why didn't he record the album using his live band and try to achieve more of a live feel that way?

"I hear the music in a certain way, and I play that way," he replies. "It's not like I'm being selfish, like I don't want to use other musicians. It's just this thing of 'well, this is the bassline I hear' so I play it. It's as simple as that. There's no philosophical reason why I do it, I just do everything myself 'cos that's how I'm used to doing it. I can play keyboards, I can play bass, I can play drums, I can play percussion, I can sing, and so on – so why not do it?"

Why not indeed? Especially when you have the musicality to make all the parts sound convincing – and when the result is as good as *Music*.

A naturally talented musician, Omar was playing cornet, guitar, piano and drums by the time he was eleven, encouraged by a primary school which was interested in getting its pupils to make music. He began playing guitar because one of the teachers held lunchtime sessions teaching Beatles songs to any pupils who wanted to learn them. As they say, from small acorns...

"Because I had all those opportunities at school, it was just a case of why not do it?" says Omar. "I was always into music, and I was always willing to

*"I'm thinking of checking out all the new keyboards to get me onto my next vibe. I think I've drained the last out of those I've got. When I get hold of new sounds, a whole batch of new music just comes out."*

learn how that instrument makes that sound and stuff. I was a very good blagger, in a sense, 'cos I would just master an instrument to the extent that I could play what I wanted to play, what I heard in my head."

Willing or not, like any kid Omar sometimes needed encouragement to keep up with his practicing.

"I got a lot of that from my mum!" he recalls with a grin. "Make sure you do half an hour every day, and make sure you do this, make sure you do that. She always took a good interest in it, so I never got away with not doing any practice!" Ah, but how it's paid off.

For Omar, the world of classical music has always existed alongside reggae, soul, Latin, funk and jazz music. While a teenager, he spent six years as principal percussionist in the Kent County Youth Orchestra and studied classical music at Cheetham's School of Music in Manchester. At the same time he was making his own music, taking his early musical influences from his parents' record collection ("Stevie Wonder, Steel Pulse, Joan

## Equipment List

Korg M1 Synth  
Roland D50 Synth  
Roland SH101 Monosynth  
Roland TR606 Drum Machine

Tascam 688 MIDiStudio Cassette Multitracker  
Fender Precision Bass Guitar  
Pearl/Gretsch Drum Kit

Armatrading, Bob Marley, Santana, a lot of jazz fusion music.") and the music he heard on John Peel's Radio One show.

"A lot of the times when I've listened to music on the radio I've missed who it is, or when I've had tapes of music they've never had who the tracks are by, so I've just ended up listening to music," Omar says, giving a clue to the reasoning behind his choice of title for the new album. "Now when people ask me what are my musical influences, I just quote jazz, reggae, soul, Latin, rather than certain people. I still say Stevie Wonder, though, 'cos he was definitely one of the people I was listening to back then. *Songs In The Key Of Life* and *Secret Life Of Plants*, I just killed those albums off listening to them again and again and again. It was the same thing with Level 42, teaching me the bass, just listening to their music over and over."

When he was 14, Omar auditioned for the prestigious Henry Purcell School of Music and was offered a place.

"I auditioned on drums and piano," he recalls, "and I was surprised I got in, 'cos I did a loud audition on my drum kit, and they're world-renowned for their classical training."

In the event, he decided to go to the Kent Music School instead. While there he developed an interest in jazz, and started playing drums with the Kent Youth Jazz Ensemble. It was also at this time that he started making his own music, which he would record by bouncing between two stereo tape decks and adding a new part each time. And the music...?

"At that time, everything I did was really technical, really fast jazzy fusion with lots of chord changes; being very clever musically," he recalls. His attitude, however, began to change when one day his father, who was a session drummer and had an eight-track studio in the Edgeware Road in London, invited him along to record some music.

"It was while I was doing the music there that it changed from the clever stuff to the vibe, just groove stuff. My dad isn't someone who can sing me perfect basslines or beats and stuff, he's just got a vibe to it. So he would be saying 'Put a gap there, just leave a space', and that style of putting things together is set in my head, now. Him and my manager, too, gave me that inspiration just to know how to groove; how to put the gaps in the right places, how to make sure that things don't clash but still sound good together. It's hard to explain literally, 'cos it's just a feeling. Not a lot of people have it, but you know when somebody's got it."

Omar recalls another influence which helped turn him towards the all-important vibe: "I was doing all my fast jazz fusion stuff when I was first at Cheethams, but then I started getting tapes from London of the music that was being played in black clubs, and that just swung everything around. I was listening to this stuff and thinking 'this is out of tune' or 'this is out of time', but after a while I began to think 'well, that's got nothing to do with it. This is a vibe thing. So what if they make a mistake? They're only human. People do that kind of thing all the time, you don't have to be spot-on perfect."

"So I went from being really fast, 'let's be clever about it, boys', to bringing it right down, taking half of the things out and making the music talk through the groove... the vibe. I still always want the music to be tight, everything's got to fit together and sit nicely, but it's always got to have this

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» vibe in it where there's enough space to move about. I've heard so many different reggae songs, Latin tunes, soul tunes where everything's so laid back, but it just fits together so well. I want to hold that kind of vibe."

A visit to Brazil with the Kent County Youth Orchestra in '86 provided Omar with another insight into different ways of approaching music:

"When you're classically trained you're taught to read notes, and there's always this thing of phrasing and following all the directions written in the score, but in Brazil it's just a vibes thing, the feel of the music. Especially how they play their rhythms; you could write it down to a certain extent, but there's still that extra bit."

Omar's time at Cheetham's (which he says was "a bit like *Animal House* – we're at boarding school, let's go mad!") provided further opportunities for him to expand his musical horizons.

"The guy who was in the room next to me used to listen to Philip Glass, John Cage, The Smiths, Prefab Sprout, Lou Reed," he recalls. "I was listening to Jeff Lorber, Stevie Wonder, Bob Marley, reggae sound system tapes. And we both learnt each other's music, simply 'cos the walls were so thin that we couldn't help but hear it."

Er, what about the classical music you were supposed to be studying...? "You had to do your percussion ensembles and orchestras and choirs – stuff like that," Omar replies, "but outside of that I was in a band at the school, and I was doing my own stuff 'cos I'd just got a four-track, and I just took advantage of all the equipment in the place – pianos, drums and stuff."

Omar released his first single, *Mr Postman*, on his father's record label in 1985 followed by a second single, *Get It Out Of Your System* a year later in 1986. A third single, *You And Me*, was released in 1988, and in the same year Omar enrolled at the Guildhall School of Music and Drama in London, initially studying classical music but quickly moving over to the Jazz course.



In the following year a fourth single, *I Don't Mind The Waiting*, came out, and Omar began his professional career as a musician by touring Japan as a percussionist with the Style Council, and continued it by spending a couple of months playing percussion for the ill-fated London musical *King*. Then there was *There's Nothing Like This...*

At home, Omar works with a modest equipment setup comprising the aforementioned Korg M1 (bought with the money he got from the Style Council tour) an SH101, a D50, a TR606, a Tascam 688 MIDiStudio, a Fender Precision bass guitar, his dad's drum kit ("It's one knackered old kit, but it has a great sound") and "bits and bobs of percussion."

"At the moment I'm thinking of checking out all the new keyboards to get me onto my next vibe. I think I've drained the last out of those I've got. When I get hold of new sounds, a whole batch of new music just comes out", he

*"I went from being really fast, 'let's be clever about it, boys', to bringing it right down, taking half of the things out and making the music talk through the groove... the vibe."*

reveals. "If I had the JX10 I'm using here, because I've never used it before I could probably start making up different kinds of songs, just because of the sounds of the instrument. That was the case with the M1. The sounds dictate everything in the music, basically. I'm also thinking of getting a Fender Rhodes – the old original. I like how it sounds, and the touch and the feel."

Omar is the first to admit that he has a "really bad head" for the workings of modern musical technology – more especially, for the manuals. "Most often I'll just work it out by trial and error, then once I've worked it out myself I'll read what they say and it makes sense. But I find it very hard to get over the wording. Maybe that's what holds me back on it."

He also claims to be "very lazy" when it comes to programming sounds on his much-used M1. "It's only by chance if I've been messing about with it and something nice comes out," he says. "There's one Combi sound which I made up, I just ended up calling it 'The Bolock' for some reason! It has flute, vibes, piano... there's some hard-hitting sounds in it. Actually, I won't let it out, 'cos it's one which I just came across and it's mine. I used it quite a lot on the first album, and it's in a couple of tracks on the second one as well. Apart from that I like the acoustic bass and organ presets."

And what of Omar the songwriter? Is he a four-songs-a-day man, perhaps?

"I'm not the type of person to be constantly writing," he admits. "I don't write four songs a day, or even four songs a week, it's more like four songs in four months. 'Cos I'm always looking for a tune to do, as opposed to just 'doing' music. Sometimes I'll have 'nuff ideas and just fling them down and then take some out. But most of the time I have to find the right idea at each stage, and it has to work in a certain way with whatever else I've put down."

"Generally, it takes me about a day to get a basic form for a song, but it could take anything outside of that to get a finished product. With some songs, they could start off alright and then I'll think 'no, I don't like that', and I'll leave it for a while and then come back to it and think 'That was alright. Why didn't I do this to it?' It depends how long the incubation period is inbetween."

Current projects include a theme tune he's recording for Lenny Henry's new comedy series (his first venture into the world of TV music) and there are also plans for playing live - an important part of his musical life. "It's all well and good doing it in a studio, but being able to perform it with a live band... It's the other half of expressing your music. I like performing. I like doing a good set, and I like singing live, basically. So yeah, it is quite important. Also, it's very healthy for promoting the music."

Omar's label Talkin Loud runs a club night in London every week which makes a point of putting on a live band. Having seen Omar play there with his band I put it to him that it's nice to see a real band on stage within a club setting, rather than the dreaded PAs which some clubs seem to think constitute live music. It turns out, however, that he's not averse to singing to a backing track...

"I wouldn't want to build my career on PAs, 'cos playing live is where it's at for me," he says, "but I started off in this business doing PAs in clubs, and every so often I like to go back and sing my songs at a dance. There's a different kind of vibe that you get from doing PAs in black clubs. It's all part of performing, really."

Unlike Talkin Loud label-mates Incognito, who've allowed the company to put out housified, 'raver-friendly' remixes of their jazz-funk tunes, Omar is not about to let anyone else touch his music - unless it's just to do a different mix of the parts he's recorded.

"As long as it's done in that sense, I'm happy with it 'cos it's always good

to hear somebody else's interpretation of how the mix is supposed to be," he comments. "The next single's just been remixed, but it's not the normal remix where a guy's come in with a drum machine and a computer and flung some things down. Everything's live, anyway, so for them to drop out stuff, they'd have to play the shit back in themselves, or have a very hard time with the SMPTE code. My music's kind of remixer-proof."

Or, to put it another way, Omar's music is just fine as it is. ■

## Discography

### Singles:

- Mr Postman (1985, Kongo Dance)
- Get It Out Of Your System (1986, Kongo Dance)
- You And Me (1988, Kongo Dance)
- I Don't Mind The Waiting (1989, Kongo Dance)
- There's Nothing Like This (1990, Kongo Dance)
- There's Nothing Like This (Re-release, 1991, Talkin' Loud/ Phonogram)
- Don't Mean A Thing (1991, Talkin' Loud/Phonogram)
- Get To Know You Better (1992, Talkin' Loud/Phonogram)
- Your Loss, My Gain (1992, Talkin' Loud/ Phonogram)

### Albums:

- There's Nothing Like This (1990, Kongo Dance)
- There's Nothing Like This (1991, Talkin' Loud/Phonogram)
- Music (Released on October 12th, Talkin' Loud/Phonogram)



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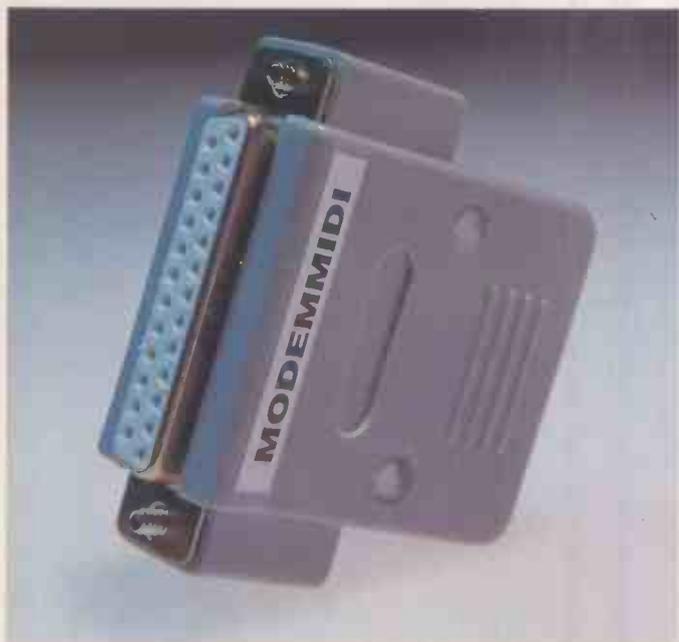
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# ModemMIDI

Text by Nigel Lord



Most of the expensive Atari ST sequencing programs have a MIDI port expander to give you more than the standard 16 MIDI channels. Unfortunately, though all you may need is an extra 16 MIDI channels to deal with that new multitimbral synth you've just bought, the piece of hardware you have to buy has an extra four MIDI Outs, two MIDI Ins, a SMPTE timecode generator, and makes the tea in the morning. It also has a price tag to match...

Apart from the MIDI Out port, the ST also has a serial port on the rear which is usually used for connecting a modem. However, this port can be set up to behave like a MIDI Out if the correct commands are sent to it. With help from John Hollis (of Trackman software fame), ModemMIDI has been developed by the UKMA (under the guidance of our own Vic Lennard) over the past eighteen months, to the point where it is now compatible with eight commercial sequencing packages: C-Lab Creator and Notator, Hollis Research Trackman, Gajits Sequencer One Plus, Digital Muse Virtuoso, Steinberg Cubeat and Cubase, and Hands On MIDI Software On Stage. The latest software to add compatibility is the Sound Canvas editor from Hands On.

ModemMIDI is a small unit measuring some 5cm square which plugs into the modem port and uses screws through the casing to bolt it to the ST's body. The MIDI socket at the rear is metal, to prevent distortion or cracking, and the unit seems pretty well unbreakable.

Using ModemMIDI with the above mentioned sequencers is quite straightforward. With the C-Lab sequencers, for instance, it operates as 'Port B', while on Cubase v3.01 it uses the MROS ExPort driver - which can also be provided for Cubeat users. Budding MIDI programmers can easily add ModemMIDI to their programs, as the codes necessary to drive it are included in the brief manual which accompanies it. All in all, a neat little gadget which should go straight on the shopping list of anyone with an ST, a need for more MIDI channels and a tight budget.

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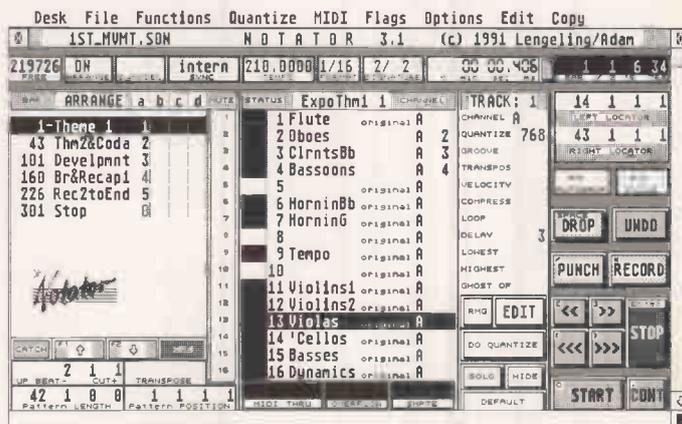
# Oscar's Mozart 40

Text by Ian Waugh

Oscar isn't the first company to release classical music in MIDI file format, but it is the first to throw any kind of promotion and support at it. You may have seen the ads in MT and possibly received a copy of The Oscar Newsletter - particularly if you're involved in education.

The Mozart 40 disk is only the first of a number of classical pieces they plan to convert to MIDI files. It's available in all formats although it was written using C-Lab's Notator and that is its native format. The disk includes five files - one for each of the four movements and a Sys Ex dump for the Yamaha SY77.

If you've done any experimentation in sequencing classical music (or any other complex, multi-part music) you'll know that it's not as easy as it sounds. You can't simply put the notes in, select suitable sounds and expect to get a reasonable performance out of your sequencer. Individual



Notator main screen showing the instruments and arrangement of the first movement

music lines have to be balanced against each other, tempos adjusted, ralls and rits inserted. Dan Palethorpe, principal flute at the English National Opera, was enlisted to help ensure the musicality of the work - a sort of conductor by proxy. The result is quite a tour de force, particularly when played using the SY77.

The disk is intended primarily for use in education. You can analyse and dissect the music, play sections of it, and examine the harmonies, counterpoint and orchestration. In fact, generally discover just what it was that made ol' Amadeus the genius he was. Then you can commit the ultimate sacrilege by rearranging it yourself.

Is there a downside? Well, if you don't have an SY77 you're going to have to do your own orchestration - without Dan Palethorpe's help. The SY77 seems an odd choice, too - I'll bet there aren't many of them lurking in the corridors of our educational establishments. Perhaps a General MIDI version might be a good idea, although (and I say this without having tried it) I wonder if a GM instrument could do quite the job the SY77 does.

Another thing - which you may have already noticed - is the price. Not cheap. But remember it took almost six months to get the files set up and, like everything else, you have to pay for quality. Oscar's Mozart 40 is one of the best renditions of a piece of classical music I have yet heard.

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# Demo Takes

**Text by Phil Ward**

**Artist:** EXPLODING FLOWERS  
**Venue:** Claybury Mental Hospital  
**Equipment:** Unspecified

Jesse Valdiny, who is, single-handedly, Exploding Flowers, has written the most aggressive letter yet to darken the Demotakes door, featuring ribald expletives and sinister references to further 'packages' that we might expect to receive under certain circumstances. What these circumstances are, and quite how Jesse came to conceive her music in the venue stated, I will leave to your imagination. I know it's hard making demos and submitting them to a largely apathetic world, but the nightmare scenarios conjured by the story and the music of Exploding Flowers belong to another dimension. The tape, indeed, is called 'Crucified For Living'.

And actually it's not bad. Using a sampler of some kind, a D50, an acoustic guitar and a bass, Jesse creates a distinct mood, the tracks growing stealthily out of sturdy breakbeats and developing, at times, into montages of the



Enigma variety laced with 90% proof Nico doom in a bottle. A sax sample solos confidently over glowering pads, and much drama is evoked by the spun-in movie dialogue, injected at well-timed interludes and expertly treated to disturbing delay effects.

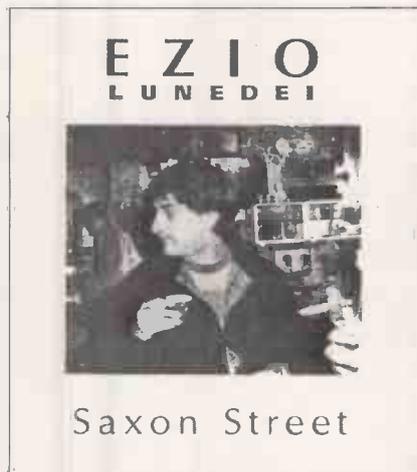
That's not to say that the ancient demon of repetitiveness doesn't loom in the shadows; and the voice isn't very good either. 'Taxi' is over-long, but 'There's A World' offers relief: an unrepentant compendium of Beatles motifs, including trumpet arpeggios, descending bass lines and driving, Walrusy vocals. Overall, you get the feeling that the wheels are perilously close to the central reservation. One only

hopes, in the great scheme of things, that Jesse's muse keeps both hands on the wheel.

## TAPE OF THE MONTH:

**Artist:** EZIO LUNEDI  
**Venue:** Tele-Audio Media  
**Equipment:** Unspecified

There's something about the vocal performance on Ezio's tape that instantly distinguishes it not only from most demos but also from a lot of stuff actually out there on the market. Something familiar, but elusive. Something essential... Anyway, in conjunction with whatever it is, the songs, lyrics and all, veritably



glisten with hooks, surprises, suspense-laden chords, intriguing drops to minor 7ths, variety, everything. The arrangements, for their part, rival the compact but restrained example of Suzanne Vega's small but perfectly formed band on her first couple of albums, with acoustic and electric guitars, bass, drums and minimal keyboards.

All the more remarkable, then, that the bass and drums appear to be programmed – the quality of the powerful drum sounds suggesting an R8. Other keyboard sounds include brassy stabs and the odd bit of piano – a fairly natural setting that ultimately would be better served by the Muscle Shoals horn section and Manu Katché. On the opening track, the electric guitar is treated to slightly too much chorus, such that the effect distracts the attention, but throughout the lead guitar provides choice fills in a loose, R&B vein. And there's something in

the solos that matches that recognisable quality in the vocals, if only I could remember what it was.

There are backing vocals, but they follow the main melody line à la Deacon Blue. Purely a matter of taste, but I prefer actual harmonies. In general, though, there is simply acres of space around the sounds, not solely achieved with reverb but with other, more subtle methods to do with panning, timbres, levels, signal-to-noise ratio and musical arrangement. This suits the material's strong American flavour – that vision of a highway stretching for miles into the desert sort of thing. So there's identity, quality and... for God's sake, what is that long-lost element in the singing? Well strike me down if it isn't passion.

**Artist:** DELIGHTFUL SOFAS  
**Venue:** Home  
**Equipment:** Yamaha YS200; Kawai K1 MK2; Boss DR550; Roland MC202, SH101, TR707, TR909; Korg Delta; Fostex X15 portastudio; Realistic microphone, stereo mixer

Lovers of Dada and Surrealism to a man, Delightful Sofas proudly supply their demo in a furry case. Yep, furry. And, in deference to Dada's Pop Art legacy, the fur encompasses a cheerful little portrait of one Russell Grant – clearly a hero of the band. Beyond that, there is little to set the Dellites apart from the growing pile of linear, media-literate sound montages set to a House beat that is the contemporary norm, where once the default expression of a bunch of fun-loving lads into music would be to gather together with guitars and drums and yell about girls.

Except maybe that the six tracks here (too many, six...) (*Nonsense – Ed*) are executed with a quite out-of-the-ordinary lack of acumen. The synth sounds are trotted out – mostly presets? – with distressing unoriginality, whilst a narrow bandwidth reduces the samples not to evocative, grainy sound-bites but merely to distortion. Meanwhile, a somewhat lavatorial reverb patch does all it can to soften the impact of the drum sounds, and naturally enough the grooves suffer.

The anarchic aims of material entitled 'Noel's Chopper', 'Lard For Laffs' and 'Salman'n'Seek'

require a Viv Stanshall or an Ian Dury to achieve the full comic effect; in other words, real personality rather than the self-conscious and verveless attempts here. Without that sort of panache, you're left with something that smacks of schoolboy pranks, and even the most uncritical audience can tell the difference between invention and indulgence.

**Artist:** COMPANY  
**Venue:** Home  
**Equipment:** Korg DSS1, DW6000, Poly 800 MK1, MK2, MS10; Yamaha TX81Z, RX21, QX21, R1000, EMP100; Akai VX90; Kawai K4R; Roland SH101, TR707, TR606 (x2), TB303 Bassline; Casio CZ1000; Moog Rogue; Jen SX1000; ART Multiverb LT; Tascam Porta-One; Vestafire MR30; Boss BX80 8-channel mixer with submixers; Sennheiser HD340 microphone.

Company hate rock music. But they have played London's Rock Garden venue. If only there was a venue called The Early-Eighties Synth-Pop Garden, they would be in Nirvana. Or rather, Heaven 17.

Because Company do produce a highly convincing sound of this kind, with carefully sequenced parts interlocking their subtle, dry sounds – a little too frail, at times, but weird and wonderful enough for me to use a word I've often wanted to use, but seldom get the chance to: Barbieriesque. In fact, a garden of the Japanese miniature variety would be the perfect locale for Company.

The vocals are an original blend of Edwyn Collins and Sylvian, although Marc Almond is a declared influence in the accompanying letter. Again, there's a little too much fragility in evidence, but lessons in correct breathing and other singing techniques would reap benefits. In other words, the voice is promising enough for it to be worth it. Also in need of attention are the drum sounds: they need fleshing out to come

up to the same standard as the synth patches. In particular, too much faith is placed in the PCM hi-hat sample, notably the one in the RX21. This is an old problem; better to leave it out altogether than put up with a cheap, squelchy compromise. And the actual programming on 'Into The Storm' just needs to be a touch less jerky.

But it's steadfastly commercial stuff, and the songs could well be from the catalogues of Blancmange or China Crisis. With a little more variation to the key signatures, the next demo could well find these boys in record Company.

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# Out Takes

## Reviews by Phil Ward

### ASIA BLUE: *ESCAPING* (A&M)

Wendy Pedie, Christine Goodwin and Jackie Clarke have graduated from the gospel-trained school of backing vocals with honours, to form a lushly commercial up-front vocal group called Asia Blue. Cutting their teeth in backing vocal sessions for the likes of Alison Moyet and Fun Boy Three, they began writing their own songs and developing those of other writers as an independent unit, culminating in this striking debut album on none other than Mr Alpert's famous label. So, there's three of them, they once sang with Terry, Lynval and Neville, and they perform over heavily programmed backing tracks, but the comparison with Bananarama stops there.

Firstly, those backing tracks are the consummate work of Geoff Hunt, whose credits include Massive Attack among others, and whose use of breakbeats and synth pads as a sympathetic setting for three

interlocking, melodic soul voices is a joy. Secondly, the harmonic richness in chord and chorus would flatter Oleta Adams, and might even adjust the light that falls on Anita Baker at a certain time of day. Hunt preserves all this while at the same time shoving the beats along with abandon. And finally, the range of emotions conveyed by the voices themselves would take a few days and a stout pair of Doc Martins to climb over.

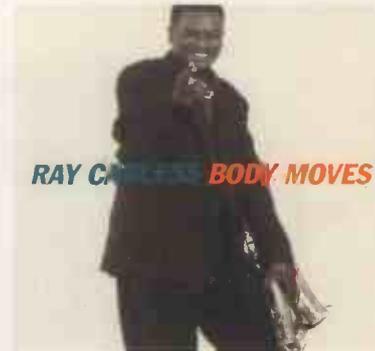
The title track and 'Connect' are known singles, but both 'Boy In The Moon' and 'Corners Of The World' are strong enough to tackle the North face of the charts should the need arise. *Escaping* is not mere escapism; it's release is more liberating than that.

### RAY CARLESS: *BODY MOVES* (Triple Earth)

London had a bit of a young jazz scene in the middle '80s. There was Working Week, Loose Tubes, even Everything But The Girl in Latin mood – and then there was The Jazz

Warriors, a 21-piece big band whose biggest press darling was one Courtney Pine, but whose stable produced many other fine musicians, including Cleveland Watkiss, Orphy Robinson, Fayyaz Virji and saxophonist Ray Carless.

Carless has assembled an impressive line-up of musicians and material for this solo



launch, including Warriors Watkiss and Virji – the latter a trombonist by trade, notably with the band Cayenne, but who also, on this occasion, pitches in with most of the arranging and, in strangely typical jazzier's style, keyboards on which he exhibits a

### DAVID BYRNE *Brixton Academy*

David Byrne's admirers have waited a long time for the old nutter to turn up and play Talking Heads songs with an acoustic guitar and a drum machine – like he did on the big screen in 'Stop Making Sense'. They weren't disappointed. With the discreet drumbox controlled by a twitching left foot, Byrne overtured the evening with the finest display of Sunday lunchtime pub musicianship since the film itself, beginning with 'Road To Nowhere' and rummaging through various phases of his activities right up to the album 'Uh-Oh' released in March. And then, in a nice variation on the stage management of that seminal gig-movie, the band appeared all at once, dramatically silhouetted and raring to go.

In fact, the attention to lighting effects had you wondering whether this might not be a film set, too. Those sinister footlights projected up on to faces; silhouettes against plain, primary backdrops; vivid

spots; all reminded you that David Byrne is a visual artist, too. His boundless energy, bordering on the manic, also suggested cinematic montage. At times he seemed attacked by the Latin rhythms, recoiling as if riddled with bullets of percussion. Respite of sorts was provided by the paced interjection of steadier numbers, like 'This Must Be The Place', 'Take Me To The River' and even a somewhat restrained version of 'Life During Wartime'.

The encores came, four in all, including a rendition of 'Sympathy For The Devil' so convincingly natural to Byrne's narrative delivery that you had to concentrate to remember that it was a Stones song. Finally, out came the acoustic and the drumbox once more for the inevitable 'Psycho Killer', rekindling the suspension of sweaty Brixton disbelief and evoking a legend.

But this was real, as real as the audience's rapturous reception for their hero, and as real as the condoms thrown from the stage after the last encore by way of reciprocation.



penchant for the spikey DX sounds of FM synthesis.

His finest contribution here is the mesmeric 'Events In A Thai Bath House', in which the soloing trombone and saxes rub themselves down with some very hot towels amid a steamy pool of programmed sounds. The rhythm programming is superb throughout, and carries the grooves on all but two of the tracks on the album, serving as an inspiring reminder of just how far rhythm technology has come since the days of pre-programmed tangos and rhumbas.

Carless himself has been around, getting his chops together for the likes of Hugh Masakela, Arrow, Terence Trent D'Arby, Art Blakey, Incognito and ABC among others. But the main homage on 'Body Moves' goes to Joe Sample and The Crusaders, with a crisp version of 'My Mama Told Me So'. Who knows, with bold employment of styles – and techniques – like this, maybe we could see a bit of a jazz scene in the middle '90s.

Tangerine Dream do it with synths; Laraaji does it with a zither. This is intellectual daydream music for lovers of East European stringed folk instruments. Legend has it that the American Laraaji found a note from Brian Eno in his zither case one day, whilst busking

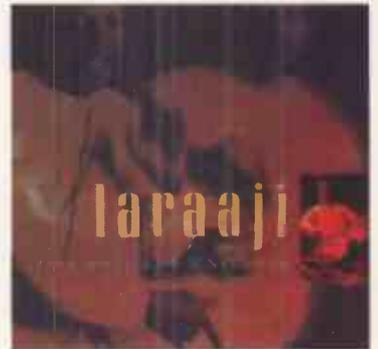
on the streets of New York, and hey presto the guy's an Ambient superstar. Over a decade and nine solo albums later, 'Flow Goes The Universe' reaches the parts that other celestial vibrations simply cannot reach, and, well... flows. But there's humour, too. In fact, 'Laughing In Tongues' is as fine a parody of David Byrne's vocal style as you could ask for, and must be the only example on record of the use of Laughter Meditation Therapy as a hook.

**LARAJI: FLOW GOES  
THE UNIVERSE  
(All Saints)**

Meanwhile, when the zither is resting, Laraaji strokes a Korg M1 or an Mbira – preferably in a cave. A nice touch, this: on the CD, five tracks of complete silence, of varying lengths from 20 seconds to the full two minutes, are conveniently added at the end so you can program various pauses between tracks, 'according to your mood'. A tentative step towards CDI, no less. Is this what John Cage had in mind?

It's good news that the former Land Records back catalogue, including material by

the likes of Harold Budd, John Cale, Djivan Gasparyan and the fabulous Eno brothers, is now available through All Saints Records. But in the hands of Laraaji, the dreaded Ambient spectre of pretension never seems far away. As the artist's own introduction to 'A Cave In England' puts it: "This was recorded on a



portable DAT deck live in a rock quarry in England's Lake District. We recorded at various times of the day and night at which time I set up a large area with three candles within which I would stroll with the Mbira, playing at random, but being careful not to roam outside the candle-lit area as it was just a few feet away from a dangerously deep pit..."

Quite. ■



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