THE
MUSIC TECHNOLOGY
MAGAZINE

October 1992 £1.75

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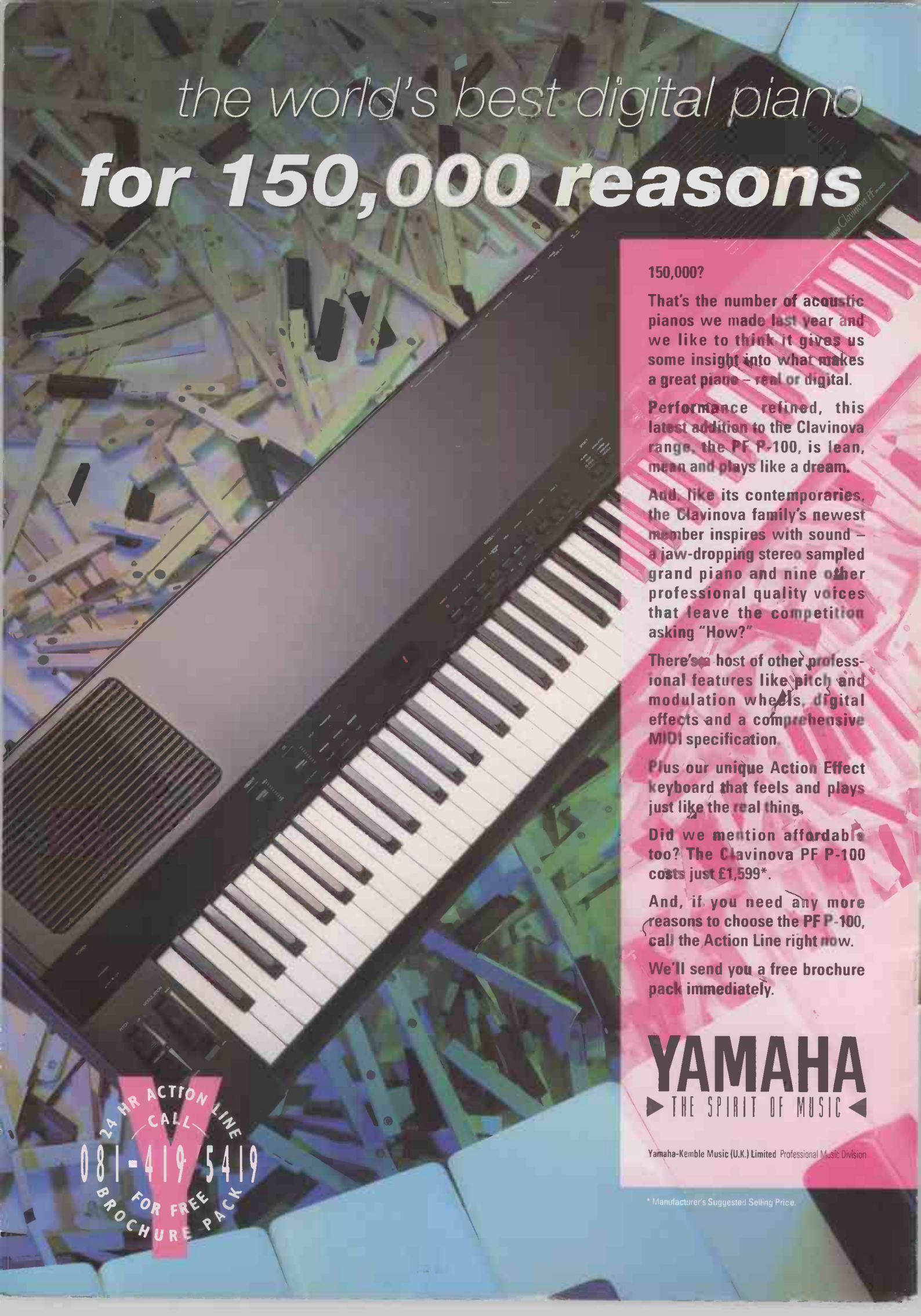

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Aphex Compellor pro limiter	£650	Yamaha S12 monitors	£139
Zoom 9010 effects processor	£999	Revox C278 8 track (demo)	£2219
Yamaha MT120 portastudio	£335	Yamaha SY35	£525
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Akai XR10 drum machine	£175	Allen & Heath GS3 (demo)	£1879
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Nexus 2 x 8 Midi merger	£79	Ensoniq SD-1 synthesizer	£1350
RSD Sessionmix Gold 8:2 mixer	£450	E-mu Proteus 1	£475
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Anatek pocket effects various	£59	Alesis SR16	£225
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Roland DJ70	£1699	Roland A30 (76 note synth weighted keyboard)	£499
Yamaha KX5 remote keyboard	£229	Yamaha RY10 drum machine	£229
E-mu 9015 (makes Proteus 1 into Proteus 2)	£199	Yamaha SY35 the new vector synthesizer	£550
Allen & Heath S2	£1649	TCD Stripper (removes DAT copy code)	£135
Alesis Microverb III	£138	Yamaha FX500B (expanded FX500)	£219
Alesis Quadraverb Plus	£299	Akai S1100 & 1100EX (pair)	£3799
Alesis Microseries (stereo) various	£76	Yamaha FX900 multiprocessor	£399
Allen & Heath S2 eight channel expanders	£799	Yamaha TG100	£289
Sony DPSM7 harmoniser (stunning)	£949	Yamaha SY99 keyboard	£1899
Roland CS10 stereo micro monitor	£89	Fostex R8 tape machine	£1399
Behringer Denoiser	£225	JBL 4206 monitors (pair)	£299
Aphex Dominator	£939	JBL LX44 3 way speakers	£275
Aphex Type III exciter	£710	JBL LX66 4 way speakers	£450
Aphex 4 way distribution amp	£149	JBL LX33 2 way speakers	£199
Akai 8 meg expansion board	£299	Studiomaster Diamond 12:2 console	£310
IB104 Digital interface for samplers	£165	Revox MK1 monitors (pair) - brilliant!	£219
Aphex Compellor	£699	Sony DTC P7DAT (MIDI stereo)	£375
E-mu Proteus 1	£485	BOSS DR660	£269
Yamaha P2075 amplifier	£249	Revox MKII monitors (pair)	£295

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Fostex R8 & RSD Proline 16:4:8	£2349
Revox C278 & Allen & Heath S2	£3999
Fostex R8 & Allen & Heath GS3	£3399
Tascam TSR8 & Allen & Heath GS3	£4299
Revox C278 & Allen & Heath GS3	£4299
Tascam TSR8 & RSD Proline 16:4:8	£3099
Revox C278 & RSD Proline 16:4:8	£3099

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Yamaha MT3X & monitors	£425
Tascam 424 & monitors	£468
Yamaha MT120 & monitors	£349

This amazing offer applies to any Portastudio - just give us a call!

"EUROPE"

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* STOP PRESS * For true Europhiles try calling any one of half a dozen shops in France or Germany, then ask the British dealer to better the price!

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T C A
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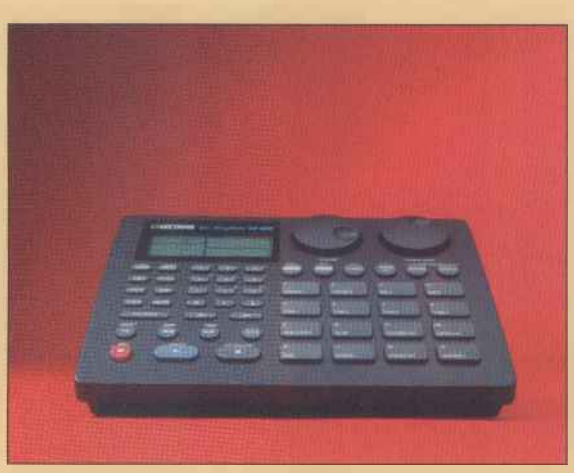

COMMENT

With the appearance of two major articles which include the word 'World' in their titles, you may detect something of an ethnic influence making its presence felt in the magazine this month. And indeed, our coverage of Peter Gabriel's Real World Recording Week and interview with guitarist/producer, Michael Brook, do reflect the importance we attach to music from all points of the globe – irrespective of the sophistication of the instruments on which it is produced.

In fact, I've always found it fascinating the way that instruments at both ends of the technology spectrum co-exist so effortlessly. From this, perhaps, has come the mutual respect that exists amongst musicians and producers working at both extremes – and of course, the whole ethos behind Real World. Certainly, as more and more diverse instruments are 'discovered' and become the common currency of musicians, the potential for cross-cultural development increases dramatically.

An interesting point to emerge from the Michael Brook interview is the contrasting views on 'sound' and 'performance' expressed by western artistes and those from other cultural backgrounds. Musicians outside the west simply cannot understand our preoccupation with the use of sound as a creative entity in its own right. For them, the music played on an instrument almost always takes precedent over the way it sounds. And sound quality appears to figure rather less highly, too – which is perhaps why the humble compact cassette is overwhelmingly the most popular form of music media in many areas of the world.

On a somewhat more irreverent note, this month sees the start of a regular contribution by noted columist, Brian Aspirin – who up until recently was music correspondent for the Wisbech & Dungannon Echo and president of the UK Association of the Musically Challenged. Brian's incisive style will, I'm sure, provide much stimulating comment in the months to come. NL

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Breakfast in the Editor's household is always a stimulating affair...

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GROUP PRODUCTION MANAGER *Mike Stapleton*

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

Dear MT,

I would like to clarify a comment made by Vince Clarke in the August edition of MT.

Whilst discussing problems with his live sequencer and keyboard set-up, Vince mentioned in passing that, "the only thing that goes down is the DAC hard disk". I'd just like to point out that there was only one occasion when a problem was encountered with the Akai MPC60/DAC Disc System and this was sorted out with a quick re-boot. I would attribute this trouble to being simply 'one of those things' that we all experience from time to time.

We've been using the disk on tour since June and have had no other problems with it and have recently purchased a second DAC for use in our system.

Kind Regards,

Mike Hall
Keyboard Technician
Erasure

➤ Actually Mike, I would have thought it sufficient testimonial for any hard disk system that it would tolerate being trundled round a stage on caterpillar tracks. But ol' Vince does seem to have picked up a particularly nasty dose of the 'analogue good, digital bad' virus, doesn't he? – **NL**

Dear MT,

Can we rely on the computers that run our software? There must be some people out there that are totally committed to the make and model of computer they use.

Why is it then that the music market has turned its back on the Acorn Archimedes? The education establishment of this country hasn't, just ask any teenager at school what they think of the A300 in comparison with any other computer they have used before. Apple thought the ARM (Acorn RISC Machine) was so good that they bought a third of the company. Their new hand held computer called Newton uses the ARM.

Multitasking – "What's that?" some may ask – yet Archimedes users take it for granted. Try and get a PC running Windows to do two or more things at once. Why can't Steinberg convert Cubase for Archimedes? I am sure that Cubase Audio would work fine on the A500, having spare processing time to format a floppy disk and send your last score sheet to the printer, allowing us the composers to get on with composing and not endlessly waiting for the machine to catch up.

Come on software writers, get your act together – vote for RISC, not CISC, our sanity could depend on it.

Emil Brunavs
Bournemouth

Dear MT,

I have always been interested in music and ever since the days back in 1976 when the music establishment was blown apart by the punk rock revolution I have experimented with new methods of composing using whatever technology or style I deemed fit for the composition.

I look back on the rap/hip hop revolution with the same fond memories as the punk revolution, but the time has come to cry enough is enough. Am I the only person in the world to see through the con of the sample CD? Are we now seeing the capitalist movement taking over the music-making process? My points are: if sampling beats, hooks and vocals is (was) such a slap in the face to the establishment, why do people make a packet producing sample CDs that are 'safe' to sample from?

If I compose a song made up of samples of one sample CD, am I the composer or just the producer? If the people who produce these CDs are such incredible artists/composers why do we not see them in the charts? I'll tell you why, they are all on the gravy train, they are all has-beens (or never have beens). Well, bollocks to the lot of them! Anyone who uses a sample CD is either completely devoid of artistic imagination or a complete fool – use your own skills to produce music, don't pay these rip-off merchants, otherwise we will see yet another stagnation of music.

Keep the creative revolution free from the sample CD!

Yours hopefully,

Malick Ickmare
Chester

➤ It's not difficult to see why the word 'bollocks' came to mind when you were writing this, Malick, but as it does seem to represent the view of a small, vociferous minority, a reply is perhaps in order.

Being of an age where I can look back considerably further than the 'heady' days of 1976, I recall a series of 'revolutions' in music. One of them occurred when a number of young musicians spent all their waking hours learning Chuck Berry, Little Richard and Buddy Holly licks and then churning them out note for note as part of their own material. Though clearly not part of a revolution you were familiar with, I think you'd have to admit that bands like the Beatles and the Rolling Stones did achieve a measure of success – despite their obvious penchant for 'stealing' other people ideas.

And before you point out the skill involved in learning to play someone else's music: just ask yourself how much more difficult is it to play a Chuck Berry riff than it is to sample a break, loop it accurately, trigger it from a sequencer and then figure out where it can be used in the context of a song. It might be a different kind of skill (and one not immediately identifiable as 'musical') – but skill it most certainly is.

The way I see it, it falls to each successive generation to use and exploit the tools available to them, whether that be tea-chest basses, Fender Telecasters, Moog synthesisers, or sample CDs.

The point is, any good musician would only use a CD sample as a starting point for a song. There are countless ways in which samples can be altered /customised/ processed to reflect your own creativity. We live in an age where the sounds we create are almost as important as the music we write – does your opposition to sampling spill over into sample-based keyboard voices or any

Communiqué

sound programmed by someone else?

Singling out the producers of sample CDs as "capitalists... taking over the music making process" is equally fallacious. If they, as the makers of CDs, are capitalists, then I, as the producer of a magazine, am a capitalist and those heavily salivating young men who "blew apart the music establishment" are also capitalists – were they giving their records away in 1976? The days in which pop music represented a "slap in the face to the establishment" are (sadly) long gone. Somewhere along the line, pop became a sensible career move and a business like any other.

If there is a "creative revolution" it seems to me the only thing it needs to be kept free of is reactionaries like yourself. But hey, you have a valid opinion – and I, er, respect that... **NL**

Dear MT,

Just a quick word in appreciation of the many and varied improvements that seem to have overtaken the magazine over the past couple of months. Are the glossy covers and the extra pages here to stay? I certainly hope so. Suddenly, MT *has started to look like good value for money again. I did feel a little lost when I picked up the August issue after having finally found it in Smiths (could you not have warned us in advance of the front cover changes?), but all in all, I definitely approve.*

Now if you could just do something about making its arrival a little more regular each month, life would be just about perfect.

William Clemens
Warwick

➤ Yes, the late appearance of the mag has tended to undermine our efforts to improve it. Er, 'thanks' for pointing it out. Would you be interested in listening to how it wasn't our fault, but that of the printer or about the incredibly tight schedule we've set ourselves to get things back on time? No, I didn't think so... **NL**

A CYNIC WRITES...

Comment By Brian Aspirin

THE SYD LAWRENCE EFFECT

Syd Lawrence was a big-band leader who throughout the '60s and '70s made a good living out of recreating exactly the sound of Glenn Miller and his band. Those who bought his records wanted to hear the Miller they remembered from their youth, while appreciating the recording qualities Syd was able to achieve as the technology improved. The demand was innately conservative. The supply was efficient.

So what do we find now? Magazines with cover-mounted CDs featuring 'rare' (old) rock tracks. Television programmes feting the dead and dying icons of authentic baby-boomer culture - the culture which finally laid both Glenn (and Syd) to rest. Concerts re-uniting Messrs Anderson, Bruford, Wakeman, Howe, Emerson, Lake, Palmer, Clapton, John, Harrison, Starr, and even Latimer, Bardens and Ferguson (...Camel, in case you were wondering). And bands whose entire existence is based around recreating the looks, sounds and styles of long-lost heroes like Zeppelin and the Doors.

In fact, ever since the 'New Wave Of British Heavy Metal' in the late '70s (the first exclusively rock-oriented pocket of resistance to change), the retro-junkies have have dug in their heels and refused to go away.

All of this is appalling news for new songwriters, producers and musicians, because valuable space is being taken up by corpses, thrusting their bony hands up through the soil and clutching still at the air. The attack is two-pronged. Firstly, there are those boomers who are replacing their record collections with CD re-releases, clogging up the shops and the charts with their fodder and creating the demand. Secondly, there are boomers in media and marketing who are only too pleased to feed this demand, to stuff it, in fact, with large creamy dollops of addictive nostalgia so insidious as to have many teenagers and twenty-somethings actually believing that their parents had exclusive rights to rebellion. Having invented youth, the boomers have co-opted its entire ethos for themselves and have not handed it down.

Something should be done to stop this megolomaniac generation. There are thousands of brilliant new acts and ideas out there who no one is allowed to listen to because the flower children with mobile 'phones are still trying to change the world their way. Because, in fact, the Syd Lawrence effect is still working. ■

Incoming Data

Compiled By Simon Trask

MUSIC FOR GAMES

Computer and video games publisher Elite Systems are currently commissioning a series of pop video films which will be used to launch new game titles. These will be used in much the same way as those produced for the music business, ie. for broadcast on those television series with an interest in computer games and/or music.

Airtime already secured for the first film, which features music under license from various established artists includes Channel 4's *Gamesmaster* and *Lunchbox* on Sky's Lifestyle channel. In addition, Elite's agents throughout Europe will be using the films for promotional purposes. A second video, to promote a game which features two comical cavemen called Joe and Mac is due for completion in October, while a third is currently in the planning stage.

The company are seeking up-and-coming artists to write and perform the music for further videos and for the games themselves. Anyone wanting to find out more should contact Steve Wilcox at Elite Systems on Tel: (0922) 55852 or Fax: (0922) 743029.

Casing The Rack

New from CP Cases is an all-aluminium protective hand-carry case for 19" rack-mountable equipment, available in 2U, 3U and 4U sizes. The CP 19" Strato Rack is both stronger and lighter than the company's old glass fibre GRP case, which it replaces. Finished in hard-wearing Gunmetal Grey, it has removable front and back lids for complete access to equipment, with a neoprene rubber gasket in each lid ensuring weatherproof protection against dust, dirt and rain.

Other features of the Strato Rack include an easy-grip, steel-reinforced handle and key-lockable heavy duty drawbolt catches, together with stacking indents in the seam-welded aluminium body which provide a positive location when units need to be stacked on top of one another. Vertical racking supports and fixings are included with the case.

Prices start from £112.50 for the 2U case. For further information on the Strato Rack and other 19" accessories and protective cases from the company, contact CP Cases at Worton Hall Industrial Estate, Worton Road, Isleworth, Middlesex TW7 6ER, Tel: 081-568 1881, Fax: 081-568 1141.

Suggestive Support

The Roland D Series User Group, now more than three years old, has recently acquired both a new chairman, Garry Mason, and a new contact address: 14 Poplar Road, Chestnut Avenue, Corby, Northants NN17 2UY. The group is also expanding its remit to provide support for Roland's JV series synths and is looking to recruit a new member to assist in answering any technical queries relating to the JV range and to contribute short articles to the thrice-yearly newsletter (strictly volunteer work).

In addition to the newsletter, the group's annual membership fee of £10 entitles members to many special discount schemes with suppliers of music-oriented products, and, via D-SUG's group membership of the UKMA, assistance in solving MIDI problems. Other "perks" of membership are D-SUG's own public domain editors and tone banks for the D-series synths (Atari ST only).

Anyone interested in joining D-SUG should write to the above address or ring (0536) 203198 (eves only) in order to request a membership application form. Cheques, made payable to "D-SUG", should only be sent when accompanied by a completed application form.

Walking the QY

To the long list of users of Yamaha's pocket-sized QY10 Walkstation can be added the name of David Was from the band Was Not Was. While on tour with Dire Straits this summer, Was used the QY to work on songwriting ideas for the next Was Not Was album.

"When you're a songwriter in the vast, silent confines of your hotel bedroom, bouncing ideas off the walls, it's good to have a net to receive the products of your imagination," he explains. "The QY10 is great because it's capable of establishing the real feel of the composition and is especially useful for disappearing into your own world on train journeys!"

Seems like the QY was a failure for Was. Not.

The At

Report by Ian Waugh

After months of speculation by the computer press, Atari's new computer the Falcon has, it seems, finally arrived. Officially launched in August at the Atari Messe in Dusseldorf, we can now 'top and tail' the report in our August issue.

The casing is, indeed, the same as the ST but beige in colour. This was apparently done for reasons of speed and to keep costs down – although a new case is believed to be being designed and may make an appearance in the middle of 1993. Inside, however, is a complement of totally new chips and an architecture which has been designed from scratch – it contains no TT or STE chips. 80 percent of the PCB is surface-mount technology representing the highest quality design Atari has ever produced.

We knew the Falcon was based on the Motorola 68030 chip running at 16MHz, but what has also emerged is the inclusion of a 32MHz 56001 56K DSP with no wait states, a 16MHz Blitter chip and three 3 DMA channels. To give you an idea of the relative processing power of the Falcon and the ST: the Falcon chips contain around 40,000 gates and the ST has between 8,000 and 10,000.

The video display is compatible with Super VGA, and in True Colour mode up to 65,536 colours can be displayed simultaneously. It will also plug into a TV (which seems rather a waste of video display power) and it's compatible with ST colour and mono monitors. It accepts external video sync signals to allow high quality genlocking.

External connectors include LAN (Local Talk-compatible), a high speed serial port, an enhanced parallel port and a SCSI II port which can sustain a 2Mb per second data transfer rate. There are MIDI sockets too, of course.

The Falcon can support an internal IDE hard disk and the built-

Fostex in the Mix

Fostex uphold their long and distinguished record in design innovation with the DCM100 MIDI Mixer and the Mixtab Controller, a complete MIDI-controlled real-time mixing system which costs just £748 including VAT.

In addition to two stereo effects sends, two stereo effects returns and stereo outputs, the 1U 19" DCM100 module provides L/Mono and Right audio connections for each of its eight line-level channels. Real-time MIDI control over pan, mute, send levels and hi/lo EQ for each channel is possible using MIDI control data, as is full level and hi/lo EQ control on both stereo returns. In addition, mix setups can be stored in up to 100 Scene memories, which you can dump via MIDI SysEx to external storage. Larger mixer systems can be configured by cascading up to eight DCM units, giving a maximum of 64 stereo inputs.

The DCM100 can be controlled directly from a MIDI sequencer, but Fostex have sensibly provided the Mixtab unit as an option for anyone who prefers to work with a more

physically immediate user interface. Deliberately designed to resemble a conventional mixing console in its layout of controls and faders, Mixtab in fact transmits MIDI controller data, which can be sent directly to the DCM100 or recorded into a sequencer. Although it has eight sliders, Mixtab includes a switch which allows it to interface with up to three DCMs, making a 24:2 configuration of the system possible.

The DCM100 is priced at £449, the Mixtab at £299.

More good news from Fostex comes in the form of price reductions on several existing products. The X28 cassette multitracker is now £339, the R8 eight-track reel-to-reel £1399, and the 812 12-input and 820 20-input Multitrack Mixers, respectively £799 and £1299.

All prices quoted include VAT. For more information, contact Fostex at 1 Gt Western Industrial Park, Southall UB2 4SA, Tel: 081-893 5111.

Falling Amigas

While PC-compatible prices have plummeted over the past couple of years and even the Apple Mac range has become newly competitive, the pricing of Commodore's Amiga 3000 series computers has remained unchanged. Dramatic price reductions by Commodore UK on the four configurations of the 3000 therefore bring the company's top-of-the-range machine more into line with current expectations.

The Amiga 3000 25/50 (2Mb RAM, Workbench 2.04, AmigaVision authoring software), originally £2999 now comes down to £1299. The 25/100 version (as above but with 100Mb hard drive) comes down from £3299 to £1499, the T 25/100 version (5Mb RAM, Workbench 2.04, AmigaVision) from £3749 to £2044, and the T 25/200 (as for T 25/100 but with 200Mb hard drive) from £3949 to £2540.

▶▶

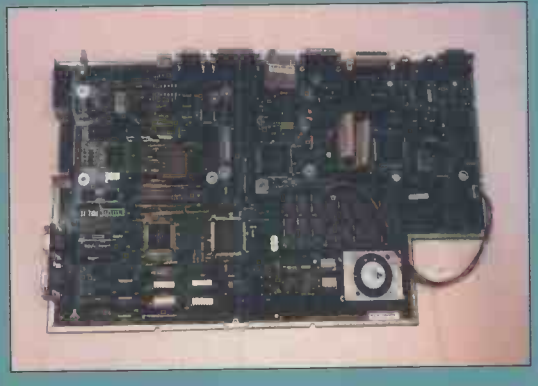
ri Falcon 030

in floppy drive is 1.44Mb and PC-compatible. The internal hard drive has an access time of 19ms and there is also a built-in real-time clock with battery back-up which should last 10 years. As anticipated, the Falcon supports 16-bit, eight-channel simultaneous record and playback with DMA. It has a built-in 16-bit stereo CODEC giving CD quality sounds and all the sound sections can be interconnected. For example, the DSP, the CODEC and the DMA channels can be linked to each other.

The software is based on the desktop features of the TT with many new enhancements such as animated colour icons, 3D window gadgets and buttons. It also incorporates MultiTOS which will allow a degree of multitasking. A large number of operating system calls give programmers easy access to various sections of the machine such as the analogue to digital converters and the DSP.

Applications currently being developed for the Falcon include real-time 3D rendering, shading and object manipulation, photo retouching and scanning software, genlocking and a PC emulator which plugs into an expansion slot.

The D2D company was showing a direct-to-disk audio editor which was



doing a grand job of cutting and pasting samples and putting them in a Cue list. The sound quality was subjectively excellent but we'll have to reserve judgement on the full set-up until we get our hands on a complete system (...which should lead to fisticuffs in the MT office!).

Currently under development is bit stream font-scaling technology which will work with GDOS applications. Also, a product with the working title of ST Sutra which will let you attach voice or other audio messages to letters and E-Mail. As if reading your boss's scathing witticisms weren't enough – now you'll have to listen to them!

The Falcon will include four pieces of software configured as desktop accessories: a calendar appointment book, a calculator and two games – Landmines and Breakout. As expected, the machine will be available in four RAM configurations – 1Mb, 4Mb and 14Mb. According to Sam Tramiel, Atari's President and CEO, the basic 1Mb machine will cost £499 and a 4Mb version with a 65Mb hard disk will cost £899. (It was rumoured that the 1Mb machine would cost £399 and the 4Mb version would cost £499.) He also claimed UK deliveries will start in September (...though we suspect it won't appear in volume until Christmas or the new year).

Both Steinberg and C-Lab currently have developers machines to ensure that their existing programs work on the Falcon. Sam Tramiel also hinted that they are working on new music programs for it too. The Falcon is highly ST-compatible although programs such as games which directly address certain parts of the hardware are likely to cause problems. But Atari do regard ST compatibility as being very important.

The major breakthrough for musicians, however, is likely to be the Falcon's ability to support direct-to-disc recording without any additional hardware. A complete direct-to-disc recording system could cost around £1200!

Interestingly, work on a Falcon 040 has been confirmed...

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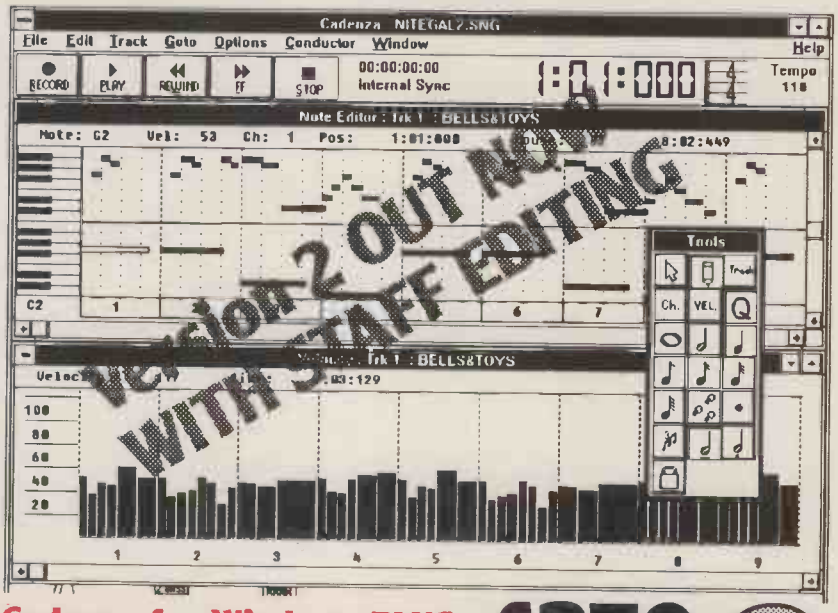

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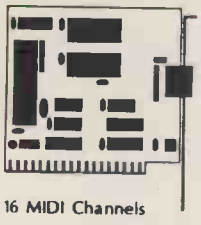

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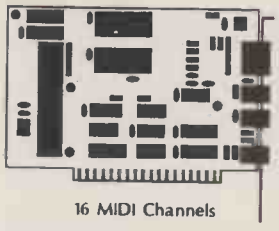

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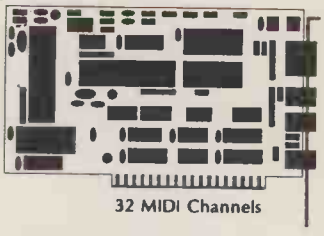

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DMC

Aviator Lands at the PLASA SHOW

At the recent PLASA Show at Earl's Court, Celco broke new ground with the release of their new Aviator range of lighting consoles. The range consists of five models offering between 180 and 720 control channels and 1024 to 2048 dimmer channels. All models have one thousand cues, one hundred 99-step sequences and 25 playlists.

The digital faders used have been jointly developed with Penny & Giles and the use of 32-bit Transputers for the storing of fader positions gives a degree of fault tolerance practically unheard of in the industry. Two on-board LCD screens offer various levels of information which can be displayed in alphanumeric and icon formats - including Channel Level, Dimmer Patching, Cue Fade Times, Cue Fade Operation, Fader Exclusivity and Preset Mode. Also included is full support for MIDI Show Control - in line with their smaller, Navigator console.

The Aviator will be available from January 1993; more information from: Celco on (0322) 222211.

Stolen

Roland JD800 s/n ZC54724 and Korg Poly 800 Mk II: stolen from van in Colchester, evening 18/9/92, please phone Adam Figures on 0206 768795 or 0376 563700 if you have any information.

Songs for Christmas

With Christmas fast approaching, MIDI Songfile company Words & Music have jumped on the Xmas bandwagon (or should that be Santa's sleigh?) with The Christmas MIDI Song Collection, a disk containing over 100 tunes for the festive season stored in Standard MIDI File format. Included are Christmas songs, carols and medleys plus festive classical pieces by Bach, Beethoven and other great composers. The ST disk even contains an auto MIDI file player with a Christmas tree display which has lights that flash in time to the music (low res only) (*Er, phew... Ed*)

Also new from the company is Keep On Drummin', a collection of 160 drum patterns on disk, again stored in SMF format. The patterns are grouped into 16 Styles, including Afro, Fills, House, Rock, Rhythm 'n' Blues, Latin, Disco, Hip Hop and Reggae. Several of the patterns have an accompanying bassline, which can be used 'as is' or edited to suit your own music. Files are configured to the General MIDI standard, automatically ensuring compatibility with such instruments as Roland's Sound Canvas range, Yamaha's TG100 and Korg's 03R/W and the package contains full written documentation explaining GM and other drum maps.

Price for each collection is a very reasonable £8.95 including both VAT and P&P. Both collections are available for the Atari ST, Commodore Amiga and IBM PC and compatibles. State computer type and (for the PC) disk size when ordering.

Words & Music can be contacted at 26 Newark Drive, Whitburn, Sunderland, Tyne & Wear SR6 7DF, Tel: 091-529 4788, Fax: 091-529 5327.

Dart's Cart Revolution

HHB Communications Ltd has picked up distribution rights in the UK and selected European territories for the revolutionary DART digital cart system manufactured by Berkshire-based company ASC. DART, which has already won orders from the likes of Scottish Television, Classic FM and the BBC World Service, employs 3.5" floppy disks in place of conventional analogue tape cartridges to provide instant-access digital audio. Digital compression technology allows one minute of CD-quality audio to be recorded onto a 2Mb high-density disk, and over five minutes onto a 10Mb high-density disk.

ASC have split DART's functions across two units which are connected via a single buss cable. The DMP100-10 Master Player's simple interface,

consisting of just Cue, Play and Pause buttons, means it will be instantly familiar to users of standard cart players. This leaves the DRM100 Record Module to provide less familiar functions such as mono and stereo digital recording via balanced analogue and IEC-958 Type II digital audio inputs, non-destructive editing of sample start and end points and the ability to loop and unloop samples at will.

The DMP100-10 Master Player is priced at £1620 plus VAT, the DRM100 Record Module at £1400 plus VAT.

For more information, contact HHB at 73-75 Scrubs Lane, London NW10 6QU, Tel: 081-960 2144, Fax: 081-960 1160.

World Chaos on TV

Rave culture collides with multimedia on *Global Chaos – CDTV*, a CD ROM disc described by its developers, London-based company Hex Ltd, as "eight tracks of hardcore techno and ambient chill tunes accompanied by infinitely mutating cyberscratch visual sequences."

Developed for Commodore's CDTV multimedia machine, which is basically an Amiga computer and a CD ROM player combined in one unit, *Global Chaos* also includes Hex's psychedelic computer game *Top Banana*, originally developed for the Amiga. Hex have divided *Global Chaos* into three sections plus the game. The first, 'Global Chaos', provides four Coldcut-produced hardcore dance tracks accompanied by rave-style visuals which consist of graphics based on principles of chaos and randomness.

In contrast, the Digital Love section provides four examples of soothing ambient music and absorbing visuals designed to relax the viewer and provide an opportunity for deep meditation and contemplation. Eternal Rave, meanwhile, offers a continuous flow of computer animations and rave-style graphics which Hex suggest would be ideal for a party or nightclub situation, preferably on a video wall or projector system.

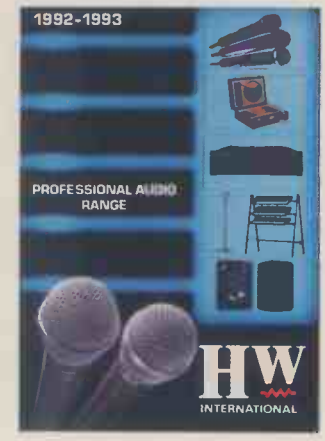
Global Chaos – CDTV is due for worldwide release in October and will retail for a modest £29.99 in the UK.

For more information, contact Hex Ltd at 41a Charleston Street, London SE17 1NG, Tel: 071-701 0652, Fax: 071-703 8952.

International Catalogue

HW International have recently published the 1992-1993 edition of their popular 60-page catalogue, which introduces technical specifications and colour-coded product guides. In addition to existing product ranges from Shure, Pro Acoustics, RCF, 3G and HW International themselves, it includes the new Beta Green microphone range from Shure, the full range of QSC amplifiers, Ultimate Support Systems stands, frames and accessories, and 3G four-buss mixers and micro-line amplifiers.

Copies of the catalogue are available free on request from HW International at 3-5 Eden Grove, London N7 8EQ, Tel: 071-607 2717, Fax: 071-609 0295.



Busy in Heaven

Heavenly Music MIDI Software have been extremely busy of late. For a start, they come up with a MIDIfile disk version of George Gershwin's *Rhapsody In Blue* – in fact, two versions, to be precise, one for piano only and the other a fully orchestrated arrangement. Price is £14.95 including P&P.

Marking a new direction for the company is the 3DCD sample CD, which has been recorded using Roland's Sound Space sound imaging system. A 99-index directory provides samples which include science fiction, atmospheric backdrops, synthesised rhythm loops and awesome intros – from the sublime to the outrageous.

The company are following up their U20/U220 mixer maps for Cubase with maps for Roland's Sound Canvas and D110, Ensoniq's ESQ1/M, Yamaha's TX81Z, DX100/27, SY series and TG100, and Kawai's K series synths. They're also currently in the process of programming a range of style disks for MPI's Feeling Partner and PG Music's Band-in-a-Box software, while their Dr Beat range of disks is soon to be extended with the release of Hot Jazz, Solid Rock, World Rhythm and Classic Dance disks. They've also finished converting their entire range of MIDIfile products for GM/GS compatibility. Is there no stopping them?

For further details contact: Heavenly Music, 39 Garden Rd, Jaywick, Clacton-On-Sea, Essex CO15 2RT.

The MIDI Groove

Metra-Sound, already well known for their wide range of sound cards and sample disks are entering the sample CD market with the *Dance Floor Groove Pack*, a combination of sample CD and Standard MIDI Files song disk which concentrates on contemporary dancefloor styles.

The CD provides 20 demo songs, 146 drum loops, 110 drum and bass loops and 242 single drum and effect sounds spread across 78 tracks and a total playing time of 55 minutes. Each song is organised into four different tracks with track one being a demo song demonstrating the grooves on the additional MIDIfile disk, the second and third tracks providing the drum and the drum and bass loops separately and the fourth containing the individual drum samples used for the song.

The MIDIfile disk provides equivalent performance data in MIDI form so that you can load the rhythms and basslines into your own music, and edit them if you see fit. The *Groove Pack* comes complete with a track-chart indicating programmed tempo and drum settings.

Price for the pack is £39.99 including VAT. For more information contact UK distributors Sounds OK at 10 Frimley Grove Gardens, Frimley, Camberley, Surrey GU16 5JX, Tel: (0276) 22946.

MT Helps FZ

Thanks to a news item and an advert in MT, membership of the Casio FZ Users Club has shot up. according to Adrian Phillip Cox who has taken over running of the club from Will Penney.

One of the new members pulled in by the MT Effect, Andee Graves, has written an Atari ST editor for the FZ series which provides timestretch, re-sample, optimisation, fade in/out, reverse and invert features, together with a redraw function called Point which allows glitches to be removed from samples.

FZED, as the editor is known. comes with a printed manual and costs just £30. Software updates will be provided in the near future and a full support service is being run by the club for an extra £10.

The Club's £10 annual membership fee gives you six newsletters and access to libraries of sounds which start at £3.50 per disk. There's also a disk retrieval service for the FZ at £2 per disk and at present the FZED editor is only available to club members.

For more information, contact Adrian Phillip Cox at The Casio FZ Users' Club. 53 Linkfield Road. Mountsorrel, Loughborough, Leicestershire LE12 7DJ, Tel: (0533) 375603.

Canvas & Brush by Roland

Sound Canvas SC-55
GS Standard MIDI Sound Source
315 sounds, 9 drum kits, 16-part multi-timbrality, 24-voice polyphony, reverb, chorus, and pan. A convenient half-rack design weighing in at only 1.5kg.

Sound Brush SB-55
MIDI File Player
CD-style Remote Control and 3.5" disk drive. Songs created on cumbersome home sequencer setups can easily be converted for live or studio use.

Whether you're sketching out a new idea or remixing an old master the Sound Canvas will allow free rein to your artistic talent. It has a palette of 315 sounds (acoustic instruments to FX and everything in between), plus 9 drumkits, reverb, chorus and pan.

The Sound Canvas adopts the GS Format, which standardises MIDI parameters for Roland equipment, and is also compatible with data prepared for MT-32 and CM-32L sound modules.

Like the Sound Brush MIDI File Player, the Sound Canvas can be operated by remote control; as a portable system the two units are ideal, at a total weight of under 3.5 kg. But most important is the sound. Suffice it to say that anyone with half an ear would go mad for this setup – and it sounds even better in stereo.

Roland

For a list of authorised dealers and a free leaflet contact:

Roland UK Ltd
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Swansea
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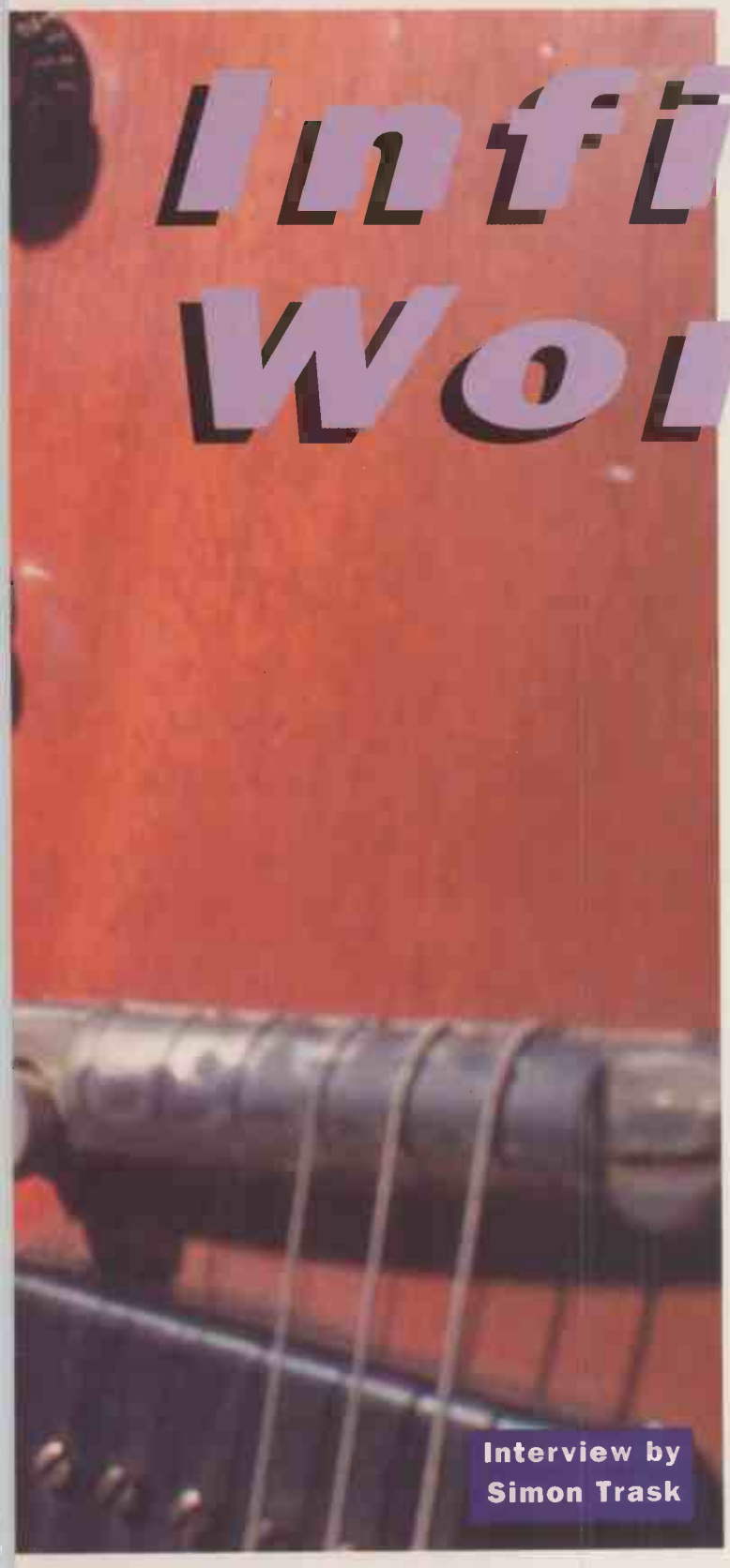
Fax 0792 310248
Tel 0792 310247

PHOTOGRAPHY: James Cumpsty

Low-tech guitar and hi-tech synths and sequencers dovetail perfectly on guitarist, composer and producer Michael Brook's latest album, *Cobalt Blue*, which sees him drawing on diverse musical traditions to make music which sounds at once timeless and contemporary.



Infinite World

Interview by Simon Trask

These days, geographical location need place no limits on musical horizons for any musician with an open mind and a willingness to explore the more far-flung musical idioms. Through recordings and concerts there is quite literally a whole world of music, boundary-free and rich in diversity, available to be explored and absorbed. One open-minded musician who has done just this over the years, and managed to forge his own musical style out of his diverse musical influences, is Canadian guitarist Michael Brook, who in the past has worked with world music trumpeter John Hassell and studied Indian music in New York with Lamonte Young.

On his second solo album, *Cobalt Blue*, which features contributions from long-time Brook cohorts Brian and Roger Eno and Daniel Lanois (among others), he weaves elements of African, Indian and Arabic music in with r'n'b and country influences to create a sparkling, shimmering, atmospheric music which is at once densely-textured and yet airy and expansive, vibrantly rhythmic and yet gently contemplative. The music is characterised by modal harmonies, drones and intricate, fluid rhythmic textures built up through multi-layered guitar improvisations and live and sequenced percussion. This is processed through various delay units and provides a backdrop for the soaring, sustained guitar lines which float over the top or weave in and out of the texture, courtesy of the 'infinite guitar' electronics designed by Brook and fitted to his Tokai Strat copy guitar.

Although *Cobalt Blue* was released only recently (on the 4AD label), Brook actually began work on material for it back in 1986 – not long after the release of his first solo album *Hybrid*. Time spent working on other projects meant that he didn't finish recording the album until 1990, then a period spent shopping for a new label further delayed its release.

"It's actually embarrassing how long ago I started on it!" the guitarist says with a smile as we sit in his West London flat. "I was really sick of it back when I finished it, 'cos I'd been working on it pretty heavily for two and a half years. I mean, I'd been producing and performing and doing other things as well, but around that time I couldn't see the forest for the trees. But now when I listen to it it feels pretty good. People keep saying it sounds fresh, which is kind of encouraging. Quite a few people have said they like the fact that the new album is a little more active, more uptempo, maybe a little more lighthearted than *Hybrid*."

Most of the album was recorded and mixed in Brook's flat, the guitarist having turned a spacious living room into a home studio centred around a 24-channel Allen & Heath Sabre mixing desk and a Fostex E16 multitrack, with monitoring via Yamaha NS1000s. Along with footpedals and rack-mount effects units, the studio includes an Atari 1040ST, C-Lab's Notator software, a Digital Music MX8 MIDI patchbay, a Yamaha DX7 synth with TX802 synth module, a Roland R8M drum module and (recently-acquired) S770 sampler.

Although he considers himself first and foremost a guitarist ("Any sophistication in my playing is definitely in the guitar."), Brook's involvement with synthesisers goes back a long way. In the early seventies he enrolled at York University in Toronto on an interdisciplinary course called *Electrōnics and the Arts*, on which the emphasis was on practical musical ▶▶

applications of electronics. As part of the course, he built a multitmode filter and a frequency shifter to use with the Serge modular synthesiser that he had at the time.

"I suppose I got my feet wet with electronics there," he says. "I didn't study electronic engineering, but I did develop a non-rigorous but fairly reasonable feel for electronics – enough that I could build things and read schematics, and sometimes figure out why things didn't work. I'd been playing guitar in rock bands before then, but I was always interested in electronics and music, and in mixing the two. York was a good place to be, 'cos they had an electronic music department there, and a little studio with a huge modular ARP system. I took an electronic music course there and they were really excited about the fact that they'd just got a Putney synthesiser – up until then it was these discrete valve oscillators, each one weighing more than your average home stereo now!"

Compositionally all the tracks on *Cobalt Blue* started out either as a guitar riff or as a sequenced percussion loop triggering FM sounds on the TX802. At the other end of the recording process the finished mixes underwent further transformation at the hands of Brian Eno, who used Digidesign's Sound Tools hard disk recording and editing system to restructure the tracks.

"Structure is not one of my strong points," Brook admits. "I don't plan things, I just keep improvising until something good happens, so I can't really map out a structure. But I can do multi-layered improvisations and get the sonic colour of a mix just right. So it was great for me to do what I was good at and then get somebody else in who's good at sonic architecture and give them the freedom to make really significant structural changes to the songs after they'd been mixed. Like many of the breakthroughs in technology, Sound Tools allows you to defer decisions – which can be a good thing or a bad thing."

Brook is a big fan of FM sounds and makes much use of them on the album. In fact, he even went through a period of programming his own...

"I have a basic handle on it, so I can kind of direct where I want to go," he says. "I'm not totally a pro, but I can get sounds that suit me. They have a certain character to them; people say to me 'Oh, that sounds like one of your sounds'. I never got into programming sustained sounds that much, though. Brian's really good at those. He did most of the sustained sounds on the album and I did most of the percussive ones.

"But I haven't done any programming in quite a while. I'm not as interested in sound designing that way as I used to be. These days I'm more interested in playing than I am in what the actual sound is. Or, maybe I want to control the sound more by just changing the EQ or putting a treatment on it than by getting down to the nuts and bolts of programming."

Of course, effects have traditionally been an integral part of the electric guitarist's sound – necessarily so, because the sound of the guitar itself is so straightforward. But with synths the attitude is still often that the sound has to be there *before* you get to the effects.

"I suppose there's an assumption that the synthesiser is inherently a more variable source to begin with – at the point of origin of the sound," agrees Brook, "but in many ways it's less interesting to work on the sound at the point of origin, and much more exciting to use effects or EQ or a compressor. Partly because it's a lot easier to do that, and partly because of the grunge factor: the failings of the cheap guitar pedals are often really interesting.

"I have a few old ElectroHarmonix pedals that are fantastic, but not necessarily in the way they were intended to be! In fact, technical limitations are often the dominant way that you give something complexity and subtlety. Brian had this whole thing where he wouldn't get his Putney synthesiser fixed because it had become more complex and more interesting

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EQ Magazine
February 1992 Issue

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by partially breaking down. I suppose a fuzztone is a good example of that as well; what it does is add distortion, and so in a certain way you can say that that's an inaccuracy, but it adds harmonics, and the ear finds that more interesting."

Brook has been using C-Lab software for almost three and a half years now, starting out with Creator and subsequently switching to Notator when a record he was working on needed printouts for string parts – though he never uses the notation side of the software himself. Currently he's thinking of switching to Cubase on the Mac.

"I like the linear aspect of Cubase," he says, "although the Mac version of Notator looks like it's going to be more linear. I suppose I want to try and get away from looped things, and it seems like Creator really encourages you to work with short loops. Having said that, it's good software, and I think the timing of it is very good, rhythmically, with all the groove stuff. I didn't use that stuff on the record because I didn't know about it then, but I like it more and more now, it can really loosen up a sequence. But there again, if you're combining sequenced and live percussion and live guitar then in some ways it's okay if you have these rigid things underpinning it. They don't sound too mechanical, and in fact maybe they help the whole thing sound stronger.

"People's expectations of timing have really been affected by machines a lot. You listen to some of those great old records – like I was listening to Sly Stone and JJ Cale recently and the timing is all over the place. Nowadays it would be rejected but in fact it's just exciting. When tempo changes happen through incompetence that's one thing, but when they happen through the natural inhalation/exhalation of the music... I think it's a huge expressive factor that's been lost, something that was an integral part of music until seven or eight years ago, when all of a sudden it was forbidden because the machines couldn't do it and the fact that people could was viewed as a sort of human frailty."

Nowadays, of course, sequencers have become more flexible in dealing with tempo fluctuations, with tempo maps allowing continuous changes to be programmed as part of a sequence. For his production work on the soon-to-be-released debut album by British songwriting duo Balloon, Brook developed what he refers to as a 'closest approximation' technique.

"First there was a rigid click, and the two guys would play along but also try and pull it the way they wanted it to go," he explains. "I would make tempo changes in the sequencer to try and keep the click in with the way they were pulling it and then they would play to that tempo track and I would make further tempo changes to follow them, until it felt comfortable. And it worked, really quite well. There was a big difference in the songs with and without the tempo changes."

In addition to his own infinite guitar electronics, Brook makes use of IVL's Pitchrider pitch-to-MIDI system to trigger the TX802 from his Tokai guitar. However, he has mixed feelings about the value of controlling MIDI instruments from a guitar:

"It's really good for giving you access to different timbres on the guitar, or maybe to more than one sound at a time, but it limits your playing technique. You sort of have to wear a straitjacket to play it because you have to be so precise. Also, on the low strings the timing just isn't good enough. But it does open a couple of doors that you couldn't open any other way. Like, there's one live piece I do where I have a radically different tuning, with octaves between strings. I actually want to explore different tunings a bit more with it. This one isn't even made any more, though; they just couldn't find a big enough market for it."

In contrast, Brook's infinite guitar electronics allow him to make the most of the nuances of guitar technique. He developed the Infinite Guitar in the early eighties after seeing fellow guitarist Bill Nelson using an E-bow to get the same sort of effect. When his own order for an E-bow kept getting mislaid he developed the Infinite Guitar to do the same job.

Currently there are only two other guitars in the world customised with Brook's electronics; one is owned by U2's The Edge and the other by Daniel Lanois. Brook hopes that his Infinite Guitar might be manufactured commercially one day, so understandably he's not too specific about the electronics involved, but essentially what happens is that the strings are made to oscillate continuously by feeding the output signal back into the guitar. Because the sound doesn't decay, changes in pitch can be produced simply by moving a finger up and down a string.

"For me it's been great 'cos it allows me to do a lot of the Middle-Eastern or Indian-sounding melodies by bending the strings," says Brook. In fact, he's even had a scalloped fretboard fitted to give his fingers more purchase on the strings for this very purpose. With a filter pedal in the feedback loop, Brook can switch instantly between normal and infinite guitar and make the infinite guitar sound cross over into harmonics. "It's not totally controllable," he points out. "In fact, it's quite organic."

For live work, Brook uses a Roland MC50 sequencer in place of his Atari and Notator setup. He transfers his sequences into the MC50 by playing them across via MIDI rather than by saving them as Standard MIDI Files and loading them in off disk.

"I find that because each sequencer is structured differently it never works to transfer sequences as files," he maintains. "I used to use a Yamaha QX sequencer that used macros – which were kind of loops – and then I put stuff from that into the C-Lab, which uses patterns. But you couldn't transfer to the Roland; with the macros you could have different length patterns repeating – but not in the Roland. You have to make everything into one big sequence, which means you have to rearrange. So it's easier just to record from one sequencer into the other."

Has Brook found the MC50 to be reliable in a live situation?

"It's been totally reliable. You just put the disk in, hold down a button, turn it on and it loads up your whole show. It's great – I like it."

However, Brook does have his own horror story about using digital technology live.

"I was doing a concert with Nusrat Fateh Ali Khan in Italy and I'd made up some new sequences for it," he recalls. "They worked here, but when we got to Italy the notes wouldn't trigger reliably. I use long MIDI notes, like a four-bar note, to trigger the Bel delay and these would trigger three times, four times and then stop. And yet my old disks from my solo concerts worked fine and the same material in Notator worked fine. I came back to England and the MC50 worked fine.

In fact, I don't actually know that I would blame the Roland for the problem, because only the Bel was having trouble – nothing else. The only thing I can think of was something marginal like the fact that the mains is 220 volts there but 240 here. Or maybe it was interference; I think because digital technology is logical we expect it to be consistent, but it's subject to interference just as much as other things. I think good electronic designers acknowledge that even with digital technology there are almost organic interactions that happen. The thickness of wires, how close components are – all sorts of things affect it that make it more like art than science."

In recent years, Brook's career as a producer has been blossoming, with albums by Youssou N'Dour, Nusrat Fateh Ali Khan and Cheb Khaled to his credit. His production of Youssou N'Dour's *Set* came about after Peter Gabriel introduced him to N'Dour's manager.

"When I saw Youssou and his band play live, I thought it was better than anything they had got on record at that time," he recalls. "Youssou live *was* alive, he just had this amazing fire and power in his voice that I hadn't heard on record that much. I thought that maybe he'd felt kind of tense in studios before, so I wanted to bring in a sense of gestalt into the studio as much as we could.

"That's why I wanted to bring the dancer in, so that they would feel comfortable and then maybe the tape would capture them playing and feeling comfortable. So, allowing them to play was important, but also working on the arrangements and getting a little more dynamics into the music than they had live – not just in terms of loudness but also in timbre and colour. I felt the musical sophistication was already there, what I wanted to have was a sonic sophistication that complemented what was happening in the music."

Talking about sonic sophistication, would he agree that the synth patches used in, for instance, Algerian rai music often sound rather 'cheesy' and unsophisticated to Western ears.

"I think part of that is the technological time lag," says Brook, "but also... Youssou's keyboard player was into more sophisticated sounds, but for Khaled's stuff it wasn't a high priority. Hi-fi is no big deal for them, they just care about the ornamentation and the way the song goes. In fact, they're often surprised by our fixation on the nuance of a sound because for them it's all in the playing. I think a lot of the synth sounds selected are the ones that come close to timbres used in their traditional music. Arabic sounds are often quite mid-range-y and nasal sounding and we associate that with slight cheesiness, but for them it's just the sound of the real instruments that they have around them."

With Pakistani singer Nusrat Fateh Ali Khan, Brook tried "...to bring the power and grace of Nusrat's singing into a Western setting because he'd already done dozens and dozens of traditional records. A few people were pissed off, saying it was a profanity against the sacredness of his music to use Western rock 'n' roll elements. But it wasn't at all. This was trying to get a collaboration between Nusrat and sympathetic Western musicians."

Upcoming projects include music for a documentary on the firefighters of Kuwait, and a collaboration with Joe Bogart of Technotronic. And, as Brook explains, he's keen to get more involved with other musicians...

"I'm tired of the bedroom studio type of situation," he opines. "I think with the next record I'd like to try working with an actual band. You can sort of disappear into your own navel a little bit with MIDI and sequencers and stuff – although, working in a very solitary way can be a good thing. I guess I'm getting hungry for the interaction between different personalities. Musicians are an amazing bargain, really. You can spend days just screwing around with one little part, trying to make it work, and maybe you will, but... with things you've done yourself, you can't really separate the fact of your investment in it; if you spend three days trying to get something, then you end up thinking 'Well, it must be good'. But if somebody comes in who doesn't know how things have gone, that you sweated blood over something, they can just say 'Well, that part doesn't work.'

"Also, you can just get somebody in for an afternoon who... they're a different person, different background, different ideas, and they just put this sort of slash of a new colour across what you're doing. Roger did that. He was here for about three days, and he would just put these things on top that I in a million years would never think of – and he contributed a huge amount because of that, I think." ■

Equipment List

Guitar:
Tokai Springy Sound Strat copy fitted with Infinite Guitar electronics and IVL pitch-to-MIDI converter

Pedals:
ElectroHarmonix 16-second Delay
E-H Memoryman Analogue Delay
Sansamp Amp Simulator
Korg OVD1 Overdrive
Yamaha GE10M Graphic EQ
DOD Compressor
Hot Tubes Fuzz
Ernie Ball Volume Pedals (x6)

Rack Effects:
Bel BD80S Sampling Delay
Drawmer M500 Compressor
Dulay 16-second Delay Line (custom-built)
Eventide H3000 Harmoniser
Lexicon LXP1 Reverb
Yamaha SPX90 Multi-effects Processor
Vocal Effects Waveform Animator (self-built)

Instruments:
Roland R8M Drum Module
Roland S770 Sampler with Sony optical disk storage unit
Simmons Portakit
Yamaha DX7 Synth
Yamaha TX802 Synth Module
Yamaha TX816 Synth Module

Recording:
Allen & Heath Sabre 24:16:2 Mixing Desk
Atari 1040ST Computer running C-Lab Notator software
Digital Music MX8 MIDI Patchbay
Fostex E16 Multitrack
Panasonic 3700 DAT Machine
Rauch Amp
Sony DTC1000 DAT Machine
Yamaha MCS2 MIDI Control Station
Yamaha NS1000 Monitors

Live Setup:
Bel BD80S Sampling Delay
Digital Music MX8 MIDI Patchbay
Drawmer M500 Compressor
Eventide H3000 Harmoniser
IVL 7000 Mk2 Pitchrider pitch-to-MIDI converter
Lexicon LXP1 Reverb
Neve 1073 Pre-amp (used with guitar)
Roland MC50 Sequencer
Seck 18:8:2 Mixing Desk
Simmons SPX 8:2 Rack-mount Mixer
Tokai Guitar and pedals (see above)
Yamaha MCS2 MIDI Control Station
Yamaha SPX90 Multi-effects Processor
Yamaha TX802 Synth Module

Gem S2

Workstation Synthesiser

Text by Simon Trask

Italian clothes in the shops, Italian football on the box – what next, Italian workstations? Well actually...

The home keyboard's traditional image is one of a cheap 'n' cheerful 'toy' instrument designed to attract the budget-conscious musical beginner. Yet today, this sort of keyboard represents one aspect of a much more diverse keyboard market, a market that includes 'flagship' keyboards which typically match pro synths in sophistication and price. This technological flowering is due in no small part to synth companies like Roland and Yamaha bringing their technology to the keyboard market in recent years, and in the process setting standards of technical excellence which other keyboard companies have had to match in order to compete effectively.

With instruments like the WS1 and WS2 Keyboard Workstations and the WS400 Piano Workstation, Italian company Generalmusic's Gem range is positioned at the sophisticated, expensive end of the keyboard market. The company have made the necessary R&D investment to produce instruments which provide sample-based, programmable sounds, drum kits, dual programmable effects processors, a multitrack sequencer and a 3.5" disk drive – in other words, all the features of a workstation instrument, whether it be synth or keyboard. But because the WS instruments are keyboards they also have built-in speakers and the inevitable auto-

PHOTOGRAPHY: James Cumpsty

accompaniment section. Increasingly, then, it seems that the differences between synth and keyboard are ones of presentation rather than substance. At the same time, a growing number of keyboard owners are buying into the wider hi-tech world of synths, samplers, drum machines and sequencers, thanks to the omnipresent MIDI connection. Against this background, Generalmusic's entry into the synth market with the S2 workstation synth seems like a logical next step for the company – and, despite the fact that some synth players may still be put off by its home keyboard associations, for the Gem name.

Clearly, Generalmusic are aware that it's not enough for a synth to be serious, it has to *look* serious as well. The S2's sober black casing, large backlit LCD and sleek, low-profile buttons, sliders and infinite rotary dial certainly do the job here; at the same time, the build quality feels reassuringly solid. All in all, this is an instrument which can sit comfortably alongside synths from the established names. At the same time, a couple of stylish design twists, in the form of the curvaceous pitchbend and mod wheels and the bulbous Enter button, subtly differentiate the S2 from the pack. As does its unusual and, to my mind, fiddly method of selecting tracks and functions using two columns of small triangular buttons to the left and right of the central LCD.

Generalmusic have set their synth apart from the competition in a more significant way by opting to fit it with a keyboard which is responsive to individual key pressure. The keyboard's moderately weighted action gives it a satisfying feel in performance, substantial yet not heavy going. For those players who find the S2's 61-note keyboard restricting, the company have also introduced a 76-note version of the synth, the S3. This uses the same keyboard action as the S2 and is the same instrument in every other respect.

At the heart of the S2 is a collection of 209 samples and waveforms. The standard of the sampling is on a par with that provided by the more established competition, but then there's no reason why it shouldn't be – the keyboard market which Generalmusic are used to catering for demands quality samples just as much as the synth market does.

As with the S2's appearance, Generalmusic have placed the emphasis on fitting in with current expectations in the range and selection of samples provided. Thus there's a familiar spread of sampled sounds ie. acoustic and electric pianos, harpsichords, tuned percussion, acoustic and electric guitars and basses, strings, brass, wind and vocals, together with standard synth waveforms, more off-the-wall digital waveforms, synth pads and various noise and atmospheric sounds, plus some 60 drum and percussion samples covering kit and Latin sounds, with a few different kicks, snares, toms and hi-hats for variety.

The S2's collection of drum and percussion sounds doesn't come near to matching either the number or the variety of sounds typically provided on a sub-£500 drum machine these days, but it's not alone among workstation synths in this. Of course, you could always load further drum and percussion sounds into its onboard 2Mb sample RAM. At present, samples can only be loaded in from the S2's built-in 3.5" floppy disk drive, but with a planned software update – or 'Option' as Generalmusic call it – you'll be able to transfer samples into it via MIDI in Sample Dump Standard format. This and any other Options will be loadable from floppy disk, rather than made part of a ROM upgrade.

Unfortunately, the S2 doesn't have an SCSI port, so fast sample transfer is out of the question, as is hard or optical disk storage of samples – doubly disappointing when you realise that the synth's sample RAM isn't battery-backed.

The instrument's synthesis architecture consists of oscillator, filter, amplifier and pan stages, with envelope generators for all four stages and a single LFO which can be applied to any of the first three. The resulting sound is called, logically enough, a Sound. Generalmusic have managed to provide a lot of flexibility within this familiar framework. For example, there's a pair of two-pole state variable filters, configured in series, which can each be set to low pass, high pass, band pass, parametric cut, parametric boost or off. Each filter can be assigned its own cutoff point, resonance amount, velocity sensitivity amounts for cutoff *and* resonance, cutoff aftertouch sensitivity amount, and output gain. Generalmusic's digital implementation of cutoff and resonance is one of the most successful I've come across.

The S2 allows you to program separate key on and key off envelopes for each of the four stages (though not for each filter). Each envelope can have up to ten segments, with time and level programmable per segment. You can also program each key-on envelope to loop between its final segment and any one of the earlier segments – effectively, ▶▶

The Sounds

The S2 provides 350 Sounds in ROM and allows you to store up to 1698 more in RAM! Sounds are numbered 1-1 to 1-16, 2-1 to 2-16 – and so on, all the way up to 128-16 (ie, 16 banks each containing 128 Sounds). The idea is that you assign similar sounds to the same Sound number in each bank, although you're not forced to work in this way. Generalmusic's own Sound assignments in the lower half of each Bank conform to General MIDI and GS, but things go rather askew in the upper half – most notably, the sound effects section is given over to drumkits. Still, the S2 isn't badged as a GM or GS instrument.

loop until release. The S2 also gives you dynamic control over the key-on envelope's attack rate and the overall key-off envelope rate.

As if this wasn't enough, you can also alter the effect of each envelope across the keyboard by programming a tracking envelope for it – so that, for instance, key on and key off segment times can be longer in the lower register of the keyboard than they are in the upper. All in all, the envelopes allow you to create Sounds which have a lot of movement in them. As, of course, does the LFO. It's possible to set separate LFO mod depth and touch response amounts for pitch, filter 1, filter 2 and amplitude, though the LFO waveform and rate are common to all.

As an alternative to in-depth editing, you can edit a Sound's volume, attack rate, release rate, filter 1 & 2 cutoff, and pan position parameters quickly at any time using the front-panel sliders – and then Save the results as a new Sound if you want. For the most part, then, the S2's synthesis architecture is well specified. However, although it gives you two oscillators it doesn't let you layer different samples or waveforms within a Sound; instead, when you select a source sound the S2 automatically assigns it to both oscillators. You can then detune the two oscillators against one another if you want to create a fatter sound.

The synth has a special type of Sound, known as a Sound Patch, which does let you assign different sounds to each oscillator – but for the purpose of velocity-switching between them. For instance, a Sound Patch called 'Rhodx' switches between soft and hard Fender Rhodes samples in response to the strength of your playing; another, 'Dyn Flute', lets you bring in an overblown flute by playing more forcefully.

Sound Patches also let you assign a different source sound or pair of source sounds to each key – a primary application being the creation of keyboard 'drum kits'. You can program volume, pan, transposition, fine-tune, exclude, and effects routing values for each side of the velocity split on each key and set the velocity splitpoint itself per key. However, in exchange for this greater flexibility you have to forgo the synthesis architecture available for the Sounds.

If you have a disk in the drive on power-up, the S2 automatically loads in any Sound, sequence, sample and other data on the disk – otherwise, it powers up with 'just' the ROM Sounds available. In fact, these Sounds give you a large and quite varied selection of voices to work with, covering the usual range of instrumental samples with reasonable proficiency, but also providing plenty of synthetic sounds, some of which have an unmistakably modern digital sharpness, others a satisfyingly smooth, full analogue quality (though the S2 is actually an all-digital synth).

'Filter Res 1', for instance, provides the classic smooth filter-swept sound with looping filter and pan envelopes adding to the sense of movement. 'Decay 05', on the other hand, is a punchy, percussive sound, based around a sawtooth wave which ranges in character from a bassy click to a bright 'whap' sound in response to velocity, thanks to filter resonance and a high cutoff touch sensitivity setting. There are some great analogue-style synthbasses in a similar vein, nicely balanced by a selection of powerful, hard-edged digital basses.

Classic full, rich analogue-style pad sounds are also in evidence – for instance, 'Synthex 4' a reminder that Generalmusic were behind the Elka Synthex, a much-rated analogue synth released back in 1984. At the same time, the S2 is able to provide the sort of breathy instrumental sounds and atmospheric pad sounds popularised in more recent years by the M1.

Individual Sounds don't tell the full story of the S2's sonic capabilities. This is because Sounds are organised into Performances consisting of up to 16 Tracks with one Sound per Track. Each Performance can have four sources: Local (the S2's keyboard), MIDI In, Song and Option. Sound assignments are common to all sources. The Local source can be set to single, layer, split or multi Sound assignment. Layer and split both use Sounds assigned to two adjacent Tracks in the Performance; by selecting a different lower Track you automatically call a different pair of Sounds onto the keyboard within the same Performance. The S2's ROM Performances include some wonderfully full, rich pad sounds produced by layering two Sounds on the keyboard in this way.

The Multi keyboard assignment allows you to build up some massive sounds for keyboard performance by layering more than two Sounds. Multi also lets you set different delay times for each Track, so you can create smoothly evolving sounds or rhythmic sequences; and by transposing individual tracks you can create pitch sequences which can be played from a single note.

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allows you to define Local and MIDI input and output routings for all 16 Tracks of a Performance. Each Track can be triggered by Local and/or MIDI input, and can be set to play internally and/or via MIDI. You can also set which MIDI In(s) and which MIDI channel a track will respond to, and which MIDI Out(s) and which MIDI channel it will transmit on. So, a Track needn't actually be used for its Sound – it can simply provide a means of routing an incoming MIDI signal to one or both Outs and rechannelising it if necessary. You can also get the S2 to filter out selected MIDI data for each incoming MIDI channel.

Further MIDI control is available via the front-panel sliders and their associated buttons, which can be used to transmit MIDI controller data when you select User mode. Each slider and button is routed to a single Track, and therefore transmits on a single MIDI channel via one or both Outs. Controller assignments are programmable per Performance.

With the Song source selected you can select Tracks for recording in the sequencer and mute individual Tracks at any time. The Option source, on the other hand, is undefined at the moment – awaiting the arrival of some... er, Options.

Effects are assigned to a Performance rather than to individual Sounds. One processor can be assigned a reverb or early reflection effect, the other a modulation effect such as chorus, flanger, phaser, delay or echo. You can assign each processor an effect level and determine effect routing for each Track. However, effects programming is done within the S2's Effects Libraries rather than the Performance.

Each processor has its own Library which can consist of up to 64 user-programmed effects with each effect drawing on one of 16 effect types. The reverb effects have five or six parameters eg level, room size, attenuation, diffusion, filter type and filter frequency for the stereo reverbs, while the modulation effects typically have four programmable parameters eg. level, feedback, depth and frequency modulation for Phaser 1-3. Effects quality is well up to the general standard expected nowadays.

Up to 10 Songs can be stored onboard the S2, with 10 Performances available for each Song. The 16-track sequencer provides real-time replace and overdub recording with a maximum resolution of 192ppqn and lets you use quantisation on and/or after recording. You can record on multiple Tracks at once, so keyboard layer, split and multi textures can be used within a sequence.

In addition to the 16 instrument Tracks, the sequencer provides a Master Track into which you can record tempo, master volume and effect level changes. Familiar record, stop, play, fast forward and rewind transport controls are implemented on dedicated buttons below the LCD screen, while a return-to-zero function is available by pressing the Stop button twice.

Detailed, step-by-step editing of all recorded data is possible using the Microscope edit function. Other song edit functions allow you to erase, move and copy events, transpose and quantise a track, insert and delete bars across tracks and set a fixed velocity value or offset recorded velocity values within a track.

The S2 is an instrument which demands to be taken seriously – no doubt this was Generalmusic's intention when they designed it. It sits very comfortably alongside other workstation synths in its price bracket, providing the quality and range of sounds and the complement of features expected from this type of instrument nowadays – even down to the trendy front-panel edit sliders and onboard sample RAM.

Yet the S2 is no mere copycat instrument. Generalmusic haven't been afraid to put their own imprint on the synth, and as a result it has its own character. It also has its own characteristic sound, a sound which provides richness, smoothness and fullness coupled with clarity, presence and dynamism – a good mixture in anyone's book. Worthy of particular appreciation is its ability to provide both digital sharpness and analogue-style smoothness with equal success. Those resonant filters and 10-segment loopable envelopes are also strong points in the synth's favour, as are its sophisticated MIDI routing and control options and a well-specified onboard sequencer with a sizeable event memory.

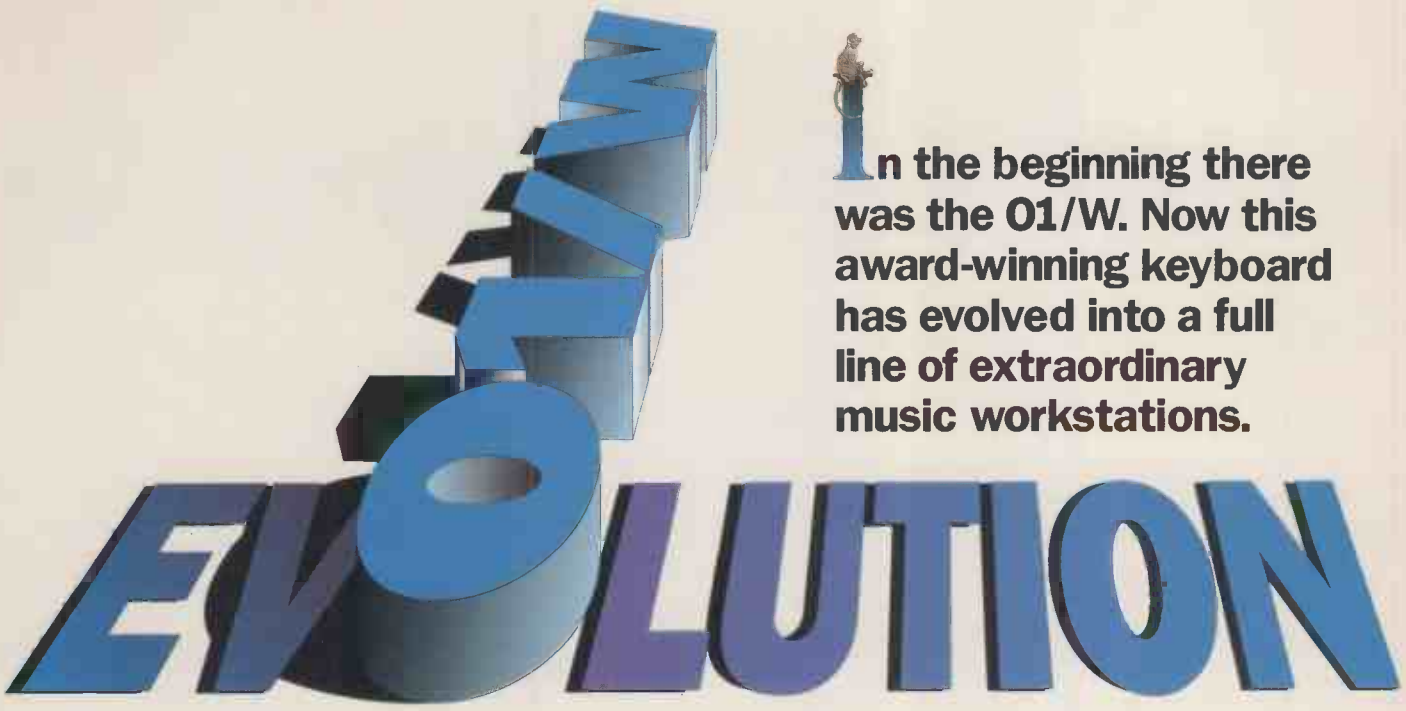
All in all, the S2 provides the Gem name with a very assured and impressive entry into the synth market. As such, it's an instrument which shouldn't be overlooked just because it doesn't have an established synth manufacturer's name on its casing. ■

The Spec

Keyboard: 61 keys (S2), 76 keys (76), weighted synthesiser type; velocity- and polyphonic aftertouch sensitive
Sound Source: 209 PCM samples in 6Mb internal ROM; further samples can be loaded off disk into 2Mb internal RAM (MIDI SDS transfer to be made available as an Option)
Sounds: 350 preset and up to 1698 programmable (16 x 128); Sounds can be sustained across patch changes
Sound Architecture: two digital oscillators, two resonant filters (in series), amplifier, panner; separate key on and key off envelopes for pitch, filter, amplitude and pan (each up to 10 segments, loopable); LFO modulation of pitch, filter 1 & 2 cutoff, amplitude; dynamic modulation from keyboard velocity and aftertouch
Effects: Processor 1: 16 (chorus, flanger, phaser, echo and delay types); Processor 2: 16 (reverb types)
Effects programs: 64 for each processor
Performances: 100 (single, layer, split, 16-part multi)
Polyphony: 32 voices (16 notes)
LCD: 240 x 64 pixels, backlit
Sequencer: 16 tracks, 10 Songs, 192ppqn resolution, approx. 250,000 events, background loading of S2 data during Song play, Standard MIDI File load and save
Disk drive: 3.5" double-sided high density; load/save: PCM Samples, Sounds, Songs, Performances, Effects; load: software updates
MIDI: 2 x MIDI In, with merging; 2 x MIDI Out (32 channels); 2 x MIDI Thru; internal/MIDI sync; MIDI master keyboard functions
Audio outs: main stereo pair (via effects); four outs accessible individually or as two stereo pairs
Dimensions:
S2: 41.6" (W) x 4.6" (H) x 13.8" (D)
S3: 50" (W) x 4.6" (H) x 13.8" (D)
Weight:
S2: 35.2lbs
S3: 40.7lbs

Info

Prices: S2 £1699, S3 £1899; both prices include VAT
More from: Key Audio Systems Ltd
Unit C
Chelford Court
Chelmsford
Essex CM1 3AG
Tel: 0245 344Q01
Fax: 0245 344002.



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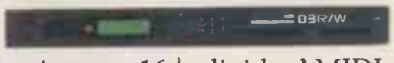
03R/W The affordable and compact MIDI module for fast, easy access to many of the great 01/W sounds. 32 voices, 128 General MIDI ROM programs, plus 100 user-programmable Programs and Combinations. Program and PCM card slots that use 2 Meg PCM cards. Compatible with Korg's RE-1 Remote Editor.



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MIDI by example

Part 2

Though by no means an essential item, a MIDI Switch box can make life a lot easier when two into one simply will not go...

Text by Vic Lennard

Anyone who works with a mixer and a tape recorder will have probably found themselves having to splice together a couple of audio leads at some point. The most common occurence is finding yourself with a single input on an amplifier and outputs from two separate instruments. Though strictly speaking, you should use a couple of resistors to construct a basic mixer configuration, it's often not essential to do so. After all, the bodge works, why worry about it? Try the same thing with two MIDI Out cables, however, and you've got problems.

But first of all, let's look at reasons for wanting to connect two MIDI Out cables to a single MIDI In. One possibility would be having to share a sound module with another musician – each of you using your own keyboard. In this situation, because you need simultaneous control over the module, a special MIDI 'Merge' box would be needed – and this will be the subject of a later article.

There are occasions, however, when, though two sets of MIDI Output data may need to be sent, this does not necessarily have to be at the same time. You could, of course, simply unplug one lead and connect the other when the need arises. But a more elegant solution would be to use a simple MIDI Switch box which would allow you, for example, to select between incoming data to a sequencer from two different sources – say, the MIDI note data generated by a synth and that generated by playing the pads of a drum machine.

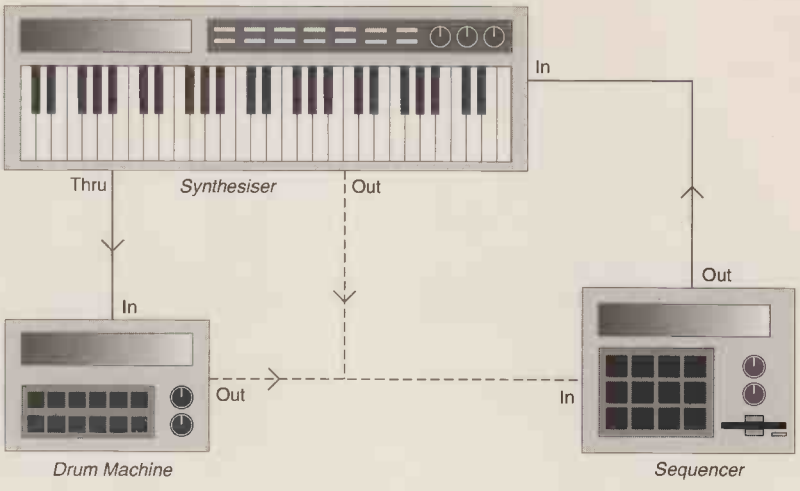


Figure 1: Using two controllers means you have to re-cable your MIDI system each time you change between them.

Figure 1 illustrates this situation. As you will see, you can connect either of the MIDI Out cables (represented by the dashed lines) from the drum machine and synthesiser to the MIDI In of the sequencer – but not both at the same time. The rest of the connections ensure that all MIDI information on sequencer playback is received by both the synth and the drum machine.

A MIDI Switch box is a simple affair. It usually comprises a rotary switch which selects one of various inputs and directs the signal to its output. A typical example would be the Philip Rees 2S which has two inputs and one output (£14.95). By wiring this as in **Figure 2**, life is made much simpler; you simply rotate the switch to determine whether it's the synth or drum machine which is the Master Controller. No more having to reconfigure the wiring.

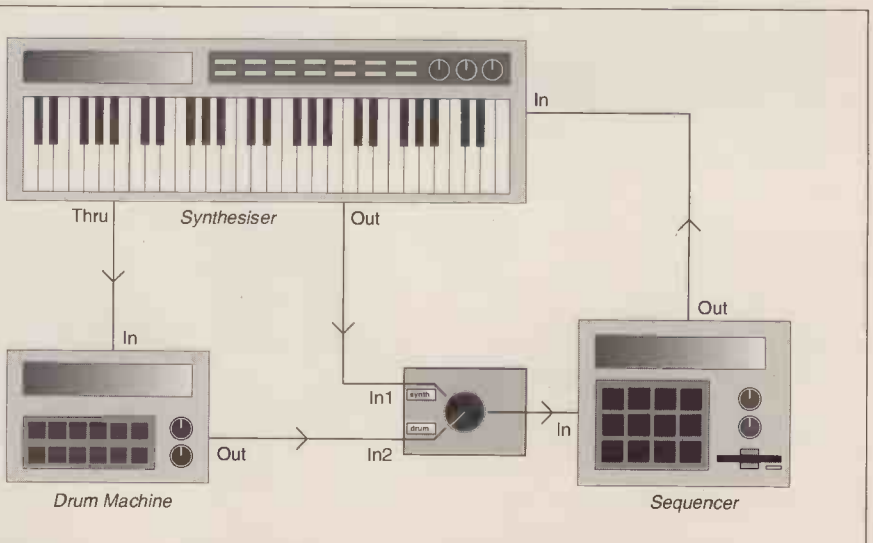


Figure 2: Using a Switch box removes the problem of re-cabling your system each time you change your controller.

MIDI GLOSSARY

Following on from last month, we continue our glossary of MIDI terms...

MIDI Controller

Any MIDI device which is being used to transmit MIDI information is generally called a MIDI Controller. Examples such as keyboards and MIDI drum pads are the obvious ones, but don't forget guitar synths and wind instruments – in fact all instruments capable of outputting MIDI data. Incidentally, in MIDI terms, if a keyboard has on-board sounds it is generally referred to as a synthesiser. If, however, it has no sounds of its own, it is termed a Master or Mother keyboard and usually has a superior MIDI specification than a conventional synthesiser.

MIDI Control Changes

MIDI Control Changes are often referred to as MIDI Controllers which, of course, confuses them with the instruments covered by the previous definition. MIDI Control Changes are, in fact, data messages used to alter performance aspects of an instrument or other MIDI-equipped device. For instance, MIDI Control Change 1 refers to MIDI Modulation. Moving the modulation wheel on a synth causes MIDI Control Change data to be sent out from the MIDI Out port to whatever MIDI device is receiving – another synth or perhaps a sequencer.

MIDI Control Change 7 is called MIDI Volume and, as you might expect, is used to vary the level of signal from a MIDI-equipped device. Another common one is 64 – MIDI Sustain Pedal – transmitted every time you put your foot down on a keyboard's sustain pedal.

In all, there are a total of 128 MIDI Control Changes, out of which eight are used for special MIDI Mode messages and various others are, as yet, undefined.

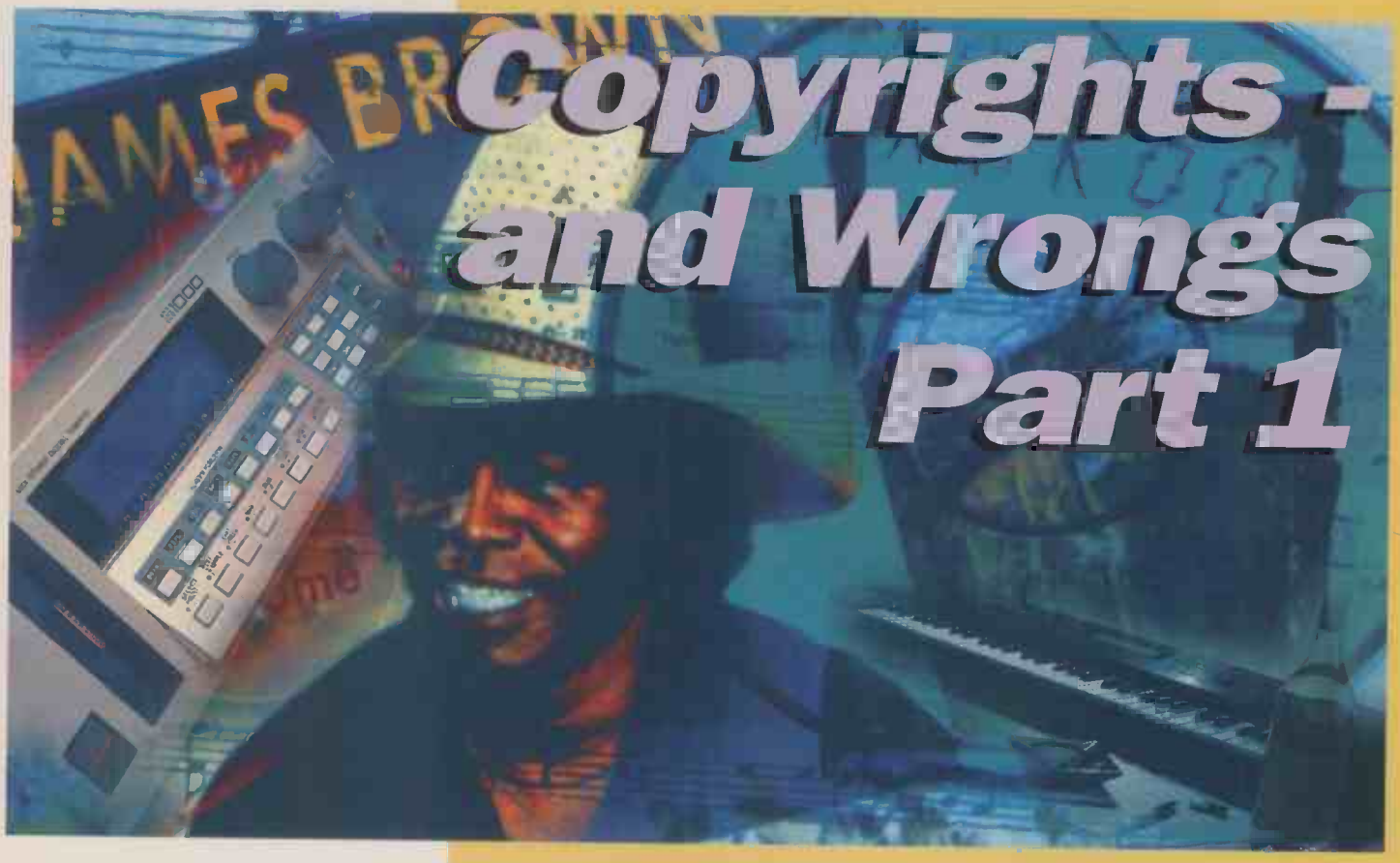
Omni On/Off

You'll see this phrase quite often in a MIDI context. Omni On literally means 'All on' and indicates that a MIDI device will recognise MIDI information received on any of the 16 MIDI channels. Some early synths Yamaha's DX7 – operated only in this manner. Nowadays, with so many multi-timbral synths being available, Omni Off mode is nearly always the default setting, in order that each voice responds only to the data sent to it via the selected MIDI channel.

MIDI Program (or Patch) Changes

In order to individually select the onboard voices or 'patches' on a synth or sound module, a series of push buttons or increment/decrement controls are included. The action of these controls may be duplicated via MIDI through the use of MIDI Program Change messages.

On a conventional synth, a MIDI Program Change message is sent every time a patch button is pressed – thus, a single button push can be made to call up patches on a variety of different MIDI devices, including signal processors which use Program Changes messages to select between their onboard effects patches. The standard MIDI specification allows for a total of 128 (0-127) Program Changes – though care needs to be exercised as different manufacturers use different numbering systems and conversion may be necessary.



Copyrights - and Wrongs Part 1

Sampling has put the copycats among the pigeons all over again, and it's more important than ever to know your rights...

Text by Anthony Braine of the MCPS

Be warned: copyright is a rather dull subject. However, if you are a composer or 'user' of music, it is essential you know something of the do's and don'ts. As a composer, royalties could be at risk and as a user, infringement could mean having your collar felt by the music industry's PC Plod. Remember, ignorance is no defence in a court of law.

On my travels, I find that most people want to know how copyright can protect them or how they can operate within the law. The aim of this article is to shatter, as simply as I can, a few myths and explain a few mysteries.

Welcome to the world of music industry initials. Now, what do they all mean? Well, the Mechanical Copyright Protection Society (MCPS) looks after composers and music publishers. In other words, the copyright holders of music. The MCPS licences the use of their music and collects royalties on their behalf whenever their work is recorded. This is why the term 'mechanical' is in the name. It refers to the mechanical right copyright holders have to control the recording of their work in any way. This includes vinyl/tape/CD, dubbing onto a soundtrack for a TV or radio production, recordings made for playing down a phone line when you're put on hold or coming from the bottom of a tea mug when you pick it up.

The Performing Rights Society (PRS) looks after the same membership, ie. copyright holders of music. However, as their name suggests, they look after them whenever their work is performed. This can be on TV and radio, concert halls, discos, shops that play music to their customers, even places that have those cursed karaoke machines.

The membership of the Phonographic Performance Ltd (PPL) is made up of record labels. This is because not only is there copyright in the music on the record, owned by the composer/publisher, there is also a separate copyright in the actual sound recording. This is owned by the label, as they have usually paid for the studio, mastering, duplication etc.

Let me bring this into the real world. Steve Wright is playing a record on his afternoon programme on Radio 1. The stylus hits the disc and the music goes out to the masses. The BBC pay two royalties here: one is to the PRS for playing the music and the other is to the PPL for using that particular recorded version of it. In this instance, they do not pay MCPS because they are broadcasting, not recording. Now, John Peel calls in a band to record a session in the BBC studios for his programme. As the BBC are now recording somebody's music, they pay MCPS a royalty. When John Peel plays that session to the masses, the BBC pay PRS for playing the music. They do not, however, pay PPL. This is because the BBC made their own sound recording of the work. Got that? Good. The moral of this tale is, of course, don't start up a radio station.

Needless to say, it's a lot more complicated than this, but I'm trying to stick to basics here (honestly).

Talk of a record label (meaning any individual, band or company who releases a record) and you will probably start thinking of ▶▶

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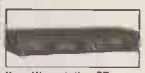

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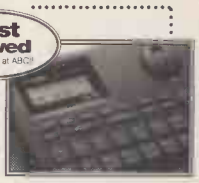

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VISA

the EMIs and Polygrams of this world. Although they are arguably the biggest, they are by no means alone. We estimate that there are about 4000 labels in the UK at the moment, and although a lot of these are small, many of them are quite industrious, turning out a lot of high quality, diverse product. So who makes sure that any royalties due for the music reproduced on the record (by which I mean anything released to the public on vinyl, cassette or CD) they release goes to the correct composer? The MCPS. How? Read on...

The Copyright Act of 1988 gives copyright holders of music certain exclusive rights in their works. This includes the right to license others who wish to record or perform their work in any way. There are further restrictions, like tampering with the lyrics or making a derogatory version, for which you have to get direct permission from the composer, but as I have said, I'm trying to keep it simple.

With the introduction of the 1988 Act, more power was given to the publisher and composer. In essence, these strengthened rights are there for the benefit of anyone whose music is to be copied by somebody else. Permission must be sought in three stages: to copy the music in the first place; to make further copies and to put the copies into public circulation. These licences will usually be granted by the copyright owner, providing the new version does not tamper with the work as mentioned earlier. Royalties, though, will be payable for these permissions.

So, why does MCPS get involved in all this? As I mentioned earlier, we look after our composer/publisher members whenever their work is recorded. Our membership agreement authorises us to license our members' work on their behalf and to collect the royalties payable. This means that any label wishing to release a record featuring our members' work has to come to us to obtain the necessary licence – which is obviously much easier than the label having to chase up the individual composers to pay them their royalties direct. We have about 1100 composer/publisher members in the UK, and we also have reciprocal arrangements with overseas societies.

Let's go back to the rights that the composer/publisher has. Studio owners may wonder if they are affected. If you wanted to read the law literally, the master recording made in a studio technically does need a licence. However, as studios act as a facility for those making and exploiting recordings, MCPS would not normally look to the studio to obtain a licence or pay a royalty. MCPS has drawn up a code of conduct with the APRS for their studio members, which lays down basic operating procedures for APRS members to follow which will give them some protection if licences are not obtained. As a rule, if you are running a recording session and you have serious doubts over the origins of the material and the intentions of your client, give us a call.

The need to license the making of further copies affects the manufacturers and duplicators of vinyl, cassette and CD. If a manufacturer makes copies of recorded music for a label, and this music is an unlicensed copy, then the manufacturer could also be liable under the new act. If you are a manufacturer, whether your duplication capacity is 500 or 500,000 a week, this affects you. If you as a label have gone to a manufacturer recently with your master to be copied and they have asked you for your MCPS licence, this is what it is all about. As with APRS members, we have drawn up a code of conduct for the manufacturers. If you have a manufacturing capacity of any sort and have not seen this code, then call us to obtain a copy.

So you're a label, you're going to release a record and you want a licence. How do you get one? Simple. Give us a call and ask for an Application For Licence (AFL). Complete this as fully as possible and return it to us. If all information is adequate, we will process this form within seven working days. If royalties are due, we will send you an invoice. Once this is paid, we will then send to you your licence to manufacture and you can then go and get your copies made.

You may think this all sounds like unnecessary paperwork. Well, imagine you're a composer and somebody at the other end of the country (if not the world), releases a version of your best composition and makes money out of it. There is no central licensing body around, such as the MCPS. How are you going to know they released it? How are you going to ask them for your royalties?

Anyway, I mentioned earlier that royalties may not necessarily be due on your record. If you are releasing a record that contains purely your own original compositions which you have not assigned to a publisher, then generally you will not have to pay us any royalties. As soon as we have processed your AFL, we will just send you a Notification of No Claim and it won't cost you anything. You may then ask why you have to bother to tell us you are releasing a record of your own work? Well, you might know it's your own work but how well the manufacturer? Someone brings the manufacturer a master tape of 15 songs they claim are theirs. They may well be, but they forgot about the cover version of that lesser-known Grateful Dead song they have always played in their set.

Another instance where we would not ask for royalties is if your release contained music owned by non-members. We can only collect on behalf of our members. If your release features non-member music (we will indicate on your licence who they are), it is incumbent on you to get a licence and pay them direct.

One final example of music where royalties are not payable is Public Domain (PD) music. Music generally passes into the public domain 50 years after the death of the composer or, in certain cases, 50 years after its date of first publication, whichever comes last. Sound recordings also enjoy a period of 50 years after the date of first release. If you make a recording of music which is in the public domain, then there should be no royalties due. But be warned: once music passes into the public domain, it can be rearranged and that arrangement becomes a new copyright work. If you make a recording of a new copyright version of a PD work, royalties will still be due. (I only said I'd try to keep it simple!)

I keep mentioning this word royalty without saying how much it is. We have recently been engaged in a long legal dispute with the British Phonographic Institute (BPI, one of the record labels' trade associations) over this issue. For records released on sale to the public, the rate is 8.5% of the published dealer price (PDP), or wholesale price, of the record. This is quite a bit cheaper than its retail price.

So, remember, if you are releasing a record, send us an AFL. It may be your own music with nothing to pay, but the manufacturer needs to see a licence. The licence won't cost anything if no royalties are due, and it will keep the manufacturer happy.

NEXT MONTH: Anthony Braine looks at copyright as it effects music for film and TV, and also the tangled web of home recording and sampling.

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THE BOOK: Volume 1 (The Music Industry)

Text by Phil Ward

Unyque Artists, incorporating Intrigue Records and Stylex Music, have produced a shoestring guide to the music business which makes up in punchy, straightforward common sense for what it lacks in stylish production. Photocopied and stapled between simple covers of blue card and compiled by a character basking in the title of 'The Dark Knight' with a diligence which belies its appearance, The Book is to be commended for its full and frank advice on producing demos and white labels, approaching contacts, distributing your product and generally avoiding encounters of the finger-burning variety.

Lists and tables appear on almost every page, condensing the hard facts still more, and covering such things as pressing costs, distribution networks, major labels, engineering courses, hire companies and even DJs. These are combined with a prose style that takes you by the scruff of the neck but makes a welcome change from the platitudes which all too often pass for advice in the 'biz'. For example: "No computer or machine in the world can make a crap song into a wicked song, or a bad (as in lame piece of shite) bassline into a killer (as in kicking on all cylinders) B-LINE. That miracle remains within you."

And the mysterious Mr Knight throws down another challenge right at the beginning of the book, where "all the information you'll need" to run 500 12" white labels is condensed into a simple table detailing manufacturing costs, VAT and sales required to break even. The implicit invitation to ignore the rest of the book is a skilful ploy: one is immediately impressed by the audacity, and tempted to find out more.

For your trouble, you'll be rewarded by sample contracts reproduced in full, essential information on copyright and licensing and a DJ Reaction Report, included to help you elicit and organise feedback. The emphasis on DJs, white labels and record shops of the 'Groove Shack' variety betrays The Book's main target readership – anyone involved in the burgeoning cottage industry of home-recorded, self-produced dance music – for whom The Book could well become The Bible.

The cost of information and advice of this sort is a doubt-provoking £10.00 – but that does include postage and packing. An order form was included with our review copy, but presumably the publishers hope to leave them lying around all over the place. It would certainly be worth picking one up. ■

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Boss DR550 MkII & DR660

Drum Machines

PHOTOGRAPHY: James Cumpsty

Text by Simon Trask

A generation of musicians have now begun their programming careers with a little help from the Doctor... Now he's back with two new drum machines which continue the tradition of affordable technology designed on a human scale.

For a company who have traditionally enjoyed a commanding presence in the drum machine market, Roland have not had the best of times in the past year or so. While the 'middleground' of the market has been dominated by Alesis' SR16 beatbox, Yamaha have seized the initiative from Roland at the high end with the RY30. Roland's chief success has been with their Boss division's budget DR550 drum machine (reviewed MT May '90), which at £199 has single-handedly defined the low end of the market since its release in 1990.

However, 1992 is turning out to be biteback time for Roland. With the recently-launched R70 (reviewed *MT* July '92), the company are attempting to regain the prestigious high-ground initiative by offering a leading-edge machine packed with all the proverbial bells and whistles. Meanwhile, more modest in both design and intention, the new DR550 MkII sees the company updating the original 550's spec in an attempt to hold on to the budget market – but charging £26 more for the new machine in the process. In fact, Roland are still producing the original 550, so budget-minded buyers can choose between the two machines.

Rounding out the new line-up, the 550 MkII is complemented by a second addition to the Dr Rhythm range, the DR660. Designed to compete head-on with the SR16 (reviewed *MT* February '91), the 660 is the most sophisticated DR beatbox to date – with a price tag to

match. Unfortunately for Roland, Alesis have responded by slashing the price of the SR16 from £349 to £259. So has the DR660 been left high and dry? And will the DR550 MkII, priced less competitively than the original 550, be able to weather the storm of tough competition from Yamaha's new RY10 budget beatbox (£249) and the born-again SR16?

With the emphasis, these days, on providing plenty of kicks and snares on drum machines, the 550 MkII's complement of 11 kicks and 18 snares seems small when compared to other machines currently on the market. In fact, the 550 MkII's total of 91 onboard sounds (which only three years ago would have been considered impressive on a machine costing twice as much), is rather limited when set against the RY10's 211 sounds or the SR16's 233. Its nearest competitor, the RY10, provides a more diverse collection of sounds, including off-the-wall sound effects and a variety of bass sounds, and offers a lot more kicks and snares. The two machines also differ in sonic character – the DR550 MkII has that familiar crisp, clear, punchy Roland sound, while the RY10's is grittier and somehow more 'colourful'.

Unlike the DR550 MkII, the RY10 allows its sounds to be tuned, albeit over a limited range; however, by way of compensation, the 550 MkII does boast a tone colour parameter as a means of altering its sounds. Continuing with the comparisons, the RY10 offers 28-voice polyphony against the 550 MkII's 12 voices and provides 50 preset and 50 programmable patterns (each with an associated fill pattern), while the MkII has 64 of each type (with no fill patterns). And, while the MkII has four pad banks which are common to all its patterns, the RY10 has 32 pad banks which are assigned singly to individual patterns.

Unlike the RY10, the 550 MkII doesn't implement real-time song recording, nor does it have a guitar tuner function, or an audio input allowing an external signal to be routed to the tuner or merged with the drum machine's own signal. It's also worth noting that the RY10's headphone output is louder and punchier than that of the 550 MkII – an important consideration for portable use – though I found that I was able to hear the MkII's output without difficulty while programming the drum machine during an averagely noisy train journey.

Mention of portable use brings us to the similarities between the two machines, perhaps the most notable being their ability to run off six AA-type batteries. The DR550 MkII is the smaller and lighter of the two machines, and can run for longer – approximately 23 hours compared to approximately 14 for the RY10.

While this shared ability brings freedom, other similarities between the DR550 MkII and the RY10 impose limitations. Both beatboxes have non-backlit LCDs and non-dynamic playing pads, limit their pattern lengths to a maximum of 16 steps, have a maximum record resolution of a 1/32nd note, allow their sounds to respond to velocity via MIDI but won't record incoming velocity data, and provide a MIDI In socket but no MIDI Out. The absence of a MIDI Out socket means SysEx data dumps of pattern and song data aren't possible, so both machines provide a tape save/load option instead.

The other new Dr Rhythm, the DR660, provides more sounds than either the SR16 or the more expensive R70 – 254 compared to 233 on the SR16 and 210 on the R70. In fact, what you're getting is most of the R70's sounds with new sounds added. These 254 sounds break down into 50 kicks, 72 snares, five side sticks, 39 toms, 11 hi-hats, seven cymbals, 36 percussion instruments, 16 effects, 11 reversed versions of selected sounds, five ambience samples and two basses (slap and synth).

"The DR550 MkII provides almost double the number of sounds on the original machine – adding 43 to the 48 on the original"

As with the overall number of sounds, the number of kicks and snares on the 660 surpasses both the SR16 (49 and 59 respectively) and the R70 (just 28 and 45 respectively). The resulting sonic variety is impressive indeed. The quality is, of course, all that we've come to expect from Roland – the company don't compromise as the machines get cheaper.

The DR660 has 100 preset and 150 programmable patterns. Pattern length can be up to 80 beats (enough for 20 4/4 bars), while maximum record resolution is 96ppqn. Quantisation on the 660 is record only. The 660's 16 playing pads provide both velocity and aftertouch responsiveness, and performance dynamics can be recorded into a pattern. Once a pattern is looping in real-time record mode, you can drop in and out of record at any time by pressing the Record button; this lets you locate a sound or try out a new part without having to stop the drum machine playing.

Individual recorded parts can be deleted in real-time by ▶▶

Spec

DR550 Mk II

Sounds: 91 16-bit
Polyphony: 12 voices
LCD: multifunction, non-backlit
Playing pads: 12, non-dynamic
Preset patterns: 64
Programmable patterns: 64
Songs: 8
Maximum pattern length: 16 steps
Pattern recording: real- and step-time
Maximum timing resolution: 1/32nd note
Song recording: step time
Pad Banks: 4, globally programmable
Pad parameters: sound, level, decay, pan, assign type, tone colour and accent follow
Data storage: cassette only
Rear panel: L/Mono and Right audio outs (jacks), stereo headphones output (mini-jack), MIDI In socket, tape save/load socket (mini-jack) and AC adaptor input
Power: Boss PLA adaptor (not included), 6 x AA-type batteries (six included)
Dimensions: 7 3/8" (W) x 6 3/16" (D) x 1 5/8" (H)
Weight: 1lb 2oz including batteries


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holding down the Delete button and pressing the relevant pad(s). You can also delete whole patterns, and copy a recorded pattern from one memory to another. Flams and rolls can be recorded for any part by holding down the dedicated Flam and Roll buttons while playing the relevant pad. Roll interval and flam interval and ratio can be programmed, and the aftertouch sensitivity of the pads can be used to dynamically alter the level of the roll.

'Macro' pattern editing functions are limited to swing (programmable on quarter, 8th, 16th or 32nd notes for a whole pattern, with swing amount ranging from 50-80) and timing shift (pad-specific, ±96 clocks in single-clock steps). Patterns can also be recorded and edited in step time. Like everything else about the DR660, step-time input is straightforward in implementation and easy to use, yet also flexible in application.

The DR660 picks up on the SR16's concept of having programmable variation and fill-in patterns for each main pattern, but implements it a little differently. Whereas on the SR16 you program A, B, Fill A and Fill B patterns for each pattern number, on the DR660 you select other pattern numbers for your Variation, Fill-to-Original and Fill-to Variation patterns. The 660's approach allows you to try out different groupings of patterns very quickly, so that, for instance, you could try out a pattern with a variety of fills.

Once they're assigned to a pattern, the variation and fill patterns can be selected in real time using the Start, Forward and Backward buttons while the machine is running. Fill patterns, of course, drop in immediately when selected; you can drop in a fill on the first beat of an original or variation pattern, but a fill pattern can't repeat.

Like both the SR16 and the RY10, the DR660 opts for pattern-specific Drum Kit assignments, rather than the R70 approach of allowing any sound from any of its pad banks to be used within each pattern. The 660 has seven preset and 32 programmable Drum Kits, any one of which can be assigned to any pattern. Kits provided include Power, Electro, TR808, TR909, Jazz, Brush, Ambient, Pop, Dance, Percussion, Reggae and FX. You can select a different Drum Kit for a pattern at any time – even while recording or playing back the pattern – so experimenting with different combinations of rhythm and sound is easy.

Working like this can lead to some inspired results which you probably wouldn't come across otherwise. Other 'chance' possibilities are available by switching between independent and layered pad bank modes. Each Drum Kit consists of two pad banks, A & B, which can be used to provide 32 single sounds (ie, 2 x 16 pads) or 16 layered sounds per pattern. In practice, limits are placed on the density of patterns by the DR660's 12-voice polyphony and the fact that a maximum of nine sounds can be entered for each pattern step.

Each pad within each pad bank can be assigned a sound together with settings for level, pitch ± octaves in ten-cent steps), decay, nuance, pan, assign type (mono/mono exclusive 1-7/poly/poly exclusive 1-7), and velocity response curve. With this last parameter you can not only tailor the velocity response of individual sounds, but, by assigning positive and negative curves to layered sounds, also create velocity crossfades.

Along with these parameters, you can assign each pad its own MIDI transmit/receive note number, allowing MIDI'd sounds to be triggered as part of a DR660 pattern. In practice, though, you're limited in the sort of instrumental parts you can play in this manner as the drum machine transmits all MIDI notes with the same, short duration.

"The DR660 is a well-conceived drum machine which sits very comfortably at the middle level of sophistication"

In addition to its pad-playable sounds, each Drum Kit has a further 23 sounds which are accessible only via the 660's MIDI In socket. You can't record parts for these extra sounds into a DR660 pattern, but obviously you can trigger the sounds from a MIDI sequencer – or just use them for live playing.

Drum Kits can be called up remotely via MIDI using patch change commands, an essential feature if you're using the 660 purely as a MIDI sound source. What you can't do is call up DR660 patterns remotely as part of an external sequence, so all pattern changes have to be recorded on the drum machine itself as a song. The 660 allows you to create up to 100 onboard songs. An individual song can have up to 250 parts (single-pattern steps) – drawn from an overall capacity of 1000. A song-chain function allows you to treat individual songs as song sections; as each song can be given its own initial tempo, working this way allows you to have tempo changes within your overall song.

Like the SR16, the 660 provides real-time song recording in addition to the more familiar step time. This means you can put your songs together by making pattern selections as

Spec

DR660

Sounds: 254, 16-bit
Polyphony: 12 voices
LCD: multifunction, non-backlit
Playing pads: 16, velocity- and aftertouch-sensitive
Preset patterns: 100
Programmable patterns: 150
Songs: 100
Maximum pattern length: 80 quarter-notes
Pattern recording: real- and step-time
Maximum record resolution: 96ppqn
Song recording: real- and step-time
Drum Kits: 7 preset, 32 programmable
Pad Banks: 2 per Kit
Pad parameters: sound, level, pitch, decay, nuance, pan, assign type, velocity sensitivity curve
Performance functions: Flam and Roll
Effects: reverb and chorus, programmable per Kit
Data storage: MIDI SysEx
Rear panel: L/Mono and Right audio outs (jacks), two individual audio outs (jacks), stereo headphones output (mini-jack), MIDI In and Out sockets, AC adaptor input
Power input: Boss BRA adaptor (not included)
Dimensions: 8 1/2" (W) x 6 1/2" (D) x 2 1/4" (H)
Weight: 1lb 10oz

Info

Prices: DR550 MkII £225, DR660 £335, Boss PSA adaptor £15, Boss BRA adaptor £25
(all prices include VAT)
More from:
Roland (UK) Ltd
Atlantic Close
Swansea Enterprise Park
Swansea
West Glamorgan SA7 9FJ
Tel: 0792 310247
Fax: 0792 310248

Related reviews:
Boss DR550 *(MT May '90)*
Alesis SR16 *(MT Feb'91)*
Roland R70 *(MT July '92)*
Yamaha RY10 *(MT Aug'92)*

>> the patterns play in Song Record mode; you can also switch between Original and Variation patterns and drop in Fills in real time as part of your song. One SR16 feature which the DR660 omits is a footswitch input, so you can't drop in Fills or switch between original and variation patterns with a tap of the foot, nor can you spontaneously 'stretch out' a song on playback by getting a song step to repeat while the footpedal is held down – all useful features of the SR16.

The DR660 scores over Alesis' drum machine with its inclusion of onboard effects processing, which has clearly been adopted from the R70. There are two effects processors, one providing a choice of hall, room, plate, delay and pan delay effects, the other a choice of chorus or flanger. Effect parameters provided (programmable per Drum Kit) are reverb time, reverb LPF, delay feedback, chorus depth and chorus rate. In addition, each pad within a Kit can be given its own reverb and chorus amounts. You can also make live changes to the overall reverb and chorus effect levels while a pattern is playing – you just press the Reverb or Chorus button and turn the data dial.

For separate routing of selected sounds, two individual outs are available in addition to the stereo pair. However, as on the R70, you can't use the reverb processor and Out 1 at the same time, or the chorus processor and Out 2 at the same time – separate routing on the DR660 means using external processing on all outputs.

The DR550 MkII is an ideal drum machine for anyone who wants their technology to be as friendly and inexpensive as possible and isn't bothered about limitations like a 16-step maximum pattern length, a modest recording resolution and an inability to record dynamics. At the same time, the MKII's compact dimensions, light weight and optional battery powering make it worth considering as a portable 'rhythm notepad' by anyone who wants to program on the move. It's worth bearing in mind that, having 'sketched out' some rhythms on the 550 while away from the studio, you can later sidestep all its programming limitations by recreating those rhythms on a sequencer and triggering the drum machine's sounds via MIDI.

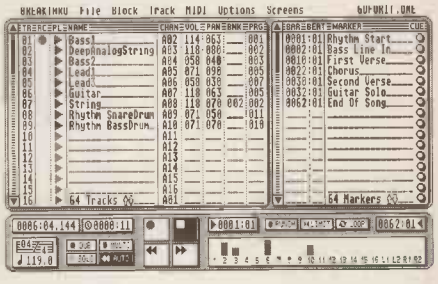
But the DR550 MkII doesn't have the budget market all to itself. Yamaha's RY10 (reviewed MT August'92) will also give you battery-powered portability, and it has much the same set of advantages and disadvantages as the MkII but is in some ways a better-specified machine (more sounds, for instance). A little extra money will take you up to another level of sophistication and versatility with Alesis' SR16, which is still easy to use but doesn't give you a battery option. When making your pricing calculations, bear in mind that the SR16 comes with an AC adaptor as standard, whereas it's an extra with the DR550 MkII and the RY10 (£15 extra in the case of the 550's Boss PSA adaptor).

The other new Dr Rhythm, the DR660, is an extremely well-conceived drum machine which sits very comfortably at the 'middle level' of sophistication yet provides the ease of use associated with simpler low-end machines together with a collection of sounds which is definitely the stuff of high-end machines. If you like the idea of having the R70's sounds in a less expensive and more straightforward, approachable machine, look no further.

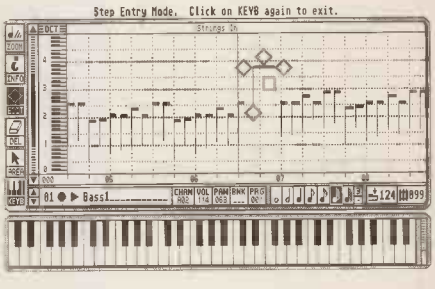
But is the DR660 effective competition for the SR16? After all, taking into account the additional cost of a BRA power adaptor for the 660, the two machines are a not inconsiderable £100 apart in price. For some people, price alone will be the clincher, especially in the current economic climate, but if your budget will allow for the extra cost, I think you'd have to opt for the 660. ■

WATCH OUT FOR A BREAKTHRU IN NEXT MONTH'S MUSIC TECHNOLOGY!

First there was Sequencer One, then Sequencer One Plus. Now, leading UK MIDI software company Gajits Music Software have produced Breakthru, a sophisticated new 64-track sequencing package for the Atari ST – and you can get a demo copy *ABSOLUTELY FREE* with next month's issue of Music Technology!

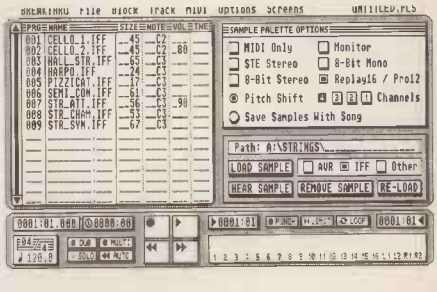


Breakthru not only provides double the number of tracks of Sequencer One Plus – and adds new score and drum edit pages – it also supports four-channel sample playback via Microdeal's various sampling cartridges, the ST's monitor speaker or the STE's stereo output – *at the same time as it plays your sequences via MIDI!* Combine Breakthru with Microdeal's new Replay 16 cartridge and you have a 16-bit sampler, advanced sample editing software and a 64-track sequencer for an unbeatably low price!



Other sequencer demos typically come with their Save function disabled, effectively discouraging you from working at any great length with the program. MT's special version of Breakthru, however, allows you to save anything you come up with – but provides limited loading facilities. The Drum and Score Edit Pages are also disabled.

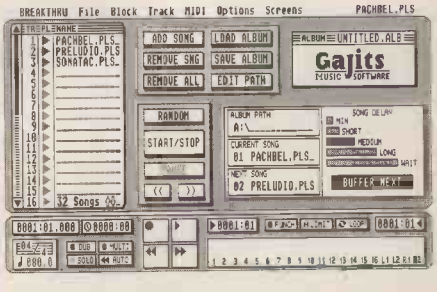
However, should you decide that you need a Breakthru in your life, a special voucher included with next month's issue will allow you to claim £20 off the price of a fully operational version of the sequencer. Instead of the full £129.95 purchase price – you pay only £109.95!



Breakthru will run on any Atari ST/STE/Mega ST/Mega STE/TT computer with at least 1Mb of RAM, and supports both mono and colour monitors.

BREAKTHRU INCLUDES:

192ppqn Record/Playback Resolution ◆ Loop, Overdub and Punch In/Out Real-Time Recording ◆ Step-Time Recording Via MIDI or On-Screen Using A Mouse ◆ Step Editor Screen With Gajit's Renowned Diamond Drag Note Editing ◆ 64 Cue Points ◆ Flexible Quantise Options For Partial or Complete Time Correction ◆ Tempo Map Screen For Graphic Display of Tempo Changes ◆ Audio or MIDI Metronome Option ◆ MIDI Filtering And Remap Options ◆ Importing And Exporting of Sequences as Standard MIDI Files; MIDI System Exclusive Data Recording ◆ And a Jukebox Screen For Chaining Songs Together



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JJ Jeczalik's Art of Sampling November

NEW Dance Sample CD REMIX! November

Ian Curnow & Phil Harding's Sample CD December

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 & Basses** ■ **Brass & String Hits, FX** and **Runs!** ■ **Film & Media** Snatches ■ **Orchestral** Effects ■ And Much, Much, Much More! ■ Over 1000 Samples, 72:23 minutes

Volume 2 - Danny Cummings' & Miles Bould's Rhythm of Life

This CD combines the highest possible quality recording with the finest performances you're ever likely to witness. Acknowledged by our professional users as the finest sampling CD on the market. This CD shows why **George Michael, Dire Straits, Pet Shop Boys, Tina Turner, Julia Fordham, John Martyn, The Beloved, ABC**, and many more have chosen these guys to give them the groove. We presented them with 8 backing tracks and recorded their performances to multi-track, producing 49 tracks of dynamic, wide ranging performances. After extensive editing and remixing, in some cases incorporating Roland's RSS processing, we have compressed these sessions onto one CD. Now you can give your productions the ultimate groove. Get this CD and get a taste of the best in percussion. There's nothing else in it's class. ■ *"...as good as the best in the Synclavier library...inspirational...It's sonic credentials are impeccable...A conoisseur's product." - SOS, July 92* ■ Around 55 minutes of percussion **grooves** ■ Unparalleled **performance** and **recording quality** ■ **RSS** Samples plus Mixes ■ PLUS an extremely comprehensive collection of **single hits and more classic patterns - Congas, Bongos, Djembes, Udus, Bata Drums, Cowbells, shakers, talking drums, bells, timbales, agogos, tambourines, guiros** and Much More! ■ Superb value at Just £49! ■ **Instant Inspiration!**

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!

Coldcut are regarded by many as the UK's most innovative dance artists/remixers. Aside from their own successful recording career and **Kiss FM** radio show, many will know them for launching the careers of both **Lisa Stansfield** and **Yazz** - now established as international stars. Apart from one or two classics this CD once again conforms to our policy of placing originality as our top priority. If you're serious about making dance music you're sure to be on the look out for hot new samples to make 'The Music of Now', not a rehash of the past. As with our Pascal Gabriel CD - If you want inspiration, originality and the freshest sounds around. Look no further. ■ *"Coldcut's samples are raw, wicked and packed into the terraces...the quality of the music content is very high...quite brilliant, and definately going into my S770...this CD represents another 'must have' for any serious dance enthusiast." - SOS, May 92* ■ The finest selection of **ultra-rare** loops ever compiled - over 400 **unbelievable loops!** ■ Male & Female Spoken & Sung **Vocals** ■ Coldcut's **Exclusive - Hed & HPN** Samples ■ Superb range of mega **scratches!** ■ Media snatches, FX, Robot Vox ■ Full selection of drum & perc samples ■ **Hits, Stops, Breaks, Synth** & **Bass** samples ■ BEYOND DESCRIPTION - HIGHLY USABLE! - Superb value at Just £49! ■ "Say Kids! What time is it?" ■ Over 1165 Samples, Over 73 minutes

"I can safely say that I've listened to EVERY sample CD out there and you guys are definitely doing the most creative, unique, quality work in the field." - Chief Sound Designer, Roland R&D, LA

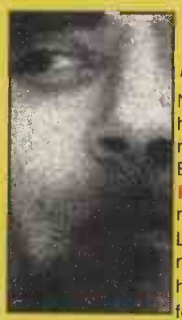
NEW PRODUCER SERIES SAMPLING CDs

Volume 5 - Pete Gleadall's Samplography - Over 1400 Samples!!

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 **basses, 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-basses**, and more! All this for the amazingly small sum of £49 fully inclusive. Features S1000 Data Section.

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, Basses, 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. The classiest dance sample CD yet - by miles.



Volume 7 - Neil Conti's Funky Drums from Hell

Neil Conti may be familar 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

MasterBits Special Edition Orchestra CD - "☆☆☆☆☆" - SOS

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. Samples are split between full string section and complete orchestra samples. *"...from the first spine-tinglingly good orchestral strikes I was hooked. This is something else...Have you heard the sounds in the very attractive Proteus 2? This lot are in a different league...this selection deserves it's 5-star rating...you might already have the entire Synclavier library on optical already. Still, bet you've not heard better strings than these. Not a toy." - Sound On Sound, Sept. 92. "MasterBits have turned out a 'real masterpiece'...top class." - Soundcheck, Germany.* 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! Volume 1 - Klaus Schultze - Classic Synths, Ltd. Edition. - £75.

MasterBits Sampling Collection

Sampling Collection 500 - M1 - D50 - K1 - K5 - K1000 - MiniMoog - TR808 - HR16 - Linn 9000 - Plus!
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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!
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Each volume costs £29. Buy the set of five for just £125.

MasterBits Climax Collection

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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.
Climax Collection Volume Five - Violin - New! - 486 samples (302 sustains, 184 attacks) plus 25 banks of S1000 data streams that load directly into the S1000 via the digital interface, ready-to-use - like a CD-ROM! Banks are up to 16 Meg in size and save hours of work!
Each volume costs £45. Buy all five for just £200.

New Megamidi Dance Series No. 2 Sample CD

MegaMidi have just released volume 2 of their Dance Series of sample CDs. It runs for over an hour and cover many styles including Acid, Rap, Industrial, Funk, Techno, House, New Jack Swing and Ragga Muffin. It features 360 loops and 40 song kits including synths, bass-lines, guitar, FX, vocals and more. All for £55.

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. Both volumes available for the special price of just £95.

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, Basses, FX, and more. Exact spec and prices TBC, please call for the latest information.

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That means ■ Loads of RED HOT Loops ■ Hundreds of choice drums and percussion hits ■ Specially selected Synth Sounds ■ High quality Guitar samples ■ A huge collection of classic dance samples - vocals, FX, and loads more! ■ Absolute exclusives from proven artists plus specially recorded sessions by the finest musicians ■ All on one superb CD! As if this was not good enough we are actually giving this CD away FREE with every order*.

Why are Producer Series CDs the BEST?

1. ORIGINALITY - Funky Drummer is NOT featured. We want to give you new samples that YOU CAN USE. That means good value too.
2. QUALITY - Big names with reputations to maintain. These guys aren't going to give you any crap.
3. RELIABILITY - We've been producing CDs for longer than anyone else in the UK and we intend to be doing them for years to come. Therefore we have the ability and desire to make EVERY CD a cracker.

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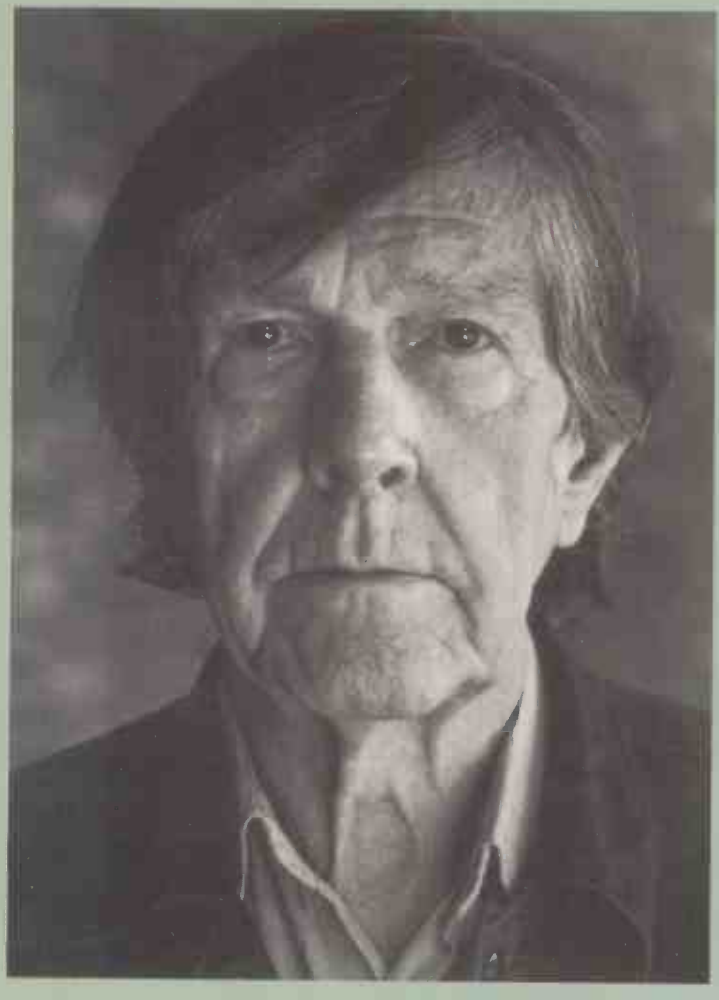
JOHN CAGE – 1912-1992

The Rest Is Silence

An Appreciation by Phil Ward



The career of avant-garde American composer John Cage holds a strange fascination. Musicians from all walks of life owe a debt to many of his ideas, even if the source often remains unacknowledged when those ideas are applied. And applied they have been, with increasing regularity in this post-Sgt. Pepper era – an era reverberating daily to the clatter of collapsing musical barriers.

But Cage was one of those 20th Century artistic pioneers whose goal-post-adjusting notions actually add up to more than the works themselves. Like Duchamp's urinal, the intrinsic, formal value of a given piece was less important than the gesture. For both artists, the shape thrown into relief was really the shape of things to come.

Take, for example, Cage's experiments with the 'prepared' piano from the late '30s. Metal or wood was placed inside the piano to alter the response from the strings and expand the timbres available to the keyboard player. In Cage's own words, the desire was "to place in the hands of a single pianist the equivalent of an entire percussion orchestra" – a sentiment that presages many of the concerns surrounding synthesizer development decades later.

Take also his exploration of 'found', or ambient sounds from the '40s onwards. Pieces such as Living Room (1940), Third Construction (1941), or Water Music (1952) feature doors banging, chairs knocking, wildlife sounds, pouring water or radio static – all constructed into thematic sound patterns as an alternative to conventional instruments. Even before the advent of sampling, we became quite used to bands such as Pink Floyd exploiting the surreal and emotive effects of noises of this kind, opening up the world to our ears and our ears to the world. The ultimate in ambience – total silence – was boldly declared by Cage in 1952 with a period of four minutes and fifty-three seconds of it, duly scored for piano (some 96 bars' rest), titled 4'33" and sparking a controversy that was to carve the composer a niche in artistic notoriety forever.

And what better pre-emption of the role of sequencers could there have been than Cage's use of carefully constructed backing tapes from the '50s, a technique directly employed by many musicians since. Probably the nearest thing to a 'cover version' of a John Cage number is the track 'Revolution #9' literally pieced together by George Martin and The Beatles for the 'White' album of 1968. This apparently random jumble of taped sound-bites also draws on another of the composer's favourite muses: chance.

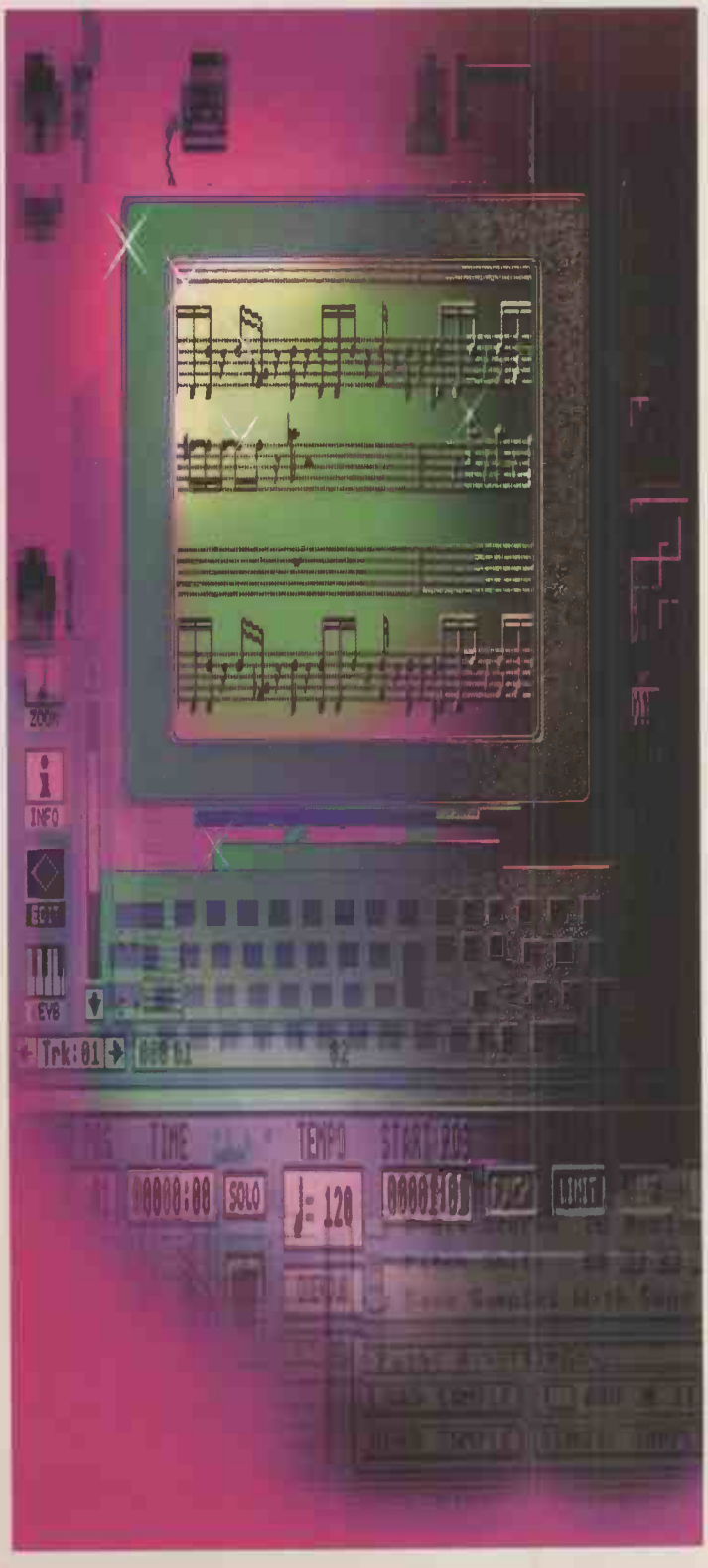
To give it its official title, 'aleatory' music basically just introduces opportunities for random departures, either by simply allowing for improvisation on the part of conductor or soloist, or by adopting more exotic methods during composition, such as dice-rolling, 'I Ching' throwing or even, as with Cage's 'Etudes Australes', laying constellation charts over a blank score to allow the heavens themselves to dictate the notes. 'Imaginary Landscapes', from 1951, consists of 12 radio sets whose frequencies are manipulated by 24 performers, a concept that neatly combines both ambient and aleatory factors in one fell swoop. It could be said that, in the search for ever more challenging techniques of composition and performance, Cage left few stones unturned. He certainly left nothing to chance.

Significantly, Cage's influence seems mostly to have been felt in the realms of pop. This may say something about the pretensions of those late '60s and early '70s 'pioneers' of progressive rock, but in the end, with so many of his techniques overtaken by developments in technology and taste, it actually serves to vindicate Cage's predilections with a force unlikely to be found in the 'serious' orbits from which he sprang. At any rate, hopefully time will finally demolish that most stubborn of barriers: the one between serious and popular music. ■

THE

SEQUENCER BIBLE

The Music Technology Sequencer Software Buyer's Guide



Which sequencer should I buy?

With over 60 sequencers available across the four main computers, how do you decide which will do the job for you? The following questions should give you an idea of the sort of things you need to ask yourself before Buying...

HOW EASY IS IT TO USE?

As in most walks of life, it's usually easier to work with something you're familiar with rather than going through a learning curve for something new. Sequencing programs are a perfect example of this. There tends to be two principle ways in which they work. The first is where each part of a song is encompassed in a pattern – much the same as a drum machine. Such a system can make the composition of a piece of music very easy as a pattern can be created for, say, the first verse and used (perhaps with some minor changes) for ensuing verses as well.

The alternative is to work with linear tracks, rather like you would using a multi-track tape recorder. Each track has a different instrument and by recording a track in, say, four or eight bar phrases, the entire track can be assembled.

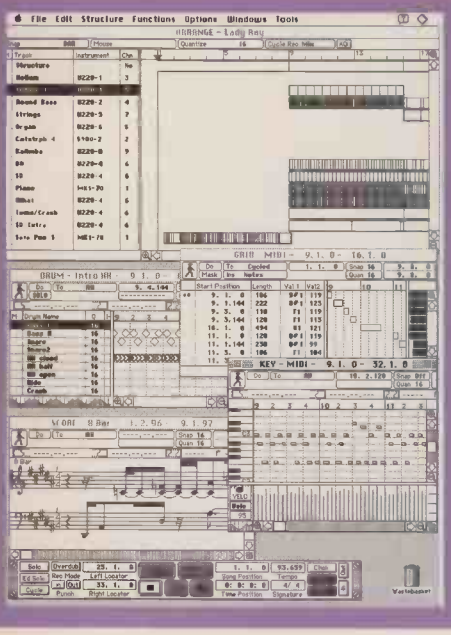
Many of the current crop of software sequencers utilise both of these techniques. For instance, you might be able to take the parts from all tracks that lie between bars four and twelve, group them together and then use the grouping as a pattern. This lets you record a song in linear track fashion, and then rearrange it by using patterns if you wish.

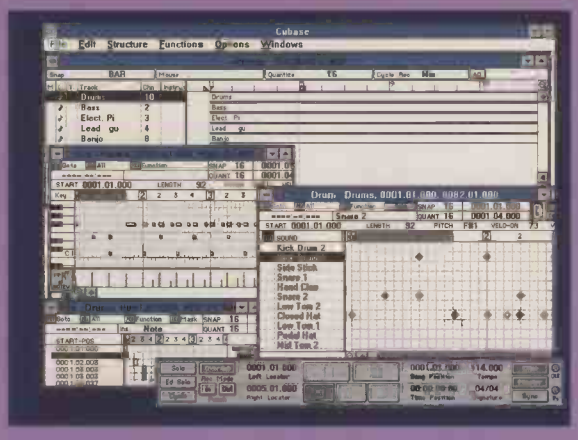
A second concern has to be the visual elements of the program. For example, given the right software the mouse can be a very powerful tool for drawing curves in order to fade music in and out and pan sound across a stereo image. Visuals are also important when it comes to editing a sequence; it is usually easier to edit a note represented as such on the screen than by searching through lists of numbers or events. Though of course, different people prefer different methods of working.

HOW MANY TRACKS DO I NEED?

You may think that as there are only 16 MIDI channels, there is little point in having more than sixteen sequencer tracks. Such thinking comes from looking at the 'tracks' of a sequencer in the same way as those of a tape recorder. To give an example: if you had a single microphone and wanted to record a drum kit, the sounds for all of the different instruments would have to be recorded onto a single track. ➢

Written and compiled by Vic Lennard





Steinberg Cubase on the Macintosh and PC under Windows is a good example of a multi-platform sequencer. The well-known version is on the Atari ST.

➢ However, if you could use eight microphones, each positioned to pick up a particular instrument of the kit, you could record the drums on eight different tracks. This has the advantage of giving you greater scope at the mixing stage.

In a MIDI sequencer set-up, you might use different tracks for the different percussion instruments such as bass drum, snare drum etc, and so require eight or ten tracks just for the drums. Where these sounds are derived from a single source, say a drum machine receiving on MIDI channel 3, all the relevant tracks on the sequencer would be set to channel 3, but each would be sending out individual note-on messages relating to the instrument assigned to it. Thus, the fact that there are only sixteen available MIDI channels does not necessarily impose a restriction over the number of tracks a sequencer may offer.

The advantage of using several tracks in this way becomes clear when you want to change the sound of one percussive instrument. Let's say that you use a drum machine for the percussion sounds but then decide to also make use of a great snare drum you happen to have on a synth. If the MIDI information for all of the drums is recorded on a single track, you may – depending on the facilities of the sequencer – have to go through every note to change the pitch for the snare drum. If the drums are on individual tracks, a simple track transpose will solve the problem.

Another reason for needing more than 16 tracks is that it is often easier to record Pitch Bend and other MIDI performance information on separate tracks from the notes. This lets you edit information much more easily. Let's say that you've set up a fade-out using MIDI Volume and then decide that the fade isn't quite correct. It is easier to view and edit the data for the fade if it is separated from the note information.

Taking all these extra requirements into account, it is easy to see why some sequencers offer up to 64 separate tracks. There is of course, a possibility that using a large number of these tracks, sixteen MIDI channels really wouldn't be enough. Using a multi-timbral synth or expander with up to eight voices, for example, would drastically reduce the MIDI channel availability if each was set to receive on a different channel.

AUTO CORRECTION

Quantising

Very few of us can play exactly what we intend. Quantising moves notes to a note position specified by you to try to improve the timing of your playing. For instance, selecting 16ths will move every note onto a 16th beat of the bar. However, this means that if your playing is very loose, it may be impossible to quantise successfully and some notes may have to be moved manually.

There are various different kinds of quantising. The most common is where the Note On is moved to the stated quantise value and the note length is kept the same. A possible alternative is to move both the Note On and Note Off to quantise values. This has the effect of also changing the length of the note and can be used to ensure that notes are butted up to one another – that is, 'legato'. A further possibility is to move notes which are more than a certain distance away from the quantise value nearer to the value, but not all the way – 50% perhaps. Notes which are within the certain distance are moved onto the quantise value. This can tighten up a piece of playing without making it feel strictly regimented.

Humanising

This continues on from the point in the section on Quantising, where different techniques are used to ensure that a degree of human feel is left after correcting the timing of notes. Some sequencers allow you to tightly quantise and then move all notes a little before or after their timing values to 'loosen' up the feel. The problem with this is that you can end up losing control over the order in which notes are played – and that doesn't make a piece sound human, just wrong!

TYPES OF RECORDING

Real-Time Recording

Most recording on sequencers is done in real time – in a similar way to a tape recorder. Play a MIDI keyboard and the MIDI information is recorded on the sequencer. Most sequencers have a cycle record mode where you can add extra notes each time the eight bars (or whatever you're working on) cycles round. There are usually facilities to let you delete the last take, if you've made a mistake which would be difficult to correct subsequently or to auto-quantise at the end of a cycle. This is especially useful when you are recording drums, for example, because of the difficulties of recording overdubs when earlier notes are not in time.

There are two further points worth checking, here. Can the sequencer record System Exclusive in real time? If it can, you can record sound parameters for a synth at the start of a song and so ensure that the correct sounds are present when the song starts to play. Secondly, does the sequencer allow you to edit in real time? Can you move between editing screens, quantise, make adjustments to velocities, and so on, while the sequencer continues to play? If not, you will have to stop the sequencer each time you want to make an edit, which will slow you down and can certainly lead to frustrations.

Step-Time Recording

Certain types of recording are better off done in step time – which means that events are placed step by step on a grid of some type. Drum patterns are a typical example of this; it is easier to work out a drum riff as a drawing on paper and then enter it on-screen than to rely on being able to get 'close' by playing notes on a keyboard and editing them to the precise position you require. Steinberg's Cubase comes with a particularly good example of a step-time drum editor.

Notation is often entered in step time for similar reasons; duplicating a score is frequently easier to achieve in this way rather than by real time playing.

ALTERING DATA

Channelise

Practically all sequencers have this facility. The MIDI data arriving at the MIDI In port is re-transmitted from the MIDI Out on the MIDI channel that you have set for the current sequencer track. This is often referred to as 'Soft Thru' and is an important feature as it stops you from having to continuously alter the MIDI Out channel from your keyboard when you want to access sounds on different synths operating on different MIDI channels.

Filtering

There are many occasions when MIDI data appears at the MIDI In of a sequencer – even though you neither want nor need it. Aftertouch is one of the most common examples (especially when you are attempting to play 16th hi-hats from a note on a keyboard!) Most sequencers have an input filter page which allows you to ensure that certain kinds of MIDI data are ignored and not recorded. This can also save vast amounts of computer memory – as can reducing the amount of continuous data such as Pitch Bend, Aftertouch and some MIDI Controllers once it has been recorded. You can often remove three quarters of such data without any audible result.

MIDI FILES

Often referred to in the File menu simply as Import or Export, MIDI Files are extremely useful as they allow you to transfer songs between different sequencing programs – which can even be on different computers.

There are three types of MIDI File, the most common of which is Format 1, multiple linear tracks. (Practically all sequencers will save and load this format.) Format 0 is a single linear track which is used by certain MIDI File playback units (such as Yamaha's MDF 2). Most sequencers do not give you the option of saving as Format 0 – if you have more than one track they automatically save in Format 1. To ensure you can save in Format 0, all tracks have to be merged together. Format 2, multiple patterns, is very rarely implemented.

Care has to be taken to ensure that parameters which only affect the playback of a sequence are, in fact, part of the data being saved to a MIDI File. For instance, sequencers which always keep the original data but allow you to carry out playback editing such as quantising and velocity adjustment will not usually write such edits to a MIDI File. You often have to go through a procedure sometimes referred to as 'normalising'.

That's why another point to look for is whether any hardware is available to expand the number of MIDI Outs – especially on Atari ST software. While the Apple Macintosh, PC and Amiga all use separate MIDI interfaces, any expansion of the built-in MIDI ports for the ST requires an add-on.

WHAT KIND OF EDITORS DO I NEED?

This depends on the way that you work and your musical background. If you are a trained musician, the chances are that you will want to work with standard notation. If this is the case, check that the sequencer you choose can also print out the score if you need it to and that it supports the printer that you intend to use.

If you are working with drum rhythms, you will probably need an editor which allows for step-time entry so that you can input the drum notes one at a time without using a MIDI keyboard. Many sequencers have a dedicated drum editor which includes a list into which are entered the names of the percussion instruments used, their MIDI note numbers and a user-friendly grid for note entry. (This and other information is, of course, included in our Buyer's Guide.)

The other most common editor is the one that presents you with a 'piano-roll' type display. This usually comprises a vertical keyboard with horizontal notes in the form of rectangles appearing on an adjacent grid – the length of the rectangles representing the length of the notes. It is referred to as a piano-roll editor because in operation it resembles the action of the old player pianos where holes in a paper roll caused to the notes to sound as they moved past the keyboard. In its MIDI sequencer form, this system makes changing the note value, position, length and velocity extremely easy and quite intuitive.

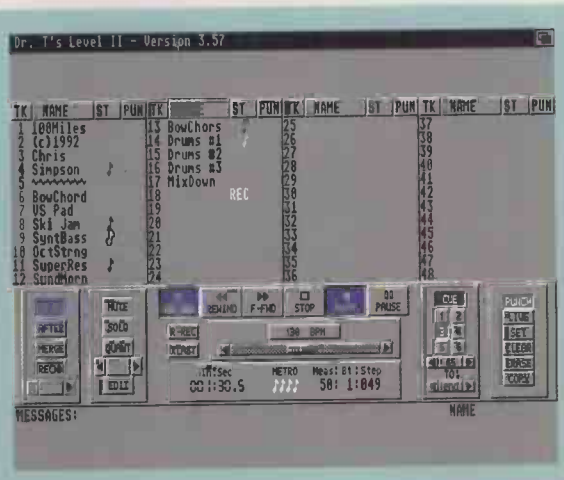
Many sequencers also offer a MIDI event list which catalogues all notes and other MIDI information along with the time at which they occur. Such lists can be useful for changing certain MIDI parameter throughout all entries, but are generally too number-oriented for most people to feel comfortable with.

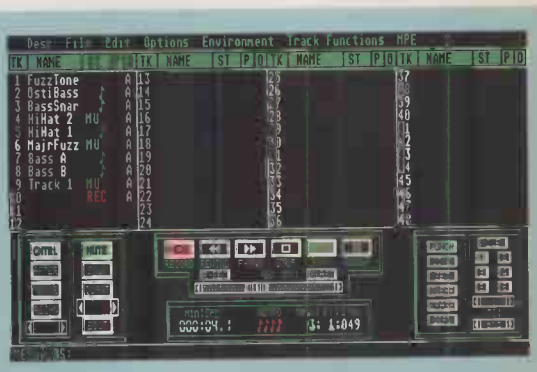
Most modern synths respond to MIDI performance messages such as Pitch Bend, Aftertouch and the various MIDI Controllers such as Volume, Modulation, Pan and Sustain Pedal. To simplify editing of this information, many sequencers have a special Editor which allows you to draw curves to control the above MIDI information. This is especially useful with MIDI Volume (Controller #7) and Pan (#10) and some sequencers incorporate this within their Graphic Editor.

IS THE TIMING GOOD ENOUGH FOR ME?

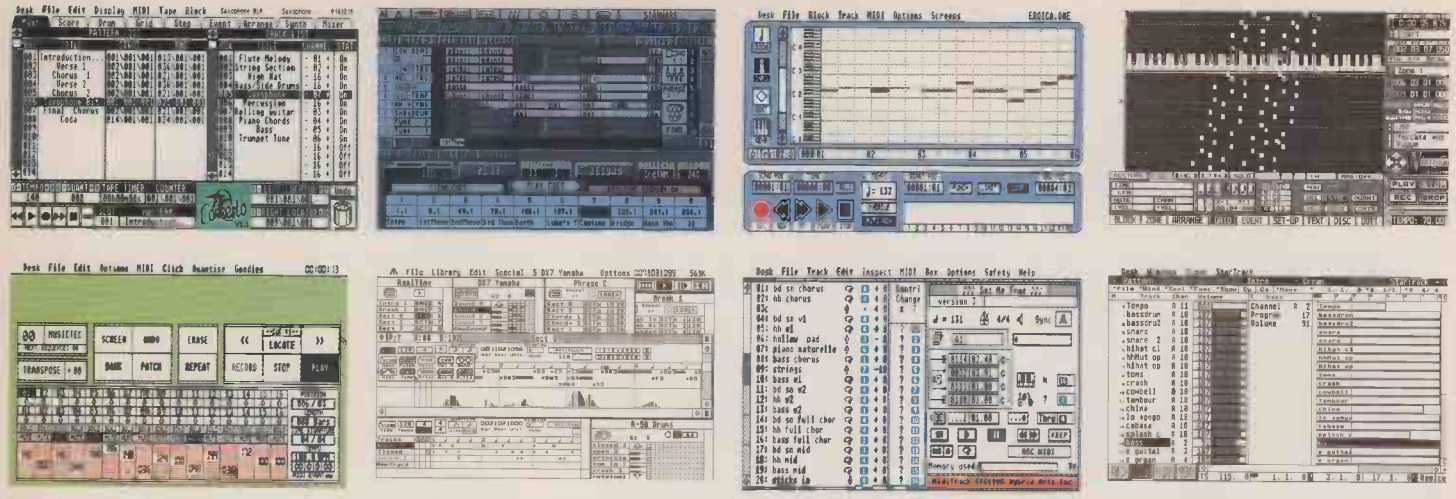
By their very nature, all computers will subtly alter the timing of MIDI information that they record. The accuracy of timing is usually referred to as the resolution of the sequencer and is measured in pulses per quarter note (ppqn). Most modern sequencers have resolutions of at least 192 ppqn with many offering 240, 384 or 480 ppqn. Generally, the higher the number, the less audible the effect of the timing inaccuracies. However, the relatively slow speed at which MIDI itself works has to be taken into consideration at some stage and it is doubtful if extremely high resolutions offer any real advantage, musically.

How audible timing variations are also depends on your perception. Tests have shown that some people start to hear delays when they reach around seven milliseconds, while others remain impervious to them. The only meaningful test is to turn off the sequencers's metronome and to record a series of notes. If you can hear any change on playback, then the resolution of the sequencer you are trying is probably too low for you. But it has to be said, the chances of this

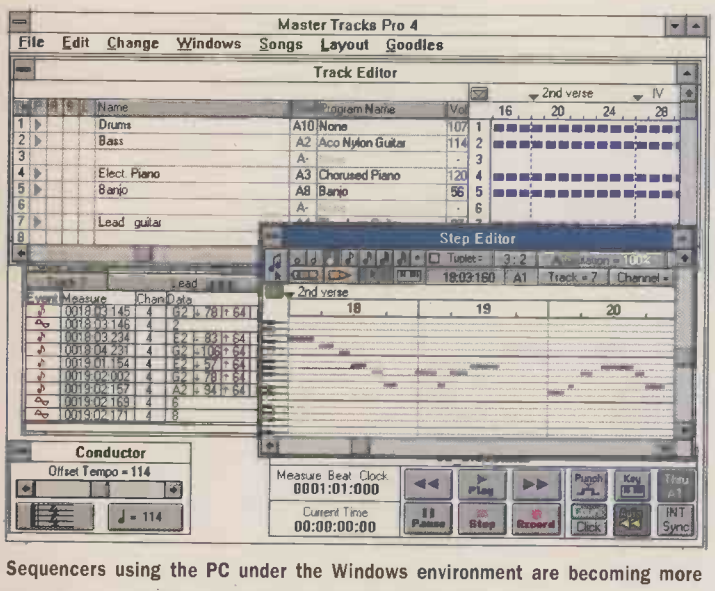




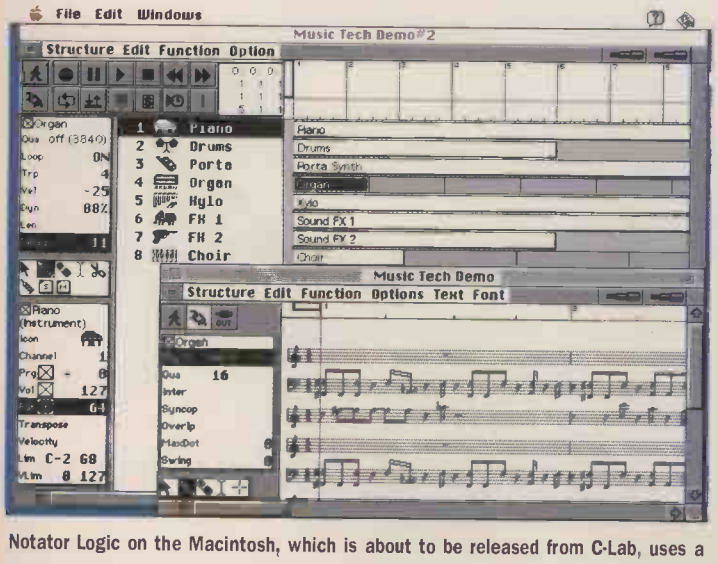
Dr. T's KCS on the Amiga and ST, where it is known as Omega. This has separate visual editing and scoring modules amongst others.



A spread of Atari ST sequencers. From top left reading across and down; Concerto, Midistudio Master, Sequencer One Plus, Virtuoso, Trackman II, Realtime, EditTrack Gold and Startrack. The ST has proved to be the most popular computer for sequencers due in no small part to the in-built MIDI sockets.



Sequencers using the PC under the Windows environment are becoming more popular. Passport MasterTracks is also available on the Macintosh.

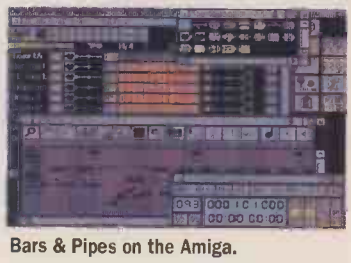


Notator Logic on the Macintosh, which is about to be released from C-Lab, uses a very visual approach to sequencing.

➢ occuring with present-day programs is pretty slim.

CAN I DUMP MY SYNTH SOUNDS TO THE SEQUENCER?

Most synths can dump the information for their sounds via their MIDI Out, and as long as a sequencer can record System Exclusive (SysEx) – the format used for such a dump – it can act as a sound librarian. Sequencers will generally handle SysEx in one of two ways: as standard MIDI data in which case it can be recorded and played back on a normal track, or by using a dedicated SysEx librarian. Either of these can be very useful if you come back to a song some time after first recording it, because they



Bars & Pipes on the Amiga.

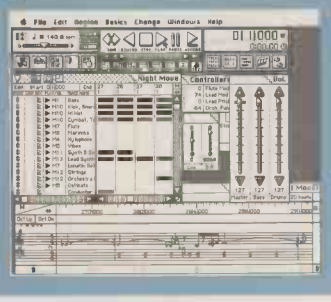
COPY PROTECTION

Copy protection methods tend to be computer specific. For instance, very few PC sequencers have any copy protection at all – in fact, this seems to be the general trait where PC software in general is concerned. Copy-protected software on the Atari ST and Commodore Amiga uses either a master disk or a hardware key. Any sequencer with a master disk will require you to insert that disk at some point in the loading procedure which means that you can (...and should!) make a back-up copy for safety's sake. Once made, make sure you use that back-up for day to day loading and use the master disk only to get past the protection procedure.

The hardware key – often referred to as a 'dongle' – usually plugs into the cartridge port on the Atari ST. When a program loads, it checks for the existence of this key and continues to check for its presence every so often. Unfortunately the poor quality of this port's contacts is often to blame for a key being misread and the subsequent crashing of the sequencer.

Where the Apple Macintosh is concerned, the more expensive sequencers tend to use copy protection. Some have an installation procedure where a key file is transferred from the master disk to the hard drive. The disadvantage of this is that a hard drive crash requiring reformatting becomes the kiss of death to such an installation.

Steinberg Cubase and C-Lab Notator Logic are both about to start using a small hardware key with the Macintosh to get around the awkwardness of the key file approach. It will be interesting to see how Mac users react to this, especially in America where the use of hardware protection on the Mac is considered sacrilege!



C-Lab Notator on the ST and Mark Of The Unicorn Performer on the Macintosh are two of the main programs on their respective computers.

save you the trouble of hunting around for the particular sounds that you originally used.

WHAT HAPPENS IF I MAKE A MISTAKE WHEN I'M EDITING?

Rule number one when editing a sequence is to frequently save to disk! That said, most sequencers have an Undo facility where you can take the sequence back to the situation it was in just before the last edit. To do this, a sequencer has to use some of the computer's memory which reduces the available memory for editing. Some sequencers allow you to turn Undo off which you may need to do if you are carrying out extensive editing.

Another common trend is that of non-destructive editing which means that you can always return a track, or part of a track, to its initial state. Useful when you make a total mess and haven't saved...

CAN I SYNCHRONISE MY SEQUENCER AND TAPE RECORDER?

Whether you have a cassette multi-tracker or a reel-to-reel recorder, the chances are you will want to be able to sync this with your sequencer. This will usually require an extra piece of hardware which can record a special sync signal to tape and read it on replay to make the sequencer play in time with the recording on tape.

The cheaper systems use a method called FSK (Frequency Shift Keying) which encodes timing pulses (MIDI Clock) transmitted from a sequencer into a code that can be recorded to tape. Unfortunately, this means that the code has to be started from the beginning each time so that you can't start a song in the middle and get the sequencer to lock on. Slightly more expensive devices use Smart FSK – smart because special song locators called Song Position Pointers are also encoded and recorded to tape, allowing you to start a song from any position on tape.

A more standard tape code exists in the form of SMPTE which can then be converted to either MIDI Clock, with Song Position Pointers, or to MIDI Time Code – another type of sync which many sequencers can recognise.

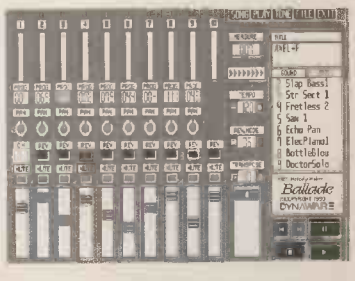
A number of manufacturers have developed special sync units to go with their particular sequencers. For instance, most companies who support the Atari ST have their own sync boxes which usually include a number of extra MIDI Ins and Outs along with a time code generator. As the Apple Macintosh has to have a separate MIDI interface, connected to its modem and/or printer serial ports, this interface often incorporates a time code generator and so can be used with any sequencer on that computer.

The situation with the PC is rather different in that an internal card is normally used which will vary from having a simple MIDI In and Out to incorporating multiple MIDI ports and a time code generator. Check the PC Card boxout for more information.

CAN I USE THE SEQUENCER TO CHANGE PATCHES ON MY SYNTHS?

Most current synths have a number of patches on-board. These are memories which hold the information for a particular sound or group of sounds. With a multi-timbral synth you can usually call up a group of sounds for a song via a single MIDI Program Change which would usually be sent at the start of a song. Alternatively, one sound within a patch can be altered by sending a Program Change on the MIDI channel for that sound. This allows you to change individual sounds in the course of a song.

Some budget track-based sequencers will only let you assign a Program Change per track at the beginning of that track – which does not allow you to easily change sounds during the course of a song. Such sequencers are rare, but it is always worth checking that this facility is available if you feel that you need it. ■



Ballade (PC-DOS) is dedicated to work with various Roland synths.

TERMS USED IN THE BUYER'S GUIDE

Tracks: The number of tracks is usually analogous to those of a multi-track tape recorder in that they are linear in essence. However, some sequencers, especially those on the Mac and PC, often use the word "track" to signify a group of patterns.

Resolution: The accuracy of recording timing is usually referred to as the resolution of the sequencer and is measured in pulses per quarter note (ppqn).

Memory requirements: Sequencers will work with the stated "required" memory. The "recommended" memory ensures that facilities will not be limited or song sizes restricted.

Screen requirement: Of importance to the PC, where an internal card may be required, and the ST, which can run in high (mono) and medium resolutions (colour).

Editors: Graphic editors are usually of the "piano roll" style with either a vertical or horizontal on-screen keyboard. A Drum editor usually means one with step-time input but with no interest in the length of the note. Arrangement means that a song can be recorded as a group of phrases and then re-ordered. If a sequencer only offers a copy and paste facility, this does not count as the ability to re-arrange a song.

SysEx Record: If a sequencer can record System Exclusive, it can store sounds and patches from a synth or other MIDI device. This facility will either be in "real time", so that parameter changes can be imbedded within normal MIDI data, or as a "librarian".

MIDI File Read/Write: Most sequencers can import and export songs in MIDI File format. See the relevant boxout for more information on the two different formats generally used.

External Sync: Sequencers will usually recognise MIDI Clock with Song Position Pointers or MIDI Time Code or both. In some cases, a sequencer can only act as a master by transmitting MIDI Clock.

Additional hardware: As the Atari ST has built-in MIDI sockets, some manufacturers make additional MIDI expansion boxes. The number of MIDI sockets and whether a timecode generator (SMPTE) is included is noted.

APPLE MACINTOSH

Program Name	Price	Manufacturer	Version Number	Tracks	Resolution	Memory Requirements	Event List	Arrangement	Graphic	Drum
Beyond	£199	Dr. T	2.1	99	192 - 480	1 Mb		Y		N
Cubase	£399	Steinberg	1.8.3	64	384	1 Mb		Y	Y	Y
EZ Vision	£129.95	Opcode	1.01	16	480	1 Mb		Y	Y	N
MasterTracks Pro 5	£349.95	Passport	5.02	64	480	2 Mb		Y	Y	Y
Multitude Pro	TBA	Oktal	1.0	256	768	2 Mb		Y	Y	Y
Multitude Pro/Score	TBA	Oktal	1.0	256	768	2 Mb		Y	Y	Y
Notator Logic	£575	C-Lab	1.0	Unlimited	960	2 Mb		Y		N
Performer	£459	Mark Of The Unicorn	4.01	Unlimited	480	2.5 Mb, 4 Mb under System 7		Y		N
TurboTrax	£89.95	Passport	2.2	64	240	1 Mb		Y		Y
Vision	£399.95	Opcode	1.43	99	480	1 Mb required, 2 Mb recommended		Y		N

AMIGA

Program Name	Price	Manufacturer	Version Number	Tracks	Resolution	Memory Requirements	Event List	Arrangement	Graphic	Drum
Bars & Pipes	£299	Blue Ribbon Soundworks	1.0E	16	192	1 Mb required, 2 Mb recommended		N	Y	Y
KCS Level II	£279	Dr. T	3.57	48	384	1 Mb recommended, 2 Mb with MPE modules	Y	N		N
Overture	£79.95	Desert Software	1.0	36	24	1Mb	N	N		
Pro 24	£199	Steinberg	1.1	24	96	1 Mb		Y		
Rave	£50	The Digital Muse	1.0	32	240	1 Mb		N	N	N
Sequencer One	£19.95	Gajits Music Software	2.01	32	192	0.5 Mb		Y	Y	N
Sequencer One Plus	£129.95	Gajits Music Software	1.1	32	192	0.5 Mb required 1 Mb recommended	N	Y	Y	N
Tiger Cub	£99	Dr. T	1.09	12	384	1 Mb	N	N		Y

Score	Score Print?	SysEx Record?	MIDI File Read?	MIDI File Write?	MIDI Clock	MTC	Comments
		Real time			Y		Flexible sequencer offering up to 32 sections, each with up to 99 tracks.
		Real time			Y		Includes a Logical Editor, for data manipulation, and a MIDI Mixer. Reads files from the ST and Windows versions.
		Real time			Y		Cut-down version of Vision. Includes graphic editing of MIDI Controllers and a mixer for MIDI Volume and Pan.
	N	Real time			N		Includes a Conductor Track for tempo changes and a Transpose Map for drums. Built-in SysEx Librarian.
	N	Real time			Y		About to be released. Includes real time controller remapping, on-line help and 99 Undo levels.
		Real time			Y		Same as Multitude Pro but with a score printout facility.
		Real time			Y		About to be released. Includes an Environment Window for setting up the working MIDI system.
		Real time			Y		The Mac sequencer against which others are often judged. Includes a MIDI Mixer and the ability to sync to DTLE.
	N				N		Offers the Trax sequencer along with the separate Jukebox MIDI File player. Includes an on-screen MIDI mixer.
		Real time			Y		Bundled with Galaxy, the SysEx librarian. Uses the Opcode MIDI System (OMS) environment. Offers 26 sequences each with 99 tracks.

Score	Score Print?	SysEx Record?	MIDI File Read?	MIDI File Write?	MIDI Clock	MTC	Comments
Y	Y	Real time	Y		Y		One of the few Amiga sequencers to offer a score printing facility. Also includes a SMPTE option.
N	Y	Real time	Y		Y		KCS uses the QuickScore MPE module to print out and view score, but not edit it, while the Tiger MPE module provides graphic editing. A sample playback facility is also included.
Y	N	N			Y		Graphic editing is provided for Pitch Bend and MIDI Controllers, while the MIDI Event Editor allows you to key in a string of MIDI bytes including System Exclusive.
Y	N	Librarian			Y		Based on the popular Atari ST version which preceded Cubase, Pro 24 includes a Logical Editor for transforming MIDI events.
					Y		An entry-level program, Rave also allows you to enter MIDI events in Step time.
		N			Y		Based on the popular Atari ST version, Sequencer One includes a sample playback facility. Well worth considering for entry level.
		Real time	Y	Y	Y		Extra facilities include a tempo map and a Jukebox where songs can be chained together - a new song can be loaded while the current one plays. The upgrade from Sequencer One costs £39.95.
		Real time	Y	Y	Y		QuickScore provides score viewing and printing but not editing. Also included is a conductor track for changing tempo and a sample playback facility.

ATARI ST

Program Name		Manufacturer	Version Number	Tracks	Resolution	Memory Requirements	Screen Type	Event List	Arrangement	Graphic	Drum
1stTrack	£29.00	Geerdes	2.3	24	384	0.5 Mb	Mono		N		N
Breakthru	£129.95	Gajits Music Software	1.0	64	192	1 Mb	Colour / Mono		Y		Y
Concerto	£39.95	Microdeal	1.2	24	192	0.5 Mb	Colour/ Mono		Y		
Creator SL	£330	C-Lab	3.1	64	192/384	1 Mb	Mono		Y		
Cubase	£399	Steinberg	3.01	64	384	1 Mb	Mono	Y	Y		
Cubase Lite	£99	Steinberg	1.0	16	192	0.5 Mb	Mono		Y		
Cubeat		Steinberg	2.0	64	384	1 Mb	Mono		Y		
EditTrack Gold	£116.33	Barefoot Software	6.01	60	96/192	1 Mb	Colour/ Mono		Y		
KCS Omega	£299	Dr. T	4.0	48	384 max.	1 Mb required, 2 Mb recommended	Colour/ Mono	Y	Y		
MIDIStudio Junior		Ladbroke Computing	2.5E	20	24	0.5 Mb	Colour / Mono		Y		
MIDIStudio Master	£99.99	Ladbroke Computing	1.12	100	24/240	1 Mb	Colour/ Mono		Y		
Multitude Pro		Oktal	1.0	256	768	1 Mb	TBA		Y		
Multitude Pro/Score		Oktal	1.0	256	768	2 Mb	TBA		Y		
Notator Alpha	£225	C-Lab	1.1	16	192	1 Mb	Mono		Y		
Notator SL		C-Lab	3.15	64	192/384	1 Mb	Mono		Y		
Prodigy	£135	The Digital Muse	2.0	32	240	0.5 Mb, 1 Mb with Score module	Colour/ Mono		Y		
Rave		The Digital Muse	1.0	32	240	0.5 Mb	Mono/ Colour		N		
Realtime		Dr. T	1.1	Unlimited	192	0.5 Mb required, 1 Mb recommended	Colour/ Mono		Y		
Sequencer One	£19.95	Gajits Music Software	2.2	32	192	0.5 Mb	Colour/ Mono		Y		
Sequencer One Plus	£129.95	Gajits Music Software	1.2	32	192	0.5 Mb	Colour/ Mono		Y		
SMPTETrack Gold	£465.30	Barefoot Software	6.01	60	96/192	1 Mb	Colour/ Mono		Y		
StarTrack		Geerdes	1.1	Unlimited	384	1 Mb required,2 Mb - 4 Mb recommended	Mono		Y		
Tentrax		Roland	1.0	10	192	0.5 Mb	Mono		N		
Tiger Cub	£99	Dr. T	2.0	24	384 max.	1 Mb	Colour/ Mono		N		
Trackman II	£99.95	Hollis Research	2.4	32	96	0.5 Mb	Colour/ Mono		Y		
Virtuoso	£305	The Digital Muse	2.0	99	480	0.5 Mb required, 1 Mb recommend	Mono		Y		
Vivace	£199	Desert Software	1.1	81	24	1 Mb	Mono		N		

Score	Score Print?	SysEx Record?	MIDI File Read?	MIDI File Write?	MIDI Clock	MTC	MIDI Expansion	Comments
N		Real time	Y	Y			•	Cheap, entry-level program. The lack of a visual editor makes it a little user unfriendly.
Y		Real time	Y	Y			•	The follow up to Sequencer One Plus. Includes a sample palette screen with 16-bit playback via Microdeal's Replay 16 sampler.
Y		N	Y	Y			•	Good entry-level sequencer. Includes a MIDI Mixer and a graphic screen for drawing MIDI controllers. MIDI Files are read via a separate program. Also has a 1-voice sample playback facility.
N		Real time	Y	Y			ExPort(3 Outs); Unitor (2 Outs, 2 Ins, SMPTE)	Still the pattern-based sequencer against which others are judged. Extras include the Realtime MIDI Generator (RMG), a sophisticated MIDI mixer, Transform Events which converts incoming MIDI data in real time.
Y	Y	Real time	Y	Y	Y	Y	Midex (4 Outs,2 Ins); Midex+ (4 Outs, 2 Ins, SMPTE); SMP-II (4 Outs, 2 Ins SMPTE); Timelock (SMPTE)	Highly visual sequencer which can work in patterns or in linear tracks. Other facilities include a Logical Editor for manipulating MIDI data and a MIDI Mixer. The Satellite desk accessory acts as a SysEx librarian. Has the ability to read files from the Apple Mac and PC Windows versions.
Y		Real time	Y	Y			•	Aimed primarily at the educational market, the cheapest ST sequencer to offer score printing. Will transmit MIDI Clock and so act as a master.
N		Real time	Y	Y			Midex (4 Outs, 2 Ins); Midex+ (4 Outs, 2 Ins, SMPTE); SMP-II (4 Outs,2 Ins SMPTE); Timelock (SMPTE)	Cut-down version of Cubase. Lacks the MIDI mixer and Scoring editor/printout facility.
N		Real time	Y	Y			MIDIPlexer (3 Outs, 1 In)	Identical to SMPTETrack without the SMPTE box. Solid program without unnecessary frills - worth considering as an alternative to some of the more expensive sequencers.
N	Y	Real time	Y	Y	Y	N	Phantom) (1 Out, SMPTE)	Includes Programmable Variations Generator (PVG) and uses the Quickscore MPE (Multi Program Environment) module for viewing and printing scores, but not editing. The Tiger MPE module allows graphic editing while the Song Edit MPE module can be used for song arrangement.
N		N	N	N			•	Given away on the cover disk of ST User magazine. Very basic program with limited functionality.
N		Real time	Y	Y			•	Phrase-based sequencer which includes a MIDI mixer. Up to 20 tracks can be playing simultaneously.
N		Real time	Y	Y			•	About to be released. Extras include real time controller remapping, a tempo editor, on-line help and 99 Undo levels.
Y		Real time	Y	Y			•	Same as Multitude Pro but with the inclusion of score printout.
Y		Real time	Y	Y			•	Cut-down version of Notator aimed at the educational market. Can act as a master by transmitting MIDI Clock.
Y		Real time	Y	Y			ExPort (3 Outs); Unitor II (2 Outs, 2 Ins, SMPTE)	Arguably the best integrated sequencer/score package on any computer- certainly the one against which others are compared. Sequencer side identical to Creator SL.
Y		N	Y	Y			ModemMIDI (1 Out)	Cut-down version of Virtuoso. Score module is an optional £40.
Y		N	N	N			•	Cut-down version of Prodigy. Includes a step entry screen.
N		N	Y	Y			Phantom (1 Out, SMPTE)	Highly individual sequencer which has failed to gain true recognition. Uses "smart" editing where highly selective masks can be set. The Graphical Event list can also be used for step input
		N	Y	Y			•	Given away on the front cover of ST Format magazine. Includes a sample playback facility.
		Real time	Y	Y			ModemMIDI (1 Out)	Extra facilities include a tempo map and a Jukebox where songs can be chained together - a new song can be loaded while the current one plays. The upgrade from Sequencer One costs £39.95.
		Real time	Y	Y			MIDIPlexer (3 Outs, 1 In)	The SMPTE time code box is included in the package (and the price). Same as EditTrack Gold.
		Real time	Y	Y			Starport (8 Outs)	Modular program structure using MIDIShare multi-tasking environment. Screen layout and appearance can be designed to taste. Modules include a Roland GS editor.
		N	Y	N			•	Intended for use with Roland MT-32 and CM-32L. Uses MIDI Channels 1-10 and has a step time record facility.
		Real time	Y	Y			Phantom (1 Out, SMPTE)	Effectively the MPE graphic module. Includes QuickScore for score viewing and printing but not editing.
		Real time	N	Y			Auxiliary port (1 Out); Assignable footswitch	Under-rated, pattern-based sequencer. Worth considering as an alternative to the more expensive packages.
		N	Y	Y			ModemMIDI (1 Out)	Powerful sequencer with on-board help page and one of the best piano-roll editors.
		N	Y	Y			•	Visual Pitch Bend and MIDI Controller editing. Bar graphs for pitch and duration editing on the Score page. Includes a MIDI mixer and the ability to enter a System Exclusive string and transmit.

PC DOS

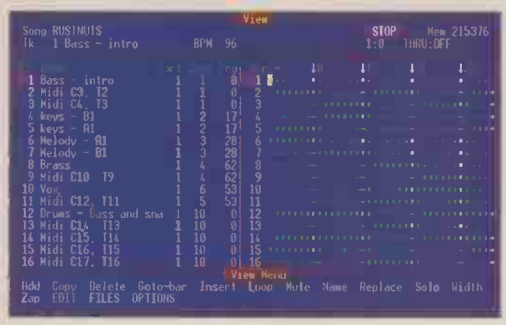
Program Name	Price	Manufacturer	Version Number	Tracks	Resolution	Memory Requirements	Screen Type	Event List	Arrangement	Graphic	Drum
Ballade	£175.08	Dynaware			192	640 Kb	EGA or better		N		N
Cadenza Software	£159.80	Big Noise	2.5G		192	512 Kb	EGA, VGA, Hercules or compatible.		N		N
Cakewalk	£189	Twelve Tone Systems			120	512 Kb	CGA, VGA, EGA, Hercules or compatible		N		N
Cakewalk Apprentice	£115	Twelve Tone Systems		256	120	512 Kb	CGA, VGA, EGA, Hercules or compatible		N		N
Cakewalk Pro	£249	Twelve Tone			48 - 480	640 Kb	CGA, VGA, EGA, Hercules or compatible		N		N
Musicator	£450.45	Musicator A/S			192	1 Mb	VGA		N		
Musicator GS	£264.38	Musicator A/S			192	1 Mb	VGA		N		
Prism	£69	Dr. T			96	640 Kb	CGA, VGA, EGA, Hercules or compatible		Y		
Sequencer Plus Classic	£165	Voyetra	4.0	500	96/192	512 Kb required, 640 Kb recommended	CGA, EGA, VGA		Y		
Sequencer Plus Gold	£295	Voyetra	4.0	2000	96/192	512 Kb required, 640 Kb recommended	CGA, EGA, VGA		Y		
Sequencer Plus Junior	£55	Voyetra	4.0	64	96	512 Kb required 640 Kb recommended	CGA, EGA, VGA		Y		

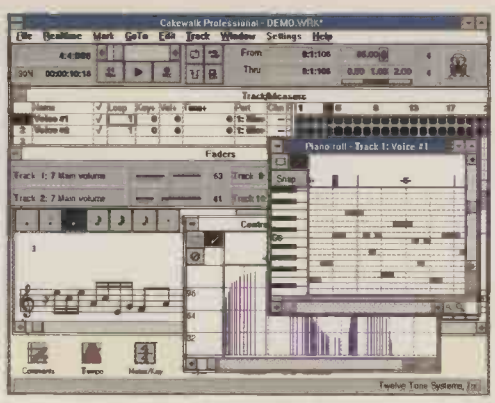
PC WINDOWS

Program Name	Price	Manufacturer	Version Numbers	Tracks	Resolution Requirements	Memory	Screen Type	Event List	Arrangement	Graphic	Drum
Cadenza for Windows		Big Noise Software	1.12		480	2 Mb recommended	EGA, VGA		Y		N
Cakewalk for Windows	£275	Twelve Tone Systems	4.0	256	48 - 480	2 Mb	VGA		Y		
Cubase for Windows	£335	Steinberg	1.08		384	2 Mb	VGA		Y		
MasterTracks Pro	£299.95	Passport	4.51		240	2 Mb recommended	EGA, VGA, Hercules or compatible.		Y		
Multitude Pro	TBA	Oktal	1.0		768	2 Mb	VGA		Y		
Multitude Pro/Score	TBA	Oktal	1.0		768	2 Mb	VGA		Y		
Rave	£70	The Digital Muse	1.0	32	240	2 Mb	VGA		N		N
Trax	£89.95	Passport	2.19		240	2 Mb	EGA, VGA, Hercules or compatible.		Y		N

Score	Score Print?	SysEx Record?	MIDI File Read?	MIDI File Write?	MIDI Clock		Comments
							Intended to work with a Roland MT-32, CM-32L or LAPC card. Includes graphic curves for some MIDI Controllers and tone editing functions.
		Librarian	Y	Y			Extras include a Conductor tempo track and faders/graph MIDI Controller editing. £199 if bundled with a Music Quest PC MIDI card.
		Librarian	Y	Y			The SysEx Librarian allows up to 64 banks with 62 Kb per bank.
							Only works with the bundled Music Quest MIDI card. Can act as a master by transmitting MIDI Clock.
							Same System Exclusive librarian as for Cakewalk. Includes the Cakewalk Application Language for custom editing commands along with tempo and meter maps.
							Powerful sequencer with many features. Includes a graphic MIDI Controller editor. Increased to 32 tracks and a resolution of 240 ppqn with the Music Quest MQX 32M.
							Cut-down version of Musicator created with the Roland MT-32 and CM-32L in mind. Offers full editing of all Roland GS parameter.
							Pattern-based, entry-level sequencer with up to 32 patterns per song.
							Includes a MIDI Edit screen for non-note data.
	N	Librarian	Y				Includes a MIDI Edit screen for non-note data and a separate System Exclusive Librarian.
		N	Y				Entry-level version of Sequencer Plus Classic.

Score	Score Print?	SysEx Record?	MIDI File Read?	MIDI File Write?	MIDI Clock	MTC	Comments
N	N	Real time	Y	Y			Bundled with a Music Quest PC MIDI card. Extras include graphic tempo and metermaps, and a MIDI mixer. Uses a custom MIDI Management System. Full notation module to be included shortly.
Y	N	Librarian	Y	Y	Y	Y	Includes a graphic tempo map and a graphic MIDI Controller window. The System Exclusive librarian contains up to 256 banks with up to 1 Mb per bank. Has the Cakewalk Application Language for the creation of custom edits and uses the Multimedia Extensions in Windows 3.1.
N	N	Real time	Y	Y			Extras include a Logical Editor for manipulation of MIDI data and the ability to directly read files from both the Apple Mac and Atari ST versions.
N	N	Real time	Y				Includes graphic displays for MIDI Controllers and tempo
N	N	Real time	Y	Y			About to be released. Extras include real time controller remapping, a tempo editor, on-line help and 99 Undo levels.
Y	Y	Real time	Y	Y			Same as Multitude Pro but with the inclusion of score printout.
N	N	N	N	N			Entry-level sequencer. Includes a step entry screen.
N	N	N	Y	Y			Includes an on-screen MIDI mixer.





Sequencer Plus is a popular PC-DOS sequencer while Cakewalk for Windows is a new entry to the market.

WHICH COMPUTER?

All four of the main computing sytems offer decent sequencing packages, so the choice of computer is unlikely to be determined solely by musical considerations. The question that needs to be asked is, to what other use(s) do you intend putting your computer? If you want to play games, then your choice is likely to be an Amiga or ST. If you want to use it for business – databases, spreadsheets and so on – then a PC should be high on your list. If graphics and Desktop Publishing is your main concern, then an Apple Mac will best fit the bill. All platforms offer acceptable word processors.

If your computer is going to be used purely for music, then you have to look for the package which most fits your needs. Think along the lines of: Do I need notation? Do I need to print out a score? Do I want a specifically pattern-based sequencer? And so on, until you've narrowed down the market in which you are looking. Always look at the cost of essential peripherals, too, such as a monitor, hard drive and MIDI interface. What may appear to be a cheap option often ends up more expensive once you add on the various bits and pieces that you need.

Finally, make certain that you have enough RAM (Random Access Memory) for the sequencer of your choice. Many computers can be upgraded by using relatively cheap cards called SIMMs, but again, this adds to the overall cost of your system.

PC MIDI CARDS

As the PC doesn't have intergral MIDI ports, these have to be provided via a card connected internally to an expansion slot or externally to one of the serial ports. The first company to create an interface with intelligent features (so that MIDI Information could be processed outside of the PC), was Roland with its MPU-401. All software should support this. Other companies – such as Music Quest – have developed interfaces which are MPU-401-compatible but which can also provide extra features of their own.

There is a difference in the way that MIDI interfaces are handled by DOS and Windows software. A sequencer running under DOS has to provide its own software driver to 'speak' to a particular interface, or have a driver program loaded into memory which provides a standardised interface between DOS and the MIDI card. With Windows, all drivers are part of the Operating System; it now becomes the hardware manufacturer's task to ensure that an existing driver supports their interface. If this is not the case, the MIDI interface will not work. For example, Yamaha has a MIDI interface on their TG100 synth module which Yamaha (US) are currently writing a Windows driver for.

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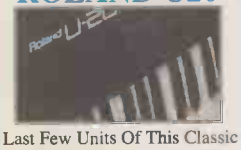

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Alesis SR16 Drum Computer	£199
Roland HS60(Juno 106 With Speakers)	£299
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The World

Part 1

"A lot of what happens this week is for our own benefit as musicians, just to find ways of working together, to write and play together. I think anyone who comes here and gets involved discovers things to inspire them."

So Peter Gabriel sums up the second Real World Recording Week, which ran from 13th to 23rd August in and around his own Real World studio complex in rural Wiltshire. The first such week, in the summer of 1991, was an undoubted success, producing seven albums of recorded material featuring 75 artists from 20 different countries. Approximately the same number of albums will be generated this year, some as straightforward 'takes' of performances by visiting bands and artistes, some as exotic collaborations – all for the studio's own label Real World Records.

But of course, this being Peter Gabriel's place, his carefully planned and conceived headquarters for the past six years or so (and the studio in which he recently completed *Us*- his first solo album of new songs since *So*) a special buzz pervades the proceedings.

People do, indeed, discover things to inspire them. For Sheila Chandra, an Indian singer resident in London, it might have been the ducks, clearly visible on the pond right outside the largest control room in the world. For Jah Wobble it was perhaps the beer served in Lulu's cafe adjacent to the studios. For Gabriel himself, well, who knows? His old friends Daniel Lanois and David Rhodes were there; his new album was finally off his hands and in the lap of the distributors. One thing's for sure: after the last dutar had been flightcased back to Turkmenistan, he would still be there. As he himself puts it, "This is where I'm from".

Also there throughout the week was Neville Farmer – one of a clutch of writers and poets drafted in to sit peacefully under leafy boughs to supply lyrics – and someone who, as European Studio Editor of *Pro Sound News*, knows a thing or two about the recording process. Produced exclusively for *Music Technology*, this is his diary of the week... **PW**

Text by Neville Farmer

It is hard not to sound as though you are exaggerating when you talk about the Real World Recording Week. Nine albums recorded in seven or eight days by over 100 musicians and 17 producers seems a little far fetched. Writing and recording over forty tracks in that time with collaborators who don't talk the same language and have never met before sounds even harder to believe. Remixing some of them before mixing seems a little strange, too. But there is nothing on earth that resembles the excitement which takes place in the residential rural studios of Real World for this one week each August. And for anyone who has experienced the two events which have taken place so far, anything is believable.

The first week, held in 1991, was a bold experiment. Womad (World of Music Arts and Dance) was touring with dozens of world music performers and Peter Gabriel, Womad's patron, offered them the studios to see if any of the collaborations that took place on the tour were worth preserving. They were. And several albums have slowly trickled out on Real World records since then. This year, the Womad/Real World team were aiming for something slightly different. The first week had been pretty expensive and though hugely enjoyable, there had not been enough complete pieces to come from it. Jamming is fine for the participant, but can be wearing on the listener.

To help keep a check on the expense and to broaden the scope of the week, two large open air concerts were arranged in Bath's Royal Victoria Park on the Sundays at either end of the week. A grant was obtained from the EEC to help support this and a series of theatrical performances in the park during the week. As before, the Womad musicians were supplemented by various talented western performers and a wide selection of producers were invited to record at the studios.

Gabriel and his team asked the producers to come with something of a plan so that as much productive work as possible could result. A few, such as Billy Cobham and (Gabriel/Floyd/Alice Cooper producer), Bob Ezrin, time-shifted their week by starting a little earlier and leaving mid-week, but the official starting date for recording was Monday – after a dry and rip-roaring gig the day before. Nevertheless Sunday saw the first signs of activity at the studios...

SUNDAY 16TH AUGUST

Simon Booth, producer and guitarist for Working Week has laid claim to the cavernous Big Room, the cathedral-like main control/performance room housing the vast SSL 4000G series. Although most recordings in here are to Mitsubishi Digital, Mike Large (managing director of Real World Studios) has decided to stick to 24-track analogue machines at 30ips (non-Dolby) to allow for easy transfer from one studio to another. Booth begins recording an album for Hassan Hakhmoun, the charismatic Moroccan and his mainly American band, Zahar. Billy Cobham is recording the rhythmic sounds of Farafina in the Wood Room via the smaller SSL 4048E in the Production Room. Both bands are also performing during the day at Royal Victoria Park.

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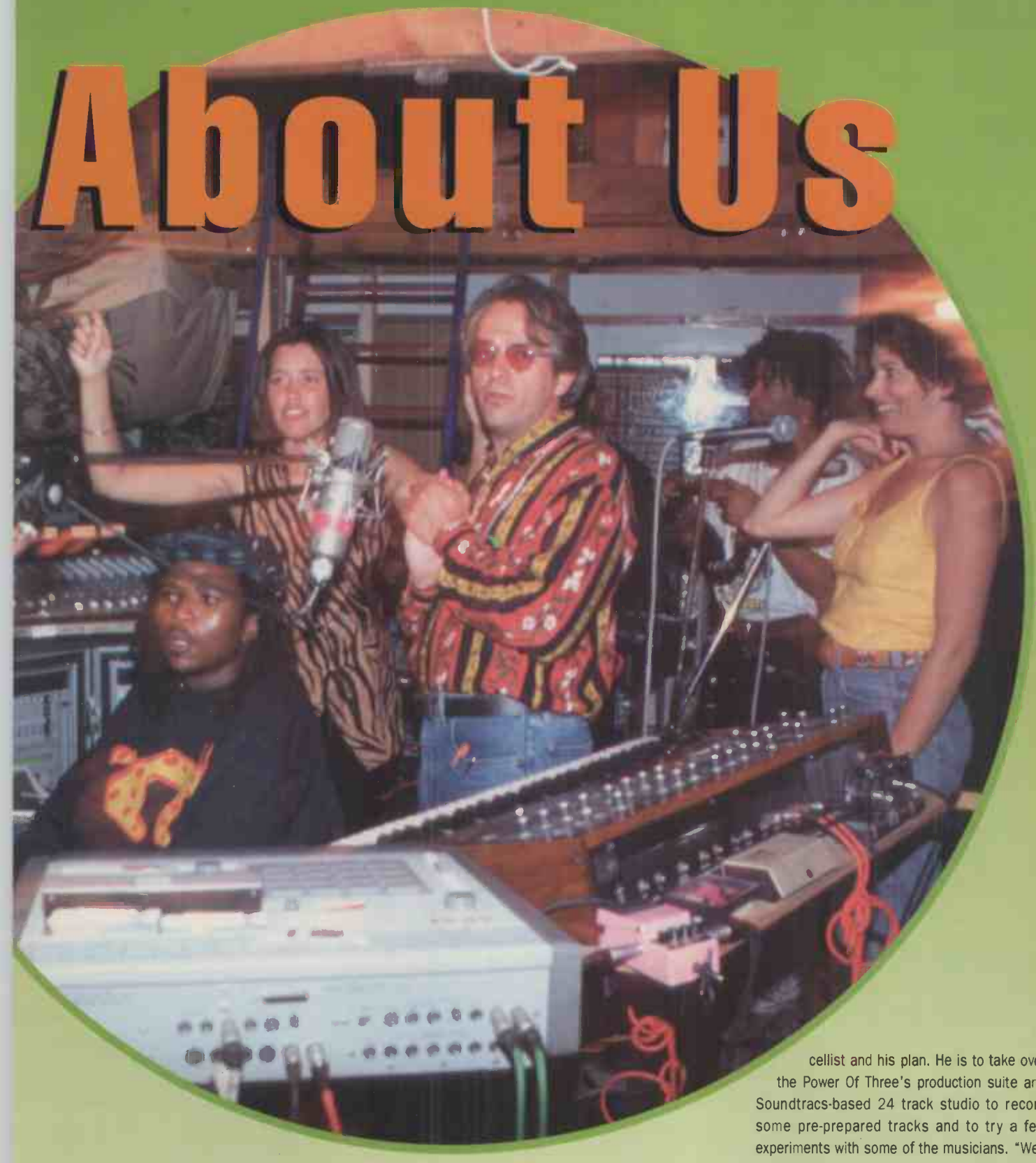

MONDAY 17TH AUGUST

A quick glance at the studio site and there is a sense of gentle confusion. A few people know exactly what they are doing, but others wander round the old stone bulldings trying to find their feet. Ayub Ogada, a Kenyan musician who now lives in London, is sitting by the stream wondering what he is supposed to do. He wants to play but no one seems to have a space for him. "I'm beginning to get a complex" he says, smiling.

Inside the production office the confusion takes on a much more energetic form. Artists and producers are scattered throughout the accommodation network which extends from Bath to Bristol; getting them all on the site is a logistical battle. Simon Jeffes, key member of the Penguin Café Orchestra and renowned composer/producer/arranger arrives with his cellist and his plan. He is to take over the Power Of Three's production suite and Soundtracs-based 24 track studio to record some pre-prepared tracks and to try a few experiments with some of the musicians. "Well this is a nice place to be. It's a wonderful thing to organise." He's happy because he has a studio.

By contrast, Canadian producer Michael Brook spends the morning wandering around stealing odd bits of equipment to put together a pre-production suite in a small office. His is the first of a number of Heath Robinson recording facilities which spring up in spare rooms on the site. Toni Childs has brought her own ADAT eight-track flightcase studio which

Daniel Lanois renews his subscription to *Ideal Home* magazine

she sets up in her bedroom in the main house.

By mid-morning David Rhodes is using the Writing Room to try a series of recording experiments. SSL have donated an 8000G Series desk for the room, though the heat generated by having half the computers in the shower and the noise generated by having the other half next to the desk proves too much to bear so only half of its facilities are in use.

Lucky Dubé and his band from South Africa are the source of some concern to the production office team. Apparently they cut short a gig in the Virgin Islands the previous night owing to technical difficulties. Government officials were not best pleased about the ensuing riot and have held the band hostage until they play again for free. It is not known when they will arrive. Meanwhile Turkhmenistani band, Ashkabad have finally turned up, but their instruments have been impounded by Moscow customs officials and Maurice Plaquet don't rent out ancient Turkish flutes. They piece together the rest of the instruments they need and get to work with Simon Jeffes.

Room eight has now been added, though it is actually more of an eight track mobile than a room. During the week this simple combination of ancient eight-into-two Yamaha console and Yamaha eight-track ministudio will become the focal point of some extremely lively jam sessions on the lawn by the stream. Every time one of these sessions takes place, locals from Box village come down with their picnic chairs and sit on the other side of the stream to listen.

Up in the Workroom – the cluttered attic of the old mill – Peter Gabriel is working on an excellent impromptu collaboration between himself, Toni Childs, Juan Martin and Papa Wemba which is turning into an incredible track. A chorus is put together between some of the visitors but because of the looseness of the African rhythms the click track is abandoned when it becomes more of a hindrance than a help. All is glorious chaos and Toni Childs emerges looking exhausted. "There is a real problem with languages up there," she says. Apparently there is a mixture of French, English and Spanish being spoken. "Somebody just asked Peter did he mean 'si' or 'C' in English."

By mid-afternoon, the eight-track is in use on the lawn with Zi Lan Liao and Ziu Yu recording some beautiful traditional Chinese tunes straight to DAT and eight-track cassette. Over in the Writing Room, Andy Sheppard is recording some stunning soprano sax ideas with David Rhodes. Music is pouring from every part of the site.

Come mid-evening, Bob Ezrin can be found dancing round the Rehearsal Room where a Soundcraft Sapphire desk forms the centre of yet another make-shift 24-track studio. He is recording a small group comprising Papa Wemba, Farafina and a Cuban trumpet player who has dropped in for an afternoon. Heavily into Latin grooves, Ezrin has the whole band dancing... "This is great," he says, "We've recorded a whole bunch of stuff; I've no idea what it's going to sound like." When he finishes, Mark Rutherford and Sugar J. move in to turn the studio into the Groove Factory.

Rutherford claims to have arrived with a plan and quickly brings in the Electra Strings – a women's string trio – to play some ideas over a computer driven groove. Atari STs and Akai S1000s litter the control area – there is no separate recording area. Ayub Ogada follows the strings and by the end of the night cellist Caroline Lavelle has put a breathy performance of a traditional Irish air over the groove – bizarre and brilliant.

As some of the musicians steal time for dinner in Lulu's café late in the evening, Bob Ezrin takes over the mixing of the Papa Wemba/Toni Childs/Juan Martin track while Simon Booth continues with Hassan Hakhmoun in the Big Room, having completed seven tracks on the first day.

In the Power Of Three room, Simon Jeffes puts together a tribute to the late John Cage who died a few days earlier. Ayub Ogada

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pitches in with some ideas in the Writing Room with David Rhodes while Michael Brook programmes away in his personal suite. Meanwhile the 'schedule police', as Mike Large and his crew have been dubbed, wander round the grounds trying to sort out the next day's sessions.

TUESDAY 18TH AUGUST

Despite the best efforts of the schedule police, Ashkabad have arrived at the Workroom only to find it occupied by the hyper-energetic Ezrin who is still trying to mix the previous day's work. Undaunted, they set up their instruments on the lawn and before long, gather such a collection of musicians that a large audience is drawn. Despite regular interruptions from British Rail (an Inter-City line runs right by the site) and passing cars and planes they record two tracks combining their Islamic wedding music with electric bass, Juan Martin's flamenco guitar and assorted African drums. Peter Gabriel and Bob Ezrin love one of the tracks so much it is commandeered and re-recorded in the Workroom – so Ashkabad get in there in the end. The title, appropriately, is called 'Between Two Trains.'

Daniel Lanois is recording material for an album with Farafina from the Wooden Room into the Production Room. He keeps himself pretty much to himself, barring short beer breaks. "I don't have time to mix later because I'm only here for three or four days" he explains, "...so I mix as I go along." He is ripping through Ampex Grand Master two inch tape like it is going out of fashion. The Farm's backing vocalist, Rebecca Leigh-White adds some Swahili vocals to another track with Ayub Ogada.

Mid-afternoon sees the arrival of Nigel Kennedy who has adopted the Robinson Crusoe look and is driving a trashed BMW that he has hand sprayed in Aston Villa colours. He scurries off to the Power Of Three room with Andy Sheppard and producer Alex Gifford to record a jazz piece he has written. Simon Booth and his team have completed almost an entire album with Zahar and Hassan Hakhmoun, whilst programmer Ron Aslan sits in the corner of the Big Room with a Macintosh, a master keyboard and numerous samplers and effects. "We've set a precendent here" says Booth, "Ron is actually remixing before we mix, if you can get your head round that. Just taking DATs off the desk and sampling them into the computer."

Jane Siberry, the shy but brilliant Canadian singer/songwriter has found a soulmate in Ayub Ogada and she and the Kenyan are working on an idea that David Rhodes had started the previous day. It is fascinating to watch him tune his gut string lyre by twisting the top branch of the instrument while David Rhodes plugs his Fender into a Korg electronic tuner. Michael Brook still beavers away in his room with his seventies wax lamp for comfort.

That night, Lulu throws a birthday party for herself in the cafe. An impromptu string jam occurs with Nigel Kennedy, the Electra Strings and sundry bongo, conga, bass and vocalists. They stagger home at four in the morning; Daniel Lanois is still mixing in the Production Room.

Villa have lost; Nigel Kennedy has forgotten to pack a razor. Break out the violins...

WEDNESDAY 19TH AUGUST

All change today as Lanois takes over from Simon Booth in the Big Room to start some more experimental tracks with the likes of Kudsi, a Turkish flautist. Lanois keeps his recordings simple but very atmospheric to get the most from the performance. By working with unusual combinations of instruments he gives a strange and dark sound to his recordings and with the candles in the room and his wild-eyed look he creates a curious vibe. He works at an alarming rate yet he still has time to record a lively vocal in the Groove Factory and to play some guitar for Peter Gabriel.

His early start in the Big Room awakens Anthony Michael Peterson, guitarist from Zahar who had crawled into the vocal booth the night before and fallen asleep. Everyone forgot about him when they locked up. Michael Brook emerges from his cell to add acoustic instruments to his vocal samples and programmed tracks in the production room. Simon Jeffes has begun recording the Electra Strings in the Power Of Three room before they leave at lunchtime for a London session.

Bob Ezrin is feeling a little frustrated at having to leave today. "I've just got so much to finish" he says as he tidies up some mixes in the Workroom. The latin piece from Monday night is in two separate takes and he hasn't had time to edit them together. "It's a shame, because one take is technically perfect and one has real energy but I just don't have the equipment to put the two together. The trouble is it's only a great backing track at the moment and it needs a little guitar or a brass section. I'd quite happily hand it over to someone else but it needs editing first." His frustration is common, but it goes with the territory.

By this stage there are at least ten recording facilities up and running and the only mic left is for a Tandy Walkman. Someone, somewhere is bound to lose out. John Leckie is waiting for Ashkabad who are sleeping off the vodka in Bristol. He has taken over the Writing Room from David Rhodes who has had to leave on business. Sadly, Rhodes cannot return to complete his tracks but they will certainly come in useful for him later. While he waits, John Leckie records some solo guitar with Juan Martin.

Out on the lawn, a lone bagpiper wakes the village before being joined by Turkish flute and a form of Chinese violin for a rather esoteric jam. Simon Jeffe's tribute to John Cage has

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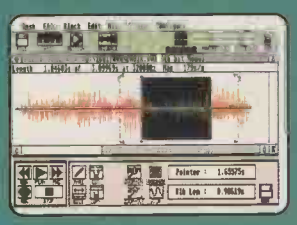

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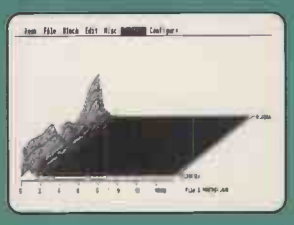

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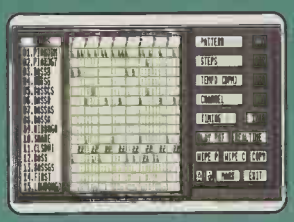

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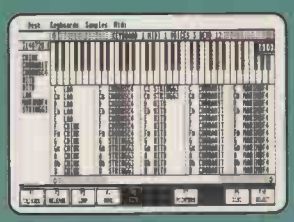

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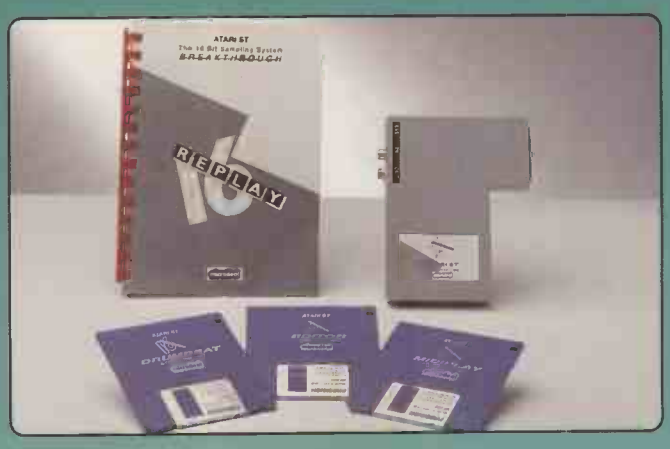

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been coming along well and, true to his style, he has devised a piece written in the chords C-A-G-E and D-E-A-D. Peter Gabriel has invited Michael Horovitz and some other poets as part of his plan to record more complete songs than last year and, as Horovitz knew John Cage, Jeffes invites him to say a few words over the track. Jeffes then records the voice via a walkie talkie to distort it.

Nigel Kennedy leaves for an Aston Villa match by chauffeur-driven Jaguar – the BMW being deemed unsafe. He is worried about how his playing will be affected by the result of the match. "I think there will be some serious grief when I get back tonight. Last time we played Leeds we lost 4-1 at home." Jane Siberry and Senegalese producer/musician George Acogny spend some time writing in her room.

John Leckie has taken a break from the writing room to have a meeting with Robyn Hitchcock and the Egyptians' bassist to discuss Leckie producing an album on the Isle Of Wight in two weeks' time. The bassist ends up caught in a ramshackle jam between Ashkabad's clarinet, accordian, hand drum, tar, fiddle and George Acogny and Sagat on electric guitars with David Defries on flugelhorn and bagpipes – though he has to stay outside to play because he is drowning out even the electric guitars.

Leckie attempts to control the cacophony, but eventually Ashkabad's clarinetist – who is head of department at the university in Turkmenistan – takes over the musical direction and starts teaching George and Sagat how to play funk. What started as an unruly jam has turned into a careful multitracking session. Hitchcock sits outside musing over the chaos of the thing and writing a potential lyric to sing over the music. "This is a really strange thing to walk in on," he says, "I'd love to be involved next year."

Simon Jeffes is very happy with the results of his work, too, but he points out one of the problems of the event. "Nobody wants to take the lead" he says, pointing out that everyone is enjoying the 'equality' of the occasion, but few are willing to take control. Luckily the producers are there to take care of that. Speaking of which, Michael Brook has set up U Srinivas, the young Indian electric mandolin player and his band in the Wooden Room. Just before nine, people stroll across from Lulu's cafe and sit on the studio floor surrounded by candles to watch as he performs. Brook records the whole thing in the production room for a live album and the event is also filmed.

Peter Gabriel, Ayub Ogada, Hossam Ramzy, Kudsi and Zi Lan Liao are working on a piece by Ogada in the Workroom. Gabriel sings and plays keyboards. ■

Next Month: The Final Days. Lucky arrives, Billy Cobham gets ecstatic, William Orbit comes down and Nigel Kennedy sprays everyone with mud...

Ensoniq DP/4

Parallel Effects Processor

Photo: James Cumpsty

Text by Nicholas Rowland

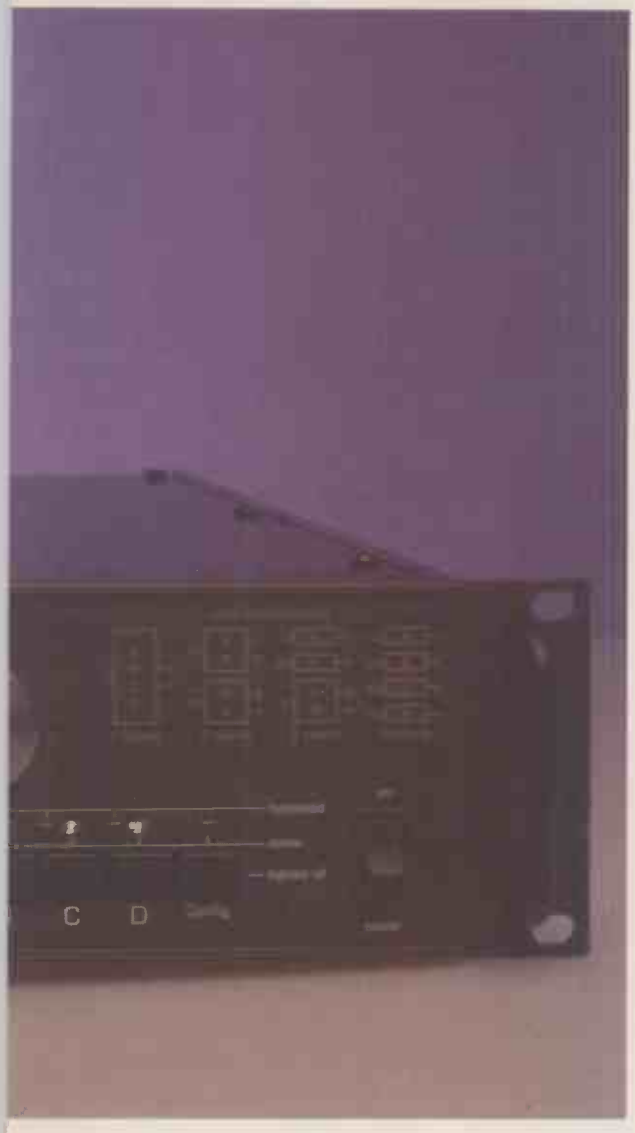
When the price tag says £1000+, the concept of placing four individual effects processors in a single box has to add up to more than simply a saving of rack space. And where the Ensoniq DP/4 is concerned, it seems it does...

Multi-effects units are a bit like the Swiss army knives of sound processing. The attraction is that they pack so many gadgets into one box - but that's also their fundamental weakness. As anyone who's ever tried to use a Swiss army knife to spread butter and get a boy scout out of a horse's hoof *simultaneously* will testify, multi-FX units are often not too hot when it comes to doing several jobs at once.

Even the latest generation of simultaneous multi-FX units still won't allow you to apply, say, gated reverb to the drums while saving the chorus and delay just for the keyboard pads. Of course, that's not a problem if you're laying down different parts of an arrangement on tape, track by track. Just select the appropriate FX for each sound as you record. However, if you're one of the increasing number of people who now by-pass the faithful multi-tracker and build up songs on a sequencer instead (only committing themselves to tape at the last stage of the process with what is, in effect, a live stereo mix) what you need is either a stack of individual effects processors or something akin to a 'multitimbral' multi-effects unit. Which is where we unveil Ensoniq's DP/4 - the first multi-FX box which really does let you have your cake and eat it.

Imagine a rack of four separate, fully programmable 24-bit digital effects processors, each offering a choice of 44 of the most commonly used effects types, plus a few not-so-common ones, like vocoder.

Now imagine them linked up via a programmable, MIDI-controlled patch bay which not only handles the routing of the signals into the four processors, but allows the units to



be connected together in virtually any combination. This includes processing four signals completely separately, or creating one giant effects box to process just one. What's more, unlike a real stack of separate boxes, all routing, processing and mixing is done entirely inside its squeaky clean, digital innards.

Finally, add a programmable sub-mixer to take care of the configuration and volume of the outputs. Now stick it all in a 2U rack-mountable box with 400 memories, half in ROM (ie, factory presets), the other half in RAM (user-programmable presets). This is the Ensoniq DP/4: RRP £1175. Its American creators call it a Parallel Processor. I'd describe it as the mother of all multi-processors.

First some external architecture... most of which you'll probably be able to discern from the photographs. The 1/4 inch jack sockets at the rear provide the inputs and outputs (four of each) - though Input 1 is duplicated on the front panel. This is primarily designed for guitarists using the DP/4 as an 'in line' effects unit, although it will in fact take virtually any low or high impedance source. Back at the back: there are some holes here for MIDI, footpedals and CV inputs and things, but we'll fall into those as we come to them.

Familiarising yourself with the internal architecture of the DP/4 involves getting to grips with a little thing Ensoniq call Configurations - not the Albanian entry for this year's Eurovision Song Contest, but a word which unlocks the mystery of the machine's operation.

It goes like this... Configuration settings determine the number of input sources that can be processed, how those sources are routed to the DP/4's four effects processing chips (which from now on we'll call units A, B, C & D), how those units are linked together, whether the end result is mono or stereo and (in some cases) the mix of dry and processed signal coming out at the other end. Most important of all, the choice of configuration determines exactly how many effects are simultaneously available to process each input. Basically, the more sounds you want to process at the same time, the less power you've got to play with.

Let's start with the four-source configuration mode and you'll soon catch on. This effectively sets up the DP/4 as four separate units, each able to process a mono voice/sound using one of the 100 '1-unit' presets. These are all variations of the 44 effect algorithms which form the basic building blocks of all the DP/4 effects.

While all four processors select from the same menu of 1-unit presets (half in ROM, half in RAM, remember), there's no restriction on what presets are loaded where. Because each unit is effectively based around its own chip, you can load the same effect into all four processors if you like, and what's more you'd be able to edit parameters independently for each of them.

Now on to three-source mode, where the DP/4 becomes three separate effects processors - a couple of single units (A & B) plus a double one (C/D). While A and B can still be loaded with any of the 100 1-unit presets, you can now load the C/D combination with any of the 100 2-unit effects (again equally split between ROM and RAM). With two exceptions, these presets are created from pairs of single algorithms linked together either in series (ie. one followed by the other), in parallel (ie. the signal going through both pairs simultaneously then linking up at the other end), or with the output from the second algorithm feeding back into the first.

The odd men out are a pitchshifter and a 3.3 second digital delay, which are not simply two single algorithms linked together, but use the processing power of two chips to create a single effect.

Two source configuration mode gives you two of these 'double-effect' units (A/B and C/D), both of which can only be loaded with 2-unit presets. In one-source mode, the DP/4 links all four units together to create a single, awesome multi-effects processor. Here the units are again divided into the A/B, C/D pairs, but those pairs are now linked together in a number of ways. The result is 32 different chains of effects with the option of placing any algorithm into any part of the chain. This, in itself, sets the DP/4 apart from most ▶▶

Effects Extra

It's worth looking at a couple of the more unusual/creative effects in depth. For example, tempo delay is a useful algorithm for setting up multi-tap delays for a specific musical context. Here, delay time is defined in terms of notes: 1/32, 1/16 triplet, 1/16 dotted. 1/8 triplet and so on, up to 1/2 notes. The space between repeats is then controlled according to tempo parameters, using either the DP/4's internal clock (50-250 BPM), MIDI clocks or by tapping out the tempo via a footswitch.
The 3.3 second delay mentioned in the text incorporates an instant replay feature where you can record and then loop passages up. It's no substitute for a sampler, but you can get some interesting rhythmic effects out of it. And it's fairly easy to use live since you can set up a footswitch to toggle between loop record and loop play.
Also worth a mention is the expander, which features a trigger mask function that can be used to extract a click track from drum tracks.

other multi-processors where the order of the different effects types within the chain is often fixed, or at best limited.

Bringing the numbers up to 400 presets is a bank of what are called Configuration Presets. We've actually entered this area when setting up the DP/4's configuration modes. Normally, the units would effectively be empty and you'd then select presets to 'fill' them. But other configuration presets not only configure the DP/4 in either one, two, three or four source modes, but also load a set of effects and preset the various mix parameters.

One such preset, which actually represents the power of all four chips harnessed together, is the vocoder. In true MacArthur style we shall return to this later on.

Having learnt a little of the architecture of the unit, you should now begin to appreciate the DP/4's flexibility and perhaps also understand some of its (few) limitations. But of course, architecture doesn't sell effects processors (...and why should it - it doesn't even sell buildings), a fact which Ensoniq understand well.

So for those who simply want to turn on, tune up and try out, there's a quick route to auditioning the 400 presets using just one sound source.

But I warn you: putting the DP/4 through its paces can seriously damage your wealth.

The reverbs are beautifully smooth; the choruses are fat and rich; the flangers carry your plodding sequenced synth lines on rockets. Try out presets like 'Boom Room' (an instant John Bonham-iser of drum machines); 'Holy Ascend-DDL' (ideal for the bit where we go back 50 years to when Orson Welles hadn't yet learned to be a bastard); the '66 Car Radio' tunable speaker preset... And these are just the single algorithm models.

Turning to the 2-unit and 4-unit multi-FX and we've got presets like 'Synth Doppler' - a... well, doppler effect which sounds like your head does before you take aspirin. Or 'Science Lab', which combines a sine/noise generator with a phaser/delay to create an ideal accompaniment to a scene of Frankenstein discovering how to extract DNA from the cells of sausage skins.

These are just a handful of the more sensational effects which immediately caught my attention. And there are plenty more which will grab yours too.

That's not to say the DP/4 is all about wacky sounds. Most of them are, in fact, quite sensible - ie. both useful and usable. For example, many of the 2-unit presets have been designed for use with particular instruments and are named as such. So, for drums, we have presets like 'Drums X' (non-linear reverb fed back through a large room reverb) and 'Drum Squasher' (large plate/EQ/compressor). For brass there's 'Trumpet Plate' (large plate/8-voice chorus) and 'Horn Verb' (small plate/large plate) and for vocals there's 'Vocal Magic' (Pitch Shift/DDL/Large Plate) and 'Backing Vox' Lush (Dual delay/8-voice chorus).

The same principle is followed through with the 4-unit presets, where you'll find effects combinations for just about every type of instrument - string sections, brass, vibes, bass, organ, plus vocals. For example, there are around 30 presets devoted to guitar, giving you everything from instant heavy metal lead to mellow jazz rhythm at the touch of a button. Among them are a couple of real gems - namely 'NY Studio' and 'LA Studio' - which give you an extremely sharp, yet laid back guitar sound while also adding a touch of class to keyboard-based guitar and plucked string type sounds as well.

Again, many of the configuration presets have been setup with a specific task in mind, such as processing a particular group of instruments or musicians. So, dialling up configuration preset 18 loads a 1-unit reverb preset into A, a 1-unit eight-voice chorus into B and a 2-unit EQ-chorus-delay/reverb preset into C/D. Hey presto! you've got a three source set-up for a drums, bass and (stereo) keyboard combo. Well that's the theory, anyway.

Other combinations cover vocals/guitar, strings/brass, guitar/bass, lead/backing vocals and so on. There are also some specifically designed for mixdowns, such as 'Albumizer EQ' which sets up the DP/4 as four exciters. Of course, their usefulness depends on whether you are using this particular combination of instruments/sounds. But as a short cut to setting up the unit for particular mixes they can be surprisingly helpful.

Among them you'll also find the vocoder - those briefly-fashionable items of late-Seventies/early Eighties hardware which are now enjoying something of a comeback thanks to their use on radio jingles and commercials. For anyone who only remembers them from the first time round and has forgotten what exactly they do, vocoders analyse the frequency spectrum from an incoming source (most commonly, speech from a microphone) then apply that to pitched sounds from a source like a synthesiser or sampler.

Most people never seemed to get beyond using them to create robotised speech, so you'd be forgiven for thinking this is all you can actually do with them. Suffice it to say that the version on the DP/4 is easy to set up and works well enough, so you should get beyond this stage with a little perseverance.

And if you don't like what you get, it's time for DIY. The DP/4 is a programmer's heaven... or hell, depending on how you look at it. There are an average of 15 parameters per algorithm to wrestle with (most of the reverbs, for example, are based around a complex route map involving no less than 22 separate parameters!) plus, of course, further options when it comes to linking algorithms together to create 2-unit and 4-unit patches. Nothing if not comprehensive!

Incidentally, if you run out of space in the internal memory for your own programs, the DP/4 will happily dump any or all of its RAM presets via MIDI. Which brings us neatly around to the MIDI spec sheet, which as you might expect for a piece of gear aimed at the world and his producer, is pretty comprehensive. Each of the four individual processors can receive patch changes and volume (MIDI controller 7) information on a separate (programmable) MIDI channel. A

The Effects

11 types of reverb (including rooms, plates, reverse and gated); four types of delay (including multi-tap and stereo); chorus, vibrato, auto-panner, flanger and tremolo (all of which include EQ and delay facilities); phaser/DDL; eight voice chorus; straight flanger; three pitchshifters; distortion; three guitar amp and three speaker simulators (including a highly convincing rotating Leslie cabinet); compressor, three expanders (one inversed); de-esser; ducker/gate; rumble filter; parametric EQ; an exciter; and last but not least a sine wave/noise generator. Phew! Give that man some air...

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fifth MIDI channel needs to be set up to access Configuration presets.

The user also has complete control over the MIDI mapping ie. defining exactly which preset is selected by each MIDI program change number - useful for matching the presets to patches on a synthesiser for example. The performance editing facilities also allow real time control over various parameters of each preset - not just via MIDI, but through a number of other devices as well.

You can define up to eight system controllers for the system as a whole, and since the DP/4 supports the full range of MIDI channel controllers, the choice of control via MIDI is pretty wide.

But the DP/4 also supports good old-fashioned foot-pedals as well as control voltage devices - basically anything that produces a 0.5 CV output. This could be a foot-pedal like Ensoniq's own CVP-1, or you could dust off your old analogue synths and use them.

You can then build them into the parameters for each individual preset. Any two controllers can be used to modulate any two parameters in the algorithm - the choice is entirely yours. The minimum and maximum values of that parameter can then be defined and, when you press the pedal, move the pitch bend wheel, or send appropriate control information from a MIDI sequencer, lo and behold, the particular parameter value will alter.

A simple example might be a sampled piano, where you could use the higher MIDI notes to shorten the reverb decay for a more realistic sound. Used in conjunction with MIDIsequencers the facility could offer you a number of pseudo-automated mixdown facilities controlling mutes, fades or panning.

Finally, for live work I should mention the DP/4's song facility which allows you to chain up to five presets together in up to 20 songs. You can then step through them via a footswitch.

Is the DP/4 the future of multi-processing? Well, we'll have to see if other manufacturers follow suit. I suspect they might; the DP/4 is too good an idea not to catch on. It's versatile, it's easy to use, it sounds good... and it's got knobs on. Most importantly, the DP/4 is one of those rare beasts where the whole adds up to more than the sum of the parts. Unlike other multi-processors, its main strength lies in the very fact that it all happens to be in the one box.

Because you can try out any combination of effects you like, just with the press of a few buttons, I think it actually inspires you to be more creative than if you were experimenting with a real stack of separate effects units and a patchbay.

Of course, there's the price. £1175 is not exactly the sort of cash you keep in the shoebox under your bed, yet when you think of the DP/4 in terms of its individual components, it does represent excellent value for money. Hear it and then decide. You may not agree with me that this is the mother of all multi-FX processors, but you'd still have to concede it's one mother of a unit. Ask mother to buy you one. ■

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SLAM

Sample Librarian and Manager

Text by Vic Lennard

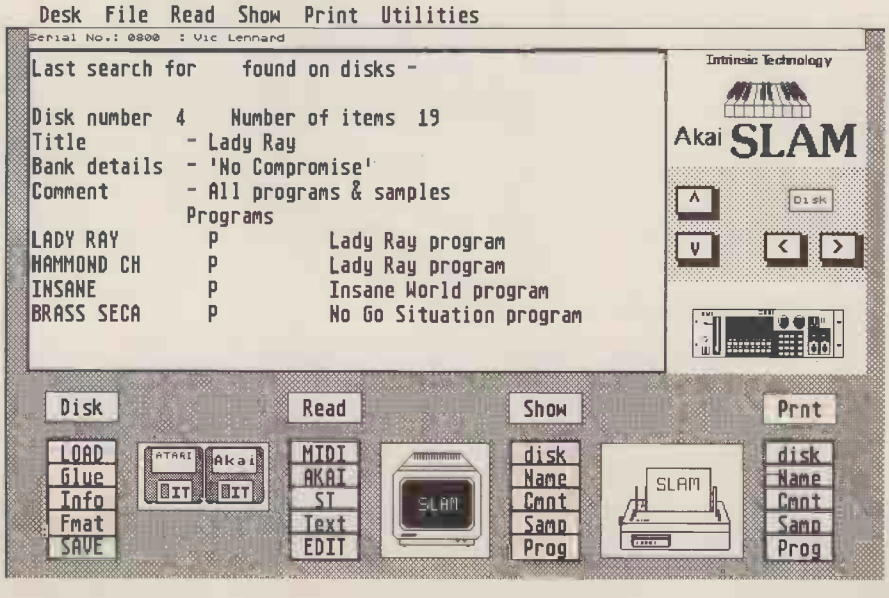
Got an Akai sampler? Then the chances are you've got a lot of disks – all crammed with samples and programs ready for future use. How on earth do you keep track of them all? You either find that out-of-date list you scribbled down – or you get SLAM...

One of the main problems of using sample based material as part of your music is the time it takes to find a particular sample and then load it into your machine – just to discover whether it works or not. If it doesn't all you can do is dump it, find another sample and start again. Though unable to do anything about the speed at which disk-based material is loaded into your machine, SLAM – a new program from Intrinsic Technology – does at least help cut down on the time it takes to locate samples in your collection, and makes it more likely you'll find exactly the right sample first time round.

The Sample Librarian and Manager – to give it its full title – is an Akai sampler database for any Atari ST computer (with mono or colour monitor). Designed specifically for the S900/950/1000/1100 range of samplers, SLAM's Librarian is able to log individual samples and programs and save details to an ST disk. The Manager then lets you perform searches on any of the text fields, while print out facilities provide you with hard copy of all data. Two sets of password copy-protected disks, a goodly quantity of disk labels and a manual complete the package.

As you'll see from the printout, the main screen is nicely laid out and easily understood. Menu options can be selected in three ways: the standard GEM menu bar, keyboard equivalents and on-screen icons. The greater part of the screen is dedicated to an information box for the database details.

Intrinsic have determined where the directory is on an Akai disk and how the various details can be read for each file. Consequently, you need only to place an Akai disk into the ST disk drive for the necessary data (sample and program names) to be read off directly. Intrinsic's undoubted resourcefulness in this area has its drawback, however. Atari have changed the ST's operating system on many occasions but Akai disk reading is only successful when using the original ROM-based TOS 1.0. If you have any other version in your computer, you'll get a warning box advising you of the fact. But all is not lost: Intrinsic include a TOS 1.0 boot-up disk with the package specifically for this purpose. This loads the operating system into the ST's memory; as soon as you



Info
Price: £59 (offer price)
More from:Intrinsic Technology Ltd
4 Auckland Court
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Tel/Fax: 081-761 0178

have completed your disk reading, you simply re-boot the computer.

On selecting 'AKAI' from the Read menu, and inserting an Akai disk, SLAM looks for the necessary information from the Akai format. Once you have the sample and program data in memory, a disk is entered into the library by assigning a disk number to it. As with a standard database, entry fields are used: Disk Title, Bank Type and overall Disk Comment. These might comprise, for example, entries such as, 'Sax & Trumpet', 'Brass Solos' and 'Disk A52 - Fair' respectively. Clearly, the more detailed and structured the labelling, the better SLAM will work.

Selecting the Edit option from the Read menu allows you to change the data in any of the above three fields on a disk of your choice. Additionally, you can also add – and later alter – comments on each sample and program if you wish. Having set up your library, you can then print out the details and enter these in the SLAM manual folder. You can also print out individual disk labels and stick them onto your disks – if you feel particularly industrious.

If you don't want to run under TOS 1.0 (if, for instance, you're using a hard drive and can't easily boot from the enclosed TOS 1.0 disk) or are using high-density disks on an S950/1000/1100, you can obtain the necessary disk data via MIDI. SLAM sends out an information request and then displays the result in exactly the same way as if it had read a disk. The process only takes a couple of seconds because, of course, only the directory is being read, not the actual sample data.

To locate a specific disk, simply load up a library and enter the text that you want SLAM to search for. It's as easy as that.

Of the various extra facilities included: 'Glue' lets you combine different libraries to make database features easier to use. If, on the other hand, a library becomes too large and unwieldy, 'Save Part' can be utilised to create a new library made up purely from selected records. Small System Exclusive dumps can also be saved – such as single patches from a synth – and SLAM can even be used as a standard database by using the 'Edit' facility and typing in new records. This is useful for people who have other samplers or for CD and LP owners who wish to catalogue their collection. Indeed, Intrinsic have advanced this particular feature in recent updates.

The precise value of a program like SLAM, will, I suspect, vary in direct proportion to the number of disks which currently makes up your collection. Studios with Akai machines – and there must be many – would benefit enormously from a utility such as this. Searching for that particularly mellow string sample takes on a new urgency when there's a clock on the wall counting off the minutes. At £89.95, SLAM is a little pricey but at the reduced rate of £59 (until the New Year), it's definitely worth considering by anyone for whom sampling is a major part of their work – particularly those with a large CD collection as well. ■

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Dynatek CDR888

CD ROM and Removable Hard Disk

PHOTO: James Cumpsty

There are two things you can never have enough of. The other one is hard disk space...

Text by Ian Waugh

One of the first laws of computing is that your data will expand to fill the available storage space. And then some. Having recently upgraded my Mac from a 40Mb to a 100Mb internal hard disk, it didn't take long to fill it. I put the 40Mb in an external case and that's getting rather full too, although I tend to hive stuff off onto it which I think I won't need as much as the stuff on my main disk. Of course, I'm usually wrong but that's what you get for trying to flaunt another basic computer law: nothing you want is ever on the first disk you look at.

I also have System 7 on the 40Mb drive so if I want to use it 7, I simply boot up with the drive switched on. Otherwise, good old System 6.0.7 on my main disk works fine. It's faster than System 7, it uses less memory than all the programs I have work with it and I haven't had to fork out for expensive System 7 savvy upgrades. Still, I expect I'll upgrade when System 7 v2 arrives. Can't remain a Luddite forever.

So is this enough storage space? Of course not! I had already bought a removable hard disk which conveniently doubles as yet another Mac drive and also as storage for samples for my S1000. I recently upgraded the S1000 memory to 10Mb and even high density floppies just aren't up to the job of storing the amount of data in a typical program.

Why am I telling you the story of my drives? Mainly to reinforce the statement I made at the beginning of this article but also to lead nicely into the review of the piece of gear pictured above. It's actually a box containing two pieces of gear, a removable disk drive and a CD ROM drive. The box is a 2U rackmount unit and I've never felt anything so heavy in all my life. Japanese Sumo wrestlers may be heavier – but I'm not so sure.

Dynatek is a Canadian company which produces fixed and removable hard drives, CD ROMs, optical drives and DATs. As many operations benefit from two or more systems, Dynatek hit on the bright idea of producing combination drives, mixed and matched to various requirements. For example, if you're an avid sample user, it makes sense to combine a CD ROM drive (from which you can load samples) with a hard disk (onto which you can save complete programs). More about this in a moment...

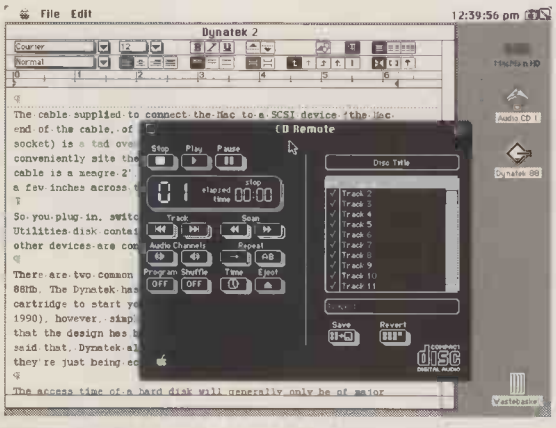
The Interface

The SCSI – Small Computer Systems Interface – is a 'good thing'. It lets you connect all sorts of gizmos to any type of computer (which has a SCSI socket) and is pretty much an industry standard. But who the hell designs the bloody cables? I know they're multicore but do they really have to be 1/2" thick? No sharp-corner curves for this baby. The connectors are big and solid, too, and when plugged into a device, between them and the cable they can easily require up to 6" of additional space at the back.

The Mac can handle up to seven SCSI devices – each connected to the other in daisy-chain fashion. They are individually identified with a unique number so the system knows which device it's addressing. The Mac itself has the default number seven and zero is normally reserved for the internal hard drive. The higher the number, the higher the priority of the device. This allows you to boot from an external drive, simply by assigning the external drive a higher number than the internal drive. If two devices have the same number the system will probably lock up. The last device must be terminated using a special terminator (hi, Arnie!) connector to ensure integrity of data. The package includes two terminator blocks.

The hard drive and CD ROM in the CDR688 are, to all intents and purposes, two completely independent units which share nothing more than a box and a power supply. There's nothing to suggest that you've bought a single unit. They each have two SCSI sockets and you have to connect these just as you would any two independent units. The SCSI ID numbers are easily set and seen from the front panel – which is where they should be. There's nothing worse than having to mess around at the back of the gear in a rack.

The cable supplied to connect the Mac to a SCSI device (the Mac end of the cable, of course, is not the same as a standard SCSI socket) is a tad over 3' and just simply wasn't long enough to conveniently site the unit where I wanted it. The SCSI to SCSI cable is a meagre 2'. However,



CDRemote – the HyperCard stack audio CD player supplied with the CD ROM.

the SCSI to SCSI only has to run a few inches across the back of the unit so that's fair enough.

So, you plug in, switch on and boot up. The Dynatek Drive Utilities disk contains a formatting program and tells you what other devices are connected to your SCSI port.

There are two common removable hard disk sizes 44Mb and 88Mb. The Dynatek has 88 on the front and you get an 88MB cartridge to start you off. The technical spec in the manual (dated 1990), however, simply refer to a 44Mb capacity which suggests that the design has been updated but the manual hasn't. Having said that, Dynatek also produces a 44Mb version so perhaps they're just being economical with trees and manual writers.

The access time of a hard disk will generally only be of major concern if you are shifting lots of data such as graphics and DTP files – or wish to do direct-to-disk recording. The specs quote an average access time of 20 milliseconds, which is on the good side of average for a removable disk.

Direct-to-disk recording has got to be one of the main attractions of a removable hard disk to the musician, but the process does demand that the disk is capable of transferring data at a certain rate. Direct-to-disk recording systems will usually state the minimum speed requirements. For example, Mark of the Unicorn's Digital Performer requires a drive with an access time of 20 milliseconds or less. That's faster than your average removable hard disk and even faster than some fixed drives. Some direct-to-disk systems may be more lenient, especially if they have dedicated hardware to take care of the data transfer, although the success of this is also dependent on the computer's speed.

It's also worth pointing out that some of the cheaper removable drives may not be quite as reliable as you might like. While this may not affect normal use (it can always have a second go at reading data) it may adversely affect digital recording. The point of all this is simply to ensure that you buy the right tools for the job. Of course, there's nothing to stop you recording to a fast internal disk and then transferring the data to a cheap removable drive.

Dynatek obviously expect their units to be used with direct-to-disk systems and have tweaked their drives to run at the optimum speed. Sound Technology (the UK distributors) have a compatibility chart which shows the Dynatek removable hard disk to be compatible with most of the major D-t-D systems including Digidesign's *Pro Tools*, Hybrid Arts' *Digital Master*, Roland's *DM80*, Akai's *DD1000* and Yamaha's *D5*. It's also compatible with all the major 16-bit samplers from Akai, Roland, E-mu, Ensoniq, Kurzweil, Digidesign and Casio – but then you'd expect it to be.

The drive worked fine in use. It's a lot quieter than my (cheapo) 44Mb removable drive and it appeared to work faster, too, although that's only a subjective impression.

The CD drive in the Dynatek unit is a Sony CDU 541 which, in a recent Mac mag test, proved averagely fast in comparison with a bundle of other CD ROM drives. The quoted access time is 380 milliseconds. The compatibility table claims it's compatible with all the samplers mentioned above except the Casio FZ20M although I don't know why this should be so as you can, surely, simply play the thing and sample into *any* sampler.

The unit has a headphone socket and left and right audio outs (phonos) but no digital outs which I find surprising, especially for a unit which is such an obvious choice for the sampler user. However, I must confess I've never bothered to get a digital interface for my S1000. Audio samples, especially from CDs and DATs, go in very cleanly so do I need digital, I ask myself? And so must you.

You insert the CD into a removable caddy and slip it into the unit. There's a volume control on the front for the headphones and an eject button but the controlling software will often override this.

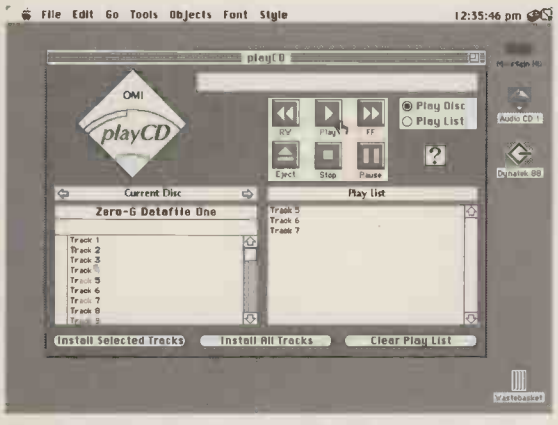
An OMCD (OPTICAL Media) device driver is used to control the player. This has it's own short manual. You basically drop a few files into your System folder, restart and off you go. The software is compatible with System 7 and lets the Mac read CDs in the same way as it reads floppy and hard disks. CD ROM and audio CDs appear on the desktop with slightly different icons. There are two main CD ROM formats High Sierra and ISO 9660 although they are virtually identical. They are supported by the access files you drop into your system folder. There's one for audio CDs, too.

One of the main uses of CD ROM for the musician is to be able to play your CDs while you're working on your computer... okay, perhaps not. But you can play audio CDs on them, and buying this device saves you splashing out a separate CD player – although your Mac must be switched on in order for it to work and you can't plug in a set of phones and take it with you on the tube.

An audio CD player HyperCard driver called Play CD (you'll need HyperCard v2) is supplied in a folder called Unsupported Goodies. You are prompted for the name of a new CD as you load it and you can type in the names of the tracks and create a play list if you wish. It works but I found it very slow and sluggish and really not a very inspiring sort of program. Apple's CD Remote which runs as a DA works far better. (Incidentally, I found this on one of a number of CDs loaned by Tailor Made Solutions, thanks chaps).

The other major use of a CD player is, of course, for sampling; everyone seems to be releasing sample CDs these days, and there's also a growing market in CD multi-media disks. Controlling a sample CD from your computer is very convenient. You can name the tracks – which means you don't have to refer to the manual – and, well, if you're anything like me, you get a certain satisfaction from controlling equipment by remote. Having everything under your fingertips as it were.

Yet another use of CDs is simply to store large amounts of computer data such as programs, data files and games. Can you imagine a game which contained 650Mb of data? Mega! There are already quite a few on the market including



PlayCD – Apple's CD Remote audio CD ROM player

adventures and game collections. Some, such as Spaceship Warlock, are described as 'interactive movies' and use the massive amount of data to create walk-though scenes.

There are also many educationally-oriented CDs and CDs of PD and Shareware which are generally very cost-effective – although most tend to be 'of an age'. CDs are also very good at storing databases such as encyclopaedias, atlases and newspaper and magazine back-issues. All this data is instantly accessible. If you work with pictures imagine having instant access to 650Mb of clip art? Companies are also putting entire font collections onto CDs. You unlock each font by phoning the company, giving them your credit card number and they respond with a special code.

Typical CD prices range from around £30 for certain games and data collections to over £200. Some can cost two or three times this amount. An average is probably £75-100.

The downside of CD ROMS is that they are slow. Compare the 380 millisecond access time to the 20 millisecond access time of a hard disk. If you are reading a lot of data it could take 20 times as long as it would if it was stored on a hard disk. However, there are CD ROM utility programs which can help speed up CD ROM use.

CD ROMs are also read-only. I mention this just to remind you. If you want to alter some data you'll have to save it elsewhere, I'm afraid. If you need large amounts of writable storage space, you need to look at writable optical drives which can store 128Mb of data on a 3.5-size disk. These have a slower access time than removable drives but some are compatible with certain direct-to-disk recorders. But CDs have many uses and applications for the computer user and musician and will no doubt continue to grow in popularity as a storage medium – especially as CD ROM prices fall.

Which brings us to the price of the unit. It's certainly not cheap by any stretch of the imagination; None of the Dynatek units are. They even quote a list price of £130 for an 88Mb cartridge which is almost twice the 'street' price. And on a picky note, at this sort of price, the documentation should be better.

The same Sony CD ROM drive in a stand alone unit from another manufacturer might cost around £600. An 88Mb removable drive can cost from £600-800. Both prices are list, not street. The removable drive Dynatek uses is a Syquest SQ5110 and, oddly, in its publicity, Dynatek claims Syquest has had a reputation for unreliability! Well, there's honesty for you. However, the company offers a two-year warranty on the drive and one year on the cartridge – which must do something to (re)instil a sense of faith in them. The CD ROM player is guaranteed for one year.

Clearly, what you are paying for is quality and performance. Most of the removable drives from other manufacturers quote an access time of 22 milliseconds or more. Whether Dynatek have tweaked the drives or are using a different set of measuring criteria to time it, who knows, but they do guarantee that it will work with a wide range of direct-to-disk recording systems and samplers. So if this is what you have in mind, it could pay to play safe.

I know from experience that my cheapo 44Mb removable drive sometimes needs a couple of tries to read and write data from and to the S1000 although – touch wood – I've never lost any data with it. But having lost data in other ways, I know what a bummer it is. You pays your money and takes your choice. The units work well and are (very!) solidly built and housed but to reach a mass market, someone really needs to look closely at the price. I'll happily report on their long-term reliability in a couple of years' time... ■

CD ROMs

CD ROMs are the future of the computing industry, the backbone of multi-media and the gateway to consumers' hearts. Or so developers would like us to believe. The term 'CD ROM' actually refers to a CD player – not a solid state piece of techno memory as the name suggests. Audio CD players which you use to listen to Guns n' Roses are similar to CD ROMs so you can play audio CDs on a CD ROM providing you have suitable controlling software.

However, CD ROMs have to work to a higher tolerance in order to read the data correctly. Audio CDs use a process called oversampling to minimise read errors. If one bit in a sample is incorrectly read it will be over in a fraction of a second. If a bit in a data file is read incorrectly, the result could range from annoying to disastrous. That's one reason why CD ROMS are more expensive that audio CDs.

The CDs' main usefulness is the amount of data it can hold typically up to 650Mb (that's over 800 floppies!) although not all CDs are this full. You can expect to pay 40-50p for a floppy so even an expensive CD gives you good value for money. At least on a bit-per-pound basis.

Info

Price: Dynatek CDR688 £1856.50

More from:
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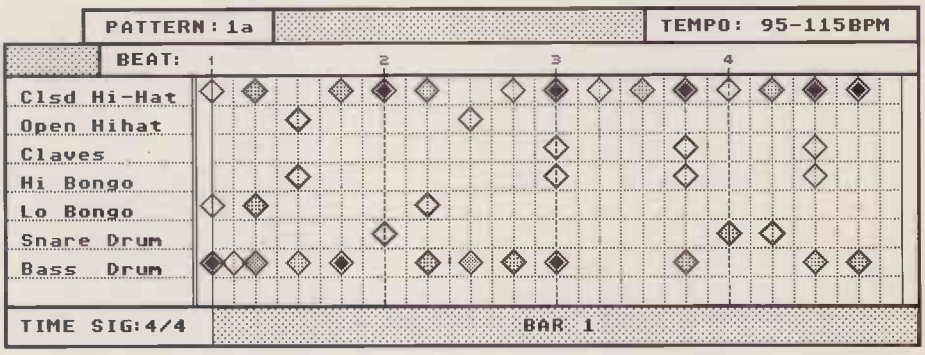
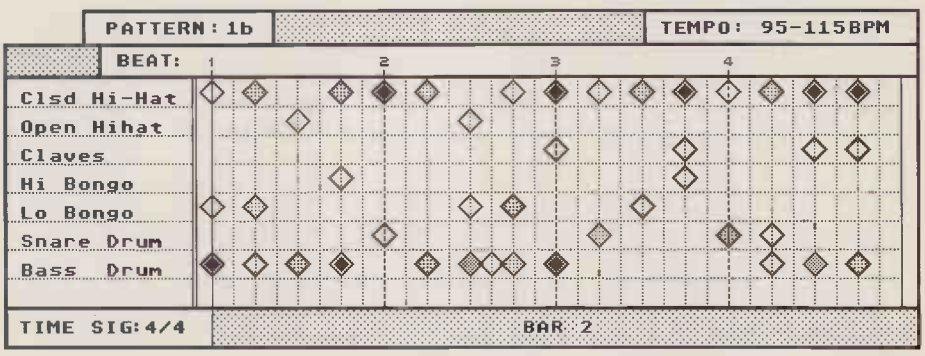
On The Beat

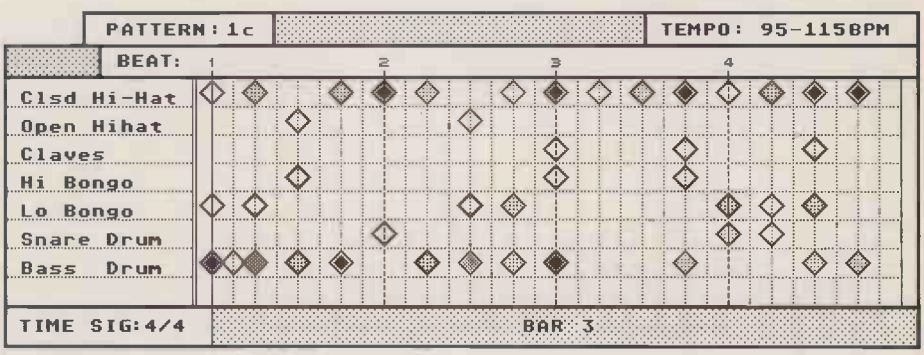
Text & Examples by Nigel Lord

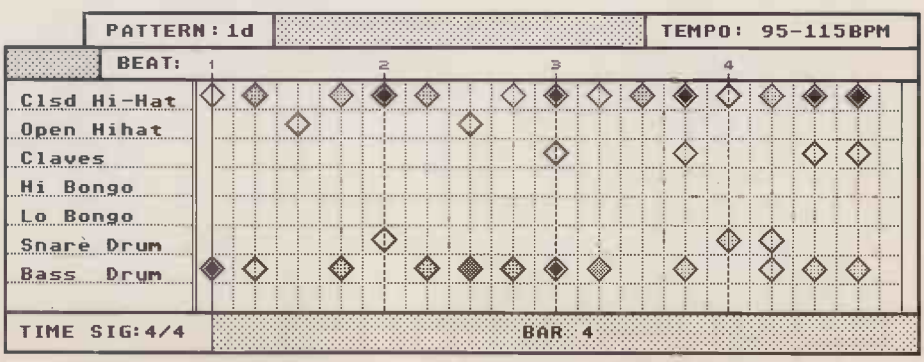
Another month, another pattern. A busy little number, this one will take up plenty of space in the mix and should therefore be treated to a sympathetic bass line. The activity is centered round the bass drum which, as you can see, throbs along covering a significant proportion of each bar.

The hi/low bongo part could freely be replaced with congas without any modification, and if you find yourself needing greater pattern variations, these would be the obvious instrument lines to develop. Anyone who knows this series well will know of my reluctance to catagorise rhythm – and this one is no exception. Program it in, and then decide where to use it. ■









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Technically Speaking

Technical Questions Answered by Vic Lennard

Q ***Dear MT,***
Early last year, I purchased a Moog Rogue analogue synthesiser which came without a MIDI to CV converter. Could you please inform me where I can purchase one?
D Bircham
Sheffield

A While you could buy a MIDI to CV converter 'off the shelf', you would be better to have your Rogue MIDI-retrofitted because of the extra facilities this would provide. The Kenton Electronics retrofit, for example, will provide you with MIDI In and Thru sockets – the former conveying MIDI note, pitch bend, modulation and sustain pedal information to the relevant circuitry in the Rogue.

Additionally, aftertouch from a MIDI keyboard can control either pitch bend or modulation and the filter cut-off frequency can be controlled via the velocity of a note, any MIDI controller or aftertouch. All settings are retained when the Rogue is turned off.

At £199.75 inclusive of fitting and VAT, the retrofit certainly isn't cheap, but if you like the sound of the Rogue and you want it to work properly over MIDI then it is certainly worth considering. More information from Kenton Electronics on 081-974 2475.

Q ***Dear MT,***
I've a broken Oscar mono-synth which I bought off a guy in Harrow about five years ago. First it worked a treat but then it stopped and has spent the past four years in a repair shop in Leeds (they can't find a circuit diagram). Please could you tell me who could fix my Oscar?
Finn O'Leary
Leeds

A Actually, Finn, what you've got is a broken Oscar duo-synth – but I suppose that's little comfort if it doesn't work. The Synthesiser Service Centre should be able to sort you out; call them on 071-586 0357. Repair charge is £35 per hour plus VAT and there's a minimum charge of 1 hour.

Q ***Dear MT,***
I shortly hope to be buying a 1040 ST with C-Lab Creator software. Whilst I realise that this isn't ST Monthly, what I'd like to know is whether Creator will only run on a mono monitor and what is the difference between Atari's SM124 and SM125 monitors?
John Topley
Lincoln

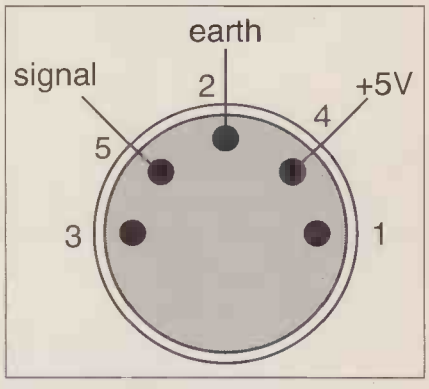
A While Creator claims to be able to run in medium resolution (colour – 640 x 400 pixels), it is fair to say that the screen layout suffers badly under these conditions and that you should really be running in high resolution (mono – 640 x 200 pixels). The reason for this is that with only half the number of vertical screen pixels it is impossible to accurately display the vertical aspect of the screen and so some words tend to 'overwrite' those above or below.

The SM124 and 125 are essentially the same in that they are both high resolution, mono monitors. The SM125 has a swivel base and controls on the rear to adjust the vertical height while the SM124 has these controls buried inside. Consequently you can increase the vertical clarity of a program on the SM125 although circles may then appear oval-shaped – which is fine for music, but not exactly useful for desktop publishing!

If you want an SM125, you are going to have to find a secondhand one because they are no longer produced. You may find the SM124 is still available but you'd probably be better off opting for Atari's new mono monitor – the SM144. Though a little more expensive, the screen is flatter – and so better to look at – and the size of the screen image can be increased in both directions.

Q ***Dear MT,***
While there have been many articles in magazines about getting rid of mains hum by breaking earth loops, none of them ever mention altering the MIDI cables in any way. As a MIDI cable has a screen, which must be earthed, surely the MIDI cabling can cause earth loops as well?
Peter Robard
Swansea

A This problem was carefully considered when MIDI was first designed and a solution found to prevent the situation from ever occurring. Data received at a MIDI In is transferred to a MIDI device via an opto-isolator, literally using light pulses and so prevents any direct contact between two MIDI devices. Pin 2 of a MIDI socket carries the ground for the shielded cable, but only pin 2 for a MIDI Out or Thru socket is actually connected to ground – pin 2 of a MIDI In socket is not connected to anything.



Pin connections for a MIDI Out or Thru socket

The point here is that every MIDI cable must be connected between either a MIDI Out and a MIDI In or a MIDI Thru and a MIDI In. By ensuring that the pin 2 of a MIDI cable is only grounded at one end, it is impossible for a correctly wired MIDI lead to cause an earth loop.

Got a problem? Vic has an answer.
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metal, machines and music

Interview By
Phil Ward

Hammering on the steel doors of the armaments factory – are Die Krupps trying to get in or out?

Alfred Krupp was an arms manufacturer and war criminal. Today, Krup' is the brand name on a range of domestic hardware and electronic labour-saving devices, so calling your band Die Krupps is a bit like calling yourselves The Fords, or The Kenwood Chefs. Not that Henry Ford was an arms manufacturer, or a war criminal, but he was and is, an emblematic industrialist whose methods epitomised a whole culture – perfect for the kind of irreverent recycling we've come to expect from the world of pop. Translate this into German, with a somewhat different legacy of cultural baggage in tow, and you have Die Krupps, formed in 1981 by Jurgen Engler and Ralf Dorper and still going strong.

Dorper will be remembered as one quarter of mid-'80s techno-pop, pioneers, Propaganda – a sojourn which yielded UK hits with 'Dr Mabuse' and 'Duel' as well as the seminal state-of-the-studio-art 1985 album '*A Secret Wish*'. His role in that band was mainly that of lyricist, a role which has continued since his reunion with Engler, with added credits for 'samples' and 'sound effects'. It suits his bespectacled, multi-lingual style to be the mouthpiece of a band dedicated to tackling thorny Euro-issues with a detached humour, while his partner, the noise merchant puts the iron into the irony.

Quoted as sources of inspiration by the likes of Depeche Mode and The Human League, and yet often neglected by the record-buying public of their own country, they've had their ups and downs. But following last year's Mute retrospective compilation *91-81 Past Forward*, and with a new album mixed by John Fryer now available, Die Krupps are firing on all cylinders once again.

By contrast to their music, Jurgen and Ralf are soft-spoken, laid back kinds of guys. On a brief promotional visit to London, they chat casually about the album, the band, and some very loud and distorted guitars which have been drafted in to transform the hi-tech Die Krupps sound... "It's the first time we've worked with that kind of guitar," explains Engler, "but the first record we made, in 1981 (*Steelwork Symphony*), used conventional instruments. It was all instrumental, in fact."

Actually, there was nothing very conventional about the instrument Engler invented at this time, the use of which on the early recordings provided a clear indication of the band's industrial predilections. Called the steelophone, it has been described as a cross between a xylophone and a railway track and featured huge steel mallets with which Engler could be seen thrashing the hell out of even huger steel bars.

By the time of 1982's *Full Speed Ahead* the steelophone had gone through its own particular techno-revolution and had become electronic. Apparently, the Amalgamated Union Of Percussionists And Steelworkers (Dusseldorf Branch) were up in arms for a brief spell, but the only 'redundancy' created within Die Krupps was the position held by Ralf Dorper who happened to relocate to Propaganda at this time. Now back in the fold, he is as enthusiastic as his guitar-playing partner about the decision to draft in the headbangers...

Dorper: "It doesn't make sense to sample a guitar if you want to achieve a guitar sound. It doesn't sound the same."

Engler: "The album existed as a finished product without guitars and we added them later. We recorded all the sequences onto tape and the whole backing was finished. Then we called up the German band Accuser and asked them to join. They came and played their guitars!"

Dorper: "It started as an experiment on one track, 'Metal Machine Music', which was released separately. When we heard the results, we decided to put guitar onto tape for the other tracks as well, because at that time we were all electronic. We're starting to work that way more because the guitars fitted in so well."

Engler: "We did three gigs with one of the guitarists from Accuser and the drummer Volker Borchert, but now we have a second guitarist on stage. He's in a band called Death Row."

Such nihilism. Still, before Die Krupps, Engler was a punk guitarist, answering a call of Nietzche up against The Wall. This largely explains the continuing presence of noisy guitars within the essentially hi-tech sound. The guitars are played by Engler himself along with the hardcore axe-grinders from Accuser and another German band, Klinik. The metal connection continues with the inclusion on the album of a version of Metallica's 'One' – from which the album takes its name – and the presence of John Fryer at the desk, whose work with Nine Inch Nails and particularly Jesus Jones qualifies him well for the job of combining sequencing technology with unruly rock guitar. The results express a metal/machine fusion of industrial strength – burning ingots of molten HM guitar compressed and moulded between the steel presses of synth and beatbox.

No doubt about it, with his roots in the blank generation, Engler wouldn't have it any other way...

"I became interested in speed metal – stuff like that. To me, it was like the next punk movement, with fanzines, very fast, the whole underground thing. It was different to heavy metal, which was never right for us with its attitude of sex, drugs and rock'n'roll, blah blah blah ... speed metal, to me, was like punk – hard, fast; even the lyrics were like punk. That was interesting; I was really fascinated with the guitar techniques, too, because when I started playing the guitar this technique of a fast right hand was important – much more important than a fast left hand. So speed metal really attracted me."

The basic tracks onto which the guitars were spot-welded (all of which took place in Engler's 'Atom H' studio in Dusseldorf, incidentally) are an oddly old-fashioned combination of analogue sequences and sound-bites. It's the mere inclusion of metal guitar which is intended to push back the barriers.

Dorper: "Some people base the whole of their music on sampling, but for us it's just there to add flavour, it's just an element. It's not the basis of everything; which means we don't create loops or even sound patterns with samples. What we do is take certain sound effects, or ethnic sounds, good colourful sounds and treat them as additional information, especially with samples taken from movies which fit a mood or create a special atmosphere which might otherwise be missing."

Engler: "We just took these very long samples, like Darth Vader talking about 'The Dark Side' in *Star Wars* and used them directly. Any sequences tend to be analogue patterns – there's a lot of old analogue synths used for this. Mini-Moog, obviously, or the Korg MS20, Sequential Circuits Pro-One, all that stuff. The songs usually start from a sequence; I'll have kind of an idea of what I'll do and I'll start playing around until I have some good groove that I can imagine making a song out of. Then I'll program the computer (Atari running Cubase) in that style and do some more production as I'm writing."

Dorper: "This album is mainly based on sounds from old analogue equipment that we have from years ago because we never sold it. But it's good to get the most out of what you've got. Spending money can be a sign of laziness."

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Engler: "The new synths that I like – which we also used on the album – are the Roland JD800, the Microwave and the EMAX II, but again we'd turn to the analogue sounds. All put onto 24 tracks of analogue tape."

Dorper: "I actually think that analogue sounds work better on analogue tape. A digital sound may fit to digital tape but analogue's different, it has those warm sounds which you lose if you record them to digital. And especially now with the guitars, it would sound different recorded digitally; not as good. But we still have a hi-tech approach which gives it that hardness."

German music, of course, has a long association with pioneering technology – dating back to theories espoused by Karl-Heinz Stockhausen at the conservatory in Darmstadt and eagerly taken up by the likes of Can and Kraftwerk. But in the pragmatic world of pop this legacy may well be losing its influence. To some extent, the technology is now so efficient that it's becoming invisible, and thereby less of a direct influence, less of a distraction. When I ask which version of Cubase was used to sequence Die Krupps' choice of sounds, the smiling answer from Ralf is

"The album is based on sounds from old analogue equipment that we have from years ago; it's good to get the most out of what you've got. Spending money can be a sign of laziness"

'Version 5', a reply which simultaneously satirises the old notions of competitive progress and dismisses from central concern the exact stages of technological development. Jurgen Engler concurs.

"I think 'pioneering' in the electronic field is impossible now. That's why we actually started using guitars, to try and create something new. Music in the '90s is about combining different styles, getting rid of boundaries and labels. This is the '90s, and being an innovator in a purely electronic field is just about impossible. Everything has been done."

Dorper: "It's changing, because I don't think new developments in the next few years will mean as much. When we first started Die Krupps, it was mostly monophonic equipment. There were some big polyphonic machines that no one could afford except the millionaires, like Vangelis or Jean-Michel Jarre, so a kind of monophonic electronic music based on sequencing started. And with Propaganda and Trevor Horn, together with Art Of Noise, it was more or less developing along with sampling techniques, with the big time people like Fairlight and Synclavier.

"And now sampling has gone back to the streets, everybody can sample, so what will be next? It's gone right back to music which is not dependent on developments in equipment any more. At one time, it was obviously about a kind of limit that the machines gave you, and now the limit is back on the people again – or the ideas of people. Nowadays any kid from the street could come up with one interesting sound, but one interesting sound doesn't really make music. Now we try to be more than that."

But there was more to Propaganda than just exciting new sounds..."Sure, that was the idea – to be a pop band, as opposed to, let's say, a pure electronic band. To be a pop band that was a bit more modern in its musical concerns, but not in a way like techno-pop. We didn't want to be a German Human League."

So melody has given way to a harder sound in the continuing search for new combinations...

Engler: "Yes, but I wouldn't say that a more melodic style won't happen again, it's just that right now, what we did with this album is kind of a bridge to the next thing. But it's not a half-measure; when we added the guitars we wanted to do it properly or not at all."

EQUIPMENT LIST

Monitoring: JBL 4425; Yamaha NS10
Recording: MCI JH24 24 track
Mastering: Pioneer D1000 DAT; Aiwa portable DAT
Effects: Klark Teknik DN780; Dynacord DRP20; Alesis Quadraverb, Microverb; Dynacord PDD14 delay, FAM21 flanger; Vesta DIG410 delay; SPL SX2; gates; compressors
Instruments: EMAX II 8Mb; Roland JD800, Super Jupiter, Juno 6, R8, TR808; Oberheim Xpander; Mini Moog; Sequential Circuits Pro One; ARP Odyssey; Korg MS20; Waldorf Microwave; Pearl Syncussion SY1; MIDI CV convertor
Microphones: Neumann; AKG; EV; Shure; Sony

SELECTED DISCOGRAPHY

Die Krupps
Albums:
Stahlwerksymphony (Steelwork Symphony)(Zickzack, 1981)
Volle Kraft Voraus (Full Speed Ahead) *(WEA Germany, 1982)*
Entering The Arena *(WEA Germany, 1984)*
91-81 Past Forward *(Mute, 1991)*
1 *(Rough Trade Germany, 1992)*

Singles:
Wahre Arbeit Wahrer Lohn (A Fair Day's Pay For A Fair Day's Work) *(Zickzack EP, 1982)*
Machineries Of Joy (Re-recording of above, with Nitzer Ebb, 1989)
Germaniac (1990)
Metal Machine Music *(Rough Trade Germany, 1991)*

Propaganda
Albums:
A Secret Wish *(ZTT, 1985)*
Wishful Thinking *(ZTT, 1985)*

Singles:
Dr Mabuse *(ZTT, 1984)*
Duel *(ZTT, 1985)*
P Machinery *(ZTT, 1985)*

Dorper: "Our attitude is very uncompromising..."

Engler: "Why do it with just a few songs? To me it's more interesting to have a full album which can be either one thing or the other... for example, now we have a lot of reviews in metal magazines and a lot of reviews in techno magazines. This was something I was totally excited to find out about. It just felt like it had to be done."

'High Tech Low Life'; 'The Dawning Of Doom'; 'Ministry Of Fear'; 'Disciples Of Discipline'; 'Rings Of Steel'. Let's face it, these are not songs likely to be covered by Roger Whittaker. With knowing understatement, Dorper sums up the mood: "There are definitely no love songs..."

Engler: "I thought they were all love songs!"

Dorper: "If you listen back to a song like 'P Machinery' by Propaganda, that was something that had an attitude which could have come from Die Krupps as well, but there was a different sound to the record. That was one of the reasons why I left the band Propaganda; we were going too mainstream, we weren't prepared to take any musical risks any more. It was playing for the mass market."

Engler: "But the feeling I have with Die Krupps is that we can approach the mass market with this kind of music that we're doing now. It'll be more prevalent in the future, but it's not music which is designed for a market..."

Dorper: "It's not calculated..."

Engler: "No, it's not calculated. It's a new kind of music, but it's working in accordance with conventional styles, put together into something new."

So there's still a bit of the Utopian idealism left, even if the pioneering spirit has gone out of the technology for Jurgen and Ralf...

Dorper: "In a way, with what we do now, the same options would have been there five, even ten years ago. We use a lot of very old technology. What we do with sampling you could have done with backing tapes – we do nothing new in that way."

Engler: "But if we had released an album like this five years ago, no one would have listened to it, they'd probably have said it was rubbish. Now they understand that people are ready to listen to different things. Ten years ago, if you asked me what I listened to, I would say 'this' kind of music, but kids now have a large variety of music, and they do listen to that variety, and choose what they want from each style, that's what I like. It's the same with clothes. Everything's allowed; bring things together that exist side by side and make something new."

All things considered, the word 'synthesis' seems to be reclaiming much of its generic definition alongside its electronic overtones. But as border restrictions are lifted there is still something quintessentially German about the music of Die Krupps – metal, machines and all. This only adds to its charm, of course, and as Dorper explains, when you export something it carries a cultural passport... "The most positive reaction we get is from where we least expected it – from the States. So I wouldn't say that there is any nationality behind it. But how you grow up and what kind of music you listen to, that certainly will have an effect. And the whole musical infrastructure in Germany is obviously different to America, so somebody who does industrial music in America, like Ministry, will be very different.

"I've started to write and sing in English much more in recent years, but sometimes you want to make things very clear to people in Germany and we have one song – not on the album – which we did specially for an occasion after re-unification, in German. It was the first big election and we felt we had to come back to this situation with a song called 'Germaniac' which we wrote because the situation was becoming manically German again! And doing it in German was especially important because some people in Germany might have considered us to be more on the right hand of the political spectrum and we wanted to make it clear that we weren't."

Isn't that a danger inherent in the images that much industrial music flirts with?

Engler: "Well, there are always rumours about the short hair, the techno, electro, industrial, EBM – whatever you want to call it... we're not a part of it. A few years ago, Nitzer Ebb appeared on stage with short, black pants, boots, braces, all this kind of stuff and I think that's where the rumours started. Otherwise, why would they exist? It doesn't really matter whether you have short hair, long hair, whatever... To me, hard techno, or EBM, was nothing other than punk. People had short hair, they were aggressive, it was just the same, basically."

"Music in the '90s is about combining different styles, getting rid of boundaries and labels. Being an innovator in a purely electronic field is just about impossible"

Engler's punk days are clearly still an important reference point and account more than anything else for the continuing interest in politics, expediency and the electric guitar. Life was simpler then, but the search for new formats goes on and now demands research into MIDI interfaces for guitar, no less. He likes his guitar; he likes sequencing. Ultimately he wants to play the guitar into the Atari as easily as the JD800. But first, there's the small matter of sitting down with a stringed instrument and writing a song. Low tech, high life.

"On the next album, I think it will be challenging to start composing songs on the guitar, then play around on the keyboards. The guitar is then part of the process of developing the songs, which is something I've never done before. I'm really looking forward to that." ■

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Artist: PINHEAD
Venue: Home
Equipment: Not specified

Where I grew up there used to be this geezer who came round offering to clear the drains. In appearance, he made Albert Steptoe look suave. To demonstrate his worthiness, in the blink of an eye he would stick his arm down the grid by the front door, rummage around for a bit and then triumphantly produce a steaming handful of the most putrid, obnoxious, unctuous black grunge you could ever hope to find. This was the threat against which he hoped to protect our neighbourhood. If you gave him 10p, he would finish the job, wipe it on his trousers and move on. Anyway this grime, this filth, this thick subversive sludge, this is the direct visual equivalent of the guitar-based music on this tape.

Artist: Kiss 'n' Tell
Venue: Home
Equipment: Roland D10; Alesis MMT8; Fostex 280; Boss SE50; Shure SM58; Aiwa ADF300

If a band came up to you and insisted that they were "the ONLY alternative to today's mindless, meaningless pop (pap) music"; that their music was "fresh" and "exciting"; and that they "manage to combine elements of rock, pop, soul, R&B, reggae, funk and jazz, without losing any sense of direction", what would you do? You certainly wouldn't expect them to sound like a bootleg recording of Billy Idol. Nor would you expect to hear cheap, muffled synth sounds over clumsy, rococo drum patterns. Continuous flanged guitar would be a bit of a surprise, too.

Also, if a band made such claims, it would be a shame if those claims contradicted what were actually the band's best assets, like, say, some quite conventional but very good songs; or an excellent, if not especially original, lead voice. Not that David Campbell – be all and end all of Kiss 'n' Tell – would make any such claims without a grin on his face and a leather jacket thrown over his shoulder. Because David would realise that he had some very good ideas, a lot

of natural ability and confidence and that these ideas would maybe benefit from being developed by some kind of partner who was well versed in programming, arranging and mixing. No?

TAPE OF THE MONTH:
Artist: Tim Widdup
Venue: Home
Equipment: Tascam Porta 05; Kawai K1; Yamaha R1000 reverb; Zoom 9002 guitar processor; Boss Compressor pedal; Atari ST; Replay Professional Sampler; AKG D80 microphone; guitar

Tim lifts the coveted Jules Rimet trophy and holiday for one in Essex this month by the scale of his achievements within these four tracks, and in particular, the skillful execution of sampled backing vocals spun into the songs as required. These are thick, tight and very effective, especially on 'Enchanted', which also sports a breathy pad to compliment the BVs. The same song also features an attractive breakbeat and excellent bass riff. Elsewhere there's a bright, clanky drum sound, with a great dustbin-lid of a snare on 'The Pledge' – clearly a very polished little number all round. I like the sparse, shuffling feel of all the songs, and, pinch me if I'm dreaming, the simple guitar parts.

In his letter, Tim is defensive but defiant about a presumed variety in styles amongst the songs, which is unnecessary because they're actually quite consistent. All he's doing is using the available tools to get them across. He is, however, completely devoid of packaging ideas which is why you can't see either him or his corporate logo. The voice needs a bit of pitching work, too, but there's no doubt about the talent.

Artist: THROUGH THE SQUARE WINDOW
Venue: Deep Meadows Studio, Kent
Equipment: Yamaha DX11; Roland D50, TR707; Casio CZ3000; Akai S900; tea mug

TTSW is Keith Harrison, who is at great pains to point out that, although born in Essex, he definitely is NOT the fabled Essex man. Why this needs pointing out at all is the kind of question that arouses suspicion. Anyway, he also assumes that owning only one synth – the DX11 – and therefore resorting to the studio's assorted gear for his demo, might somehow disqualify him from worthy consideration on these pages. This is a misplaced concern because neither *MT* nor our sister publication *Home & Studio Recording* has ever stipulated that tapes must only be recorded at home, or with owned gear only, or with any other such restrictions. We'd review Sting's demos if only he'd submit them. Mind you, he probably has everything in his home studio.

Now, Keith has a splendidly mild voice, like Colin Vearncombe (Black) or John Campbell (It's Immaterial), and enunciates his earcatching lyrics in some very original songs. With their gentle pads and bells, panned sequences and percussion placed with the precision of a furniture store window display, they each hum along on a distinctly domestic scale culminating in an out and out Frazier Chorus. This makes the excessive reverb, most notably on the 707, particularly distressing, because Reverb Neurosis in such a homely setting is very unsightly, like the ravings of a mad

Demo Takes

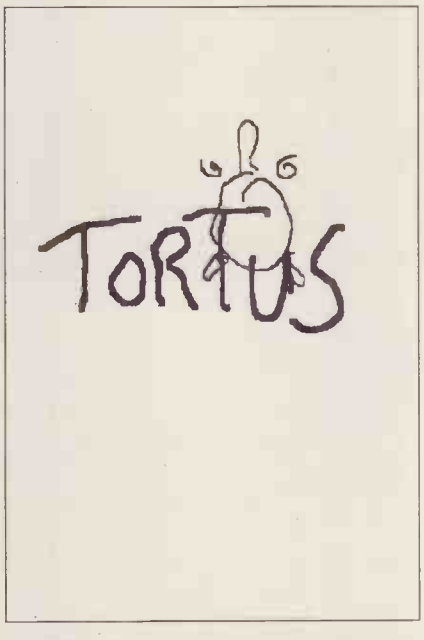
uncle at the tea table. But this is quibbling. With titles like 'Darjeeling' Keith has a nice little project on the boil.

Artist: TORTUS
Venue: DNA Studios, Brixton; engineer Ian Mackay
Equipment: Evolution EVS1; Casio CZ101; Roland SH101; guitar; bass; viola; Boss 6-channel mixer; Alesis Quadraverb; Atari running Dr.T's KCS version 1.7; distortion pedals; Tascam 424 running backing tracks recorded in conjunction with live instruments onto unspecified 8-track

Tortus create a very disturbing ambience with a particularly angst-ridden guitar, played like Robert Fripp on mescaline, and an assortment of thick, chunky drumbox sounds and post-rave SH101 bleeps. All of this underlays a growling, half-spoken vocal that confirms the band's stated affinity with Adrian Sherwood and the On-U Sound.

It's still quite linear, but the viola and general menace created by a bold mix carries the whole into a fresh blend of noise and beat. In his letter, Peter Hanes (keyboards and mixing) explains that the demo, each track captured in one take, illustrates the live show as much as anything else, which apparently is accompanied by a slide show. One imagines bubbles, blobs and assorted savage political imagery.

To prevent a potential effect of aimlessness in the tracks, the drums and the vocals need to be a little bit groovier, otherwise there simply is no focal point to these insistent montages. The bottom end is a bit muddy, as well, and in 'Gottlieb', the opening track, the cowbell is too prominent while the vocals are the opposite. In other words, clarity and balance are just as important in brooding, angular music as in froth. Peter also declares a plan to introduce sequencing on stage, which should be interesting, but I'm not actually sure that a sampler is necessary. The sounds are already very inventive, and why not let the visuals provide the references?



Artist: THE PRIDENJOYS
Venue: Not specified
Equipment: Vocals; Guitars; Bass; Drums; Keyboards

Extraordinary. Five separate people play their musical instruments while listening to what the other four are doing with theirs and record them through microphones onto a wide reel of magnetic tape. The separate instruments are then mixed together onto a narrower tape to form a pleasing mélange. Some of the instruments are made of taut skins which are struck with beaters; others have tensioned wires plucked. Inter-mittently, many of the protagonists voice orchestrated declamations with a rhythmic urgency. Wow!

The Pridenjoys are absolute experts at all this. Owen Oakeshott, who has the loudest voice, creates the basic musical ideas on which the whole exercise is based and describes the results as "groovy stomp rock with a dash of folk". You can tell from the recording that The Pridenjoys would be very good if witnessed at a recital – perhaps in a local 'Speakeasy' or 'bar'. In fact, they have a very impressive list of such places where they are known to have performed.

Such is the professionalism with which they acquit themselves, one can imagine that a large financial organisation, specialising in transferring the narrow tapes onto platters suitable for broadcast on radio and television, might well respond enthusiastically to the idea of using Owen and his friends' efforts for just this purpose. You never know.

Swift Halves

JazzChord

Text by Ian Waugh

JazzChord (review version 1.1) is designed to teach you how to play and recognise jazz chords – although it covers all types of chords and its use is not limited to m7+5-9 and m/M9+5 chords and the like. It is available for the ST and PC (286 or higher spec) computers. You can copy the files to a hard disk but the program floppy acts as a key disk. It can display its range of chords (some 51 types) in notation and on an on-screen keyboard and the chords play over MIDI – when selected. The key signatures in the notation display don't always correspond to the scale of the selected chord; signatures seem to be selected for the number of accidentals which are used in the chord. For example, C minor is shown with two flats and C augmented has three sharps. Selecting the Scale Display option will play the notes in the scale as well as the chord, and the Construction window shows how simple triads and seventh chords and inversions are created.

There's a simple game to test your knowledge of chord construction in which you play against the clock to select the notes which go to make up a range of chords. A Phrase window illustrates how notes written as straight quavers are played with a triplet feel in jazz. Another window shows four common sets of chord progressions used in the blues. The

Dictation window will play a series of notes which have to be selected on the stave or entered from a keyboard. You can use the mouse buttons to alter the pitches or click on a note to produce a pop up keyboard (though I think a permanent keyboard at the bottom of the screen would have been of more help here). There's a similar Dictation exercise for chords and you can select the level of difficulty for both exercises. It has to be said, if you don't have perfect pitch this ain't easy, but of course, aural exams always were the least-favourite among students.

The program itself is easy to use although the manual suffers from Franglais (no one wants to spend money to get a native English muso to check the copy, it seems). However, learning scales and chords is pretty dry stuff and JazzChord does make it more interesting than a text book. ■

Price: JazzChord £55
More from: Music Pro Imports (UK), 15 Gartmoor Gardens, Southfields, London, SW19 6NX. Tel: 081 789 8641. Fax: 081 780 9541

FriendChip Mac K..AT

Text By Vic Lennard

FriendChip released the K..AT – a remote control device accessing keyboard strokes – for the Atari ST last year and have now followed it up with an Apple Macintosh version. The small grey box attaches to the ADB socket of the Mac (used for the keyboard and mouse) via four metres of cable and has seven buttons labelled: 'Play', 'Stop Record', '+', '–', '<' and

'>'. These, along with two more marked '2nd Function', allow the Mac K..AT to handle a total of 21 functions which have key equivalents.

The labelling shows that the Mac K..AT is intended for use with MIDI sequencing programs – as was the ST version. However, whereas key equivalents on the ST are not only a rarity, but also different from program to program, this is not the case with the Apple Macintosh, where certain key equivalents are standard to all applications. Consequently, Mac K..AT is likely to be as useful to someone using an art or desktop publishing program as it is to a musician.

So how does Mac K..AT work? Included on disk are two files: a driver which has to be placed in the Extensions folder and a small configuration program. On booting up, a warning 'bleep' is heard if the K..AT is not connected to the computer, otherwise the driver icon appears. Once installed, running the configuration program allows you to set the various keystrokes by simply clicking on a location and hitting the required keys. Up to 16 configurations can be saved which should be sufficient for most people.

On the side of the Mac K..AT is a socket for a standard, single-pole footswitch which acts as an eighth button and is useful where you want to carry out a function when your hands are occupied – punch in/out being the most obvious. Cubase and Notator Logic configurations are supplied on disk which is a clue as to the country of origin of FriendChip. But it would be nice to also see set-ups for Performer, Vision and MasterTracks provided as standard.

Mac K..AT performed a treat on an SE/30 and a IIci under both System 6 and 7. Although £110 may be a little on the expensive side, if you use a Mac and have to keep flying across the room to get to the computer keyboard, take a look at Mac K..AT – I think you'll be impressed. ■

Price: £110 inc VAT
More from: Q Logic, Parkmill, 95 Douglas St, Dundee DD1 5AT. Tel: 0382 25311

Out Takes

Reviews By Phil Ward

BRIAN ENO: *NERVE NET* (Opal/WEA) MIKE OLDFIELD: *TUBULAR BELLS II* (WEA)

If there was an O-level in ambient pop music, one of the exam papers would undoubtedly be 'Compare and contrast the work of Brian Eno and Mike Oldfield'. Earnest students could then set about describing one universe inhabited by spiky, difficult intellectuals not too concerned about nice tunes and chords, and a

parallel universe populated with incense-dazed space-cowboys who like soft pastoral soundscapes and cricket. The second universe, of course, has a much higher population than the first.

But the two artists in question do have something in common. Both have repointed their musical brickwork to weather some of the changes that have taken place in the last decade or so. In the case of Eno, from whom this is the first solo album since 1985's *Thursday Afternoon*, a natural progression to the use of sampled drum loops and breakbeats has taken place, maintaining an air of all-round street credibility enhanced by remixes from the likes of The Grid and EMF. For Oldfield's part, an original work has been revisited and regurgitated for the grown-up CD market.

This market will love the album – which shows what a good marketing exercise it was. But if Philip Pope had ever had cause to satirise *'Tubular Bells'* mark one, altering a few notes of the well known tunes to avoid litigation as he does in his song pastiches for *'Spitting Image'* (and as he used to do for The Heebeegeebees), he would have arrived at a very similar piece of music to the one that Oldfield has laboriously crafted with Trevor Horn.

Each section remains identifiably intact, beginning with the tinkly A-minor piano sequence and culminating in the successive announcements of various instruments over a repeated guitar riff. But within each section the notes played are – as Eric Morecambe once said – "not necessarily in the right order". The result is sonically richer than the original, maybe, but ultimately irritating. As pointless as Oldfield attempting to sue himself for breach of copyright.

Nerve Net is an altogether more palatable dish. Eno still manages to surprise, with bold combinations of the aforementioned breakbeats with assorted sounds, sometimes disturbing, sometimes serene, always piercingly clear in conception and execution. Guests include Robert Fripp, Markus Draws, John Paul Jones and Roger Eno, and much fun can be had by identifying their contributions as described in the credits: Fripp on "early 50's club guitar" or "pin-trumpet guitar", for example, or Gregg Arreguin on "sour chord guitar". Draws rejoices in credits such as "squirt drum", "kit squelch" etc.; Eno himself is responsible for "squelchy voice", "thick organ", "moon piano" – and so on.

But then, if you're going to continue the search for timbres and tones beyond normal expectations, the use of surreally accurate descriptions only adds to the fun, and of course the mystique surrounding Brian Eno. Overall, most of the concerns he has always displayed about noise, repetition and sensory weirdness are in place on *Nerve Net* – with added punch. You could call it the Boffin-King songbook.

EARWIG: *UNDER MY SKIN I AM LAUGHING* (La-Di-Da)

"We all like Bark Psychosis" says Kirsty Yates, singer and bass player, on behalf of her quintessentially indie three-piece Brighton band Earwig. Students until quite recently, they continue to study the role of alienation in pop music. The difference is that rather than chime out guitar chords over a three minute kit workout, Earwig program most of their much lengthier backing tracks into enmeshed sequences. And dance music it ain't. Unrhythmical drum machine thuds and soaring timbres form the basis of introspective graduate angst-pop – just as convincingly as the straight-no-chaser guitar bands do elsewhere. Kirsty's diffident vocal style is amply compensated by lyrical sharpness – little barbs of spite which catch you under the skin as they pass. The combination of these with some quite spaced-out sentiments remind me of Suzanne Vega, funnily enough, but the songs are genuinely primitive. The Future Sound Of Brighton?

BARK PSYCHOSIS: *SCUM* (Third Stone)

Recorded in an East London church, 'Scum' is too short to be an album, too long to be a single, and too interesting to be ignored. In fact it consists of a single, 22-minute work which develops gradually around a simple guitar/vocal figure and alternates between an open, jazzy groove and a great, long, distorted

note which lumbers into the soundscape and out again maybe two or three times. The whole thing unfolds at a slow and deliberating speed, inching along like an ocean-going container vessel docking at Rotterdam.

Engineer and programmer Neil Aldridge has managed to draw together an engulfing, compelling mesh of sounds from the various elements of guitars, drums and keyboards, which presumably were all committed directly to tape in one take. There is certainly an open, improvised feel to the ensemble which suggests that each performance of a given piece is likely to be unique, and there is little in the way of recognisable sequenced parts of the kind that usually bind this sort of thing together. Ultimately the effect is pretty nightmarish, and as the names of both band and product suggest compromise of the marketing sort is pretty thin on the ground. Barking. ■

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"From the packaging to the samples to the dance / industrial loops, Prosamples 5 is a first class product. Sound quality is superb; the rhythm patterns have a sharply defined edge. Each loop is an original. The package is available in two separate formats: Audio CD and CD-ROM. The audio CD can be used with any sampler & CD Player. The CD-ROM (containing same loops and samples as audio CD) is designed for use with the Akai S1000/1100-samplers; Digidesign's Samplecell, or Roland's 770/750 sampler. If time and convenience are important factors, the CD-ROM is the way to go. A separate (optional) midifile disk (Atari or Mac) can be used in conjunction with both of the above packages. 34 loops (the patterns) from Prosamples 5 can be loaded into any sequencer as midi-files. The individual samples from the loops are contained on both the audio CD and the CD-ROM so you can reconstruct (and then edit) the patterns yourself. For the uninitiated, the midifiles contain the sequence data - not the sounds - from the Prosamples CD. Your sampler is used as the sound source for the sequence data. As a result, you can remix volume levels, splice patterns together, and so on. The MIDI file / Prosamples 5 combo adds up to a doomsday "dance-groove construction kit". (Keyboard, USA).

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The reaction from top USA users is equally ecstatic...

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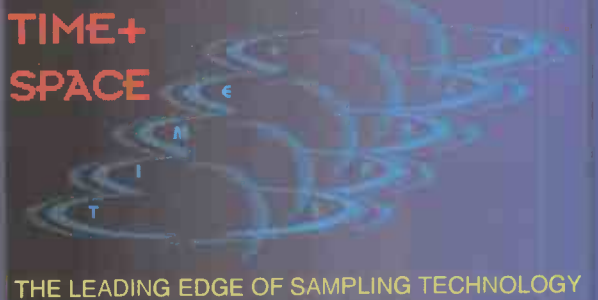

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