

MT

THE MUSIC & TECHNOLOGY MAGAZINE

Issue 90
April 1994



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JV880 - 1U expandable module		
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For further information of the Roland range of the name of your nearest Dealer contact:
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44 New Order

More than a decade and a half after they first fell out of Manchester, New Order's most married couple are still at the nerve-centre of the band's activities. Helping them come to terms with it all – Phil Ward

35 A-Z of Analogue

Part 9 – Hammond to Hanert, Peter Forrest

40 Shared Interests – II

Continuing our investigation into what's happening in the public domain, Ian Waugh probes that good software is even better when it's shared.

82 End Product

It's business as usual at Phil's plastic emporium. This month, new product from Peter Gabriel, Nine Inch Nails, Pete Namlook and loads more..

73 Dare!

Is there anything you wouldn't do for a dare?

8 Scanners

Look out... it's coming this way!

the fir

Playing live: why bother? Because it's the best way to see the world; it's the most direct way of communicating your ideas to an audience; it gives you a buzz, not just the audience; it ensures you keep your ability up and keeps you on your toes; it's the best fucking feeling in the world!

If this cross-section of replies to one of the questions in MTease is anything to go by, it seems that most musicians are still drawn to the idea, and seldom abandon it completely – even though for many of them, the logistics of exporting their music to the stage would take on nightmare proportions. In fact, the word 'nightmare' regularly crops up when considering live performance by hi-tech bands: the prospect of hauling fragile computer equipment around in a van, relying on temperamental disk drives to load data between songs or working on the same stage as spike-inducing lighting systems is enough to send the average hi-tech musician scurrying back to the sanctuary of the studio. So, again, why bother? I think it has something to do with a musician's idea of the 'audience' when sitting down to write a piece of music or practising with a band. I really can't believe anyone visualises potential listeners sat in some bedsit quietly foot-tapping as they idly flick through a magazine, or on a train, listening to the music through a cheap Walkman. However, much as this may be the reality of the situation, for most people the image of an audience is of an excited, cheering throng clustered 'round the front of a stage totally immersed in the music – and providing an instant reaction to it. They either like it or they don't, you only have one chance to get it right. In many ways, it's the knowledge that a performance might well be greeted by a thumbs down that provides the adrenaline surge which is so much a part of the attraction of playing live. Knowing the consequences of things going seriously wrong is also the reason most people tend to shy away from relying totally on hi-tech gear and opt for the use of backing tapes – or worse, put together bands to go out on the road. It seems to me there's room here for some enterprising manufacturer to address the problem of playing live by designing

51 Quality Control

Keeping an eye on technology. This month:

- Alesis QuadraSynth
- Procyon sequencer for PC
- Optikinetics Club Strobeflower
- Korg X3R
- SPL Vitalizer EQ

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t place

equipment more suited to stage use. Of course, they would probably argue that it simply isn't worth it, given the number of bands playing live these days. Of course, they'd be wrong. One only has to look at the revitalisation of the cinema in this country to realise that after years of entertaining themselves at home, people have once again discovered the value of entertainment that requires a certain amount of effort. And with a number of huge multimedia events already being announced for this summer, and organisations like Megadog putting together a series of truly memorable shows, live performance looks set to flourish once again.

Should you worry about things going wrong on stage? Well, long before the days when computers were small enough to take onstage, I was playing in a band (OK, it was the drums, if you must know – but I grew out it); we were supporting a major band at a 1500-seater hall. It was the most prestigious gig of our career and we had every reason to believe that we were being watched by a number of people with the money/influence to do us some good.

The gig had gone well and I had just launched into the drum intro of our penultimate song – the point at which we really had to get the crowd to its feet. Lashing out with my right hand to hit the crash cymbal, somehow my drum stick ended up underneath it and, it being short of the requisite wing nut to keep it in place, whisked it into the air like a deranged frisbee. Realising it lacked the aerodynamic shape necessary to keep it airborne for more than a couple of seconds, the cymbal suddenly fell to earth – edge first – neatly severing the bass guitarist's lead and rendering his entry into the song void. Gesticulating wildly to the roadie waiting in the wings, I watched him smile at me and continue tapping his foot; by the time I'd made him understand, it was too late, the song was finished. Had the audience noticed anything amiss?

Actually, no...

Nigel Lord

• Time Talk calculator for ST

• Short Cuts:

The Incredible Sound Machine book

Cool Mac Sounds book

Rocket Drive PC software

Rock, Rap & Roll CD-ROM

*We know something
that you don't...*

MARCH 1994

Banco de Gaia 18

Currently opening the show for the Megadog Midi Circus, Toby Marks (aka Banco de Gaia) is living proof that one man and a rack full of gear can get an audience to his feet and keep it there.

And as Phil Ward discovers, Toby enjoys meeting people, likes to travel and drives a small red van.

On The Cards 24

There's a revolution going on in the high street. People with no musical experience can now write and record songs. All you require is a PC, a sound card... and MT's definitive guide. Ian Waugh is your dealer.

Stamp 76

That's your opinion and we respect it.

Yes we do.

The Warehouse 85

MT's own lock-up. Could be a fine little corner.

MTease 76

Ten questions that shook the world. Ten answers from In The Nursery.

Grief 78

*We know something
that you don't...*

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"...we couldn't pitch a musical challenge at it that it couldn't swat out of the park. (JIM AIKIN, KEYBOARD)

"Its timing stability and Rhythmic resolution are the best of any sequencer I've used" "I was amazed!" (PETER FREEMAN, ELECTRONIC MUSICIAN)

"This program lives right up there on Mt. Olympus, with few other heavies." (LORENZ RYCHNER, HSR)

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The screenshot displays the LOGIC software interface. At the top, there's a 'Structure Edit Functions Options' window with various control buttons and a list of selected items including '4 selected', 'Loop', 'Transpose', 'Velocity', 'Dynamics', 'Gate Time', and 'Delay'. Below this is an 'Edit View Functions' window. The main area shows a MIDI piano roll with a waveform and a large, stylized 'Jum' text overlay. The interface includes various windows and controls typical of a digital audio workstation from the early 1990s.

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conclusion

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No Follin'

Get The Groc Well It's

Pan Mono 3

Slap

Slap

Theme Alias

osh HD:...:Ema-Voice#4

Space

p into it!

Slap

1

3

6

(Transformer)

C1

C2

LOGIC

U gadda Ge...:Strings

LOGIC
AUDIO

dit Options

28

29

30

31

32

Volume



Kraftwerk

EXPERIENCE



"UNDISPUTED FACT: Experience is going to house some of the biggest names in the music industry. We are staging the most comprehensive line-up of club-runners, DJs and bands in Europe to date. The event is being divided into seven different areas. The main arena will house some of the most sophisticated laser and lighting systems ever to be brought into this country. The surrounding village will incorporate six other colour-coded 'big tops' which will encompass the complete musical spectrum."

This statement of intent was culled from over five pages of information describing a mammoth event due to take place over the weekend of the 30th April/1st May at Lydd airport in Kent. The statistics for Experience make for impressive reading: a 20-acre village site, seven different stages, a main stage area of over 30,000 sq feet, an "international food hall" covering some 15,000 sq feet, a 50,000 crowd capacity and a 75,000 ticket availability. Er... phew.

Already confirmed for the 'gig' are Kraftwerk (yes, Kraftwerk), The Prodigy, 808 State, The Grid and Test Department. Additionally, the following attractions are on offer: Fluke, The Drum Club, Transglobal



Underground, Psychick Warriors Ov Gaia, The Sandals, Ultramarine, Banco de Gaia, Autechre, Revolutionary Dub Warriors, Higher Intelligence Agency, Republica, Full Moon Scientist, Michael Dog, Evolution, MC Teabag, Dog Decor, Woof Cinema, Hassid Casualty Lights, Colour Sound Experiment, Vegetable Vision and Zooform, plus DJs, comedians and theatre groups.

Providing the technological back-up for the event are laser designer Ralph Bergman, and developers of the Turbosound system Tony Andrews and John Newsham alias Funktion One. Bergman is a consultant for one of the world's largest producers of laser effects; his designs include projects for Expo 92 in Seville, the Barcelona Olympics and Michael Jackson's '92 world tour. The show for Experience will use six 30-watt large frame laser systems generating up to 500 dazzling beam structures above the whole area, including pyramids, bin crosses and 3-D cubes. Also planned is a stunning strobe lighting effect and 27 coloured beams that will illuminate the whole sky, plus an additional 94,000-watts of lighting effects.

As you may have deduced from the artist line-up, the 24-hour event is being mounted in association with Megadog, the pioneering organisation which now includes its own record label - Planet Dog - alongside its unique live events which bring together DJs, bands, performers, lighting and sound designers.

Also drafted in will be Experimental Sound Field, an experimental group working in the field of "conscious bio-feedback loops connected with audio and visual appreciation". This, apparently, is achieved by placing creative personnel amongst the audience - in their words, "dispensing with the old stereotyped format of a stage at one end and an audience at the other".

One often speaks of things not to be missed, but this really would appear to be an event no *MT* reader could ignore. The final word to the organisers: "Experience aims to touch all the senses with visuals, sounds, aromatics and food & drink for an overall feeling that reaches the heart. The concept of a music festival has been developed in order to create a totally safe environment that can be experienced simultaneously by thousands of people."

For further information contact: Oval, 5 Blenheim St, London W1Y 9LB. Tel: 071 493 2078.

SeqWin

sparkles brighter

Lowrie Woolf Associates recently announced a major software upgrade for their SeqWin Multimedia package - and the good news is, it doesn't cost a penny more.

V2.1 of SeqWin now includes patch-catching support for Gravis UltraSound cards plus

improved wave editing and mixing functions such as a clipboard facility and merging of multiple wave samples. MCI events can now be selected down to a resolution of just 1msec (ideal for dealing with unwanted sample noises), and the new version also includes the latest updates to the MIDI Master Plus driver package such as the improved Serial MIDI driver which prevents the occurrence of stuck notes.

The price of SeqWin V2.1 remains at £129 inc VAT, and existing registered users get the upgrade free of charge.

For further information contact: LWA, Spirella Building, Letchworth, Herts. SG6 4ET. Tel: 0462 484707. Fax: 0923 265020.



Heavenly

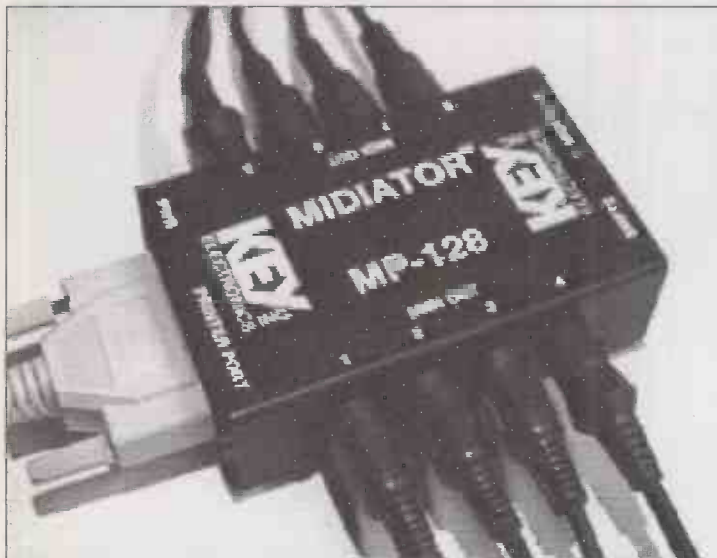
gets bigger

Prolific MIDI software developers Heavenly Music recently announced the launch of a new Desktop Music Division to supply complete desktop music packages from manufacturers such as Roland, Yamaha, Twelve Tone Systems, Turtle Beach, Blue Ribbon Soundworks, BCK and many more. This complements HM's own range of 25 software titles including the Megga Tracks series of song files, which coincidentally, there about to cut the price of by £1 per title.

The aim of the new division is to provide a one-stop outlet for sequencers, editors, sound cards, interfaces and cables at realistic prices and with HM own products included free of charge with many systems. Amongst the company's new products are a series of sample data disks in Akai, PC and Atari-compatible formats, plus new song file collections - Dr Rave and Jazz Riffs for guitar. Customers for any of these products will now find they can phone their orders through using credit cards and well as cheques/POs.

For a full list of Heavenly products phone: 0255 434217.

Up your Musicator



Arbiters recently announced a v2.0 upgrade for their Windows sequencing package, Musicator. New features include 32 tracks instead of 16, full SMPTE/MTC and SPP synchronisation, a full automated mixer page, multiple record modes, on-the-fly punch in and out and support for multiple MIDI ports.

Despite its much-improved features, Musicator remains priced at £295 including VAT. But those seeking to upgrade from version 1.0 will have to find another £69 (inc. VAT). Still, the extra tracks alone should make it worth it.

Also announced by Arbiters are a range of parallel port MIDI interfaces for the PC. With four MIDI Outs and one MIDI In, the Midiator MP128N offers the best value in the range at £175 inc VAT. For the more ambitious MIDI user, however, the Midiator MP128S provides eight individual MIDI Outs and two (buffered) MIDI Ins, plus a powerful SMPTE synchroniser, and can read and generate SMPTE at all frame-rates. Further details, contact: Arbiters Pro Midi, Wilberforce Road, London NW9 6AX. Tel: 081 202 1199. Fax: 081 202 7076.

Something old, something new

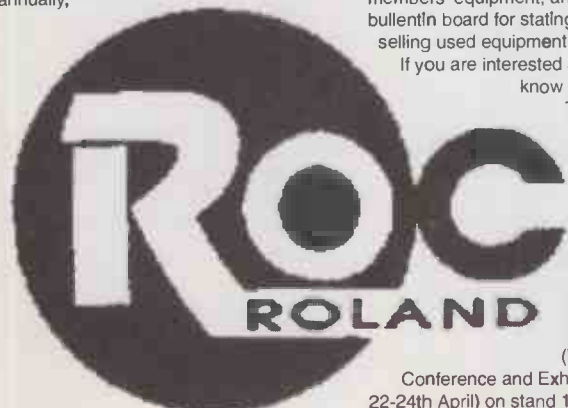
Rising from the ashes of D-SUG (the Roland D-Series User Group) comes ROC, the newly formed Roland Owners Club. Brand spanking new, ROC is not just the old club with a new fancy name. Chairman Tony Eve (a founder member of D-SUG) has the full backing of Roland and intends to make membership of ROC essential for all Roland enthusiasts. Members will receive three issues of *Roc-Link* magazine annually,

along with regular newsletters updating members on club issues, diary dates and services.

ROC are currently working on further enticing membership benefits. Ideas currently in the pipeline include: discounts on software including tones, programs and utilities; discounts when buying products and services from appointed retailers and companies; special rate insurance cover for members' equipment; and a members' bulletin board for stating viewpoints or selling used equipment.

If you are interested and want to know more contact Tony or Eric on 0487 740343 (day) or 0733 233135 (evenings) or alternatively catch them in person at the MEMS (Wembley

Conference and Exhibition Centre 22-24th April) on stand 162.



Much ado at TSC

There's been a flurry of activity at TSC recently with the announcement of some major new synth and digital audio products and a special offer on Apple CD-ROM drives. First the synth...

And the good news is that it's analogue, it has knobs and switches (35 and 62, respectively), and it was designed by a team headed by synth pioneer Don Buchla, who through his own company produced a series of classic synth designs back in the '80s. The Oberheim OBMx, first announced some three years ago, should be in the shops some time in April and features full front-panel parameter control. The movement of all these controls is recordable via MIDI, and 2-, 8- and 12-voice versions of the synth will be available (together with 2-voice expansion cards). The design features two oscillators per voice together with four multishape envelopes per voice, three LFOs per voice and two separate filters per voice – the latter of the classic Minimoog and SEM (Oberheim) designs.

The synth also includes audio inputs so that external sounds may be used as oscillators. There are stereo audio outs for each voice plus a large LCD for ease of editing. Described as the dream machine of analogue synths, the audio path of the OBMx rack expander is entirely analogue, giving it that distinctive 'fat' vintage sound, but with the addition of an up-to-date MIDI spec and 128 preprogrammed voices.

Prices including VAT are: £1499.95 for the 2-voice version, £2999.95 for the 8-voice and £3999.95 for the 12-voice. The 2-voice expansion card costs £499.95. It remains to be seen whether the major synth manufacturers will now still persist with their ridiculous argument that to produce synths with controls would be totally uneconomic.

On the digital audio front, TSC have announced a new Opcode MIDI interface for the Mac – the Translator Pro features two MIDI ins and six MIDI outs at a VAT-inclusive price of £129.95 – and also a new Mac-based dynamics processor called the Multiband Dynamics Tool. This is designed to replace conventional digital dynamics processors in applications such as mastering,



track sweetening, sound effects and sample editing, and is configurable as a compressor, limiter, expander, gate – or any combination of these. In 'multiband' mode, the relationship of each spectral band to the master gain curve is adjustable, and this makes it possible to adapt the system for de-essing, spectral enhancement and dynamic EQing.

The Jupiter Systems MDT also employs sophisticated digital filtering for full-band, 3-band and 5-band applications and is fully compatible with Sound Designer and Deck software. Price including VAT is £411.25.

Also in the field of digital audio, TSC have announced the release of Digital Expressions' Softsplice digital audio editor for the Mac. A stand-alone system (rather than a plug-in card), Softsplice connects to your SCSI port and offers 4-track recording, editing and mixing of digital audio. On board are a hard-disk drive, signal processor, and digital I/O board, and included with the system – of course – is the editing software for the Mac.

Softsplice also includes an integrated LTC time code processor which generates and chase-locks to all SMPTE frame rates during recording and playback, making it an ideal system for syncing to multitrack recorders and for video post production work. Editing is fully non-destructive so you can mess around to your heart's content safe in the knowledge that nothing has been lost or inadvertently changed. Signal processing is 24-bit; system demands are for a 68020 Mac or higher; Classic II; Powerbook 145; LC 1,2 or 3; Performa line, Centris line or Quadra line. The VAT-inclusive price is £2113.83.

The news on the Apple CD-ROM drives is that TSC have made a special bulk purchase and can now offer both the CD300 and Power CD models at £170.38 including VAT. In case you didn't know, the difference between the two models is that the CD300 features double-speed transmission and multisession Kodak Photo CD compatibility, while the small portable PowerCD allows you to play audio CDs in addition to CD-ROMs. The drives are both compatible with Akai, Roland 760 and Kurzweil K2000 samplers.

Finally, TSC are to host a series of one day seminars during which Akai (9th April), Alesis/E-Magic (16th April) and Digidesign (30th April) will demonstrate their products and be on hand to answer questions. Further dates will be announced shortly.


For more information on this or any of the products mentioned contact: TSC, 9 Hatton St, London. NW8 8PR. Tel: 071 258 3454; Fax: 071 262 8215.

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Turtle Beach, Twelve Tone, etc

As you'll discover if you read this month's special feature on computer sound cards, not all have the kind of sound quality hi-tech musicians take for granted. For anyone saddled with less than inspiring sound from their PC card, a new development from Turtle Beach might just be what the doctor ordered.

Maui was designed to bring the benefit of true wavetable synthesis and sampling capabilities to owners of existing lo-spec cards. GM compatible, Maui's 24-voice, 16-bit samples are stored in 2Mb of RAM onboard the card. In addition to the 128 GM instruments provided, Maui offers user-definable sample playing so that new samples may be created using any existing Windows .WAV files as a starting point. This means that virtually anything may be recorded using an existing sound card, then played back via MIDI.

256Kb of sample RAM is included as standard, upgradable to 8Mb using standard SIMMs. Maui is also MPU-401 compatible for quick and easy installation into the Windows environment. Price inclusive of VAT is £199.

Distributing Maui is a new company, Et Cetera, formed to meet the growing demand for PC-based music, sound and multimedia products. The company has already signed deals with Turtle Beach, Twelve Tone, Innovative Quality Software, Music Quest and Music Ware and is negotiating several more.

One of the Twelve Tone products that Et Cetera are handling is a new entry-level MIDI sequencing package called Cakewalk Home Studio. A development from the critically-acclaimed Cakewalk for DOS and Windows programs, Cakewalk Home Studio includes multitrack staff viewing and printing of up to 16 staves per page. On screen faders provide real-time control of volume, pan and effects levels and it's possible to 'draw' MIDI controller data using the mouse. Traditional 'piano roll' editing is incorporated in the program along with a multitrack event list. Cakewalk Home Studio also supports the embedding and playback of digital audio .WAV files from within a MIDI sequence. System requirements are for a PC running windows v3.1.

For further information, contact: Et Cetera Distribution, Unit 15, Hardmans Business Centre, Rawtenstall, Lancs. OL15 9EW. Tel: 0706 228039. Fax: 0706 222989.



Down at the club

Vestax have a couple of new products likely to be of interest to the DJ and club mixer. The first is the PMC-26 rotary control mixer, housed in a 19" x 4U case with no fewer than nine music inputs (three phono, six line) and two mic inputs. Each of the music inputs features trim level control and a preset balance to assign signals left or right. But it's main features are four large aluminium rotary mixing controls and crossfader which should be good news to all those that prefer turning to sliding and who would welcome having change out of £500. The RRP of the PMC-26 is expected to be around £495.



The second new product is a budget sampler offering 10-second sampling time – splittable into 2 x 5 secs – whose quality makes it "very suitable for music reproduction". The DSG-05 is apparently a stand-alone version of the sampler included in the popular PMC-15SL mixer, and includes an auto-loop edit facility for producing seamless loops. The unit also has a recording pause function which makes it possible for several different sounds to be joined together. The VAT-inclusive price is £195.

Further details from: Vestax Europe Ltd, 18 St Christophers Road, Haslemere, Surrey GU27 1DQ. Tel: 0428 653117. Fax: 0428 661021.

2200AV SERIES

Bigus Diskus

Acknowledging the growing demand by musicians, multimedia and desktop video producers and graphic designers for fast, mass storage systems for their Macs, US company Micropolis have developed a new range of removable, expandable storage devices known as Microdisk AV.



As you might imagine, the AV suffix stands for Audio Visual, and this aptly describes the anticipated market place for the new drives which have been specially designed to enhance the performance of audio-visual and multimedia systems by ensuring continuous transfer of digital data and eliminating the likelihood of missed frames and drop-outs during recording and playback. To this end, the drives incorporate advanced SCSI technology and caching techniques to maintain a maximum, sustained and uninterrupted data flow of 2.9Mb per second.

Equally important, however, is the modular approach taken by Microdisk AV designers. This makes it possible for users to increase their storage capacity by adding extra modules. You simply snap on additional modules as and when you need them.

And the price for this flexibility? Probably not as much as you think. The Microdisk AV comes in two base systems; a 1.05Gb version at £1219 and a 1.76Gb version at £1556.

For further information contact: Micropolis, 4 Worton Drive, Worton Grange, Reading Berks. RG2 0DW. Tel: 0734 751315. Fax: 0734 868168.

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Volume Eleven Vince Clarke, Lucky Bastard

This collection features new sounds created especially by Vince using the mountain of classic analogue synths in his Amsterdam Studio. A founder member of Depeche Mode, Yazoo, The Assembly, and now Erasure who better to produce the ULTIMATE ANALOGUE SAMPLE CD. Synths featured include Roland System 100, System 700, ARP 2600, Moogs, SC Pro One, Korg Poly Fusion, VCS3, Prophet 5, Prophet 10, Xpander, and more. It features hundreds of constantly evolving sequences so you can either grab chunks or extract single notes for the ultimate in user-friendly creative sampling. There's a selection of 100+ samples also with many samples from Erasure's last album 'Mogwai World' - perhaps one of the most unique features of this CD are the 'one-offs' - Vince has created only a few unique analogue sounds, all the loops are broken down for ultimate flexibility so you can easily create your own custom loops using the best of the gear. As just about every record he's ever done has been a hit, and this is no exception.

...for anyone who loves analogue synths... acts will love... a heavy... Music... should fulfil most analogue... the creme de la creme, stunning... lente... indispensables...! - Clarke

Demand is high, so avoid disappointment and get this CD before everyone else has it!

Volume Twelve - Keith Le Blanc's Kickin' Lunatic Beats

This volume sets new standards for drum sample CDs. It features a wide range of styles including Hip Hop, Funk, Jazz, Rock, Reggae, Swing Go Go, Fusion, Cyberpunk, etc. After starting his career as in-house drummer with Sugarhill records, working on such classics as Grandmaster Flash & Melle Mel's 'The Message', Keith has gone on to lay down the beats for James Brown, REM, The Rolling Stones, Annie Lennox, Seal, 808 State, Malcolm McClaren, Bomb The Bass, ABC and many more. He has also moved into writing, production and remixing, working with such artists as Charles & Eddie, Malcolm X, Living Color, The Cure, NIN, and many more. He also found time create the unique sound of Tackhead with Doug Wimbish and Adrian Sherwood. The superb performances featured on this CD were recorded at Orinoco and The Aquarium so, as you can imagine, the recording quality is absolutely state-of-the-art. Aside from tons of choice grooves (all bpm-ed as always), we've included a comprehensive set of matching single hits so you can create your own. Not that there's much chance of you doing that for a while, because after you hear these Kickin' Lunatic Beats you're going to be using them for years to come. "...killer kick drum... the ensuing result is devastating... a peach... If you're looking for a drum CD you haven't listened to, it is the man machine, made up of beats only, but the machines should be capable of... a consummate time machine." - Dec 93. Killer Drummer, Killer Studios, and Killer Production. These are beats that just won't quit!

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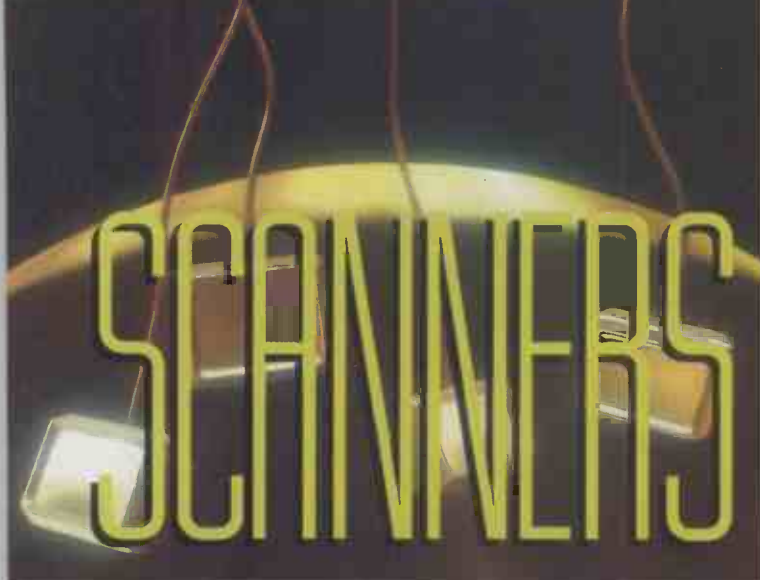
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The key, the secret

Cubase creation can only begin once that learning curve has been conquered. To ease this battle, Steinberg are launching the Education pack. Available for all platforms (Mac, PC and Atari), the pack comprises Cubase Lite or Cubase Score with manual, supporting educational booklet, two tutorials and a disk of musical examples.

The tutorials are designed to unlock the basic features of Cubase programs by involving the user in an additional interactive study of music theory and history. Although designed to make Cubase Lite and Cubase Score accessible as educational tools for use in schools, they are available for domestic users new to Cubase programs or simply wishing to improve their basic music literacy skills.

To coincide with the launch of the Education pack, a series of user courses are in the Steinberg pipeline. These will cover Cubase and all other related Steinberg products for beginner, intermediate and advanced users. Dates are not available as we go to press, so anyone interested should contact Jane Pendry, Assistant Marketing Manager at Harman Audio on Tel: 081 207 5050 or Fax: 081 207 4572.

FIVE STAR PRIZE ★

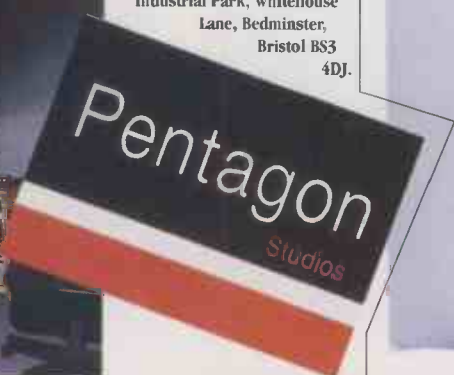
Fancy five days free recording at a top studio facility? Yes, it's a competition, but no, you don't need to answer three dumb questions and dream up a tie-breaker. This is a competition that's designed to offer an undiscovered band or artist a step up in the world and the chance to record their music at Pentagon Studios in Bristol. Entrants simply submit one piece of music (on any format) for consideration by a panel of judges that includes Paul McDonald (A&R, London Records), Fergal Sharkey, Pete Tong (Radio 1 DJ) and Chris Porter (producer, George Michael).

Entrants must be resident in the UK, be unsigned, and must get their entries in before 13th May 1994. The winner will be notified later in the month.

The competition is actually a joint venture between Pentagon Studios, DDA and Stirling Audio and the prize is said to be worth over £2,000. The studio itself was opened last year and includes a live room, digital studio and writing/preproduction room. The main control room features an automated DDA desk and offers 24-track recording on a 2" Otari or ADAT system. Cubase is up and running on an Atari Mega and they are fully MIDI compatible, so there should be no problems patching in your gear.

One of the objects of setting up the studio was to provide a focal point for bands, singers, songwriters and producers, and Pentagon are currently looking after two bands, four producers and a handful of singers who use studio down time to develop at their own pace. If it sounds like the kind of place you could develop in, send off your entry to:

New Band of '94
Competition, Pentagon
Studios, Unit 3, St Catherines
Industrial Park, Whitehouse
Lane, Bedminster,
Bristol BS3
4DJ.



Interactive C • I • T • Y

In The City - Britain's annual music convention - has taken its theme for this year's event as the 'Interactive City', reflecting the current wave of interest in computer-driven technology and multimedia. Taking place in Manchester from the 17th to the 21st of September, the convention (at the Holiday Inn Crown Plaza Centre) will include new technology displays, hands-on tests of the latest computers and software, demonstrations of multimedia and music-related interactive developments plus panel discussions and seminars about the impact of new technology on the music industry.

Comments Anthony Wilson, former Factory Records supremo and all-round Manchester person: "We want to bring together all the key players - the hardware and software manufacturers in CD-I and CD-ROM and the international music industry. Our convention is the perfect place for an extreme mutual curiosity to be sated. We believe that both CD-I and CD-ROM present whole new horizons for the music industry".

This year's event is a natural progression for In The City. In its inaugural year, 1992, the convention featured a working display from ESP, the Cambridge computer company, and also a panel discussion on the possibilities of new computer technology for the music business. In 1993, the event was supported by Philips Interactive and also included two seminars on multimedia. 1994's 'Interactive City' will, it is believed, "be the interface for two industries that need to shake hands and get hands-on".

For a full brochure of the event contact: Robert Partridge Associates Ltd, 12 Barley Mow Passage, London W4 4PH. Tel: 081 747 9080. Fax: 081 747 1895.

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The advertisement features a central graphic of a globe with the words 'VIRTUAL WORLD' written across it in a stylized font. The globe is set against a background of a beach scene with a blue sky and green grass. There are also two smaller globe icons, one in the top left and one in the bottom left. At the bottom of the graphic is a purple arrow pointing right with the words 'VIRTUAL WORLD' written inside it.

February 11th saw Japan's leading FM radio station, J-WAVE, make history by broadcasting a live three-way radio show linking DJs in London, Tokyo and San Francisco via ISDN (Integrated Services Digital Network). The first-ever such ISDN link-up, the show was transmitted all day (9am-6pm) on J-WAVE to approximately 35 million listeners during Foundation Day, a Japanese national holiday.

The first six hours were presented from the British Forces Broadcasting Service studios in London, with among others ex-Radio 1 DJ Simon Bates, KISS FM's Wilbur Wilberforce and Choice FM's George Kay playing a mix of popular, jazz and dance music. Then former Radio 1 DJ Jakki Brambles took over as presenter for two hours, broadcasting from KCBS studios in San Francisco, while for the final hour Simon Bates, Jakki Brambles and Tokyo presenter Yuka Nukina linked up for a live global 'DJ jam'.

During the nine-hour marathon many artists put in guest appearances, including Aretha Franklin, Roachford, Coldcut, rapper Maxi Jazz, Brazilian band Batu, D:ream, Oui 3 and Alison Limerick – some performing live on air. The show was produced by London-based independent production company L.O.E. Entertainment Ltd, with technical support from Japanese telecommunications giant NTT and sponsorship from leading Japanese life insurance company Sumitomo Life.

So what about the technology involved in this ambitious global three-way link-up? Well, as you might imagine, it doesn't come cheap, so don't expect to be able to hook your bedroom studio into Radio 1 and broadcast to the nation just yet. In the UK, an ISDN connection is actually available to anyone whose phone is hooked up to a digital exchange. These days that means most people, but BT's installation and quarterly rental charges for a single ISDN-2 line (as of writing, £200 and £84 respectively) effectively put ISDN technology beyond the reach of the average home user.

However, all the signs are that these costs will fall sooner rather than later. One reason is that forward-thinking service providers are looking for ways to pipe their services directly into people's homes. BT, of course, would like their phone network to be used for this purpose, but it won't happen unless there's widespread adoption of ISDN technology by phone users – ie. you and I.

At the same time, BT themselves are desperate to become a service provider. To this end, they are running video-on-demand trials to test the viability of delivering video digitally via the existing copper-wire phone network – which again, means using ISDN.

The BT ISDN Helpdesk can be contacted on 0800 181514.

L.O.E. Entertainment Ltd are on 071 328 6100.

APT authorised distributors Sound-Link (who can provide complete packages for studio-to-studio digital audio transfers via ISDN) are on 0223 264765.

Although not involved in the J-WAVE linkup, Dolby Laboratories also have a system for transferring high-quality stereo audio via ISDN, known as Audio Fax; for more information contact Andy Day on 0793 842100.

BEACH BLANKET TECHNO

The association between dance music, technology and spectacular visual distractions is merging into a counter-culture. On 31st March, the Megatropolis club in London stages an experimental night of video projection sync'd to the DJ program (see next month's *MT* for a full report), and elsewhere on these pages you will find details of Experience, an event who's organisers view the multimedia ingredients of Megadog as "a movement".

Taking this premise to its logical conclusion, the Obsession organisation is staging its own epic weekend of compatible attractions, heralding the advent of the hi-tech weekender as the '90s equivalent of the rock festival. 'Virtual World' promises to be very real, with top bands and DJs appearing in, on and around the

following areas, all stretched out along a beach in Cornwall like a space-age shanty town: an Obsession hardcore stage; the Bowl Arena; Beach House stages 1, 2 and 3; an R&S Records stage; an Ambient Light Show; Virtual Game Domes; a Chill Out Zone; a Philosopher's Stage, and much more.

Is this the new Woodstock? Only one way to find out: erase everything from your diary from 6pm, Thursday 26th May until late on Monday 30th (which is a Bank Holiday, by the way), and get yourself down to Carlyn Bay near St. Austell in Cornwall. Life, as I believe a very learned person once said, is a beach.

See next month's *MT* for a special preview. Further details can be obtained from Chapter III Ltd, 11 Imperial Square, Cheltenham, Glos. GL50 1QB, Tel: 0242 255058, Fax: 0242 255520.

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SPECIAL REPORT

Whilst no computer platform can be said to have gained universal acceptance, Amiga owners have more reason than most to feel left out in the cold. Despite a wealth of excellent third-party software and peripherals, the Ami still appears to have something of a credibility problem within the wider computing fraternity. Addressing themselves to this, the organisers of the recent *Amiga Desktop Video, Music & Multimedia Seminar* are out to win hearts and change minds – as Simon Trask discovered...

A Date With Ami

The UK has long been a stronghold for the Amiga – witness the monthly appearance of some 10 magazines dedicated to Commodore's computer range. However, the underlying reason for the Amiga's UK success – its popularity as a games machine – has also given it something of an image problem. Put simply, most people don't view it as a serious computer – the sort of computer which, for instance, could handle the demands of desktop video and multimedia production.

But is this a true picture of the Amiga? Stateside, the situation is very different. Thanks largely to Newtek's powerful Video Toaster package (which has never been made available in a PAL version,

unfortunately), the Amiga has long been perceived as a professional video production and fx machine; indeed, Amigas are used in large numbers (the proverbial 'Toaster farms') by the Hollywood video fx professionals. It's not exactly in the same class as a Silicon Graphics machine, but even that could be set to change with the introduction of a new Amiga add-on, the UK-originated WARP transporter board (nothing to do with Sheffield's finest!). And now Newtek's Lightwave 3D animation software, which forms an important part of the Video Toaster package, is available in standalone form in the UK.

In truth, the Amiga is looking ever more attractive as a desktop video and multimedia machine. The *Amiga Desktop Video, Music and Multimedia Seminar*, held recently in London, provided an all-too-rare showcase for the talents of Commodore's computer in these areas. Organisers Premier Vision are themselves enthusiastic advocates and users of the Amiga for graphics, animation, multimedia and music work, and it was this enthusiasm which carried the day when the organisation proved to be a little rough around the edges.

Although the Seminar, which attracted 57 attendees, wasn't a Commodore-sponsored event, Commodore UK's Managing Director David Pleasance put in an appearance to provide the opening address. Acknowledging the company's poor marketing record ("sales-prevention officers" was one memorably disparaging phrase he used, only half-jokingly), he also stressed that it was "very important that we start sowing the seeds of multimedia in professional circles." – the 'we' in question seemingly encompassing everyone in the room. And in a sense Commodore have always survived more through the appeal of their technology than the power of their marketing – unlike, say, the PC clone manufacturers, for whom the opposite situation applies. Perhaps that's why the company's foray into the PC clone market was such a disaster.

The Amiga's ability to engender enthusiastic support was much in evidence during the day. Premier Vision's Andy Bishop got the proceedings off to an energetic start with his demo of the Sunrize AD516/Studio16 multitrack hard-disk recording system, Bars and Pipes Professional MIDI sequencing software and SuperJam! auto-com-position software. The Amiga has long come a poor fourth to the ST, Mac and PC for serious music use. However, with the advent of these packages it has at last begun to establish a professional profile, with well-known musicians as diverse as Bobby Brown and Evelyn Glennie using it.



Below: Scala multimedia software



While the Sunrize system may not be as well developed as many of the Mac and PC offerings (for instance, as yet it has no digital EQing or timestretching capabilities, and its effects processing is basic), it certainly scores on sonic quality, ease of use and value for money. And while Bars & Pipes lacks the degree of sophistication and polish which ST and Mac sequencer users are used to, it's a powerful program with a strikingly original take on the MIDI sequencing environment. As Andy pointed out, Bars & Pipes is more than just a music sequencer, it's a



Bars & Pipes Professional sequencing

multimedia authoring program, capable of sequencing and synchronising text, graphics, digital audio and video along with the MIDI music tracks.

Bars & Pipes and Sunrize fit together seamlessly, with the latter appearing as tracks within the sequencer. But most excitingly, you can integrate a Scala presentation into your Bars & Pipes sequence, allowing you to add text, graphics, animation and video to your music; conversely, you can easily incorporate a MIDI songfile into a Scala presentation. If you're interested in multimedia authoring, you can't afford to ignore Scala's Multimedia MM300 software – which also means, of course, you can't afford to ignore the Amiga. The program is very easy to use and yet extremely versatile and powerful – while, thanks to an ever-expanding array of add-on tools, it's becoming ever more capable. Due shortly is an MPEG utility which will both write and play back an MPEG data stream – opening up the possibility of Amiga-based Video CD preparation. At around the £300 mark, Scala compares very favourably in price to the likes of Macromind Director, the Mac standard for multimedia authoring.

Scala's Barry Thurston provided one of the high-spots of the day with his lively and enthusiastic demo of the MM300 package, while Premier Vision's Andy Gould gave a useful overview of other multimedia authoring packages available for the Amiga.

Thanks to a new program called Aladdin, Commodore's computer can act as a lighting controller, with 48 channels, multiple automatic and manual crossfades with individual curve assignments, five 20-step chasers with variable level and time settings for each step, and industry-standard DMX lighting control. MIDI also fits into the picture, offering yet more possibilities for multimedia control within a sequencing environment.

Anyone involved in single-framing anims onto tape will be ecstatic about another new product, Digital Processing Systems' DPS DR-3150 PAL Personal Animation Recorder, a plug-in card for the Amiga which was demo'd at the Seminar by Commodore's Joe Benzing. Essentially, the DPS allows you to single-frame onto hard disk and then output the finished whole to video as a component analog (Betacam, MII), composite (Hi8) or S-Video (S-VHS) signal; at last you can wave goodbye to timebase errors, jitter, skipped frames and other pitfalls of tape-based single-framing.

Other products discussed, if not always demonstrated, included the Zen Video Toolkit (professional titling, teleprompting and character generation for the broadcast industry), the MO-Miga 1.2Gb magneto-optical disc drive (an ideal, but costly solution for storing all your digital audio and video data), the QuickNet Ethernet network system (professional networking comes to the Amiga), and Helfrich International's Peggy Plus MPEG board (inexpensive digital video encoding and playback).

The Seminar wasn't without its problems: a heating system which did its best to send everyone to sleep, some speakers who seemed to be talking in their sleep, and not enough practical demonstration. Also, it tried to cover too much and appeal to too many people, with the result that while, say, the video post-production guys were having an interesting time, others felt a bit left out in the cold (or, in this case, the heat). Still, this was Premier Vision's first attempt, and at least they're *doing* something. The company are already planning further seminars, this time more narrowly focussed (for instance, concentrating on multimedia authoring, or video post-production, or music). If they pay heed to the lessons learnt from their first Seminar, they should do well. ●

For more information on any of the products mentioned or on future planned seminars, contact Premier Vision on 071 274 4407.

Amiga packages

Personal Animation Recorder £1675.00
TBC iv (motion capture board) £895.00
Digital Processing Systems • Riverside Business Park • Unit 2 • Dogflud Way • Farnham • Surrey GU9 7SS

Scala MM300 £294.00
Scala UK Ltd • Mill Studio • Crane Mead • Ware • Herts

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lost in

Banco de Gaia – if the name sounds exotic, wait till you hear the music. Phil Ward meets Toby Marks, a bloke from the Midlands with banks of great sounds,

a debut album and a growing reputation on the live circuit.

It's easier to satisfy musical wanderlust today than ever before. Libraries of recorded music take even the most passive listener far and wide in the imagination, and for those who make their own sounds, borders are meaningless. For Toby Marks, a sequencing and sampling soloist and a pretty itinerant sort himself, technology has quite simply given him a passport to the whole world.

And seeing the world as a whole is big stuff with Toby. He named the band, originally formed as a duo in 1989, in true holistic style.

"Gaia is a Greek Earth Goddess," he explains, "and some years back this guy called James Lublock came up with The Gaia Hypothesis: the Earth itself is one living organism, and everything on it is a cell of this organism. So unless we treat it as such, we'll destroy it."

You could view his studio in the same way. Growing naturally around his multifarious talents, Toby's equipment has become a unit which he plays almost as an instrument in itself, designed to bring the sounds of the whole world into his grasp.

"When I was a session guitarist I had a 4-track Portastudio, which I later upgraded to 8-track, and for a long time I was using a 505 drum machine with the guitar – plus lots of pedals, like pitchshift. I had these sonic landscapes in my head which weren't really coming out with this gear. So I got hold of a guitar synth, which opened up a lot of possibilities. Because it had MIDI, it seemed logical to hook it up to a sequencer; it then seemed obvious to use sequences instead of bits of tape. That led to getting a sampler, so gradually, step-by-

step, the options opened up. Especially with the sampler: once I'd got that, I thought, who needs a guitar..."

Toby used a Roland S550 before upgrading to the current S750. It made a big impact on him, but it was still only a 2Mb/12-bit unit. "Until I got the 750", he admits, "I didn't realise how poor the sound quality was. If you compare the two, obviously the 16-bit machine sounds much better. But even on its own you can hear the difference. There's one track on the first *Ambient Dub* album recorded with the 750 and just a Tascam 8-track cassette machine, and that transferred to CD quite nicely."

Certainly did. The overall architecture and warmth of sound kept Toby with Roland rather than switching to, say, an S1000. "The filters weren't actually a major consideration when I bought it, they were just a lucky find," he says.

Always as much interested in the effects as in the guitar, Toby claims MIDI was the key to a new world of sound, and now the multitimbral sampler is the cornerstone of his sonic empire.

"You can put anything in there, including an Egyptian vocalist. Any sound you hear, you have the option of using it. And you can build up layers of different sounds, from all sorts of obscure sources."

Does he go out and about, sampling with the portable DAT?

"I have done, although not for a while. The last time, I stuck a couple of mics out of the window and got an hour and a half of traffic noise. But, not having thought about it very carefully, I got all sorts of phase distortion between the two mics. Without the necessary recording skills, I could

trance

never get as good quality samples as those which are commercially available." He's content with the range and quality of sample CDs, such that he no longer feels the need to risk any location sampling.

"Sample CDs, and other sources, can provide plenty of material," he says. And the way he says "other

sources", with a mischievous glint in his eye, leaves you in no doubt that the skill of keeping one step ahead of the copyright police is alive and well in Leamington.

The final piece in the jigsaw of the Banco sound is analogue... "Yeah, the sampler was the turning point, and I got the M1 shortly after that because it seemed like a good controller *and* source of sounds. But around 1991, acid house was still about, analogue sounds were ➤

Banco de gear

sounds

Casio DA1 DAT
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Roland S-750 sampler (expanded to 18Mb); SH-09; Juno 6; Jupiter 8; D-110;
GR-50 guitar synth; TR-505
Seagate 80Mb + 650Mb hard drives (+ Philips colour monitor)
Yamaha CD-X3 CD player; VSS-30 sampler; electro-acoustic guitar

sequencing

Atari ST
C-Lab Creator
Quasimidi Powermerger MIDI merge
Sound Lab MD80 MIDI Thru box
XRI XR300 synchroniser

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Studiomaster Proline 16:4:2 desk with MIDI muting
Tannoy Eclipse monitors
BGW 250D power amp
Sony DTC 77ES DAT; TCD D3 DAT
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ART Proverb 200
ApheX Type C aural exciter
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Boss RDD-20 delay; RRV-10 reverb; RPS-10 pitchshift; digital dimension pedal
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➤ becoming more dominant in techno, and they were the sounds I was missing. For a while I coped, but not having any analogue sources did dictate the kind of music I could do. So I picked up the Juno for a hundred quid, and began sampling arpeggios and sounds from that.

"When I got the S750, about two years ago, I found that the filters were so good that I was actually using that for analogue sounds as well. But it's not ideal, especially live, where you can't control a lot of the parameters in real time. Then I came across the Jupiter for a ridiculously low price, and that was that. I picked up the SH-09 quite recently for fifty quid – but it is a bit rusty."

I'll say. What was once a sleek black casing now looks like the boot of my 1984 Metro, which is probably illegal. Fortunately, you don't need an MOT for phat bass riffs, and Toby's SH-09 sounds mint. All the knobs work, and that suits Toby just fine.

"I hate programming synths. Like with the M1, I've hardly done any programming at all. I've changed the envelope on one sound and that's it. I can't stand all these multifunction buttons. For me, the interaction of the analogue synth is very important – turn a knob, hear the change.

"I've come to grips with editing the sampler. I find that easy and intuitive now, but mainly because I've got the big Philips screen to work on, and the mouse, plus the sheer amount of time I spend on it. It does seem to work in a much more user-friendly way than most digital synths."

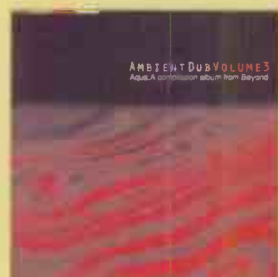
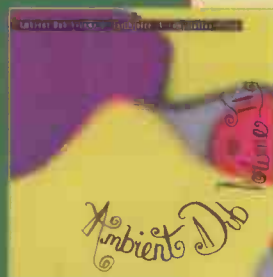
Banco tracks tend to be focussed, concentrated affairs, conducive to meditation as much as dance...

"What tends to happen is that a track will start from one source, whether it's a sample, a melody, a bassline or whatever. I'll consciously write a tune based around that. Say, for the sake of argument, it's a vocal sample, I'll load it into the sampler with a variety of drums and percussion and a couple of bass sounds. Once the vocal is looped, it might suggest a harmony, a chord sequence or a rhythm, and from then on it's kind of improvisational. I can just experiment until it falls into place.

"Quite often, a tune will start around a particular vocal or percussion sample, and three days later the original sample has

gone. I've got a completely different tune, but it got the ball rolling. If it's a dance track, as opposed to something completely ambient, then obviously the groove is important. But I never regard the groove as the only important thing. Some people work on the groove, and then fill it out with some notes, whereas I always find the notes are at least as important as the beats. I guess it's because I didn't grow up with dance music. I grew up with rock, psychedelia, heavy metal and blues. I discovered dance music quite late on."

But not too late to make a big impact on the dance scene. Gigging up and down the country in a red van is where you'll most likely find Toby these days. Appearing at blissed-out clubs like Megadog and Oscillate, the burgeoning club/festival scene is his oyster – with a full tank of petrol and a tail wind. Ironically, this aspect of Toby's full schedule recalls the Transit tortures of



Maya is out now on Planet Dog. Three cassette albums – *Medium*, *Freeform Flutes And Fading Tibetans* and *Deep Live* – are available by mail order from World Bank, PO Box 142, Leamington Spa CV31 2BE (£5.00 each UK/\$10.00 elsewhere). The following compilations include tracks by Banco de Gaia: *Ambient Dub Volumes 1, 2 and 3 (Beyond)*; *Excursions In Ambience (Caroline)*; *Feed Your Head (Planet Dog)*; and *Future Shock (Hyperbolic Systems video)*.

rock'n'roll folklore, which if nothing else scotches the rumour that electronic musicians are an idle bunch of bedroom dabblers.

Certainly, club audiences appreciate Toby's presence in the flesh. Whilst not exactly a recital, a Banco gig does offer a coolly technical performance, and is more interactive than a DAT-based sound might suggest. Plus, the kind of event at which you're most likely to find him on the bill is something new. Much more than a rave with mimed PAs, Megadog and its peers offer bands – and I mean 'proper' bands like Fluke and

Seefeel, rock fans – sandwiched between the finest remix DJs and hi-tech performers like Banco, Orbital and The Grid. And don't be surprised if, one day, Toby's up there with a bit of attitude and an axe himself...

"I'd like to get a real drummer and a real bass player involved at some point. I am a guitarist, rather than a keyboard player, and the one thing I miss doing this is playing in bands and getting that buzz and interaction. Plus the freedom to improvise, stretching out the arrangements if everyone's working well together." ●



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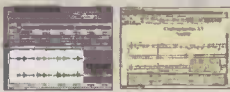
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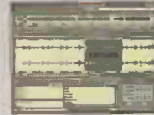


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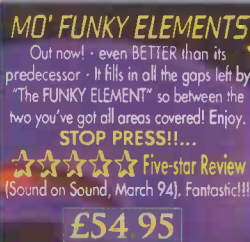


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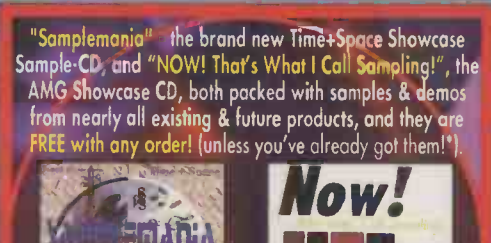


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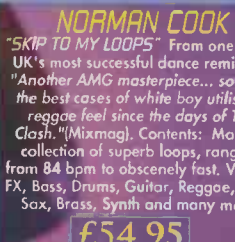


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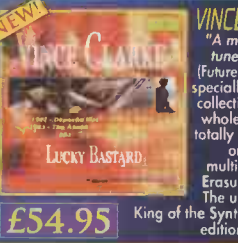
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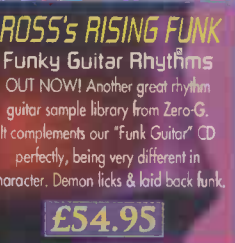
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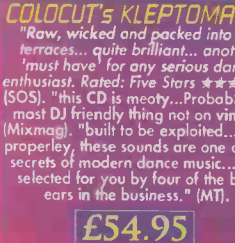
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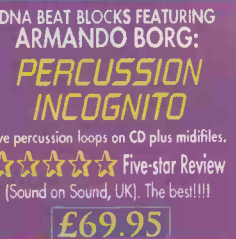
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PETER SIEDLACZEK ORCHESTRA CD-ROM

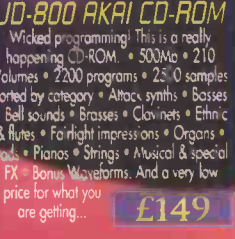
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ON THE CARDS

The explosion in the sound card market has given many computer users the opportunity to get involved in serious music making for the first time. For others it's been the source of frustration as they struggle to get their CPUs to talk to a new system extension. For those looking to buy a sound card, there's also confusion over which card to choose and what kind of quality to expect. Here with help for one and all is Ian Waugh...

Connectivity - that's the name of the game. Impressive as they may be, modern computers can't do everything. Not without a bit of help. PCs and Apple Macs, for example, contain internal slots capable of taking an enormous range of plug-in cards to help them perform other functions.

The PC is the most expandable of all computers, and cards available include modems (for communicating with other computers), scanner cards, and maths cards (for speeding up mathematical calculations). Most PCs already have some slots taken up with a card to control their hard disk and a video display card which produces the picture you see on the monitor.

There is also a wide range of cards to interest musicians and people working in multimedia. Video capture cards (not to be confused with video display cards) let you store video clips on disk for editing. And, of course, there are sound cards. These started life as a means of adding synthesised sounds to the PC (which otherwise only has

a paltry single-sound beep), primarily for games, but they have now developed into veritable jacks-of-all-trades with facilities such as digital recording and playback, and also interfacing for MIDI and CD-ROM players. Some use quite sophisticated forms of synthesis and are capable of high-quality digital recording.

Apple Macs have card slots, too. The most well-known is the NuBus slot, but the LC family have PDS slots which, though taking up less space, work in a similar way. These are used for co-processors to speed up maths functions, graphics cards for special video displays and networking cards for connecting the Mac to other Macs or a PC. Most of the Mac sound cards are used for digital recording. As far as I am aware there are currently no Mac cards containing sounds (other than Sample Cell II which is more akin to a sampler), but please put me right on this one if there are.

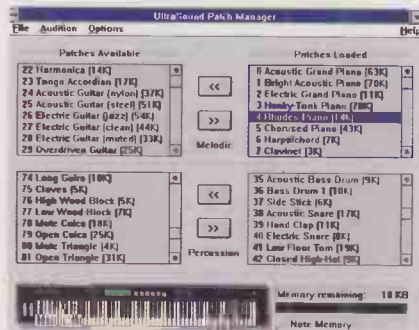
As with most things Mac, you can usually plug a card into your computer, boot your application and start using it. As with all things PC, plugging in cards isn't likely to be as straightforward...



Voyetra's Audio View software includes a wave editor, audio mixer and CD-ROM controller and works with a wide range of PC sound cards.



The Sound Blaster Mixer programs lets you balance the parts of your sound system.



The Gravis Ultrasound includes a Patch Manager which lets you audition and load sounds into Ultrasound's RAM.



Jargon BUSTER

Sound card feature

Digital audio: the process of converting sound to digital data and then converting it back to audio data for playback. While in digital format it can be stored in the computer's memory or, in the case of digital recording, on a hard disk.

DMA: Direct Memory Access lets a card communicate directly with the PC's memory (the name says it all) without having to go through the computer's processor. This speeds up operations and allows several tasks to be performed concurrently.

DSP: Digital Signal Processor, a chip designed specifically to process data quickly. Typically used to perform real-time digital effects.

IRQ: an Interrupt ReQuest is issued by a device connected to a PC to ask the computer to perform a certain task. A sound card, for example, may want some more music data for playing. Each card must have a different IRQ otherwise messages end up going to the wrong devices and the computer will probably crash.

Port address: a PC may have several I/O (Input/Output) ports or sockets which are assigned a number – the address – so the computer can distinguish one card from another when sending and receiving data. If this is not set correctly the computer won't be able to communicate with the card.

S/PDIF: Sony/Philips Digital Interface Format. A standard used for transferring digital data, used in many DATs and samplers.

SCSI: Small Computer Serial Interface, a standard used to connect devices such as a CD-ROM or hard disk to a computer. SCSI-2 transfers data faster, but connected devices must support it.

WAV: the standard digital audio format of Windows sound files.

YM3812: the original sound chip used in the Ad Lib card and compatibles. It's a two-operator FM chip with four waveforms and 11-note polyphony. Crude by modern synthesis standards – but cheap!

Yamaha OPL3: a more advanced FM chip with eight waveforms capable of producing six 4-operator voices or 18 2-operator ones. Still not state-of-the-art, but GM-compatible which makes it more useful to musicians.

PCs have 8-bit and 16-bit card slots. You can easily see which is which because 16-bit slots are longer than 8-bit ones (most PCs with 16-bit slots also have at least one 8-bit slot) and there is a small gap between the rows of connectors. You can use most 8-bit cards in a 16-bit slot quite happily. Stereo sound cards and cards with 16-bit sampling resolution will be 16-bit cards.

But plugging the card in is the easy bit. You then have to configure it. Depending on the card's facilities this could involve you in port addresses, DMA and IRQ settings. It's all part of the process of telling the computer exactly where the sound card is in relation to the system and it could be argued that this simply reflects the PC's flexibility, but it's a flexibility that can lead you into problems – problems which the Mac user doesn't have to worry about as everything is

Pick a card...

If you want a sound card primarily for games then a bog-standard 8-bit card with Ad Lib and Sound Blaster compatibility will do the job. However, 8-bit digital sound leaves a lot to be desired, and anyone trying to record a song demo or put a quality multimedia production together would be advised to go for a 16-bit card. Make sure that the card can both record and play back at 44 or 44.1KHz – some may be able to play back at that speed but only record at 22KHz, for example. And if you want stereo, make sure this is supported, too.

Several cards are GM-compatible and if this is important to you check the sound quality carefully. Cards using wavetable synthesis will have better-quality sounds than those using FM. For high-end use you may want to look at music cards such as the Roland SCC-1 and the Turtle Beach range or daughter board cards such as the Wave

Blaster which add a Proteus to sound cards capable of taking a daughter board. If your main requirement is for digital audio, look at the dedicated recording cards – although some of the top-end 16-bit cards perform very well, too, so don't ignore them. You should have few compatibility problems with dedicated cards but you won't get all the typical sound card extras with them.

There are several dozen PC sound cards on the market and more appear every month. We reckon most MT readers will want quality so we've prepared a table listing the pertinent features of a range of 16-bit cards plus dedicated digital audio cards for the Mac and PC. However, for the games players among us – c'mon, stand up, show us where you are – we've compiled a shorter list of 8-bit cards. As with any musical purchase, do try before you buy and check the prices. Most PC cards, for example, are considerably cheaper 'on the street' than the RRP's quoted on 'Current sound card' table overleaf.

taken care of automatically.

If you don't have any other devices in your PC, you may be able to simply plug in and go. However, like as not you'll have to change at least some of these settings. The

better software supplied with the cards lets you test the system and make changes through the program – although if there is a conflict (that is, if another card is using the same IRQ or DMA channel), it's not ▶

A bit on the side

As well as making a noise, most sound cards can perform additional hardware functions and many packages include lots of bits of software. Here's a list of some typical extras...

- **Joystick and/or MIDI connector.** Most require an adaptor cable which terminates in MIDI sockets but this can be cheaper than buying a separate MIDI interface. However, if you have compatibility problems with the card, this could affect MIDI performance, too.
- **Line and Mic In.** All cards with recording facilities will have at least one of these. Most

have both but if you want to record line level signals, you know what to look for.

- **CD-ROM interface.** This can be very useful – especially if you want to add a CD-ROM drive – as you save money on the cost of a separate interface. However, there are three types – Sony, Panasonic and Mitsumi – so make sure the card and your prospective CD-ROM are compatible.

- **SCSI interface.** Some cards have a SCSI interface fitted, with others it's an optional extra. Adding SCSI to a card will save one of the slots in your PC. However, if you have problems with the card or decide to upgrade it later, you'll have to let the SCSI interface go, too. You can use a SCSI interface to attach a CD-ROM drive – providing, of course, that it's a SCSI drive and not a proprietary type.

- **Mini speakers.** These are a popular inclusion in PC sound card packs but the quality of most is pretty terrible. Don't pay extra for speakers unless you've heard them.

- **Mic.** Again, you get what you pay for. Useful if you don't have a Mic but don't expect a Sennheiser.

- **Software.** All cards should come with some software even if it's just a set-up routine and a couple of naff DOS applications. Goodies to look out for include a MIDI file player, perhaps a sequencer, a waveform editor, a mixer and a voice-recognition system. You may also get a couple of games to show off the sound and possibly a multimedia CD. Such bundles can really add value to the pack.

CURRENT SOUND CARDS

Key to emulations abbreviations: AL = Ad Lib, SB = Sound Blaster, SBP = Sound Blaster Pro, GM = General MIDI

8-bit PC cards

Card	Price	Supplier	Emulations	Sample rate (kHz)	Comment
Sound Commander EX	£46.00	Comsol Systems	AL/SB	44.1/44.1	Joystick and MIDI ports; pack includes speakers.
Orchid Sound Producer	£49.00	Orchid	AL/SB	22/22	Includes mini speakers; unpretentious.
Orchid Sound Producer Pro	£89.00	Orchid	AL/SB/SBP	44.1/44.1	Stereo version of Orchid's Sound Producer using two 8-bit digital/audio converters; includes a Panasonic CD-ROM interface with SCSI as an option.
Sound Blaster 2 Deluxe	£65.00	Westpoint Creative	AL/SB	44.1/15	The card the rest are modelled on; it may not have all the tinsel but for maximum compatibility, this is the one.
Super Sound Two Plus	£75.00	Gallant	N/A	50/50	Includes Sony and Panasonic CD ROM interface (Mitsumi available as an option); manual poor.
ATI Stereo FX	£79.00	Metrocom	AL/SB	15/15	Highly compatible; includes 8W amp for headphones or a small speaker (not supplied).
Sound Galaxy NX Pro Extra	£92.83	Silica	AL/SB/SBP	44.1/44.1	Includes Panasonic and Mitsumi CD-ROM interface (Sony optional); mic and mini speakers; configurable from software; good quality sound.
Sound Blaster Pro Deluxe	£99.00	Westpoint Creative	AL/SB/SBP	44.1/44.1	Sound Blaster compatibility in true stereo; 20 voices; includes Panasonic CD-ROM interface and lots of software.
Gallant SCS000	£125.00	Gallant	AL/SB/SBP/GM	50/50	Mini speakers and hand-held mic included; Panasonic and Sony CD-ROM interfaces (Mitsumi as an option).

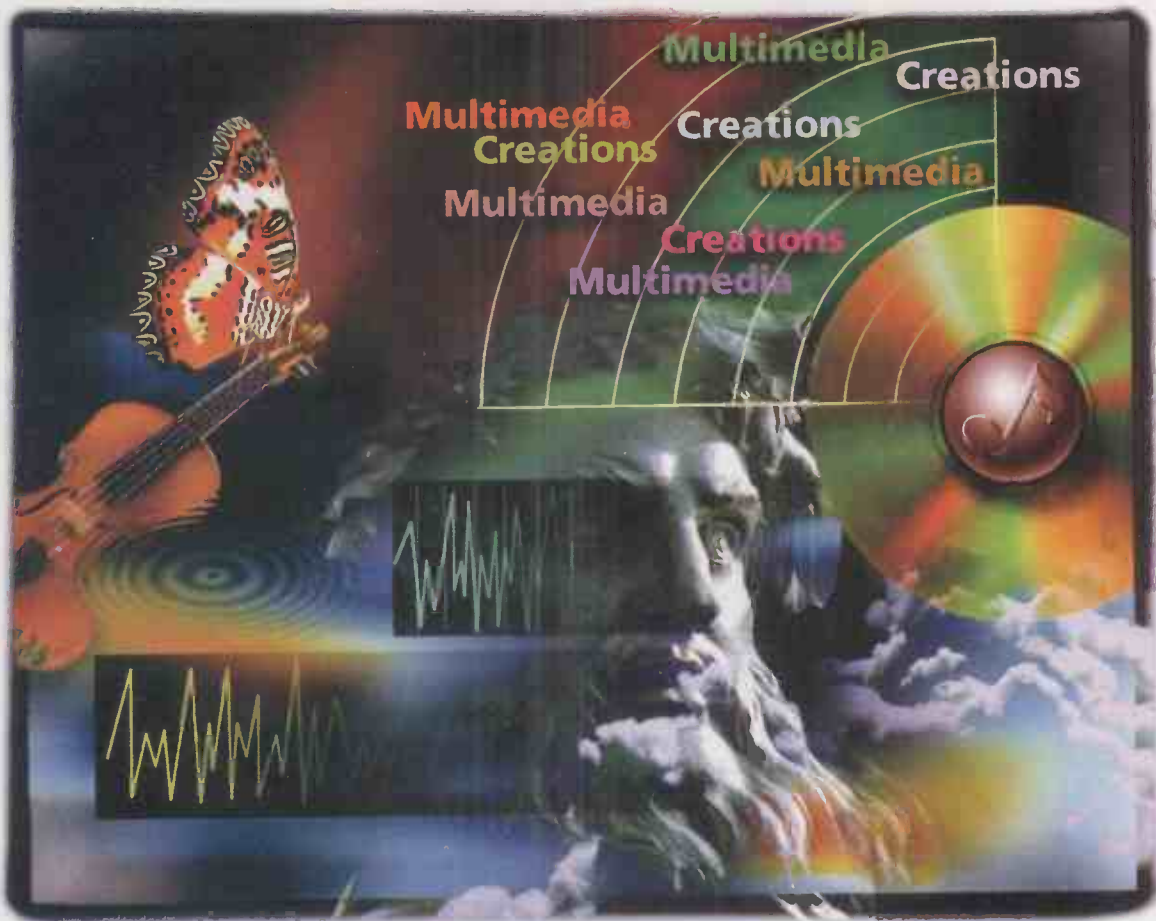
16-bit PC cards

Card	Price	Supplier	Emulations	Sample rate (kHz)	Comment
Media Vision Pro Audio Spectrum 16	£139.00	Ingram Micro	AL/SB/SBP/GM	44.1/44.1	Mitsumi and Panasonic CD-ROM interfaces plus SCSI.
Sound Galaxy NX Pro 16 Extra	£151.58	Silica	AL/SB/SBP	44.1/44.1	Includes a mic and headphones; Panasonic and Mitsumi CD-ROM interfaces (Sony optional); SCSI optional; software configurable/ungradable to 16-bit wavetable synthesis with Wave Power (£116.33) card.
Advanced Gravis Ultrasound	£199.00	Optech	AL/SB/GM	44.1/44.1	16-bit playback, 8-bit recording (16-bit recording is optional); CD-ROM interface optional; excellent wavetable sounds; interesting 3D surround sound effect.
Logitech SoundMan 16	£199.00	Logitech	AL/SB	44.1/44.1	A Media Vision Pro Audio 16 (the basic version) clone; easy installation; no CD-ROM interface.
Microsoft Sound System	£120.00	Microsoft	AL	48/48	More for business than games or music; no Sound Blaster emulation (although a new version will have this); no CD-ROM interface or joystick port; bundled with a Mic and business-oriented software including voice recognition.
Orchid Soundwave 32	£199.00	Orchid	AL/SB/GM	44.1/44.1	Uses wavetable synthesis - good sounds; compatible with the Roland MT-32 and Microsoft Sound System; includes speakers; Sony and Mitsumi CD-ROM interfaces.
Orchid Gamewave 32	£175.00	Orchid	AL/SB/GM	44.1/NA	Similar to the Orchid Soundwave but no recording ability or Sound System emulation; no speakers and comes with less software.
Sound FX 16-Bit	£99.00	Bluepoint	AL/SB	48/48	Similar to Sound FX Classic 3000 (see below) but without wavetable synthesis; bundled with 2020 Sound Editor and Sound Impression; addition of Wave FX board (£125) effectively turns it into a Classic 3000 (Wave FX package includes Cubase Lite and MIDI cable).
Sound FX Classic 3000	£199.00	Bluepoint	AL/SB/GM/GS	48/48	Unique to date in having a GS emulation (although it has no reverb); includes MIDI adaptor lead; bundled with Cubase Lite and Sound Impression; supports Sony, Panasonic and Mitsumi CD-ROM interfaces; digital sound quality very good.
Sound Blaster Pro 16 ASP	£219.00	Westpoint Creative	AL/SB/SBP/GM	44/44	The current top-of-the-range Sound Blaster; ASP (Advanced Signal Processor) improves digital audio speed and includes data compression; Panasonic CD-ROM interface; includes a mic and voice recognition software, a simple animation program and a CD multimedia encyclopedia; FM sound (an OPL3 chip) may be improved by adding a Wave Blaster board.
Cyber Audio Card	£249.00	Unica	AL/SB/GM	44.1/44.1	Wavetable synthesis offers good sounds; compatibility problems with certain software; includes a SCSI interface and comes with a microphone headset and voice recognition software.
SCC-1	£430.00	Roland	AL/SB/GM	N/A	A Sound Canvas on a card but with none of the recording facilities or extras you expect to find on a games or multimedia card; excellent sound.

SOUND FX Classic 3000

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- 16 BIT PC Soundcard
- PCM wavetable synthesizer with 317 sampled sounds
- Sampling rate 44.1 KHZ (CD quality)

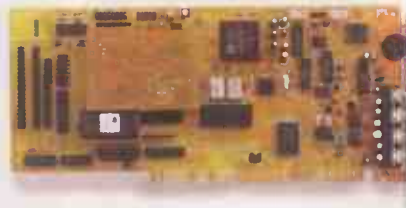


- ADLIB, Soundblaster compatible
- Windows sound system compatible
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- CD ROM interfaces
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CURRENT DIGITAL AUDIO CARDS

PC digital audio cards

Card	Price	Supplier	Comment
Roland ATW-10	£449.00	Roland	Package includes the RAP-10 sound card (not available separately) and some excellent, highly graphic edit and arranging software; lets you combine CD tracks, digital audio and MIDI files. (See review in <i>MT</i> February '94).
Digital Audio Labs' CardD	£757.00	Digital Music	Highly-specified card; software offers 2-track stereo recording at rates up to 48KHz; non-destructive editing and customised fades MIDITasker will trigger sound files via MIDI for audio/MIDI integration; optional I/O card provides S/PDIF support.
Kalkx SoundTrax	£499.00	Digital Music	Records at rates up to 48KHz; includes Ensoniq GM sounds (based on the ASR-10); MPU-401 MIDI interface, four internal DSPs, support for Sony CD ROM and SCSI-2; RAMStore lets you create your own sounds from WAV samples; Ad Lib and Sound Blaster compatible.
Maui	£198.00	Et Cetera	GM-compatible sound card; 24 voices (wavetable synthesis); SampleStore lets you download samples into the card to create your own sounds; MIDI interface is MPU-401 compatible.
Multisound	£468.00	Et Cetera	High-quality 16-bit 44.1KHz recording plus 384 sounds based on the E-mu Proteus; Advanced Hurricane Architecture works up to eight times faster than DMA techniques; GM-compatible.
Tahiti	£351.00	Et Cetera	As the Multisound card but without the Proteus synthesiser.

Macintosh digital audio cards

Card	Price	Supplier	Comment
Audiomedia II	£1202.00	Digidesign	Plugs into NuBus slot and offers high-quality stereo 16-bit recording up to 48KHz; analogue Ins and Outs plus S/PDIF; SoundDesigner II software features non-destructive playlist editing plus effects such as compression, pitch shifting, EQ and dynamics; supported by major direct-to-disk software such as Studio Vision, Cubase Audio and Notator Logic Audio.
Audiomedia LC	£908.00	Digidesign	Similar to Audiomedia II but uses the LC-type PDS slot; no S/PDIF interface; maximum rate of 44.1KHz.
Sample Cell II	£1822.00	Digidesign	16-bit sample player on a NuBus card; eight polyphonic Outs; expandable up to 32Mb RAM; 32 dynamically-assigned voices; over 20 CD-ROM libraries of sounds available.

Contacts

Bluepoint: 0908 277007 ● Comsol Systems: 081 672 2343 ● Digidesign: 081 875 9977 ● Digital Music: 0703 252131 ● Et Cetera: 0706 228039 ● Gallant: 0525 372621 ● Ingram Micro: 0908 260422 ● Logitech: 0344 891 313 ● Metrocom: 0908 373999 ● Microsoft: 0734 27000 ● Optech: 0252 714340 ● Orchid: 0256 479898 ● Roland: 0252 816181 ● Silica: 081 309 1111 ● Unica: 061 429 0241 ● Westpoint Creative: 0243 248590

► always easy to track down. Settings can also usually be changed on the card itself using DIP switches or by changing the position of jumper pins.

When you've got that working you then have to install some drivers to control the card. There will be different drivers for DOS and Windows applications. Usually installation is fairly easy although this depends on the installation routines supplied. The ethos behind Windows means that an application does not have to know exactly what is connected to the system. It simply talks to the driver and the driver sends the necessary instructions to the hardware. Windows comes with several drivers which you can see in the Drivers section of the Control Panel.

There are two main PC sound-card standards, both named after the cards that started the trend. The Ad Lib card was taken as the standard for music and most sound cards support this. The Sound Blaster added digital audio and the ability to play back sampled speech and sound effects. It's also backwards compatible with the Ad Lib card and unless your budget is limited, Sound Blaster compatibility should be your aim. But sound-card technology moves on and more sophisticated standards are starting to appear. Sound Blaster Pro offers 20-voice stereo sound and many games now have this as an option. Look for Pro compatibility if you're serious about your games.

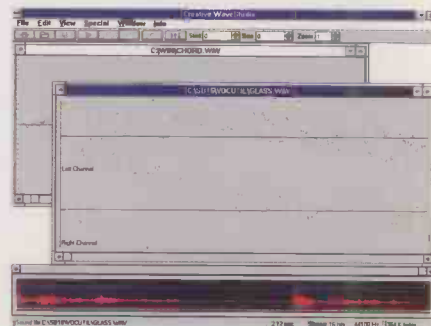
The other emerging standard is GM

(General MIDI) and some cards contain a set of GM sounds which can be particularly useful for the muso on a budget - GM and digital recording in one package.

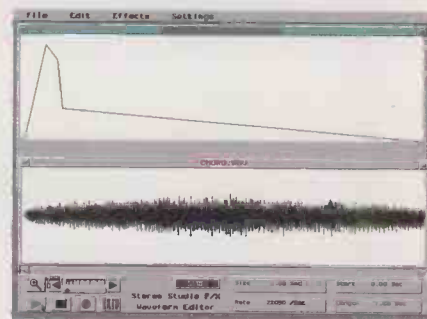
But given that most of these cards cost well under £200, just what kind of audio quality are we talking about here? Well, this is where the cracks begin to show. Most of the cheaper cards use the Yamaha YM3812, a 2-operator FM chip, which may be adequate for games but it would hardly pass muster even at a karaoke night. Cards with the Yamaha OPL3 chip are noticeably better although it's still FM and well below current ►



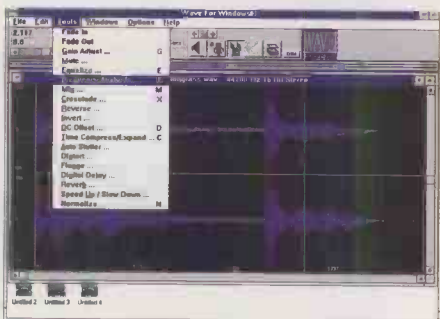
Ultrasound can record and edit digital audio although 16-bit recording is an optional extra.



The Sound Blaster 16 includes basic but usable wave editing software.



Software in the Pro Audio Spectrum pack lets you create your own effects.



Wave for Windows is a highly graphic dedicated piece of waveform-editing software.

Is it compatible?

The most thorny issue surrounding PC sound cards is the question of compatibility. The first problem faced by users is installing the card and actually getting it to work with their PC. A complete novice may well be baffled by the set-up options although a good manual will take you through the procedure step-by-step. Unfortunately, not all cards come with good manuals.

Then there's the question of software compatibility. Most cards emulate the Sound Blaster and the majority do a creditable job, although some seem to be more compatible than others. I'd be very surprised if there was not at least one program which every card did not work with. Unfortunately, some cards don't work with

many programs. Part of the problem may be traced to the card's software emulation, but some blame may also be down to your PC. In spite of the fact that all PCs these days are so-called IBM PC-compatible, the truth is that all PCs are not equal. They are constructed from many parts, sourced from different suppliers and put together in different ways. Communication between different parts of the machine takes place at different speeds through a variety of busses and in a way, it's a testimony to the robustness of the basic PC design that the things can run such a range of software at all!

And, of course, the music routines in the software may have been optimised for an emulation different to your own. It all adds up to a potential compatibility nightmare. Of course, the vast majority of users buy a sound card, plug it in and

have no trouble at all, but I do know that there are a lot of people who never get their cards working to their full satisfaction. I even know a fellow writer, and no slouch with the PC, who totally failed to get a sound card working on one of his PCs – yet it worked faultlessly on another. The moral of the story is simply to be aware that compatibility problems can arise. Tell the supplier what sort of PC you have and ask if they will replace the card or refund your money if it doesn't work. If anyone has experienced sound card compatibility problems, please drop us an line and tell us about it. If you are having a problem, the place to start looking for a solution is the card manufacturer or distributor – although even they might not know all the answers. Correspondence on the subject is welcomed. And by the way, there's no such thing as a 'standard' PC.

state-of-the-art sound synthesis. Still, it is GM-compatible and that must earn it a few extra brownie points.

If you want sounds more in keeping with today's standards then you need to look at wavetable synthesis cards such as the Orchid Soundwave 32, the Gravis Ultrasound and the Wave Blaster add-on as well as the Roland SCC-1 and the Turtle Beach cards. The Multisound card, for example, contains the equivalent of a Proteus 1/XR synth!

Digital audio, again, was originally developed for games and based around 8-bit sampling but the development of stereo 16-

bit cards supporting sample rates up to 44.1KHz raised the quality, certainly to that of good demo standards. If you compare these with dedicated digital audio systems it must be remembered that sound cards are called upon to do several tasks while digital audio systems are designed to do one job well and usually include additional hardware to do it. Dedicated systems will have superior digital converters so the sound quality is bound to be better.

As with most things, you get what you pay for, but if you are on a budget sound cards really are worth considering.

Where most of the cards fall down is the

recording software which is not as sophisticated as dedicated software such as Turtle Beach's Wave for Windows, Voyetra's Audio View or Innovative's SAW. Still, you can often use this software with a card of your choice. SAW, for example (watch out for a review in MT very soon), is compatible with the Sound Blaster ASP.

If you want to move more upmarket, there are several dedicated digital audio cards to choose from for both the PC and the Mac. PC cards such as the CardD+ and the Turtle Beach cards are still very affordable and capable of producing excellent results. ●



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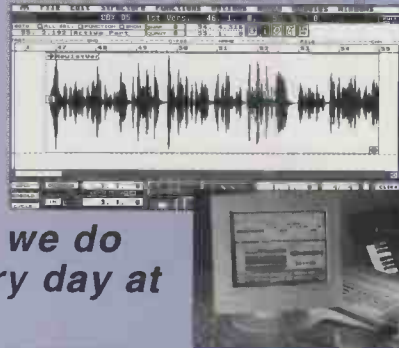
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D2 Syquest 105MB drives are still available on the "the 88meg price" deal from last year, but we don't know how long we can keep this unbelievable deal going, so get in touch with us quick if you want to take advantage of this phenomenal price saving. Remember that the reduced access time allows 8 tracks of digital audio using CuBase Audio on the Falcon.



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THE 1994 MT READERS' POLL

We want to find out what you like. The products you use, and the products you consume, may inspire you, infuriate you or strike you as no more interesting than the 1976 amendments to the traffic by-laws in Swindon.

But which, in your opinion, are the best? Nominate one product for each category on our form below, and let us know. The information will be collated with the results of our *Readership Survey* in January to provide a comprehensive picture of what you want, what you're like and what the hi-tech music business is getting right - or wrong.

Post your completed form to: MT Readers Poll, Alexander House, Ely, Cambridge CB7 4AF. The first 20 forms pulled out of the mailbag will win their senders an MA36 MIDI Analyser and a 12-month subscription to *MT* absolutely free.



MT's crucial categories

1 Best synth/sound module

2 Best sequencer (hardware or software)

3 Best computer (make and model)

4 Best software package

5 Best analogue synth

6 Best sampler

7 Best sample CD/CD-ROM

8 Best new artist of the last 12 months

9 Best artist of all time

10 Best new album or video of the last 12 months

11 Best album or video of all time

12 Best new product overall in the last 12 months

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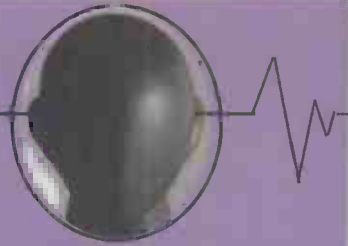
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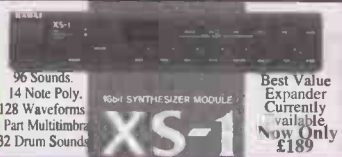
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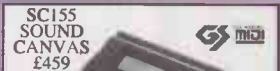
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A TO Z OF ANALOGUE

part 9

MT's exclusive guide to every analogue synth made. Included are keyboards, expanders/ sound modules and the better known electronic pianos and organs. Not included are drum machines, standalone sequencers and effects units, vocoders and those guitar/wind synths which aren't regularly used as expanders in their own right.

Readers are invited to submit details of little-known instruments which may be of use in compiling the series and also to point out any mistakes and/or omissions if these occur. All contributions will be fully credited.

Compiled by Peter Forrest



Laurens Hammond was the Henry Ford of the music business – a designer of genius, and a natural promoter and marketer of his products. (If only Bob Moog or Tom Oberheim or Dave Smith...) Two of his great innovations were the tonewheel and the drawbar and he was also responsible for the development of the reverb unit.

The tonewheel was fundamentally a miniaturised version of the monstrous Telharmonium's sound-making method whereby a small toothed disc rotated in front of a magnet, and produced a pitched sine wave. This was great for pure sweet recorder-like tones, but limited on its own. Hammond used gearing to produce the harmonics of the fundamental, and then, with characteristic flair, milked this technology further by installing drawbars (originally called tone-bars) for each harmonic.

These drawbars could be pulled out to any one of eight positions, so that you could mix in exactly the right amount of any of nine harmonics on either keyboard – in real time, of course. This, effectively, was a fore-runner of additive synthesis, and one of the most expressive tone control mechanisms ever invented.

At one stage, Hammond considered also developing the valve-based sound generation system he had been working on, but when the Monopolies Commission said he couldn't go ahead with both, he plumped for the tonewheel. Wise move.

• **Drawbars:** in a standard set of nine drawbars, the first and second are brown, and work on the octave below the fundamental and the fifth above respectively. Then comes the fundamental, the octave above, the third harmonic (an octave and a fifth up from the fundamental), the next octave up, the fifth and the sixth harmonics, and finally the eighth harmonic – three octaves up from the fundamental. All the octave drawbars and the fundamental are white; the third, fifth and sixth harmonics are black. (Don't ask why the second of the brown drawbars doesn't come after the fundamental drawbar, as it logically should be, being a higher tone.)

Eight positions on each drawbar produce several hundred thousand different combinations. On spinet organs, the lower manual usually only has seven drawbars, missing out the first two of a full set. Full-size organs have two sets of drawbars for each manual so that you can switch between two registrations instantly (using the A# and the B on the dummy key preset selectors).

Because of the electro-mechanical nature of its sounds, the Hammond tonewheel organ was refreshingly stable in its tuning, and remained fundamentally the same from its first production in 1935 to its last bow in 1975. The downside was weight. Even the smallest tonewheel Hammonds were so heavy (the L-100 weighs about the same as a Yamaha CS80) that the only realistic way to glg with one was to have it split in two. Many Hammonds

were split by shops or individuals, but Hammond themselves got onto the bandwagon with versions of the L-100 and particularly M-100.

Hammond the company hit hard times in the '70s, when new technology made electro-mechanical devices seem very outdated. Even if there were still some people prepared to put up with the weight and the bulk of Hammond organs, they were too expensive to produce compared to hi-tech products. The company produced a succession of electronic organs which didn't have the earlier magic, and, now owned by Suzuki, have even produced their own rackmount and keyboard Hammond sample playback machines.

There have also been third-party samples of the classic Hammonds – very successfully on E-mu's Vintage Keys and on Barbara Dennerlein's sample CD, for example. However, just like the Clavinet, the Fender Rhodes and the Wurlitzer, most synthesiser/sampler impersonations of the Hammond sound work fine in a mix, but don't cut it when played out front.

The classic Hammonds are the B-3/C-3/A-100 family, but any valve tonewheel model can sound pretty good. An integral part of the classic Hammond sound comes from a Leslie cabinet – an amp/speaker cabinet with one or more revolving speakers or baffles, usually with fast and slow speed controls. Again, valve models are the best – and the bigger the cabinet, the more speakers/rotors inside, and the better the sound. Interestingly, Laurens Hammond and the whole Hammond firm hated the fact that another manufacturer produced something that was actually a vast improvement on their own equipment, and for years tried to put people off buying a Leslie, recommending only their own (Inferior) tone cabinets. Eventually, though, they had to face the fact, and started selling Leslies.

All the Hammond organs included in the A-Z have tone-wheels and drawbars and are valve-amplified unless otherwise stated. They are all dual-manual, either full-size or spinet organs. Full-size organs have 61 notes on each keyboard, C-C, with another octave of reversed-colour dummy keys which act as preset selectors; and spinet organs have 44 notes on each keyboard, F-C, with the lower keyboard set an octave to the left of the upper. Spinet organs usually have their pre-set selectors as tabs above the keyboard. Full-size organs usually have 25 pedals; spinets 13 pedals.

Most if not all tonewheel organ parts were made in the USA, but they were assembled in many countries, including England, Canada, Germany, Belgium, Italy and South Africa. Cases were made in the individual countries, so that, for instance, an English C3 is slightly different in its woodwork from an American C3.

• **Model numbering system:** most mid-period Hammonds (except some A-100s and, perhaps M-100s) have a letter followed by a number of digits, which form a code for the type of instrument. The letter and first digit refer to model type and revision number; the second to the styling (1 = Traditional, 2 = Contemporary, 3 = French Provincial, 4 = Early American, 5 = Tudor, 6 = Commercial, 7 = Horseshoe, 8 = Italian Provincial, 9 = Mediterranean, 0 = Miscellaneous); and the third to the type of finish (1 = Mahogany, 2 = Walnut, 3 = Cherry, 4 = Pecan, 5 = Oak, 6 = Maple, 7 = Wood combinations, 0 = Miscellaneous). So an L-122, for ▶

► example, is an L100 in contemporary styling with walnut finish.

• **Prices:** as with most old electro-magnetic technology, there are bargains to be had for well-gigged, tatty examples that need some attention, but you can also spend considerable amounts on pristine examples of one of the classic models. Assume that the target prices quoted here are for a machine in basically good condition – in full working order and without structural damage to the casing.

By far the most desirable tonewheel Hammonds are the B-3's: why they should be so much more desirable than C-3's just because they have spindly legs and a see-through rear panel is uncertain, but they are. The other really pricy Hammond is the B-A, which has become a collectors' item because of its rarity.

Users (actual model unknown) include: Greg Allman, Paul Beaver, Carla Bley, Graham Bond, Victor Brox, Budgie (Banshees), Chick Churchill (Ten Years After), Simon Clarke, Crowded House, John Evan (Jethro Tull), Foundations, Mitchell Froom, Barry Goldberg (Electric Flag), Tom Gorman (Belly), Jerry Guida (Group Therapy), Mike Heron, Al Kooper, Floyd Kramer, Locomotive, Ian MacLagen (Small Faces), Manfred Mann, John Mayall,



Laurens Hammond – the first synth pioneer?

Paul McCartney (Beatles for Sale: 'Mr. Moonlight'), Dave Michaels (H.P. Lovecraft), Zoot Money, The Peddlers, Jim Peterman (Steve Miller Band), Bud Powell, Herbie Rich (Electric Flag), Bill Sharpe, Dave Sinclair (Caravan), Karlheinz Stockhausen (Microphonie 2), The Tubes, Pete Wingfield, Bernie Worrell, Gary Wright (Spooky Tooth), XTC.

● **A** – Original full size organ 1935 – '38.

Original price: \$1250

Target price: £800 – £1200

Users included: Henry Ford (one of the first ever), George Gershwin.

- An instant success after its appearance at the Industrial Arts Expo.
- Huge demand, despite costing as much as a decent-sized house.
- Already had the dummy-key preset selectors on each keyboard.
- In response to threats of legal action from pipe organ manufacturers, blindfold tests were held in 1936: enough experts were unable to tell the difference between the Hammond and a top-of-the-range pipe organ for Hammond to be allowed to continue using the word 'organ' to describe the instrument.
- About 2500 were made.
- The original model A, serial number 1, is now in the Smithsonian Institute.

● **AB** – full size organ. 1936 – '42.

Original price: Unknown

Target price: £300 – £500

- Very similar to Model A – mainly changes in cabinet.
- Probably about 4000 made.

● **A100** – Full size organ with built-in amp and speakers. 1959 – '65 in USA. Also produced in Belgium and Germany during the '60s and early '70s, and in England until '74.

Original price: £950 (in 1967); £1426 (in 1972)

Target price: £800 – £1500

Users include: Keith Emerson, Georgie Fame.

- Internally very similar to B3/C3 – hence very desirable

Interface:	VFM: ★★★
Sounds: ★★★★★	Character: ★★★★★
Controls: ★★★★★	Collectability: ★★★★★
Memories: ★★	Ease of use: ★★★★★

● **B2** – Organ with vibrato. 1949 – '54.

Original price: Unknown

Target price: £300 – £500

- The second Hammond organ to feature vibrato.
- More control than earlier BV – independent vibrato controls for each keyboard.

● **B3** – Full size organ with percussion. 1955 – '74

Original price: £1175 (1967 – including PR40 tone cabinet)

Target price: £2000 – £6000

Users include: Don Airey, Brian Auger, BeeGees, Felix Cavaliere (Young Rascals), The Christians, Rick Davies (Supertramp), Electric Lady Studios, Webster Lewis, Earl Lindo (Wailers), Jon Lord, Jimmy McGriff, Bill Payne, Billy Preston, Jimmy Smith, Steven Stills, Tears for Fears, Pat Travers, Vangelis, Wix Wickens, Joe Zawinul.

- Differed from C-3 insofar as it had spindly legs rather than solid side panels, and no back panel.
- Differed from B-2 through the inclusion of second and third harmonic percussion voices, controlled by four tabs at top right.
- Percussion effect only available on upper keyboard, and is single-triggered. It is a pitched harmonic, either an octave or an octave and a fifth above the note played.
- Produced the classic Hammond sound but with decay – at two preset rates.
- Was claimed to be touch-sensitive, but not totally convincing.

Interface:	VFM:★★
Sounds: ★★★★★	Character: ★★★★★
Controls: ★★★★★	Collectability: ★★★★★
Memories: ★★	Ease of use: ★★★★★

● **BA** – Full size organ with built-in piano roll.

1938

Original price: Unknown

Target price: £6000 – £8000

- Very rare – probably only about 200 made.

• Similar to BC, with addition of piano-roll for automated playback.

• Are there any rolls by famous players? Could be interesting.

Interface:	VFM: ★
Sounds: ★★★	Character: ★★★★★
Controls: ★★★★★	Collectability: ★★★★★
Memories: ★★★★★	Ease of use: ★★★★★

● **BC** – Full size organ with chorus generator.

1936 – '42

Original price: Unknown

Target price: £500 – £900

- An improvement on the Model A: additional miniature tone-wheel generator provides extra tones slightly flat and sharp of each note, for chorus effect.
- About 13000 made in USA, England, Canada and Italy (and as Lafleur in England and South Africa.)

Interface:	VFM: ★★★
Sounds: ★★★★★	Character: ★★★★★
Controls: ★★★★★	Collectability: ★★★★★
Memories: ★★	Ease of use: ★★★★★

● **BV** – Full size organ with vibrato. 1946 – '49

Original price: Unknown

Target price: £400 – £600

Users include: Rabbit Bundrick (bought for \$600 in 1968).

- No percussion.
- Vibrato global on both (or neither) keyboards.

● **C** – Full size organ. 1939 – '42

Original price: Unknown

Target price: £300 – £400

• C20, C40, CX20 (with pseudo-Leslie), CR20 (with reverb) and CXR20 (reverb and pseudo-Leslie) were tone cabinets for this model.

● **C2** – Full size organ with vibrato. 1949 – '54

Original price: Unknown

Target price: £300 – £500

- Vibrato switchable for either keyboard.
- C-2G model with monitor speaker, detachable handles (1952-'53).

● **C3** – Full size organ with percussion. 1955 – c.'72.

Original price: £1123 (with PR40 tone cabinet (1967); £1369 (1972)

Target price: £800 – £2200

Users include: Andy Bown, Jack Bruce, Felix Cavaliere (Young Rascals), Rob Collins (Charlatans), Tom Coster (Santana), Simon Ellis, Keith Emerson, Tommy Eyre, Georgie Fame (one of last ever built), Rupert Greenall, The Grid, Eddy Hardin (Spencer Davis Group), Heavy Metal Kids, Eddie Jobson (UK), Howard Jones, Ian Lynn (+ 122 Leslie), Jon Lord, Patrick Moraz, Andy Richards, Right Said Fred, Runrig, Mick Talbot (Merton Parkas & Style

- Council), Talk Talk, Rick Wakeman, Rick Wright (Pink Floyd).
- Virtually identical to B-3 except for more solid side and back casing.
 - Available in oak (£31 extra) or white lacquer (to special order - £58 extra in 1967).
 - C3-P produced by Northern Organ Centre 1987 - re-packaged with MIDI option.



Hammond C3P Portable - one for the road

Interface:	VFM:★★★★
Sounds:★★★★	Character:★★★★
Controls:★★★★	Collectability:★★★★
Memories:★★	Ease of use:★★★

- **CV** - Full size organ with vibrato. 1945 - '49
Original price: Unknown
Target price: £300 - £400
• Made in USA, Canada, and Italy.
- **D** - Full size organ with chorus generator. 1939 - '42
Original price: Unknown
Target price: £400 - £600
• Like the BC model, impossibly expensive to re-create today, so potentially collectable?
- **D100** - Full size 32 pedal organ with built-in amp and speakers. 1963 - '69
Original price: £1350 (1967)
Target price: £500 - £800
• A magnificent instrument, like a more solid C-3 with built-in amplification. Weighed 250 kg. (See RT-3).
- **E** - Full size 32 pedal organ with built-in amp and speakers. 1937 - '42
Original price: Unknown
Target price: £400 - £600
• Featured two swell pedals.
- **E100** - Full size 25 pedal organ with built-in amp and speakers. 1965 - '69.
Original price: £840 - £945 (1967)
Target price: £400 - £600
• Not quite an A-100 at a bargain price.
• Only one set of drawbars for each manual; pre-sets on tabs, doesn't include the extra octaves of reverse-colour dummy keys.

- Probably transistor amplifier.
- Extra sounds: harp sustain, brush effect, cymbal; 3 presets for each manual.
- E-200 very similar; E-300 gains celeste but loses cymbal, brush and harp sustain (and £100).

- **GI** - Full size organ. 1941 - '44. Produced for US military.

Original price: Unknown
Target price: £400 - £600

- Monitor speaker and detachable handles, like C-2G and C-3G.
- 'Tropicalized'.

- **H100** - Full size organ with built-in amp and speakers. 1965 - '70

Original price: £1599
Target price: £300 - £400

- The successor to the A100 and considerably more expensive.
- Same drawbars and reverse-colour dummy keys, plus 28 pre-set tabs for extra effects - six percussion voices, harp sustain, brush, cymbal, etc.
- Two sets of eleven drawbars for upper manual, two sets of ten for lower manual, plus four drawbars for pedals.
- Stereo reverb possible with extra speaker/amp.
- Included option of black translucent lacquered walnut case - "The Oriental Modern".
- Hybrid transistor and valve hybrid often made servicing difficult.
- Sounds not quite up to valve standards, so not generally recommended.

- **HX100** - Luxury full size organ 1968 - c.'72.
Original price: £1999 (1968, including Series 10 tone cabinet.)
Target price: £300 - £600.
• Internally like H-100; casing like X66. (See H-100.)

- **J100** - Non-tonewheel spinnet.
Users include: Geoff Downes
• Transistor design
• To be avoided unless you're an Asia fetishist.

- **L100** - Spinet organ with built-in amp and speakers. 1967 - c.'72.
Original price: £525 (1967); £737 (1972)
Target price: £200 - £450



Hammond L100 - every home should have one



Hammond L100 - inside out

- Users include: Peter Bardens, Keith Emerson (knives extra), Georgie Fame, Dave Greenfield, Eddie Hardin, Zoot Money,
- Early models valve-amplified; later versions probably transistorised
 - L100P portable models available 1969 onwards in choice of black, white, green or red vinyl.
 - 13-note pedals, vibrato and percussion.
 - The cheapest tone-wheel Hammond.

Interface:	VFM:★★★
Sounds:★★★	Character:★★★
Controls:★★★	Collectability:★★★
Memories:★★	Ease of use:★★★

- **M** - Original spinet organ. 1948 - '51.
Original price: Unknown
Target price: £200 - £300
• Nicknamed "Cinderella".
- **M2** - Spinet organ with vibrato. 1951 - '55
- **M3** - Spinet organ with vibrato and percussion. 1955 - '64
- **M100** - Spinet organ with vibrato and percussion. 1961 - '68.
Original price: £630
Target price: £400 - £650
Users include: Desmond Brown (The Selector), Vic Emerson, Matthew Fisher (Procol Harum - 'Whiter Shade of Pale'), Eddy Hardin (Spencer Davis Group), Jon Lord (Artwoods), Alan Price ('I've Put a Spell on You'), Eddie Spence, Stevie Winwood (Spencer Davis Group)
• Split transportable version in white lacquer £33 extra.
• 24 tabs, including 6 presets.
- **NOVACHORD** - Early electronic piano.

Interface:	VFM:★★★
Sounds:★★★	Character:★★★
Controls:★★★	Collectability:★★★★
Memories:★★	Ease of use:★★★

- 1939 - '40
Original price: Unknown
Target price: £50 - c.120
• Polyphonic

- Several different sounds, including vaguely piano-like ones.
- Easy-play features like chord buttons, etc.
- Aimed primarily at home market.
- Designed by John Hanert, who also designed the Solovox.

● **R100** – Full size organ with built-in amp and speakers 1970 – '74.

Original price: £1643 (1972)

Target price: £300 – £400

- Only one set of drawbars per manual. Extra pre-set tabs.
- Transistor amplification; built-in Leslie.
- Not the classic sound, but a reliable instrument.

● **RT** – Full size concert organ with 32-note pedal board.

● **RT2** – Full size concert organ with 32-note pedal board and vibrato. 1949 – '55

● **RT3** – Full size concert organ with 32-note pedal board, vibrato and percussion. 1955 – '73

Original price: £1489 (1967 – with PR40 cabinet)

Target price: £400 – £600.

- The Deluxe version of the C-3 (£315 more), designed for church use.
- Additional monophonic bass pedal voice (32' to 1') generated by electronic circuits (as on Solovox) – possibly the only part of a tone-wheel Hammond that can go out of tune.
- A quality instrument – but not one you'd want to transport. The RT-3 weighs in at 225 kg, without any amplifier or speaker system.

● **SOLOVOX** – Three octave monophonic synthesiser. 1940 – '48

Original price: Unknown

Target price: c.£10 – 150

Users include: Sun Ra.

- One of the first synthesisers ever – and one of the few valve oscillator-based synthesisers.
- Designed as a solo add-on to a piano – presumably slung under the keyboard, like the Clavinoline.
- Knee-lever for volume.
- Several different tones available – possibly the most varied range of any instrument at the time despite only using square waves as basic source, and so not having any even harmonics.
- Vibrato produced electro-mechanically.
- Notes produced by a string of tuned inductances; the more inductances were removed by the keyboard contacts, the higher the pitch.
- Included rudimentary envelope shaping.
- Model J (from 1940), Model K (from 1946) and Model L (1948) were generally black metal. Some versions were produced in grey patterned metal.
- An optional tone cabinet was available – in walnut not black metal!
- Not a very good seller – models still being advertised by Hammond as late as 1953, five years after production stopped.
- **SY100** – 44-note monophonic synthesiser.

1974 – c.'76

Original price: £324 (1975); £475 (1977)

Target price: £80 – £160

- Featured 'Autopatch' system.
- Control panel to left of keyboard: seven columns of seven knobs, plus three sliders and seven push-button selectors.
- Taller than usual synths with a long music stand.

● **T100, T200, T300, T400 & T500** – Spinnet organs. 1968 – 1975.

Original price: £699 (T102, 1968); £949 (T202, 1972)

Target price: £250 – £500.

Users include: Tony Banks (T102)

- Tonewheels and drawbars included, but utilising transistor technology.
- **X66** – Full size semi-tonewheel organ.



1967 – '74

Original price: £5500 (1968)

Target price: £700 – £1000

Users include: Alan Price.

- Hammond's late '60s flagship instrument.
- Ebony, walnut and chrome finish; more modern styling.
- Full pedalboard, manuals and drawbars; nearly 40 tabs as well as dummy key preset selectors.
- Sloping control panel at right-hand side of keyboard.
- Separate tone cabinet included in price.
- Not completely a tonewheel organ: one set of 12 tonewheels for VHF octave, then transistor divide-down circuitry.

● **X77** – Full size tonewheel organ. 1968 – c.'72

Original price: £3039 (1972)

Target price: £200 – £400

- Slimmed-down version of X66, but with full complement of tonewheels. More of a real Hammond?

● **ELECTRAL ORCHESTRA** – 3-manual

Hanert

polyphonic keyboard instrument c.1940 – '45

Original price: Unknown

- A glorified organ, but with several innovations including octave-coupling, percussion, and, above all, a

card scanning device for setting up sounds.

- Each manual extended to five octaves.
- John Hanert was chief designer at Hammond, responsible for the Novachord, Solovox, etc.
- Maybe only prototypes.

● **BLUE COMET 73** – 37-note monophonic

Hillwood

synthesiser. c. 1973

Original price: Unknown

Target price: £40 – £60

Users include: Jez Woodroffe.

- Japanese built.
- Legs bolt on to side panels; leatherette on wood with satin metal finish.
- Control panel to left of keyboard, with 10 sliders for volume, attack, sustain, vibrato speed/depth, 'wow decay time', VCF frequency and resonance, portamento, and bend amounts. Lever for 'transpose' function plus pitchbend.
- Right-hand controls: knobs for white noise level, 'slope', tuning and on/off.
- 20 rocker switches are included above the keyboard for routing the LFO, switching portamento, noise, etc.
- Seven effects switches, and four waveform switches.
- One version only has 19 rocker switches, and three knobs to right of keyboard.

● **ROCKEYBOARD** – 61-note portable polyphonic keyboard. c. 1978. Advertising claimed, "It's not just another stringer, synthesiser, piano or clavichord, but a polyphonic combination of them all."

Original price: £399

Target price: £40 – £60

- One of earliest strap-on synths.
- Neat pedal unit, with power supply, VCF and volume pedals and sustain control.
- Only three other controls – two knobs and a slider.

Thanks to Graham Sutton, ex-Hammond chief engineer in the UK, for his exhaustive help on the Hammond section. He is also a Main Service Agent for Hammond UK, and has a good supply of spares for all Hammonds (even the older models). Contact him on 0908 502425, or write to 114 Favell Drive, Milton Keynes, MK4 1AJ.

to be continued...

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Shared Int

Continuing his trawl through the shoals of Shareware and Public Domain software ready to be netted by anyone with a few quid in their pocket, Ian Waugh takes a timely look at a few utilities that could save you a lot of time...

Treading the Shareware trail is an addictive adventure. You never know what gem you'll find in the next program you download or on the next disk you receive.

For more information and a full introduction to the world of Shareware and Public Domain software, check out the feature in last month's *MT* - if you haven't already done so. If you have, there's just a couple more things you need to know about - viruses and file compression.

Most computer users will be aware that viruses exist, although the chances are very few will have actually experienced one. A computer virus is nothing organic but a program designed to attach itself to your disks and run when you start another program.

Some can be very destructive and delete files or even reformat your disk. Others are more benign and may simply cause a message to pop up on your screen. All, however, are written by cretins and constitute a real nuisance which needs to be avoided if at all possible.

Viruses spread by attaching themselves to files so when you copy a disk or download

an infected file from a bulletin board you also get the virus. To avoid viruses you need an anti-virus utility. These will scan disks and file for viruses, report any they recognise and offer to remove it.

There are several virus checkers for most computers and any Shareware library or bulletin board service will have a list and recommend some to you. There are also commercial virus checkers, some of which are included in disk utility packages (which we'll be looking at very soon), but for the average user a Shareware checker should be adequate.

If you do detect a virus, do the decent thing and report it to the source of the file or disk immediately to prevent it spreading further. All reputable Shareware libraries and bulletin boards check files for viruses before they release them.

I must, however, put things into perspective here: I install dozens of files on my computers every week and I'm only aware of having caught one virus. That was a benign one on the ST some four or five years ago. However, it doesn't take long to scan each new disk or file you receive and it will give you peace of mind. But be sure to update your virus checker regularly.

Transferring files by phone takes time and as time is money, computer users developed file compression utilities to reduce the size of the data they transfer. Archivers, as they are known, can also wrap up several files in one compressed file or archive, simplifying the transfer process even more.

File compression has now become such a part of everyday computer use that commercial utilities have appeared which compress data 'on-the-fly', allowing you to store forty or fifty percent more data on your hard disk. Although this kind of compression probably works fine for most people, if your machine goes down at an inopportune moment it could do something nasty to your data or application. Personally, I'd rather spend money on a larger hard disk than skimp and use on-the-fly compression. Such utilities are bound to slow your machine down, too.

That said, I do often use compression utilities to archive data I hope I'm not going to need, but don't want to wipe just in case. (Incidentally, the compression routine built into DOS 6, DoubleSpace, has been widely reported to be bugged so use it at your peril.)



Illustration: Stuart Catterson

ereests II

Shareware & Public Domain software Part 2

There are several file compression programs. The most popular for the PC are PKZip, LHarc and ARJ. For the Mac there are Compack, Stuffit and the commercial Disk Doubler. There is also a Mac version of PKZip called ZipIt. The ST uses ARC and LHarc, and also has a version of PKZip called STZip.

Most compressors can produce self-extracting archives; you simply run the archive program and the files it contains are regurgitated onto your disk. However, self-extracting archives are slightly larger than non-extracting ones and many bulletin boards and libraries simply use non-extracting archives on the assumption that most users will have the necessary utilities. So the moral of the story is to make sure you have the decompression utilities you need.

Anyway, let's see what sort of stuff is out there. I'm going to kick off with some oldies but goodies, proggy which you really should get if you don't have them already, which will make your computing life easier.

I couldn't live without Super Boot on my ST. It lets you configure your system during the boot procedure. For example, it's possible to select which accessories to load and which Auto programs to run, and to choose from a number of different Desktop.Inf files. If you're really into customisation you can select a Welcome screen and make your ST play a digitised sound. It also has a password option.

One particularly nice feature is the ability to select one of several different configurations by pressing a function key. Use this when you change from one resolution to another, to select different accessories for different programs and to boot up with no accessories loaded to save memory or to test a program which seems to be conflicting with a DA.

Another essential ST util is the Little Green Selector. It's an alternative file selector to Atari's rather minimal affair. It lets you sort files by name, extension, size or date and you can enter a number of preset pathnames and extensions common to the applications you regularly use. It also gives you the ability to change the extension quickly. When you attempt to load a Standard MIDI File, for example, the Atari file selector will show *.MID at the end of the path and only files with a MID extension will appear in the selector box. LGS lets you quickly substitute another

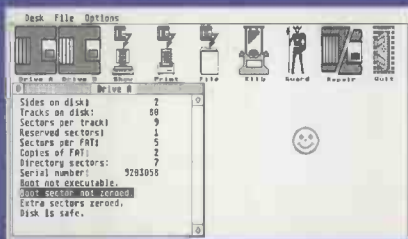
extension making it easy to check if there are any SNG, SON, PAT or DRM files there.

Another util I can't do without is Mouse Accelerator. This increases the 'sensitivity' of the mouse, effectively making it faster, and reducing the amount of hand movement required to move the cursor a certain distance on screen.

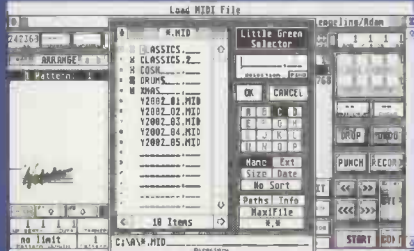
There are hundreds of Shareware utilities for the Mac. However, you have to be careful not to overload your system because not only do they

consume RAM, they can also have an adverse reaction with applications. In other words, they can cause crashes!

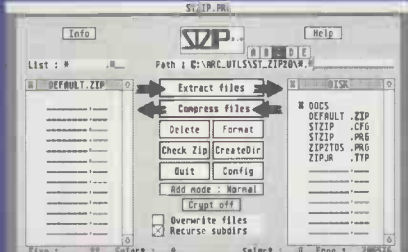
Super Clock simply puts a clock in the top right of the menu bar. Well, it shows me the time when I look up at the screen without having to look at my watch [...*must save you minutes over a lifetime* - Ed]. It includes a stopwatch facility and an alarm so you need never be late for an appointment again. Another small-but-goody is Disk Light which flashes a small disk icon in the left or right of the menu bar when reading and writing to a ▶



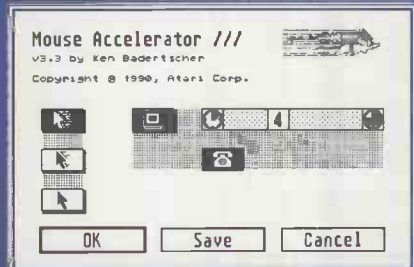
VKiller on the ST gives another disk the all-clear.



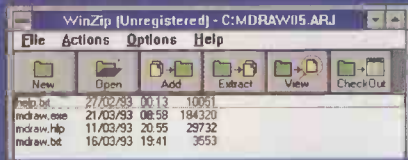
The ST's Little Green Selector is a great improvement on the Atari file selector.



Many compression utilities have a tortuous command line interface - not STZip which works like a good GUI should.



Mouse Accelerator speeds up the ST's mouse. A great relief for RSI sufferers.



And WinZip offers an easy-to-use interface for compression programs in Windows.



Super Boot on the ST offers an easy and powerful way to customise your start-up routines.



Disk DeDuplicator will search out and destroy - on your command - all occurrences of duplicate files. You would only need a program like this on a PC.

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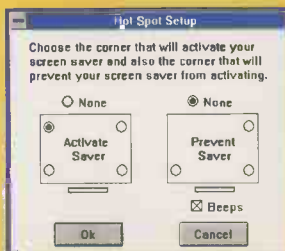
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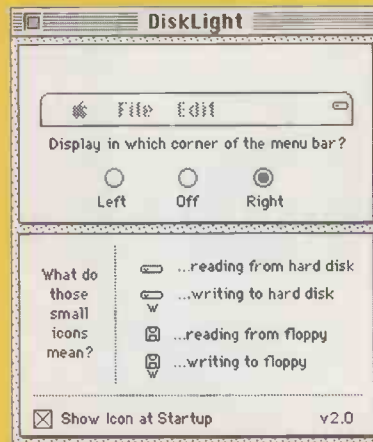
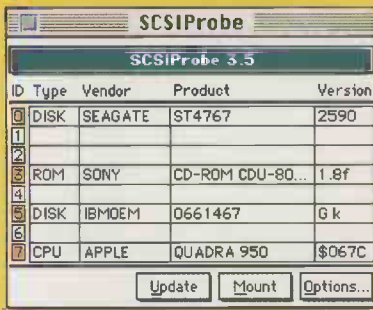
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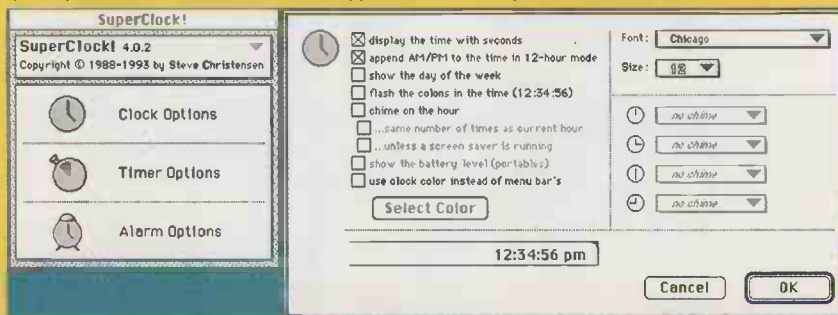
(Left) HotSpot for Windows lets you activate your screen saver at any time. Just what you've always wanted, eh?



(Above) An indispensable Mac utility which shows when your Mac is playing with its disks.

(Left) SCSI Probe will check the devices on your Mac's SCSI bus and mount them without rebooting.

(Below) You'll never be late for another appointment with Super Clock for the Mac.



► disk. If you have a Mac which doesn't always show when it's accessing a disk, Disk Light will let you know what it's up to and reassure you that it hasn't gone to sleep.

SCSI Probe is another essential utility if you have any SCSI devices such as an external hard disk or a CD-ROM. It checks the SCSI bus and will mount a device, saving you the trouble of having to switch off and reboot. It also serves as a useful check that the devices you think are connected really are connected.

I must admit I don't use so many utilities with my PC. With installing and removing so much hardware and software – and being left with gigabytes of obscure files clogging up my system – I don't want to give the thing any more chance of crashing than it already has. I do occasionally run a few TSRs and I do, of course, use none-TSR utilities, so I'll mention a few which you may find useful...

Hot Spot lets you select a corner of the screen which will instantly activate your screen saver and a corner which will prevent it. No password, though. FreeMem, on the other hand, puts up a little window showing the amount of free memory you have – never would have guessed, would you? – which is useful for checking if any application is hogging more than its share.

File DeDuplicator is a brilliant program which searches for duplicate files on your hard disk and offers you the chance to delete them. It not only searches for files

with the same name but also files which are the same size or which have identical contents. It can help free up some disk space and unclog your system.

Anyway, that's all for now. Next month we'll look at a few of the music programs out there. ●

CONTACTWARE Shareware libraries

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Red Dragon Shareware • 3 Oaklea Court •
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Omicron • 45 Blenheim Crescent •
Leigh-On-Sea, Essex SS9 3DT •
Tel: 0702 710391 • Fax: 0702 471113.

Mac

Stormont Software • 61 Lochinver Drive •
Dundonald Drive • Belfast BT5 7AJ •
Tel: 0232 487923.

Amiga

Valley PD • P.O. Box 15 • Peterlee • County
Durham SR8 1NZ • Tel: 091 587 1195

ST & Falcon

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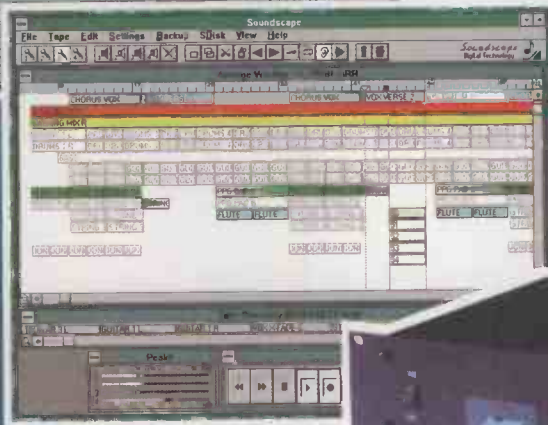
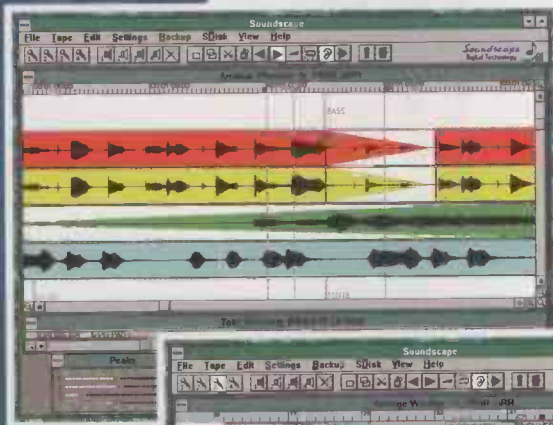
Bulletin Boards

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& 0232 401737.
Ad-Lib • ST. BBS: 091 3702659.
Sonic Boom • PC. BBS: 081 9949119.

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If you are looking for a Hard Disk recorder/editor with "Open" architecture that can be totally integrated with any Windows™ sequencer or editing package, is random access to the disk, expandable beyond 8 tracks and offers full "chase lock" synchronisation to analog/video tape machines then the next stage of the digital revolution starts here.



2U 19" rackmounted unit.

Physical tracks: 4

Sampling rate: 22.05/32/44.1/48KHz

Data format: 16 bit linear

Signal processing: 24-bit internal N.L.

Data storage: IDE hard disk 18mS, fitted in the rack unit (not supplied), size depends upon recording time required, e.g. 130MB gives 25min 45sec total @ 44.1KHz, 1GB gives 3 hours 22 minutes

2nd internal IDE drive can be fitted.

A/D conversion: 16 bit sigma-delta 64 x oversampled



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Synchronisation: Master or Slave, MTC with full chase lock, MIDI song pos.pointer + clock

Analogue in: 2 x RCA/cinch, unbalanced - 10dBv/+4dBv (2 tracks in)

Analogue out: 4 x RCA/cinch, unbalanced + 4dBv (4 tracks out)

Digital in: 1 x RCA/cinch, S/PDIF format (2 tracks in)

Digital out: 2 x RCA/cinch, S/PDIF format (4 tracks out)

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PRO 507/022



A new label, a new producer and a new sound. Well, the name of the band is New Order, after all. In the wake of *Republic*, Phil Ward meets Stephen Morris and Gillian Gilbert, and discovers what else is new in their hi-tech retreat...

under new

Of course the album reached Number One. How could anyone have doubted it? But in the midst of enormous changes last year, New Order had reason to approach the release of *Republic* with some trepidation. Factory Records had folded, and the finished product passed into the hands of a new regime, namely, London Records. This company's marketing campaign has completed New Order's inevitable progress into media-friendliness, painting over the blurred technical realities of hi-tech music making and presenting to the world the image of a traditional pop group – guitar, bass, drums and keyboards. Well, it worked.

Begun at the converted barn adjoining the hillside home of drummer Stephen Morris and keyboard player Gillian Gilbert, and completed at Peter Gabriel's Real World Studios, the album itself represents still further alterations to the old order. Sitting in this barn today, Stephen can look back on developments with hindsight, and reveal why success was by no means a foregone conclusion.

"It's the first album we've done with a producer since we worked with Martin Hannett," he observes. Hannett, by the way, legendarily carved out the Joy Division sound in the late '70s, and last collaborated with New Order on their 1981 debut *Movement*.

"We decided beforehand that this time we'd get someone else in to sort it all out. The idea was that we wouldn't actually write songs, but just collect a series of riffs together and bang them into some kind of part A, part B, part C format – and do that for each idea. And that was how we started,

up here, with Bernard and Peter coming round and knockin' out ideas. Sometimes Bernard would come round and just jam, but he's not really a big fan of jamming.

"At that stage, I wanted to try recording whole sections into ProTools, and construct the tracks in there. Unfortunately, that didn't entirely work out, but we did end up with 14 or 15 separate ideas on DAT – which we sent to Hague. He picked the ones he wanted to work on."

"Hague" is Stephen's affectionate term for producer Stephen Hague, whose production of *Republic* was not, in fact, the first encounter between them. In 1987, Hague's contribution to the single 'True Faith' helped it into the UK Top Five. But, eventual chart success notwithstanding, not all the sailing was plain...

"One aspect of this method which didn't work, unfortunately, was that initially Bernard had written all the lyrics before we went into the studio, which was a major achievement. But once there, it was New Order business as usual, with Bernard writing completely new songs instead of the ones he was supposed to be doing."

If the guitar-thrusting band image slightly wrong-footed the established New Order following, so did the relatively non-electronic sound which characterises most of the tracks on *Republic*.

"That was largely down to Hague," Stephen reveals, "who set out to 'do' a New Order album, as in a highly polished production number. That's something that New Order as producers never do; we normally like to leave a few spikes and things, and leave in lots of weird noises that have come up. Stephen's a very musical person, he's not really a weird sounds guy. But I'm not slugging you

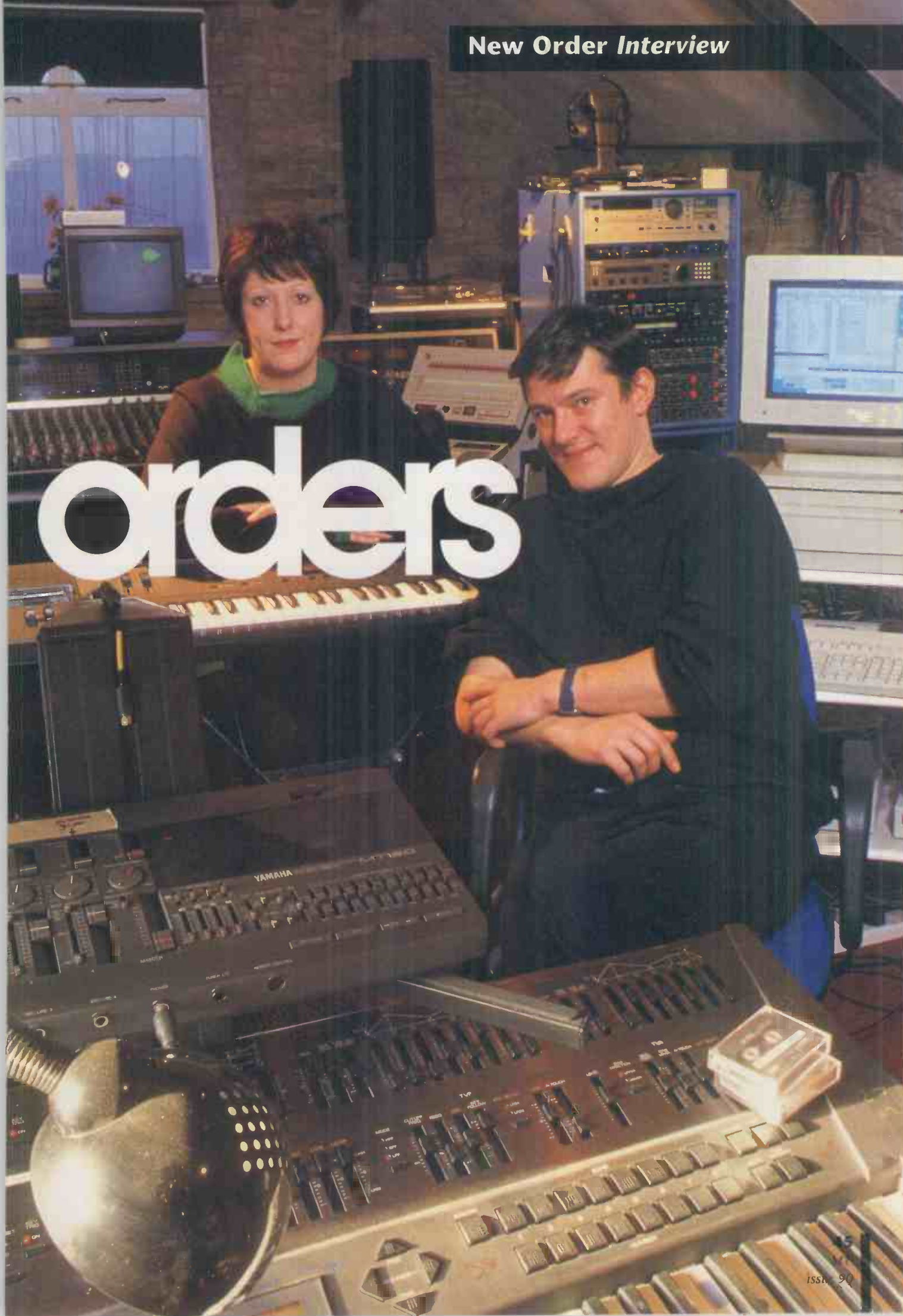
off, Stephen, honest...

"The thing you've got to remember about New Order is that you've always got things pinning it down, like, for a start, I played a lot of acoustic drums as usual, and there's always Hooky's bass, and these things make it sound less electronic. It wasn't like we were all writing together and trying to put together something like 'Blue Monday'. In fact, in a way we were trying to make it more musical, because I was getting a bit sick of the way 'techno' was going – sort of like the monster you've created getting out of control. So in spite of starting out from jamming, it is about songs, rather than being techno-bores. I mean, there's a couple of things on the album – like 'Chemical' – which are pretty techno-based, but the rest are straight songs, and Stephen's a songwriter himself so there wasn't that much experimentation like in the old days – you know, just plugging things in to see what would happen. It was much more, like, crafted.

"You still get that spirit of experimentation in some – but not all – techno music, and I've always felt that that's where the most interesting things in music happen. But when we started *Republic* it all seemed a bit stale, and to try and consciously do a dance album seemed like competing with ourselves. There was no point in making 'Technique 2'."

The 'band' image and the crafted sound perhaps also reflect the extent to which New Order are disillusioned with the design of hi-tech instruments. Stephen Morris is well placed to appraise developments; he's also well aware of the irony of a technology-based music industry ▶

orders





➤ falling out of love with technology.

"There's more technology than ever," he agrees, "but it's not as lovable somehow; it doesn't invite you to play with it like it used to. When synths had knobs on, you could just twiddle away and come up with something interesting. I suppose the start of that change was Yamaha's DX-7: to get sounds, you really had to know how it worked. You almost had to be a mathematician, and remember an absurd series of key presses. It's kind of like working on a PC compared with working on a Mac: they both do the same thing, but only one's user-friendly.

"The only real step forward – or is it a step back? – is the Roland JD-800. But it isn't really a synth, it's a sample player. There are no oscillators in it. It does have knobs, though. I mean, Gillian's all-time favourite keyboard, this Kurzweil K2000, has got oscillators, it is a sampler, it does

everything you could ever wish a synth to do. It's the equivalent of one of those monster Moog things. But look at it! Is it sexy? No, it looks terrible..."

"I think it's sexy," says Gillian, who has appeared with a welcome basketful of beers. You suddenly remember that this is where they actually live. There proceeds a domestic discussion on the Kurzweil's relative merits.

"This is the actual keyboard that *Music Technology* slagged us off for grabbing first," Stephen accuses. Well, let's put the record straight. In our July 1992 issue, the review of the K2000 is prefaced by the following observation: "MT grabbed one for review only to find it had been sold to New Order..." Hardly a slugging, really. Anyway, we got hold of one in the end and were very favourable towards it – especially given the dearth of genuinely new synths at that time and since.

"You can do great things with it," admits Stephen, "but you've got to know what you want it to do. I mean, there's things in there that can be found like you're walking around in a library!"

"Have you mentioned the intonations yet?" asks Gillian.

"No, we've not done the intonation yet."

"Let's not tell him about it! It's a secret..."

I feel as though I'm eavesdropping. Well, I am, really...

"There's this intonation thing," Gillian continues. "You can put your sequence through, from the computer, and just skip through them. It's brilliant; you can end up with these really weird chords."

"The only way to get past Gillian's depth of experimentation," says Stephen, "is by superimposing two kinds of intonation on each other, which is what we did in 'Avalanche'. Some bits are in Equal intonation, and some bits are in Pythagorean."

Stephen is more enthusiastic about the idea of digital modelling as a way forward in synthesis, and recalls *MT's* interview with Wendy Carlos (June 1993) in which she describes computer programs which analyse acoustics with such power as to create virtual instruments. He also remembers further back than that...

"There was kind of a buzzword in *Music Technology* about 18 months or a year ago – this whole concept of re-synthesis, which seems quite fascinating, the concept is great. The idea is that you can get any sound and muck about with it. Didn't Zyklus do a re-synthesiser thing which had sliders for every harmonic on it? Now there's something like that in this Kurzweil somewhere. I've seen it once..."

But you can't find it again...

"No, I can't find it again! There's just page after page. There's one bit in it where you've got modulators, but it's not an obvious thing to use.

Bernard just uses a T3 for the same thing. You're not really going to modify the sound greatly, all you're doing is taking a bit of top off it and putting a bit more release on it. There isn't any real modulation."

"What about the disk?" demands Gillian. "You know, it asks you if you want to save the sequence and you say 'yes', and then it asks if you're sure, and you say 'yes', then it asks again – and the truth is you really don't know. There's so many steps, by the time you reach the last prompt you've forgotten what you're doing."

"You have to say 'yes' about five times," confirms Stephen. "Imagine going all the way through to the last step, and then saying, oh all right then, 'no'!"

"I've lifted the top off the thing and looked inside it. There's nothing inside it, absolutely nothing, just one board. At a recent NAMM show, they had one on a card for a Mac – which made a lot more sense to me, really, even though I'm not really a big fan of computer graphic editors running at the same time as a sequencer. It all seems to me to be asking for trouble. Stuff like OMS, the Opcode Music System, and Unison, the Mac Unicorn one – they always seem to be inviting disaster to me. I just don't trust them – but at least you can see what's going on, you can manipulate it in real time. Either that, or put a load of bloody knobs on it! Mind you, it'd probably be about three quarters of a mile long..."

Let's face it, it's a computer with the wrong kind of keyboard and no monitor. The analogue revival starts here...

"Someone was telling us about an analogue sequencer, God knows what it is, it's been handmade by these German people..." That would be the Doepper MAQ 16/3, Stephen. "I can understand it. It's kind of a reaction. Nobody's really doing anything about it, not really. Take the JD-800. It's OK, like a computer halfway house thing, and then they immediately ditched the loads-of-knobs idea and went straight back to one knob and four buttons. It's quite sad. I mean, you can't beat a Juno for coming up with quick sounds."

Nobody's doing anything about it because the home keyboard market is booming...

"And these are the sort of people who aren't really bothered with experimentation. All the research and development is going into ways in which people can play Richard Clayderman tunes. And also, I've noticed that the sale of guitars and drums has actually gone up – which is a good sign, but I'm a firm believer that these things come in cycles. It's a shame, but you just get fed up with something and you go back to doing something else. You always go the opposite way. You never say, I could get a guitar, but I could use it differently. Yeah, I could do techno music – but on proper instruments. Or, if I used loads of synths, I ➤

In the barn

hardware

Macintosh Quadra 950 (68Mb internal/3.5Gb hard drive/128Mb optical drive)

Macintosh IIfx (80Mb internal/600Mb hard drive/CD-ROM drive)
Big E120 monitor

software

Cubase Audio
Digidesign ProTools (4-track)
Digidesign Samplecell I and II
Radius VideoVision
Adobe Premier v3
SMPTE Slave Driver

sounds

Akai S3200, S900
Alesis D4
E-mu Vintage Keys,
Proteus 1XR/2XR,
Procussion, Emulator III
Korg M1R
Kurzweil K2000
Midimoog
Oberheim Matrix 1000, Matrix 12, SEM x 2
Roland R8M, D110, D10, TB303, Vocoder,
Juno 106, JD800
SC Prophet 5

studio

Otari MTR90 (24-track analogue)
TAC Magnum desk
ATC 50 monitors
Yamaha NS10M monitors
Panasonic SV-3700 DAT
Sony VC9600P U-matic
Sony TV monitor

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► could make it sound different. It's always a complete reaction."

Fundamentally, instruments suggest their own music. Once you've chosen the tools of your trade, you've usually already chosen the style you're going to play. It takes a lot of will to actually break through that barrier and do something else. The music industry that was once based on the synthesiser was a pioneering industry, because they were the pioneering instruments. Today, New Order, at least, are going through a cycle away from progressive musical electronics, hence an album that doesn't sound very electronic. How and when the cycle will continue, who knows? In the meantime, recording projects continue – at Peter Hook's Suite 16 studio in Rochdale, *chez* Barney, and in Stephen and Gillian's beauteous barn.

"Yes, everyone's back doing their solo projects. Except me and Gillian aren't really 'back' – we're finally getting ours out. I mean, the whole of the last 18 months, recording *Republic*, there's been a real upheaval in our way of life, both as New Order and as The Other Two. We've had the record company go bust; we've had to find a new label; and we've had an album put on the shelf for God knows how long. It's all been... not the best of circumstances. It's surprising we're as happy as we are. Glad to be out of it, though..."

Is life settling down now, new label and all that?

"Yeah. I still think they're going to impose a certain 'London-ness' on us, but they still want us to be the same. I don't quite know how we can do that."

Am I right in suspecting that "a certain London-ness" corresponds with Steven Hague's idea of how to make a record?

"It's like, the first question they ask is 'who's a good remixer?' Whereas before, all the remix ideas came from us, or from records we'd heard. And with video, they tend to use conventional video directors. The thing that characterised a lot of the New Order videos was the fact that a lot of them were done by people who weren't video makers – like Jonathan Demme, who did 'Perfect Kiss', and Robert Longo who did 'Bizarre Love Triangle'. People like that, who I don't think London would go for. Making a video is a gamble at the best of times, but to go with someone who isn't a professional is inviting disaster. We were very lucky with our videos."

Perhaps not just lucky. Stephen is developing an interest in desktop video himself, both as a natural extension of his interest in technology and as a means of retaining control over the image of his band.

"Before, it was a case of getting this guy Michael Schomberg in New York, who is a friend of ours who works in film and television, to come up with ideas. He'd give us ideas and he'd suggest people to do a video with before we needed to do one.

Now, we do a record and then sit there and watch loads of showreels – you know, 'not seen that before, let's go for that'. But video is something I'm personally interested in – hence this thing here..." He gestures towards an imposing Mac. "The multimedia bandwagon steams on! What I've got here is my video suite..."

"This is a Quadra 950 with VideoVision, and Adobe Premier version 3 – not yet available in this country, I hasten to add. I like video editing and I like the concept of this thing. It's nearly the same as using ProTools in that you're basically sampling video. Although, the word 'multimedia', to me, seems to imply something that's not as good as the real thing. It's like a botch-up of everything. But this software has really come on, from a little window to full-screen, full-motion video.

"One of the ways it works is that you could theoretically be doing your video at the same time as you were writing your song. Or write a video in the same way you do a song."

"We want to do our own video for each song," reveals Gillian. "We don't want to be like just a normal band when we're playing live, we want to use video projections. This should enable us to do our own story for each song."

Do you foresee that you would use actual footage rather than just graphics, giving you real subject matter rather than purely psychedelic effects?

"A bit of both really," Stephen replies. "It would be dead easy just to do stuff that was psychedelic, but a bit of a waste to use this as the equivalent of a liquid wheel. There's a new version of ProTools that I got through the post this morning, that has actually got the facility for grabbing video in QuickTime, which means that someone else is thinking along the same lines as me. With this particular version of Premier, I've only just scratched the surface and there's something like 99 tracks of audio. I can't see how you can manage to use up all that as well as umpteen tracks of video.

"What's important is the way that this sort of technology is coming down in price, because what we're looking at here is the equivalent of Avid [a Mac-based, professional video editing system] – big boy stuff. And the fact that you can do it on this sort of machine. You can see that in a year's time you'll be doing it on rinky, dinky little machines."

For Stephen, multimedia doesn't necessarily help in the writing of pop songs, but his professional soundtrack experience (he and Gillian wrote and produced the theme music for BBC TV's *Making Out and Reportage*) has already begun to change at least some of his attitudes to the invention of music.

"I suppose, really, we kind of got tucked into finding out the nuts and bolts of video through writing stuff for TV. It's surprising what a difference it makes when you've got an image on the screen and someone's told you to write a bit of music to go with it. Normally when you write a song, you do it by

plucking something out of thin air – which sometimes works and sometimes doesn't. But with this technology, it doesn't have to be anything special, you can just grab a bit off the telly and make some music to go with it. It's your idea that counts, you can discard the video if you want once you've got your stuff done. It's another way of doing it."

The watchword is control. Like many others steeped in a sort of hi-tech tradition, Stephen Morris is monitoring technology as it develops and more than anything else is keen to keep both hands on the wheel. Or rather, the mouse. He's also in a band that has to make records and videos. And, he says, "If you've got to do that, you might as well find out what it's all about instead of just leaving it to other people." Quite how this affects New Order, only time will tell. In the meantime, isn't it exciting how the technology is empowering the musician in these other areas, Stephen?

"Yes, it is exciting. But it's bloody expensive, though." ●

Product albums

Joy Division

Unknown Pleasures (Factory, 1979)
Closer (Factory, 1980)
Still (Factory, 1981)
The Peel Sessions (Strange Fruit, 1986)

New Order

Movement (Factory, 1981)
New Order 1981-2 (Factory, 1982)
Power Corruption & Lies (Factory, 1983)
Low Life (Factory, 1985)
Brotherhood (Factory, 1986)
Substance (Factory, 1987)
Technique (Factory, 1989)
The Peel Sessions (Strange Fruit, 1990)
Republic (London, 1993)

The Other Two

The Other Two And You (London, 1993)

videos

Joy Division

Here Are The Young Men (Factory, 1982)

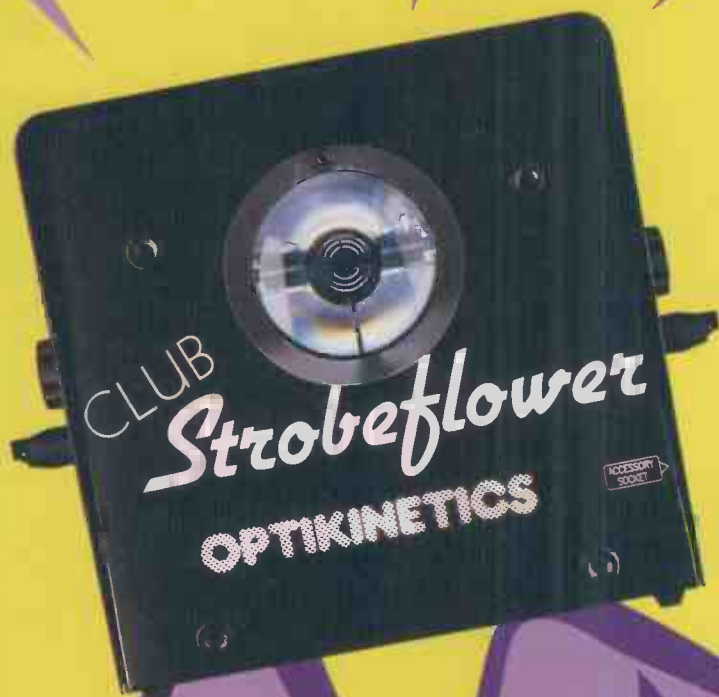
New Order

A Factory Video (Factory, 1982)
Substance (Factory, 1987)
neworderstory (Polygram Video, 1993)

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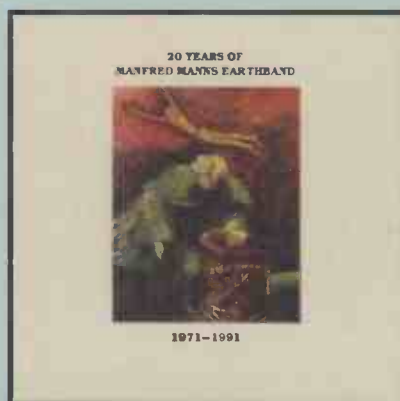
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QUALITY CONTROL

● 52 **Alesis QuadraSynth**

There's a new synth in town, it's gunning for the competition and it aims to please. Andrew Jones

● 56 **Gold Star Procyon sequencer for the PC**

For many people, the definitive sequencing software for the PC has yet to be written. Could this be it? Nicholas Rowland

● 60 **Optikinetics Club Strabeflower**

If you thought you knew what kind of effect strobe lights produced, it's time to think again. Ian Masterson

● 62 **Korg X3R sound module**

For every keyboard synth there must a rackmount version. The X3 is no exception. Ian Masterson

● 64 **SPL Vitalizer psychoacoustic equaliser**

Sound enhancement at both ends of the spectrum – and something in the middle. Ian Masterson

● 66 **Aleph Time Talk sample time/delay calculator for the Atari ST**

For easy-to-digest samples and delays that repeat on you at just the right moment. Ian Masterson

● 68 **Short Cuts**

*Computer Manuals: The Incredible Sound Machine by Mark Andrews
Cool Mac Sounds by Craig O'Donnell
Ontrack Computer Systems Rocket Drive software for the PC
Paramount Rock, Rap & Roll CD-ROM*

Contributors:

● Ian Waugh

● Ian Masterson

● Andrew Jones

● Nicholas Rowland

Alesis

QuadraSynth

synthesiser



Best known for their effects and studio gear, Alesis are now branching out into the synth market. Their eagerly-awaited QuadraSynth is the result... Review by Andrew Jones

Think of Alesis and the word 'Quadraverb' springs to mind, right? – the effects box that became almost an industry standard over the last few years and one of the first to allow up to four different effects to be combined and used simultaneously. Then there's the ADAT – the digital multitracker everyone was talking about last year – and didn't they produce a mixer some time back? Oh and what about that power amp they did?

The fact is, Alesis is no longer a name which is linked solely with effects processors. The company have brought their flair for innovation to a variety of products in recent years – the latest of which is the QuadraSynth, a new sample-based keyboard and the company's first incursion into this side of the market.

Rumours of the keyboard began well over two years ago and combined with a spec boasting 64-voice polyphony, on-board effects with four independent processors and 16Mb of sample ROM, have made this one of the most keenly-anticipated music products ever to be released.

So... high expectations. What of the reality?

From a visual perspective, the QuadraSynth definitely appears to have been designed from a clean sheet of paper. Indeed, with no previous models for it to be a progression from (and none of the constraints this usually imposes), Alesis appear to have had a field day designing this keyboard. The words sleek and ergonomic immediately spring to mind. There are no rubbery buttons here; instead you get solid, curved, oblong

'keys' with a pleasing, positive feel and a set of four small dials and one massive volume rotary (why so big?).

Rear panel hardware includes four individual outs (always a plus point on multitimbral synths), and a full complement of MIDI ports. There are also digital connectors (a sound move by Alesis, leaders in this field since the advent of ADAT) and a set of three footpedal sockets. Underneath, moulded into the body of the synth, there's a masterstroke of design... a carrying handle! No more hauling keyboards around under your arm and bashing off chunks of it. It may not be as portable as say a mini-keyboard but it will certainly make life easier for the player on the move.

Another notable plus point is the display screen – a big LCD affair which can be crammed full of information in a neat and informative way. During sound selection it is simply a case of stepping through each of the preset or user-programs using the first of the rotary dials, the value buttons or the numbered keys on the left for direct selection – a method to suit everyone it seems. But the screen really comes into its own when you press the edit button and start to create new programs. Many's the time that we have harped on about the endless pages of information on digital synths these days and the task faced by the user in trawling through them all. The QuadraSynth still has these pages of information but employs a staggeringly simple idea which makes finding your way around easier than reading a book.

Like many other synths, each of the preset programs can be

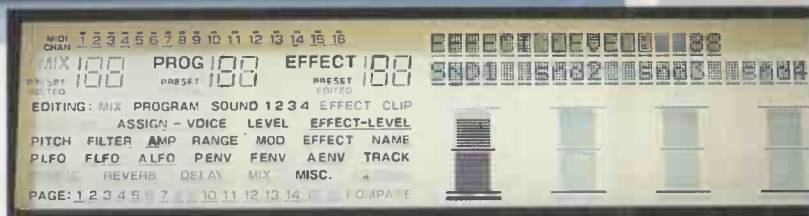


assembled from up to four partials or voices. And like other synths, too, the more voices your program uses, the less polyphony you get. So if a program uses one voice you have 64-voice polyphony; if it uses two voices, you have 32 – and so on. But with a full 64 to start with only the very high-density sequence users among you should run into trouble.

The Edit4 button allows parameters from each of the four partials to be edited. There are 19 functions in total (each with a varying number of sub-pages) including the volume level of the partials, the effects selection and a range of sound editing functions. Each of the functions is displayed on the LCD. You flip through them using the relevant buttons and as you do, a small bar appears under the chosen function on screen, so you always know where you are – a simple idea, but very effective. A number of sub-pages can be accessed for each function which take you to the next level down for editing. Use the page buttons to go through these and again, a small bar tells you which page you are on.

Hard fax

Synthesis: QS Composite Synthesis
 Waveform Memory: 16Mb onboard sample. ROM plus ROM card slot
 Program memory: Program Mode (128 preset, 128 user)
 Mix Mode (100 preset, 100 user)
 Keyboard: 76-note
 Polyphony: 64-voice
 Effects: 4 independent stereo effect processing busses with multiple simultaneous effects on each.
 Connectors: MIDI, sustain, pedal 1, pedal 2, four audio out, digital i/o
 Dimensions (cm): 122(w) x 11.5(h) x 35.5(d)



In Edit mode all parameters are displayed on screen

It perhaps sounds a little complicated but, as they say, a picture paints a thousand words – and the screen shows you exactly which function you are editing as well as the page beneath the function you are in.

For use with a sequencer, the QuadraSynth has a special 'mix' mode which allows up to 16 of the programs to be given their own MIDI number to be triggered from the sequencer. Here, you can also set up keyboard splits where each sound has its own defined area across the keyboard, and Performances where several sounds can be combined together to create some massive sounds and effects.

As with the other editing features, whatever you require in this mode, it's simple to set up. There are MIDI buttons to select the channel; the rest of the controls are similar to those described above, with the the dials used for incrementing values such as keyboard ranges and sounds.

Finally for the editing section, there's a global button that accesses six global functions including keyboard sensitivity, MIDI and LCD contrast.

Each of the four sounds making up a program on the QuadraSynth are derived from a source sound (from the 16Mb of raw samples) which passes through a low-pass filter and amplifier. The voice, filter and amplifier sections each have modifiers (LFOs and envelopes) where the sound editing can take place (see above). With one set of these sections per voice, ▶



► the QuadraSynth offers a high level of flexibility for sound creation. So what about the sounds supplied?

Well, there are 128 presets and 128 user locations, plus a further 100 Performances for keyboard splits and combinations. The QuadraSynth's sounds are not assembled in General MIDI order which may or may not come as welcome news. As for the sounds themselves, these vary enormously with no particular emphasis given to any type or style (just check out the demo for proof).

On the more traditional side, there are several pianos to get your teeth into, and some quite stunning flute presets like StrwbryFlt and JazzFlt. The guitar sounds also acquit themselves well, but some of the brass sounds (notably, BrassStab) fail to hit the mark and become rather unrealistic in their extreme ranges. Similarly, there are one or two great sax sounds – such as SteamySax – but the soprano sax disappoints. The strings too are a mixed bag and occasionally sound a little strained – though Lush String is, well, er... lush.

By contrast, the Hammond and pipe organs are uniformly excellent, making full use of the onboard effects for added realism. Bass sounds are very well represented too, the best of the bunch being the crystal clear Zapp and the nicely squelchy Trance.

The synth effects are scattered around the two banks (preset and user) with slightly more in the latter. With such a sophisticated effects section (see later) it is a shame there aren't more, but for a demonstration of the QuadraSynth's potential just check out Pacifica, OoohTron, AirSpace, Twighlights, BluëAurora or ZeusSpoke for a wild panning, fading, mystifying and any-other-ing experience. Don't, however, try Rare T-bone unless you like your sounds to grate.

In summary, the QuadraSynth includes a generally excellent set of sounds with only a few exceptions, but you do get the impression that with so much potential (and that really is the key word here), more would be possible – in the right hands.

Alesis themselves, in their effort to provide variety, have scattered programs around both banks. Personally, I would have preferred to have sounds from each category kept together. As it is, a quick scan through the presets on the shop floor by a potential buyer may not reveal just what the machine is capable of. Only with a more considered, in-depth look do you realise that this is very much a musician's keyboard and one who's sounds will maintain their appeal long after the novelty of certain other synths wears off. More to the point, it breaks the Japanese mould of standardisation and ultimate banality. And with such easy programming that word 'potential' crops up again...

As you might expect from Alesis, there is a very sophisticated effects section on the QuadraSynth. In fact the onboard effect processing is similar to that on the Quadraverb. This means that processing is possible using several effects at the same time. More importantly, there are four input busses with a flexible routing system which allows you to add different effects to either the sounds within a single program or to the programs within the multitimbral mix.

In a mix, for example, you may have four sounds, each going to a different output and each with a different effect. In a program, you could send each of the constituent parts to a different effect. It's one of the (if not the) most flexible and easy to implement effects processing systems available on a synth and should signal the end of the days of dull, scrunched-up multitimbral mixes.

As for the effects themselves, there are 128 preset and 128 programmable. They comprise delay, reverb and pitch effects, each with several

types, so for example, pitch includes flange and chorus. As you might anticipate, the effects are of the highest quality; clean, noise free and immensely usable. Worth a special mention are Pno Plate 1 (excellent for great ethereal washes), Lezlie 4 (for the classic Hammond sound) and WetslapRm for percussive effects. Panning presets include Pong Plate 2 and 3 and the chorus Broken Code.

If none of these are up your street (doubtful), then enter Effects Edit mode and create your own – with the screen as described above, it's easy.

The final verdict? Well, as I've said, good as the basic sounds are, the potential of the QuadraSynth will only be truly realised when other people get to work and start programming it. Putting aside all the hype and rumours that have surrounded the QuadraSynth since its announcement, Alesis have still managed to come up with a product that may well come to represent a milestone in keyboard history. A digital synth that's easy to program – no less. ●

THE LAST WORD

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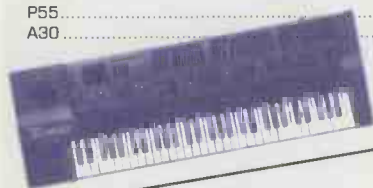


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Goldstar

Procyon

sequencer for the PC

Professional features and a budget price - but is this new PC sequencing package a real star?

Nicholas Rowland gazes into the heavens...

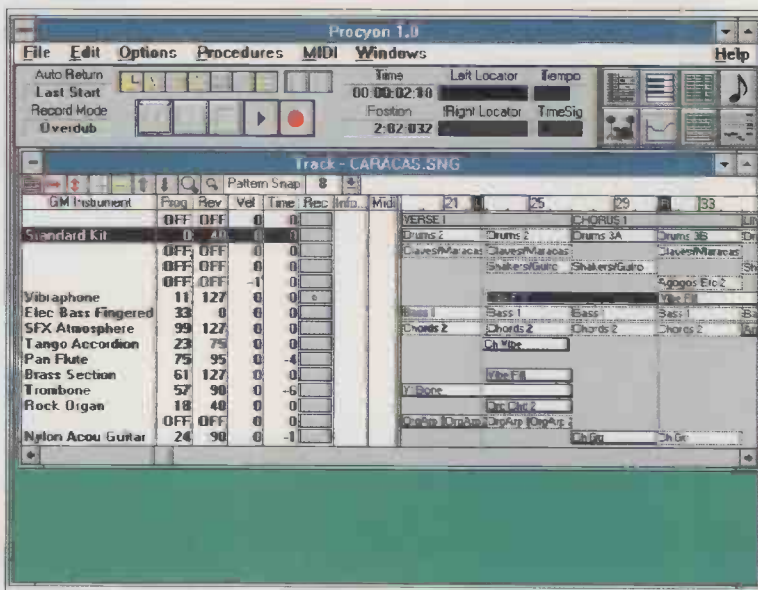
PCs are often touted as the cheap way into computer sequencing, but while the price-to-power ratio of the hardware compares favourably with other platforms, the price of PC software has never been exactly cheap. Admittedly, most of the current generation of PC-based sequencers are aimed at the serious user, so you could argue you get a lot for your money. Nevertheless, newcomers to PC music-making will quickly discover a distinct lack of the kind of pocket-money MIDI packages (including sound editors and utility software) that have long been available to Atari and Amiga users.

The good news is that Goldstar have just released Procyon 1.0. This 32-track, pattern-based PC sequencer weighs in at an extremely modest £49, yet offers facilities which match (nay, often exceed) packages costing two, three and even four times as much. Don't, however, get too excited by the words 'Multimedia Control Application' embellishing the box - this really only refers to the fact that Procyon can be used to control compatible internal soundcards - such as Goldstar's own Soundtrack (to be reviewed next month) - in addition to external MIDI instruments.

Minimum requirements for Goldstar's sequencer for the masses, apart from Windows 3.1, are a 386 PC running at 16MHz, equipped with 2Mb of RAM, 1Mb of spare hard disc space and a mouse. You also need a pinch of salt for the bit in the manual which explains why Procyon has been named after the brightest star in the constellation Canis Minor. I won't repeat it here.

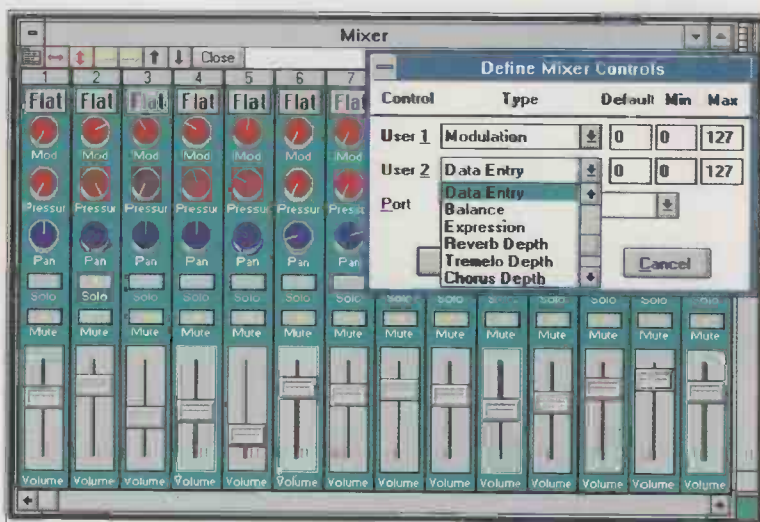
The program installs painlessly from a single disk, creating its own group menu complete with icons for several demo MIDIfiles provided by Words & Music up in Sunderland. Clicking on these will automatically open the sequencer package itself and load up various pieces for your edification and amusement.

Anyone familiar with computer sequencer users should have little problem finding their way around the screen. A tool bar along the top gives you the usual tape transport controls for play, record, etc, along buttons for to toggle external sync, metronome click, overdub/replace record mode, punch in recording and so on. The only problem was that my review copy gave me little black boxes where the time signature and tempo values should have been - just the first two of a number of gremlins which popped up (or rather failed to pop up) as time went on.



Procyon's delightful track edit/pattern assembly window set up to punch in and record a few more notes into the highlighted vibe fill. Note the slight absence of tempo/time signature data in the tool bar. Oops!

Icons on the toolbar also give you access to the various editors, namely the Track Window, Piano Roll, Event Editor and Mixer. There's also a pop-up Notepad - handy for jotting down pizza orders and, er... making notes. You can save and



Procyon sports this cheerfully-hued pop-up mixer offering the added luxury of user-definable controls.

recall individual desktop configurations. When you boot up after the first time, you always get the desktop you were using when you last exited – both nice touches these.

Your main area of work is likely to be the track window – which as you can see from the piccies follows a trend first set by Cubase. It's extremely easy to use. When recording from scratch, simply draw in the desired number of bars in the appropriate track and hit record (always real-time in this window, though step recording is offered in the Piano Roll editor). Loop recording (and playback) is available at the press of a button as is automatic punch in and out, with loop/punch points controlled by left and right locators. Pattern lengths can also be specified from a pop-up menu and can be up to 9999 bars long.

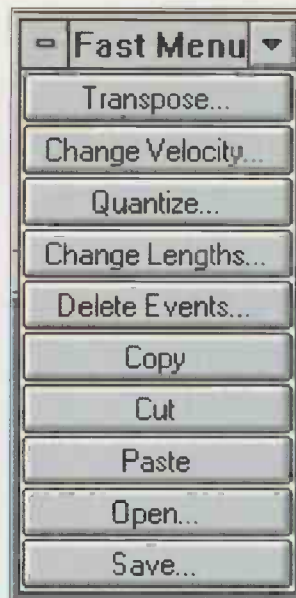
You can select just how many columns of track information are displayed on the left hand side of each track. The more you have, the more parameters (such as program change, bank numbers, reverb levels, mute and solo) you can edit without going into other screens, although this in turn limits the amount of space left to see the arrangement.

For General MIDI users, Procyon offers the advantage of a GM instrument list allowing you to call up patches by name. For anything else, you'll have to do it using program change numbers as there's no facility to create custom instrument lists.

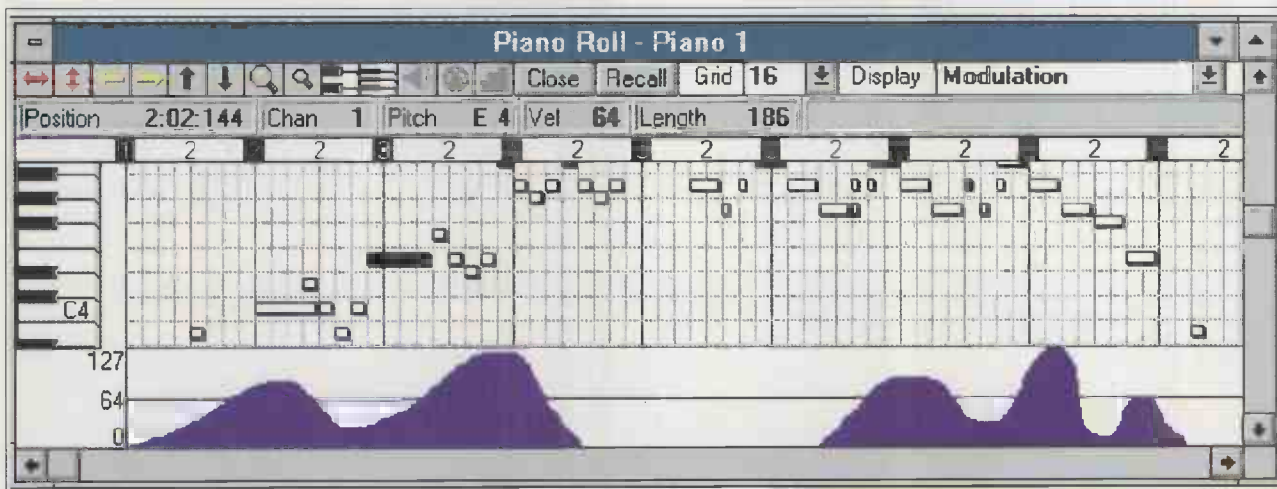
The other major omission is the lack of support for multiple tempos. If your music features rallentandos, you'd better

songs. Armed with arrow, pencil, eraser, mute button, knife or tube of glue from the pop-up toolbox, you can quickly move patterns to different tracks or bars, delete whole or part patterns, chop them up, reassemble the bits and stick them back together in a different order. What's more, most editing can be done while the sequencer is playing, which means you can hear it take effect immediately.

Each time you copy a pattern on Procyon, you can decide whether to make it a 'child' pattern or a proper independent copy. Child patterns have no events of their own, they simply play the events of their parent (who they also share the name of). Make any changes to the parent and



Access to regularly used functions can be made easier with the Fast Menu which can hold up to ten commands (not to be confused with commandments).



The Piano Roll editor revealing extensive abuse of the modulation wheel.

forget it. For this kind of facility (plus lots more) you'll have to wait for the big daddy version of Procyon due out soon.

Once in the system, individual patterns can be transposed, quantized and micro time-shifted to your heart's content. You can also tweak the velocity and length of single notes or groups of notes.

Individual patterns are soon marshalled into complete

all the children will automatically follow suit. This can be very handy when you've copied lots of patterns to create a song and then you want to change the main riff. Double clicking on a child pattern brings up a Pattern Setting box, which allows you to play around with the child's individual settings – including program, channel, volume, pan, reverb, chorus, transpose and timing. A child can be placed on the same or a different track from the parent. If the parent is deleted, the child becomes a parent itself (rather than an orphan!)

Event - Guitar Bend						
Note Len	16T	Ins Type	Sysex			
Note	Aftertouch	Controller	Program	Pressure	Bend	Sysex
Position	Ch	Event		Ctrl	Val	
1:01:000	5	Modulation		1	0	
1:01:000		SysEx Unknown				
1:04:190	1	Note		F 3	102	1551
2:04:167	5	Modulation		1	0	
2:04:167	5	Controller 3		3	0	
3:04:178	1	Note		E 3	70	703

Yes, it's an event editor. To send SysEx data you double click on a SysEx event then start typing in the pop up box.

In operation, Procyon is very slick indeed.. most of the time anyway. I have to say that at least one in three of my review sessions had to be terminated with a general machine reset, thereby losing any edits made since I last saved. Had I been working on anything really serious at the time I would have thcweamed and thcweamed until I wath thick.

A call to Procyon's technical helpline found them mystified as to what the cause was likely to be as no one else had reported problems of this nature. In the end we put it down to a Windows file which may have been corrupted by the de-installing of another piece of review software.

I encountered fewer problems with the Piano Roll and MIDI Event editors, although I used them less frequently. Like the pattern/track window, both these editors follow a style set by other sequencers – although once again the implementation is slicker than most packages. The Piano Roll editor also includes a window for graphical editing/creation of existing controller data. Unlike some packages, Procyon offers support for all MIDI controllers, not just the most commonly used ones.

The other main window is the pop-up 32-channel mixing desk, which gives you cursor control over MIDI pan and volume as well as two other parameters chosen from a menu of 14. The Procyon mixer also offers the convenience of solo and mute buttons as well as instant flattening of controls on either individual channels or across the whole mixer. However, like many sequencers, the movements of this visual (virtual?) desk cannot be recorded as part of the performance.

In terms of general housekeeping, Procyon saves either complete songs or individual patterns (in its native '.sng' or '.pat' format) as well as reading and writing standard MIDI files. There's also a facility to load songs and MIDI files from disc and merge them with the composition you're currently working on.

Interestingly, while Procyon doesn't support multiple tempos, it will follow tempo changes in MIDI files, if you select the conductor button from the tool bar.

On the MIDI side there are plenty of options for filtering out individual controllers, thinning MIDI data and customising the MIDI thru setup. Other features worthy of mention include the ability to take a pattern containing events on more than one MIDI channel and separate them into individual patterns, each containing a single MIDI channel. The new patterns are allocated their own specially-created tracks, without changing the original pattern.

Despite the wrinkles I encountered, this really is a first class package – quite frankly it should sell itself just on price. I

must also mention that the package comes with a well-written and very user-friendly manual (take a bow, MT's very own Ian Waugh) which is aimed at getting the first-time user up and running with the minimum of mucking about. The downside is that details of the more advanced functions are fairly sketchy, although you'll find plenty of extra information in the extensive online help menu (which is also well thought out).

I hope the overall ease of use and flexibility (not to mention the competitive price) is maintained when Goldstar release the pro version of Procyon. Apart from the conductor track already mentioned, this will offer 128 tracks, full patch list system, score display, editing and printout, a grid-based pattern drum pattern editor, and a 'motorised' MIDI mixer. This should see the light of day at Frankfurt and I'll be first in the queue.

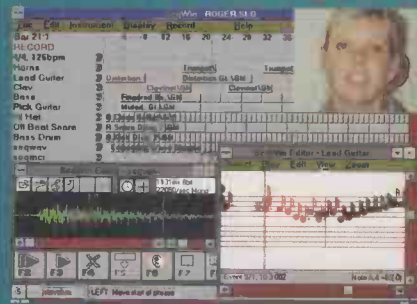
In the meantime, to paraphrase an old Bette Davis line "Why wish for the moon, when you've got the brightest star in Canis Major". ●

THE LAST WORD	
Ease of use	Good beginner's tool, but the twiddly bits are also there when you need them.
Originality	Slick implementation is refreshing.
Value for money	Five star.
Star quality	It's got Canis Major written all over it.
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Optikinetics

Club Strobeflower

strobe effect lighting system

Looking for the ultimate in strobe lighting effects? This new system from Optikinetics will leave a massive hole in your pocket but a lasting effect on a crowd. Review by Ian Masterson.



Optikinetics think not, and have released the Club Strobeflower system to prove it. Based around a proprietary short-arc design of xenon flashtube, the Club Strobeflower lamp is designed very differently from those seen in most strobe units in most clubs. Here the light produced is focused internally through a convex lens, giving a much higher usable projection distance. The name itself reveals how Optikinetics have actually fused two popular types of lighting technology to create their new effect; 'flower' refers to the multiple pin-beams of light this unit produces, rather like standard moon flower lanterns.

The actual lamp housing is fan-cooled, measures 300 x 206 x 200mm, and weighs in at 8.5kg – reassuringly solid and sturdy enough to survive the roughest of gigs. Sockets are provided for External Control In and Thru (to chain further Strobeflowers from one lantern) and control of any proprietary accessory you wish to clip to the front of the unit (such as a colour changer).

Up to sixteen Strobeflower lanterns can be used with one Strobeflower Controller, which is the brain behind the whole system. It's housed in a 19", 2U rack-mounting unit and hooked up to the lanterns via dedicated interface wires terminated in 1/4" stereo jacks – the lanterns being arranged into four control 'channels'.

The front panel offers you two basic areas of control over the action of the Strobeflowers – the way in which the actual beam of light revolves, and the way in which the lamp flashes. The first of these functions is relatively simple; you can choose the beam of light to revolve continuously at a fixed speed, to revolve in alternating directions according to the bass beat of an audio input (ideally taken from the output of your bass bin amp), or to 'park' in one position. The lanterns can also be shut off completely by depressing the 'blackout' button.

On the lamp side of things, the Controller offers three basic flash effects. 'Full' leaves the lamp switched on continuously, producing a sharp pattern of medium-intensity white light similar to normal flower or robot units; 'Burst' produces a rapidly-flickering beam of light that generates more movement in the pattern without resorting to a normal high-intensity strobe effect; and 'Single' emulates the classic strobe pattern of short bursts of severe light. The speed of this last effect is regulated by a rotary control labelled...well, 'Speed'. Logical, innit?

The last, and probably most impressive, feature of the Controller is the ability to organise the four control channels which the lamps appear on into one of four patterns. These take the form of rudimentary chase effects, switching lamps on and off in sequence according to the speed set on the rotary control, or the audio bass beat. The four variations seem initially rather simplistic and unsophisticated – until you

Of all the lighting effects available to clubs, theatres and gigging musicians, the strobe is probably the best known – and, often, the most dramatic. Despite the essential simplicity of the technology, the high-intensity bursts of white light produced by a strobe have a sensory impact which is quite unique. No matter how many intelligent 'robot' lights your rig boasts, and no matter how many MIDI- and DMX-programmable channels of control your desk provides, nothing can really match the effect of a strobe firing on overdrive. Set your unit to flash on the beat of a four-on-the-floor kick, and you throw an instant charge into the crowd.

However, the visual assault of a powerful, repeated xenon flash needs to be used sparingly and with care if it is to have a positive effect on an audience. Indeed, the average strobe unit must remain unused for a large part of the night, simply because the same effect that whips people into a frenzy is also capable of becoming seriously tedious, if not downright harmful.

Clearly, the strobe effect, precisely because it is so dramatic, has its limitations. Or does it?

remember that you're not chasing standard Parcans here, you're chasing *strobes*. By setting up four Strobeflowers around your stage or audience, and having their rotating patterns or single flashes synchronised singly (or in pairs, or all together) to a thundering kick drum, you create an absolutely staggering effect – quite unlike anything you've ever experienced with normal strobe lighting.

I set up a system similar to this at a recent club night, with one Strobeflower covering each corner of the floor. I can honestly say that the reaction from the crowd could be heard as well as seen when the Strobeflowers kicked in and started to do their stuff. With all other coloured lighting dimmed and plenty of smoke, the real intensity of the beams was revealed; having a xenon tube as your light source is one of the things that raises the Strobeflower system head and shoulders above bog-standard moon effects. You can literally light up entire buildings with one of these things. More importantly, the effect is one that can be left running, if properly programmed. Obviously, no lighting effect should be used to excess, but with the Strobeflower system you at least don't have to worry about it getting too much.

In fact, my only reservation with the system concerned the physical design of the controller buttons which were rather 'clunky' and a little too small for punching rapidly between the various effects and patterns – should you opt to follow that method of control. The ideal thing here would have been a touch-sensitive control panel, but this is really perfectionism on my part. Of course, the price of the Strobeflower system may seem high compared to normal strobe units – but then these aren't normal strobe units. Optikinetics have enhanced the flexibility and creativity of strobe lighting a hundred-fold. If ever proof was needed that crowds notice the quality of a lightshow, this is it. ●



THE LAST WORD

Ease of use	Controller is simple, if a little fiddly
Originality	The rebirth of strobe lighting
Value for money	The price makes it of interest to clubs or professional touring bands only
Star quality	Just ask the crowd
Price	Strobeflower head £998.75; Controller £528.75; Replacement flashtube £216.20. (All prices inc. VAT.)
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Korg

X3R

music workstation module

Just as B follows A in the alphabet, and 'Go Go' follows 'Wake Me Up Before You' in the popular Wham! hit, it's a foregone conclusion that as soon as a new synth is produced, a companion rackmount version will be released hot on its heels. Ian Masterson tracks it down...



Photos: James Cumpsty

Manufacturers long ago realised that one of the easiest ways to recoup heavy R&D costs is to spread the resultant technology across as many units as possible in their range. Taking the guts of a synth, lopping off the keyboard and performance controls, and packaging the circuitry left in a 19" rackmount casing is just one of the more popular ways of doing this. For those consumers who merely want access to the sounds and facilities of the new technology – without having to shell out on another unnecessary synth controller – such modules also make sense.

Korg's X3 workstation has been around for some time now, and the arrival of the X3R module is really no surprise. Some might say that the technology used in the X3 is not much of a surprise either; employing the tried-and-trusted AI² synthesis system which made their O-series range of synths so popular, Korg produced a new keyboard intended to take over from the massively-successful M1 workstation. However, since the sounds produced by AI² have been around for a number of years now, the X3 lacked the initial 'wow' factor of the M1 – although it does offer certain requisite features for the 1990s, including General MIDI voicings, 32-voice polyphony, 16-track, 32,000 event sequencer, and a larger LCD screen.

The X3R, just like the M1/R, is virtually identical to its larger keyboard-based brother. Some of the controls have been rearranged to suit the slightly more cramped environment of a 19", 2U front panel, and four audio outputs are provided on

the rear panel in place of the X3's simple stereo pair, but the general feeling is definitely one of *déjà vu*. I will therefore offer only a brief outline of what the X3 system has to offer, and recommend you read Andrew Jones' much more thorough evaluation in the September '93 issue of *MT*.

Apart from the features mentioned briefly above, the X3R also carries 340 multisampled PCM sounds, 200 internal Programs, 200 Combinations, two digital effects processors, RAM card, ROM card and disk drive for data storage and a 10-song/100 pattern sequencer. It's the inclusion of the last of these which I feel rather sceptical about; does anyone out there *really* use a hardware sequencer such as this when it's buried inside a 19" rackmounting synth? Good as Korg's internal sequencers may be – and they're a damn sight easier to use than most – they're still awkward to program and simply don't have the flexibility of software or dedicated hardware sequencers. I'm pretty sure that anyone buying the module version of the X3 will already have a standalone sequencer – although for gigging musicians in need of a reliable hardware device to replace their battered Atari ST on stage may disagree.

To anyone used to working with Korg's M and O series machines, there should be a certain familiarity about the X3R. Korg have sensibly retained the internal architecture and editing structure of their earlier machines. Multisounds are the basic sound elements, generally composed from PCM samples of real instruments. These are assigned into Programs for performance, which contain one or two oscillators with all the



associated editable parameters – such as Variable Digital Amplifiers and Filters. The factory presets in the X-series are extremely polished, and include a whole range which should start cropping up on TV jingles and 7" mixes very soon. Programs can be played singly, or grouped into Combinations of eight (why not 16?) for multitimbral operation. Eight ROM and four user drum kits are also supplied, with a total of 164 separate sounds – highly respectable. Both Programs and Combinations can be further enhanced through either one or both of the two multi-effect processors via four internal busses, and then despatched to the four audio outputs as required.

Although there is a slight sense of disappointment that the X3 and X3R don't really mark any new dawn in synthesis technology, it would be unfair to blame this entirely on Korg. What the company have done is to refine an existing technology still further – and those refinements are very welcome indeed. The sounds onboard the X3R are subjectively excellent, from the rich pianos and strings through to some seriously thundering pseudo-analogue basses and kick drums, and the whole thing is packaged in a much more user-friendly,

easy-to-understand system than either the M or O series. And, come to that, it almost seems unfair that Korg's products should constantly be compared to a single synth first produced some six years ago. I suspect it will take some time for the success of the M1 range to sink into history – or at least until something particularly fantastic comes along to grab the attention of the fickle music technology market. The X3R is definitely a worthwhile piece of kit, if only because it represents Korg's continued concern with producing higher-quality, better-featured products at lower prices – and their quest to satisfy consumer demand. It's also one of the most professional, well-finished synth modules on the market – whether it

fills a need in you is entirely up to personal choice.

All in all, dealing with the X3R is rather like dealing with an old friend who's had a particularly expensive facelift; they're still the same person, they look slightly more attractive and rejuvenated, but some of the wrinkles are still there. And that's not always such a bad thing. ●

THE LAST WORD

Ease of use	Don't lose the manual.
Originality	Not its strongest point.
Value for money	About average for a synth module.
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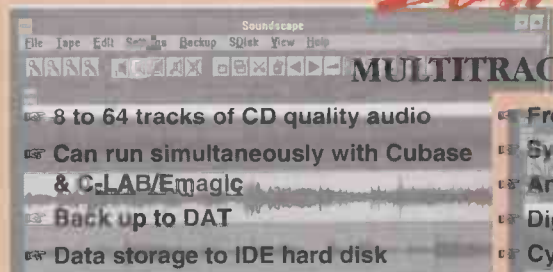
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SOUNDSCAPE WORKSHOP

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SPL

Stereo Vitalizer

psychoacoustic equalizer

Ever wondered how commercial studios manage to bring that certain magic to their recordings – a magic which often evades those working with hi-tech set-ups at home? Ian Masterson has the answer...

Bass – how low can you go? Not far enough, most of the time. Massive PA rigs with massive bass bins tend to cost massive amounts, and for the gigging musician or club-hopper the limitations of small venues with small sound systems can completely destroy any definition at the low end of the frequency spectrum. The problem is one of getting your straining loudspeakers to just push that little bit more in terms of volume, while retaining the integrity of the sound. And once you've fleshed out the bass, you'll need to tweak the mid range to match. And perhaps add a little 'sparkle' over the top...

PA engineers have been aware of SPL's Vitalizer for some time now; when it comes to putting the punch back in a kick drum, or sending the vocals spinning across the crowd, there is little to match it. And in the studio, producers are all too aware of the difference the Vitalizer can make when it comes to coaxing just that little bit more bass onto a 12", or making a radio mix jump out of their monitors. But now the guys at SPL have introduced the next generation – the *Stereo Vitalizer*. Same tricks as before, with the addition of a new stereo width processor, designed to radically enhance the separation of your signal.

For those unfamiliar with the Vitalizer concept, it's perhaps beneficial to start with a brief recap of the way things actually work inside this machine. Connections to and from the unit are provided on both balanced XLRs and unbalanced 1/4" jacks; the Vitalizer has an internal mains power supply, and comes complete with ground lift switch to eliminate possible earth loop hum. Starting from the left, the front panel features bass enhancement, mid-range frequency tune, harmonics, processing level and stereo width rotaries, together with switches to defeat the entire unit, or defeat only the stereo separation. Input level is monitored on two rather 'vague' red clipping LEDs; a bargraph meter might have been a more worthy inclusion on a unit of this price.

As on the original Vitalizer, bass enhancement is facilitated by means of a single rotary, which when turned to the left boosts the bass in a heavy, 'soft' manner ('Sub bass'), and when turned to the right increases it in a 'tight', more defined way. This control is completely different to the low-range adjustment found on a parametric EQ. Here, the signal is harmonically reprocessed to increase the *perceived* loudness and intensity of the sound – the actual volume of bass stays pretty much the



Photos: James Cumpsty



same. The Vitalizer basically synthesises harmonics around the frequencies appearing at the input, making the low frequencies sound much more solid and dominant. Clubbers will delight in the sub-surface rumblings produced by turning this control to the left; producers looking to enhance sequenced Juno basslines will definitely tweak to the right.

The mid- and high-range controls are slightly different in their operation; you select the mid-range 'area' of frequencies you wish to be enhanced (from 22kHz to 1kHz), the level of top end 'sweetening' required via the harmonics knob, and then the amount of enhancement. This is actually governed by the process depth rotary (pretty much like the wet/dry mix control on any reverb) which also affects the level of bass enhancement. For example, if your mid-range cabinets are drowning out the top horns and muffling the bass, the Vitalizer will not only boost the low end action (without stressing your amplification), it will zoom in on the upper range and add previously unnoticed detail to the mix.

But the real gem in the new version of this black magic box is the stereo width expansion circuit. Once again, a single rotary controls all the functions – but this is all you need. An internal network of phase-shifters and frequency-conscious filters simply takes the stereo elements of your original signal and literally 'opens them up'. The effect is not unlike a simplified version of Roland's RSS System – it introduces a sense of 'space' around all the elements of a mix, while retaining the balance of the various instruments.

As usual, the audible effects produced by a unit such as the Vitalizer tend to be almost impossible to describe in print – or indeed in words at all. This is one of those units which just has to be heard to be understood and appreciated. I would strongly recommend taking a DAT of one of your favourite mixes to a friendly audio retailer and witnessing the impact SPL's latest technology can have on your music – suddenly the

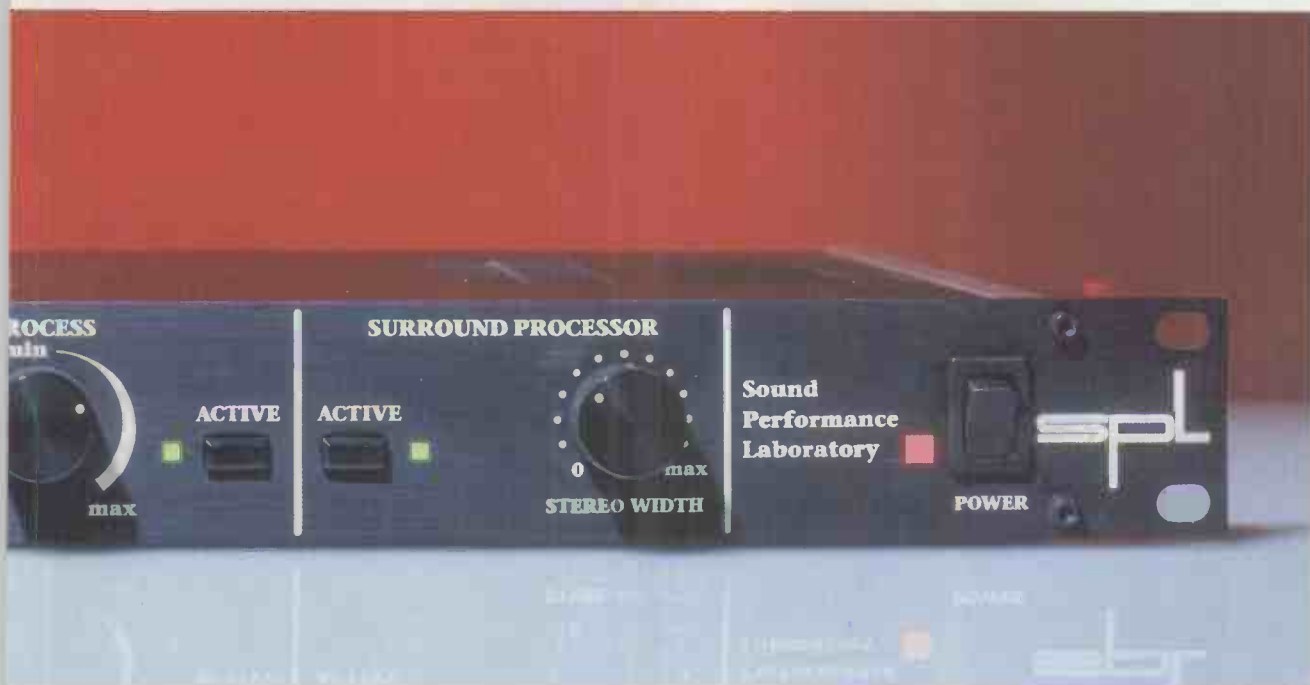
sounds you dream of achieving in expensive commercial studios are available in your own system. And if you want to shake your audience's lungs at your next gig, hire one out to experiment with. It's workings may be a mystery, but the results are all too obvious. ●

Hard fax

Input impedance: 20 Kohm
 Nominal input level: +6dB (XLR); 0dB (jack)
 Maximum input level: +22dBm
 Output impedance: <75ohm (XLR); <600 ohm (jack)
 Nominal output level: +6dB (XLR); 0dB (jack)
 Frequency response: 20Hz to 20kHz (±0.25dB)
 Total harmonic distortion (THD): 0.002% @ 1kHz

THE LAST WORD

Ease of use	A real case of tweak 'n' go.
Originality	The next generation in signal processing...
Value for money	Reasonable.
Star quality	It gives your music star quality.
Price	With Jack connections £704; with Jack and XLR connections £821.
More from	Beyerdynamic • Unit 14 • Cliffe Industrial Estate • Lewes BN8 6JL • Tel: 0273 479411 • Fax: 0273 471825



Aleph

Time Talk

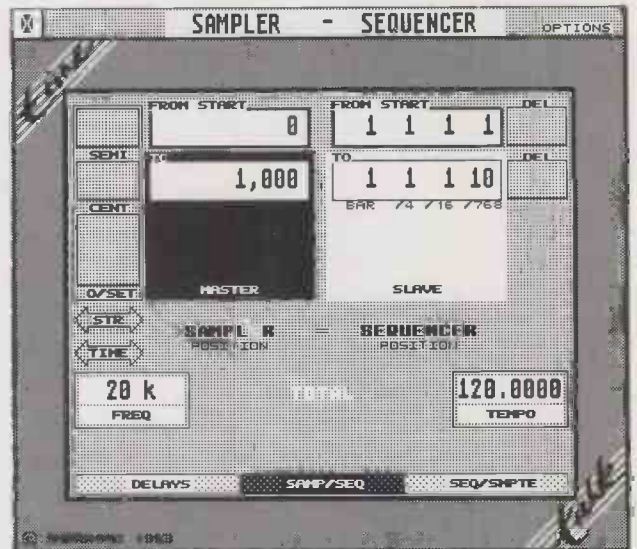
digital time-conversion software for the ST

Tired of trying to estimate the right sample length to fit song tempos? Fed up with scribbling delay calculations on bits of paper? It's time to start talking to your machines in a language they can understand. Review by Ian Masterson.

No matter how simple manufacturers make their products, and no matter how straightforward they are to operate, there will probably never be a time when numbercrunching is completely removed from the studio. The problem of machines talking in one language and musicians talking in another is not easily overcome; while your sequencer still works with bars and beats, your sampler works in kiloHertz and milliseconds, and your tape machine works in SMPTE minutes and frames, making all of your gear communicate smoothly will take a significant amount of mental arithmetic. Unless you use Time Talk, that is.

A 3-page desk accessory for the Atari ST, Time Talk aims to solve all your time conversion nightmares. The software is designed to run in conjunction with 'industry-standard' sequencing packages such as Cubase and Notator, and supports – at the time of writing – all current Akai and Roland samplers. (Owners of other samplers may have to investigate just how to match up their readouts with Time Talk's, but in practice this shouldn't pose too much of a problem.) Installing the program is a doddle; you simply run the supplied 'Install.Prg', insert the disk you want Time Talk to boot up from when you switch on your machine, and let the software do the rest. The resulting fully-installed file should *never* be erased from your bootup disk, as it acts as your complete copy of the software; however, you can move the program to another disk simply by running 'Install.Prg' again.

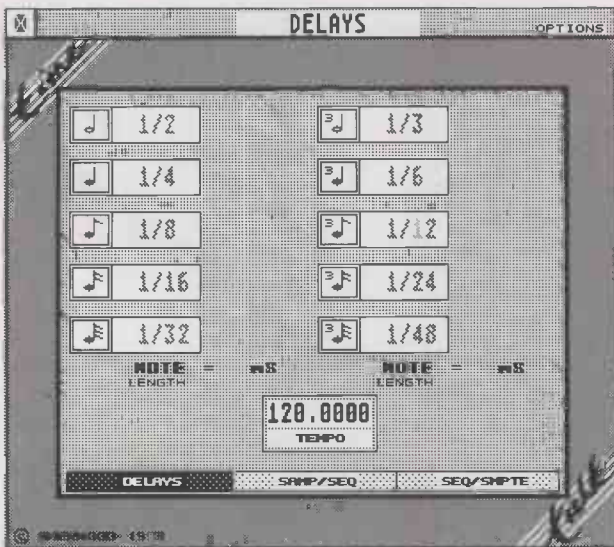
One of Time Talk's most impressive features is actually the supplied manual, which is one of the most exhaustive and easy-to-follow handbooks I have ever encountered with *any* piece of software, let alone a simple desk accessory. Even though the program itself is simple to use, Aleph have spent a great deal of



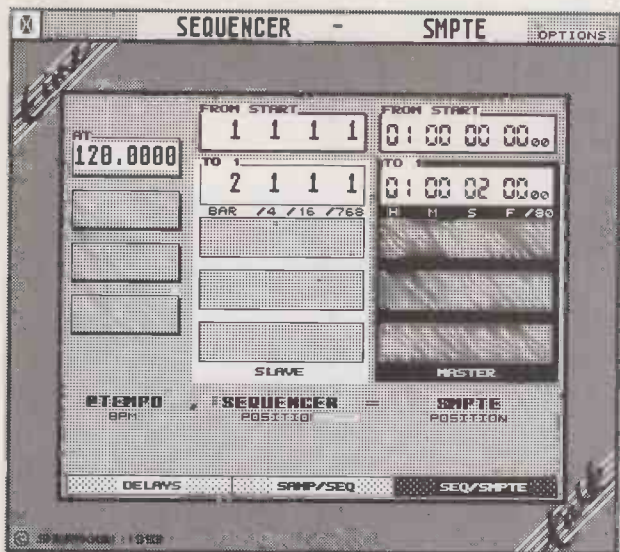
time producing a pleasantly comprehensive set of instructions that should ensure you get the best from Time Talk's features. And talking of features...

The first page you encounter on activating the accessory is the Delay/Tempo calculator. The ability to configure a delay time from a specific tempo is nothing new to the sequencing world, but Time Talk's version is cleverly laid out and instantly accessible. All you have to do is dial in your tempo and read off the delay time in milliseconds at the required note length – you can directly choose any note value from 1/2 to 1/32, 1/3 to 1/48 (for triplet time) and any 'dotted' value in between. More bizarre calculations – such as the millisecond value needed when working with 3/16 note intervals – can also be handled, once you have entered the required note length from the Atari's keyboard.

The *really* interesting features reveal themselves when you activate page two. Here, all the calculations pertaining to sampler-sequencer communication can be found – and extremely welcome they are too. The left-hand side of the screen shows all the sampler information; the right hand shows the sequencer's. Time Talk's protocol can be set to line up with a variety of Roland and Akai samplers, and Cubase or Notator sequencing packages – once you have configured your system, the information may be saved as a default value file on your bootup disk, and you won't need to tweak things again.



Once again, the operation of this page is relatively simple: you enter your start positions, the tempo and sampling frequencies being used, any detune or delay settings on the sequencer track, and either the end position of your sequencer pattern or the end value of your sample, depending on which is known. The manual provides several examples to illustrate just



music to tape in sound-to-picture work. Five independent 'stages' allow you to set a complex tempo/time signature map that follows a director's whims while locking perfectly with SMPTE – and Time Talk even helps you 'patch up' timecode drop outs or erasure. Your music might be running at 123bpm, then 130bpm, then 82bpm – but at what SMPTE points should you set the tempo changes to occur? And what about 'stretching' a tempo over a fade in? What are the changes required here? Time Talk happily reveals the impossible.

In fact, these examples are only the tip of the iceberg. I can only recommend you get hold of a copy of Time Talk as soon as possible and check out its versatility and usefulness for yourself. Should you feel that only the first two pages interest you, and that the video features are of less relevance, you can opt to buy a scaled-down version of the program for slightly less money. Either way, *everyone* who uses sequencers, synths, samplers, tape machines and/or effects would find a use for an accessory like this; it's simple, friendly, invaluable and always there when you need it. ●

how this can be put into practice. You may have a rhythm sample of exactly two bars in length, and a tempo of 127 bpm. How much will you need to detune the sample by to make it fit your track? Or, perhaps, how much will you need to stretch it by? And what about if you have a vocal sample being triggered at the beginning of bar 9, delay -24, and want it to end exactly as another sample starts 5/16ths into the bar, delay +27? Time Talk will tell you how long the sample needs to be. Even if you then decide to halve the tempo and shift the time signature of the entire piece, Time Talk can cope. Conversion can occur in either direction, depending on whether you want to work out values for your sampler, or information for your sequencer. Get the picture?

The final page on offer deals with all the timecode/tempo calculations that are required for syncing your sequenced

THE LAST WORD	
Ease of use	Top marks
Originality	There are other programs with similar features
Value for money	Not cheap, though it will pay for itself in time
Star quality	It has much to recommend it
Price	Sampler only version: £49 (one disk); £59 (two) • Full version: £79 (one disk); £89 (two)
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SHORT CUTS

PARAMOUNT

Rock Rap 'N Roll

CD-ROM

Instant gratification, that's what we want. The more plug-in-and-go something is, the better it sells. Nobody has time to read a manual anymore. People even make – and sell! – records without knowing the first thing about music. Don't you just love it!

Well, that's what Rock Rap 'N Roll is about. It's a sort of instant song assembly/jam machine. It comes on CD-ROM for the Mac or a multimedia-aware PC and, as you will have noticed from the heading, it's been produced by the multimedia arm of Paramount, the picture people.

It's insanely easy to use. There are ten styles – African, Big Band, Blues, Latin, Rap, Reggae, Rock, Soul, Street Jazz and Techno Pop – each with ten loops or grooves. You drag these to the Song-A-Lyser to create a backing track and then

together from sampled material and are of uniformly excellent quality, having been arranged and played by 'proper' musos. Speaking of which, I think it safe to assume most proper musos wouldn't be seen dead using this kind of thing (although I suspect many would get a kick out of it anyway), but then that's not who it's aimed at. It's method of saving recordings in its own format means you can't load a session into other programs or use them as backing tracks for multimedia productions, which is a shame. But again, this isn't what it was intended for.

Rock Rap 'N Roll is simply good fun. Pleb that I am, I played with the thing for ages. If you don't know a rap in the hood from a knock on wood, a maraca from a meringue and even if you have two left hands you can still sound good. I'm tempted to say even a drummer could use it but the Ed, ex-drummer that he is, would take it out. Isn't this the sort of musical instrument you've always wanted? *Ian Waugh* ●

Price: £76.32

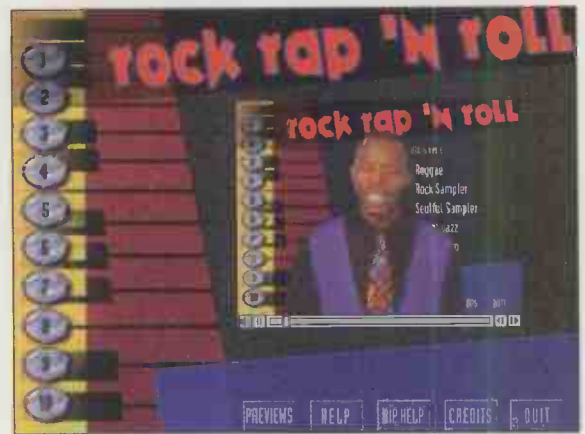
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ONTRACK COMPUTER SYSTEMS

Drive Rocket

software for the PC

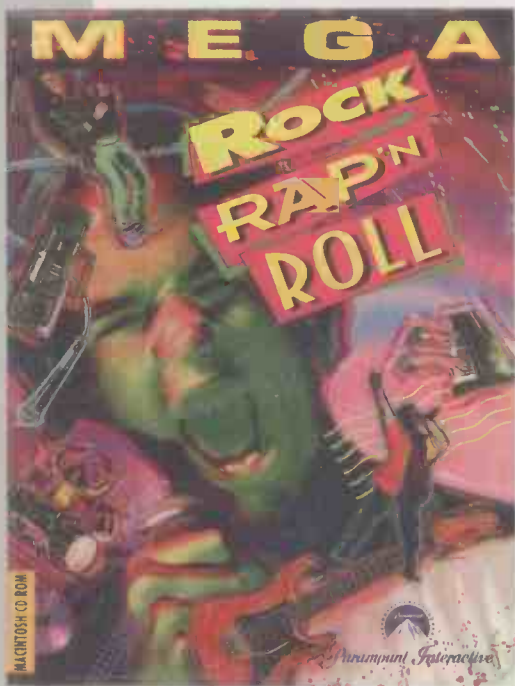
If I hadn't seen it with my own eyes, I wouldn't have believed it! This little program has more than doubled the speed



Rock Rap 'N Roll includes a QuickTime movie featuring Mr Hip Help Man – your rappin' guide to making music.



The Techno Pop style reflects the basic unrefined combination of street influence and technology which fused to form a new insistent music style.



click on certain areas of the screen or press keys on the QWERTY keyboard to play instrumental riffs, sound effects and vocals. Everything is kept very nicely in tune – though you can alter the pitch of sounds if you wish. You can also record your own voice, and (after a few rehearsals), record a session and save it to disk.

The sounds and grooves are put

of the hard disk in my PC!

When I first heard about Drive Rocket I thought it would use some special cache system – a form of buffering – which would speed up data transfers. But it doesn't. It actually makes use of a new technology in most modern IDE (AT interface) drives called 'read-and-write-multiple mode' – also called Multiple Block Size. MBS enables the system to read multiple blocks of data (well, what did you expect?) in one go instead of reading them singly. This result in an overall increase in the DTR (Data Transfer Rate).

Don't worry if you don't understand this, you don't have too. All you do is install the software and watch your drive go into turbo mode. How much faster are we talking here? Well, using Norton Utilities' benchmark, the before DTR was 222Kb/sec and the after DTR was 600Kb/sec. However, just to prove that benchmarks aren't the be-all and end-all of measuring computer perfor-

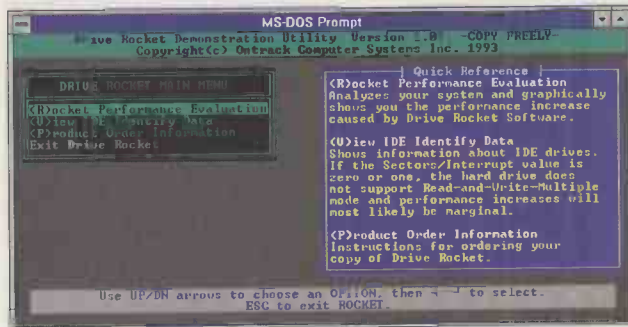
mance, using PC Tools for Windows the before DTR was 460Kb/sec and the after rating was 1250Kb/sec. Whichever way you look at it, the performance has certainly been whacked up.

But before you rush out to buy Drive Rocket there are a couple of things you should know. It only works with IDE drives, not SCSI drives, and not all drives will benefit by the same amount. The docs actually suggest a 40 to 80 percent increase in speed but it could be anything up to 180 percent – although I suspect this is rare.

It's also important to realise that Rocket isn't going to increase the overall speed of your PC by the same percentage. For example it seems to be faster at reading than writing and, of course, it isn't going to remove a video bottleneck on your system. But since installing Rocket the speed of my PC has increased considerably, especially when loading programs and large amounts of data.

So before buying Rocket, either phone Ontrack (notice the freephone number) and ask for a copy of the Rocket Test program or log onto the company's Bulletin Board and download RKT-TEST.EXE. This will analyse your system and tell you what sort of speed increase you can expect. Then you can buy it.

Incidentally, Ontrack are actually an international data recovery service and the company were so helpful with the



Drive Rocket review I promised to give that side of the business a plug. So if your disk dies on you, you know who to call.

I've been using Drive Rocket for about a month with no ill effects. It only takes up 3Kb of RAM and it can be loaded into high memory. What else is there to say? It's a whiz!
Ian Waugh ●

Price: £31.73 (exc. P&P)

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ADDISON-WESLEY

The Incredible Sound Machine

by Mark Andrews

HAYDEN

Cool Mac Sounds

by Craig O'Donnell

Here's a couple of books to help you get more out of your Mac's internal sound. Well, actually it's about putting more in because the more you put in (...altogether now) the more you get out.

The *Cool Mac Sounds* book is the more lightweight of the two – lots of big pics, large text, and light blue highlighting. It's a real easy read; just the thing for you and your Mac to curl up with before hitting the big Shut Down switch.

A disk is included with the package containing lots of sound effects and music clips plus some 'INITs' and 'CDEVs' such as SuperClock and FKey Manager whose place on a sound disk is debatable, but anyway...

Sound manipulation programs include Sound Mover, Sound Control (which assigns sounds to System and Finder events), Sound Extractor (which grabs sounds from a file) and Sound Museum (a Finder archive for all System 7 sounds). There is also a Hyper Card stack containing a simple sound construction set.

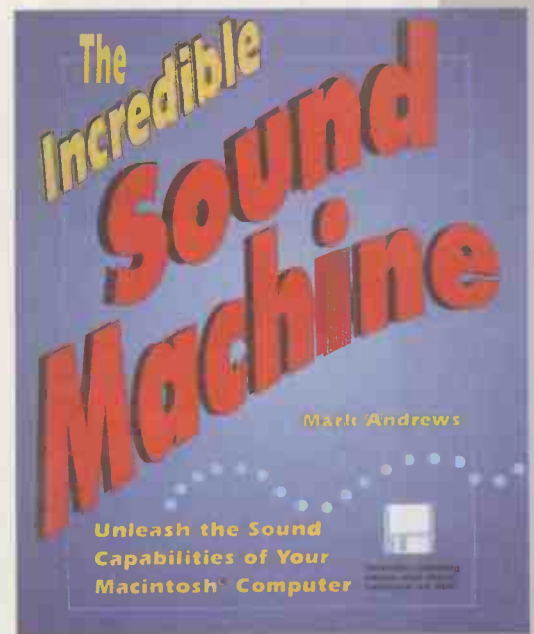
Of the sounds themselves, there are plenty. Listen to 'MacPuke' do its stuff when you eject a disk. Drop 'Arrgh!!!' into someone's System folder and chortle as it screams at them from time to time. There's also a wealth of clean sound and vocal samples that could be useful in a QuickTime movie if you're that way inclined.

The book is basically an explanation of how to use the programs but it also contains useful info on sampling (Mac-sound related, of course), data files, resource docs and the like. It has a sprinkling of hints and tips and in all it's an easy jaunt through the world of the Mac sound machine...

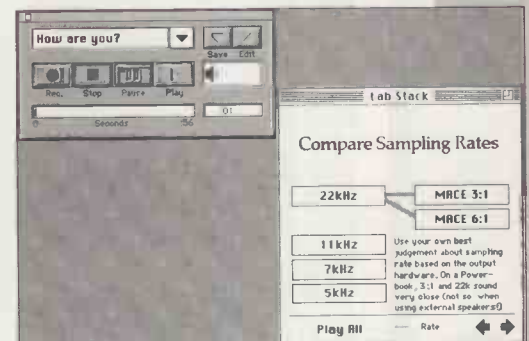
Which is a pretty good title for a book, don't you think? Well Mark Andrews obviously believes *The Incredible Sound Machine* is a much

better title and has produced a book to prove it. Altogether thicker and more substantial than *Cool Mac Sounds*, it's coverage is corresponding broader and the disk seems to have won out in the substantial programs awards, too. It tackles the same sort of area but in much more detail.

Included are the basics of sound, the rudiments of music, speech synthesis, and there are chapters about various shareware and commercial programs and



SndControl is a Control Panel supplied on the *Cool Mac Sounds* disk which lets you assign sounds to various system functions.



The Lab HyperCard stack on the *Cool Mac Sounds* disk lets you mess around with sounds and has some instructional moments, too.

better title and has produced a book to prove it. Altogether thicker and more substantial than *Cool Mac Sounds*, it's coverage is corresponding broader and the disk seems to have won out in the substantial programs awards, too. It tackles the same sort of area but in much more detail.

Included are the basics of sound, the rudiments of music, speech synthesis, and there are chapters about various shareware and commercial programs and



tips for the prospective buyer. Even MIDI gets a look in with a few pages explaining the technicalities – though this is in no way a book for the MIDI musician.

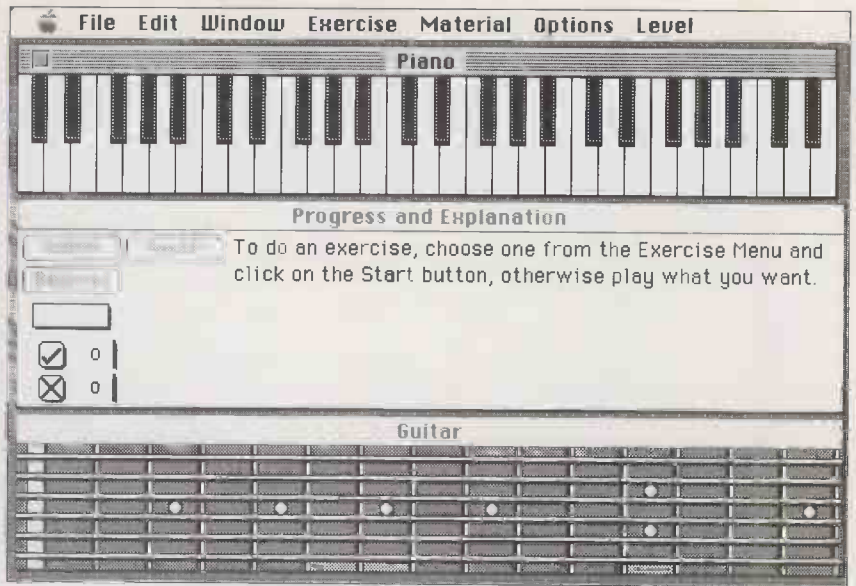
The disk in the back of the book includes Sound App which was written by Apple as an example to developers of how to write sound software. It does little else other than play sounds. Unless you're a programmer.

Of more interest is SoundWave which is a reasonable, if basic, sound recorder and editor with features such as filtering and delay. It also contains a tone generator which constructs waveforms from sine waves. Quite educational really. Anyone remember additive synthesis?

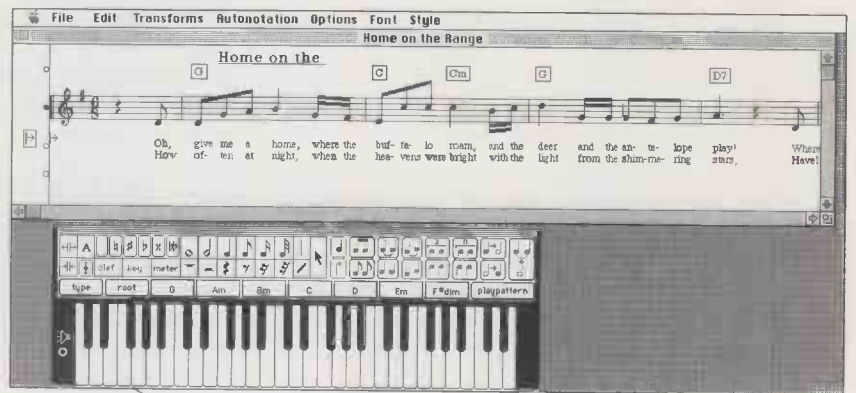
Sound-Tracker is a MOD file player. If you're fortunate enough not to have an Amiga you will have been spared the plethora of Sound Tracker programs (although they are also prevalent on the ST, the Acorn Archimedes and the PC). MOD files are music files which store their data as numbers in order to compress it into a very small space. Anyway, you can now play these MOD files on your Mac. There are thousands of the things in PD land and Sound-Tracker will convert them to Mac format as well as playing them.

Other programs include HyperCorder (a recorder for Hyper Card – no surprises here), and HyperLab which converts English text to speech with the aid of MacinTalk which is part of the package. Good fun.

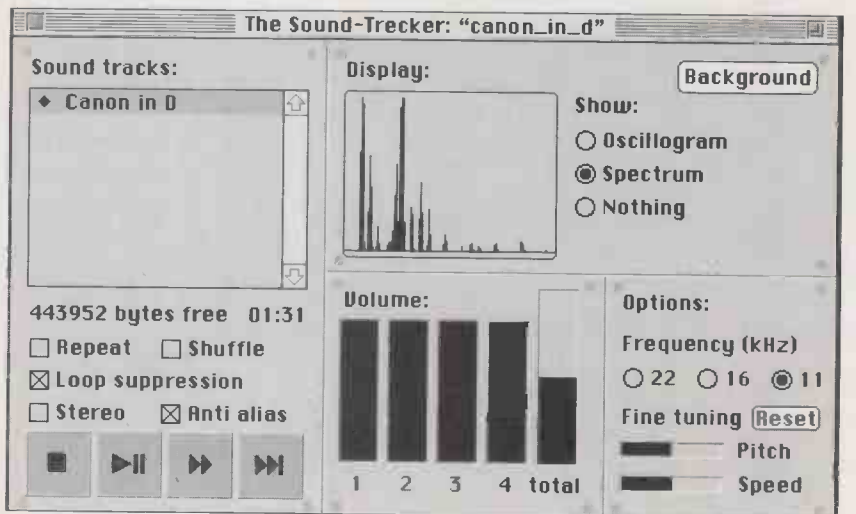
Listen tests your recognition of melody lines and chords and there's a demo of a commercial scorewriter called Songworks which has several very interesting features such as the ability to suggest and generate harmonic and melodic lines. It's distributed in America by Ars Nova, a company which doesn't seem to have a UK distributor. Shame. Both Songworks and Listen are MIDI compatible.



Listen is a demo program with *The Incredible Sound Machine* which helps check and test your aural ability.



Songworks is a scorewriter demo supplied with *The Incredible Sound Machine* disk.



Sound-Tracker is a Shareware program which can play MOD files produced on other computer formats such as the Amiga and ST.

If you want to hone your Mac sound-making ability with an eye to including sound in a demo or a Mac movie, both books will be of help. *The Incredible Sound Machine* is by far the most thorough, but the *Cool Sounds* book has a certain charm – and you'll get through it twice as quickly. If you simply want to dabble, play it *Cool*. If you want thor-

ough and comprehensive you need *Incredible*. Ian Waugh ●

Price: Cool Mac Sounds £18.50. The Incredible Sound Machine £27.27

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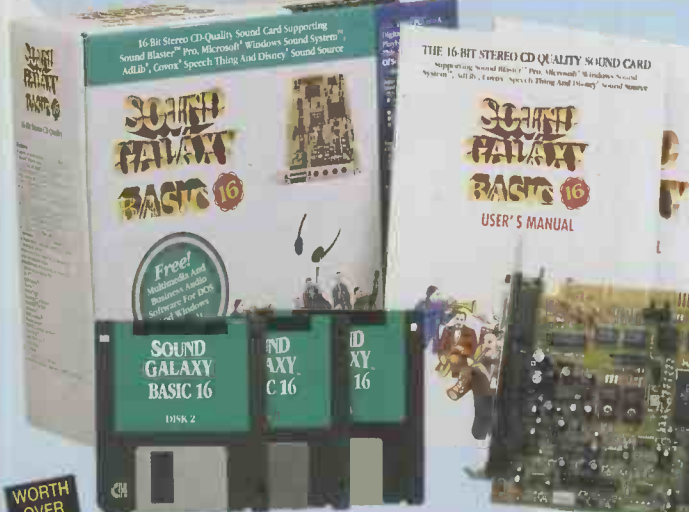
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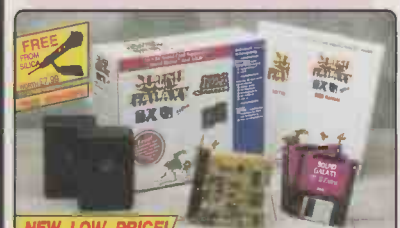
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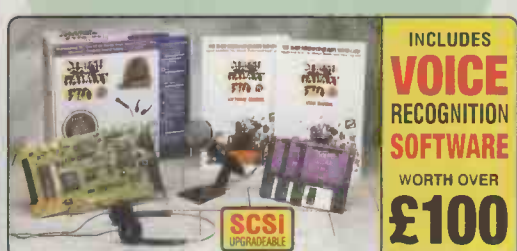
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Demos reviewed by Phil Ward

Demo tip

If you regard your material to be – or wouldn't object to it being described as – 'hardtrance techno', there's an indie label looking for tracks to include on a compilation CD. They're called Phantasm Records, and they want 'new trance', 'progressive techno' and ambient house tracks of no more than six minutes (one tune per demo). Make sure it's a finished master (no half measures) and send it to Simon Maine and John Ford, ASM Music, 318A Kennington Road, London SE11 4LD. Send an SAE to get your tape back. You can also phone them on 071 735 1932 or fax them on 071 582 6128 for more details. Rave? Metal? Rock? Don't bother.

Probe

sounds: Roland D-110, JV-880; MasterSound sampler; Yamaha PSR-300; **sequencing:** Amiga 500/home-made sequencing software; **recording:** Genexxa graphic EQ; home-made filters and "odds and sods"; cassette

Home-made filters? Home-made sequencing software? 17 years old? Aphex Twin alert! Aphex Twin alert! Well, in a way. Probe's Jonathan Gardiner has been writing 'ambient listening' music for a couple of years already, and has been encouraged to expose it to the outside world (MT, anyway) by the recent spate of activity in this field. Jonathan, my boy, you've come to the right place. Have a cigar. No, on second thoughts, have this compilation of Rising High and Planet Dog artists – I'll swap your Tangerine Dream albums.

You see, some of the tracks on this tape are excellent. Especially when you consider that the monitors in the Probe bedroom studio cost a fiver in a junk shop. Clearly, there's gold in them there ears. But I would like to abuse

my position of privilege by encouraging a shift in emphasis away from complex, analogue washes and arpeggiated frippery towards the starker, more abstract textures which are there in the beats but which are somehow swamped.

The problem is prettiness; *musique concrète* provides a better model for electronic ambience than Mozart. Unless you're in the business of relaxation and massage tapes, something to challenge the sonic boundaries of the imagination –

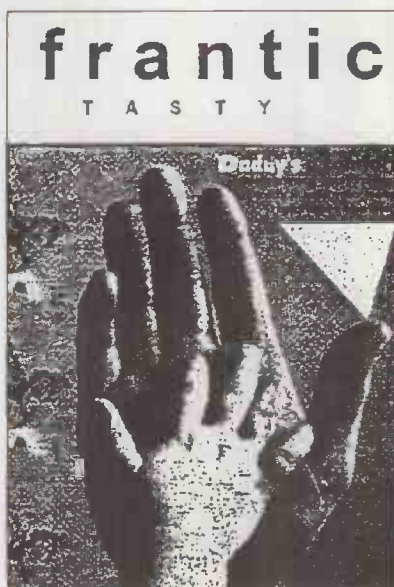
however gently – will nearly always work better, especially with stuff produced by synths and samplers. Probe's strong sense of mind-expanding sound is offset by an opposing sense of musical structure. And a fairly traditional structure, at that. As Obi-Wan said to young Skywalker, 'let go your natural senses, Luke, and use the Force'.

Contact: Jonathan, 0756 752859 (North Yorkshire)

Frantic

sounds: Ensoniq EPS16+; "cheapie" Tandy microphone; **sequencing:** not specified, other than "no computer"; **recording:** Tascam 244; Roland DEP5 fx; vocals live to DAT

Another compact duo, Frantic rasp through their rave tunes with a gusto to match the bronzed surfers of Bondi



Beach. Using equipment not stomach modest, more painfully shy, a remarkably expansive and clean sound is achieved for a selection of songs which, up until the go-go lilt of 'Do Wacha Wanna Do', thump along with their fists in the air. By that song (number five in your hymn books, brethren), it does feel like time for a change. The beats are fine, but you can only take so much vocal urging before a temptation to lob a bottle at the MC sets in.

Then, on the aforementioned go-go track, an audience sample continues the manufactured hysteria to a point where the loop begins to sound like tape hiss. A plea for restraint is probably inappropriate, though: these highly commercial songs succeed precisely because of a brash disregard for recording niceties. Probably, and in spite of how clever they've been with hardly any gear, Frantic would benefit from a recording budget big enough to accommodate their excesses. Go on, Deconstruction, sign the buggers.

Contact: Chris Long, (03) 820 3887 (Melbourne, Australia)

Alaska Highway

sounds: Akai S1000KB; Korg WS-EX, Wavestation A/D with Double Dutch Sam-1 sample expander; Roland MKS80, P330, R8M, D550 with Musitronics expanders; Oberheim M1000; **sequencing:** Apple Mac/Cubase V2.5; MOTU MTP II MIDI interface; **recording:** Roland M16E; Drawmer, Audio Logic, Alesis & Art outboard; Sony DAT

Ah, the joys of DAT. So clean, so bright, so... telling. Alaska Highway are a ▶

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alaska highway
native transmission

1. native transmission
2. alaska highway
3. operation peacock
4. in fear
5. dreamer
6. in fear (part ii)

thoroughly modern duo. One does 'noises & programming', while the other does 'ideas & suggestions', a wonderfully non-musical line-up. Bit of a disappointment, then, to discover a suite of six instrumentals which, in their own cultured way, are maybe a bit too musical. Despite the throwaway

descriptions, considerable taste and refinement has been brought to each sequenced sketch, reflected in the building chords and lyrical melodies that simply can't resist an extra little phrase or change when it might have been better to raise a polite but firm hand and say "no, no, I mustn't, not with my sweet tooth".

The sounds, however, are deliciously exposed thanks to alert mixing and much attention to detail in the transfer to DAT. Throbbing basses, chattering drums and crisp top lines are all perfectly balanced, and it's possible to enjoy the

material on a purely sonic level. It's almost *too* easy to enjoy the material on a purely sonic level; the reason I'm being uncharitable about the musicality of the thing is because the musical ideas offer no new challenges at all. Bits of Jarre and Depeche tumble around in the lilting tunes and expose themselves carelessly, with the knock-on effect of devaluing the music and shoving the excellent production centre-stage. Result: sounds like a highly professional demo for the equipment.

Contact: Mike Best, 071 792 9867 (London)

DEMOcracy



Teknik

A record-breaking sixth appearance by Teknik in the pages of 'Demo Takes'/'Dare!', with the arrival of a new cassette EP called *Excited*. With the addition of E-mu's Vintage Keys module to the rack, an even more devout homage to Kraftwerk has been implemented. And who are we to argue.

Contact: Jonathan Russell, 0273 464142 (West Sussex)

Tony Veysey

Squelchy, syncopated techno – a bit too syncopated at times, in as much as good, firm beats that you can get your teeth into have a tendency to collapse under a canopy of experimental indulgence. That said, some tracks achieve an inspired craziness which is probably best left undissected.

Contact: Tony, 0803 606632 (Torquay)

Theremin

Influenced by Neu, it says here. And named after the late lamented synthesis pioneer. Well, apart from a muddy bottom end, and a starkly unimaginative approach to naming tracks, this is a highly original set of tunes, ranging from jungly, ethereal trance to solid techno. The timbres are fresh, too, and not without a certain home-made air. In particular, the percussion parts benefit from some marvellous studio treatments. Track 3 is my favourite. No, really, it's just called 'Track 3'. Like to hear more, Keiran.

Contact: Keiran, 0908 235701

Noah & Nelly

"All aboard the Skylarrk" shouts Noah, and off we go on a jolly little trip to the solicitors' offices for copyright clearance. Somebody, somewhere should do a deal because this tongue-in-cheek paean to the cartoon characters is good enough to follow The Prodigy's 'Charly' into the charts. It's called 'Tea Time', it's perfect for kids' TV, and it was delivered to MT in a packet of Lapsang Souchong tea. Novelty ravel

Contact: Noah and, er, Nelly, 061 882 0166 (Manchester)



New Identity

Promising three-song attack from a dance trio in homage mode, with cover versions of Depeche Mode's 'Leave In Silence' and Joy Division's 'Atmosphere'. Their own song, 'Love Take Me', shows commercial acumen but exposes weaknesses in the vocal. The arrangements could use a little more imagination, too – things just chug along pleasantly, with few surprises. They do have a sound, though, which should be preserved.

Contact: Stuart Hutchinson, 0602 693376 (Nottingham)

Clan Analogue

A vinyl EP which acts as a demo for the international 'collective of electronic experimentalists' featured in 'Scanners' last month. A mixed bag, with a strong analogue synth bias and some arty jazz posturings, but essential for anyone thinking of joining up. Hey – two demos from Australia in one month!

Contact: The Vinyl Junkie, (612) 360 1510 (New South Wales, Australia)

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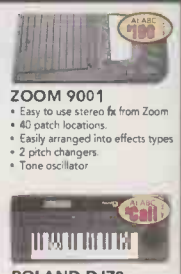
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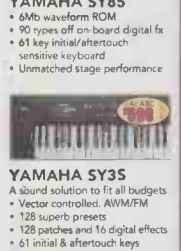
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The size of their toys

● Presumably your interest in such mainstream artists as Gabriel and Dolby reflects their recent conversion to the cult of multimedia. The thinking being, perhaps, that by highlighting the work of such 'giants' of the music business, others lower down the ladder would be encouraged to follow suit and get their feet wet in this fast-developing field.

You couldn't have been more off track. I really do not believe either Dolby or Gabriel inspire anyone any longer; certainly, the idea that because they have chosen to get involved in multimedia others would be encouraged to go out and spend thousands on equipment seems rather far-fetched.

Whilst acknowledging obvious differences in the

work of these artists, what they have in common is a rich man's approach to everything they do – from Gabriel's liaison with supermodels to Dolby's exile in LA – surely the least creative city on earth. Are these really the people to be held up in front of us as examples of what's possible? Your putting aside of musical considerations in order to bring to our attention the hi-tech doodlings of this kind of artist is simply not valid. Dolby hasn't even been able to find the time to put any new (musical) material out for god's sake. He prefers instead to re-issue tracks nearly a decade old! Yet nowhere in the interview did I see anyone take him to task about this.

It is not my intention to tell you your business over what artists to interview or bemoan the absence of my favourite band from the magazine, but I really think you need to apply the same criteria for interviewing those artists working in

multimedia as those still plying their trade as just(!) musicians.

Andrew Tipton
Stroud

► And so we do, Andrew, with artists like Future Sound Of London, Sheep On Drugs, Hex, Utah Saints, David James, etc, etc.

Whilst I have some sympathy with your 'rich men with expensive toys' argument, I think it fair to say of Peter Gabriel and Thomas Dolby that it was not the merit of their work in multimedia that was under scrutiny – that was to come (as with this month's review of *Xplora1* in 'End Product') in the future. What we considered significant was that with the involvement of such 'heavyweights', the field of multimedia – and in particular CD-ROM – looked set to be given a much-needed shot in the arm.

At the risk of sounding like some Thatcherite cabinet minister, there is an inevitable 'trickle down' effect of this kind of technology. Having bought CD-ROM players to interact with a title like *Xplora1*, the public are then going to be looking to buying further titles – and inevitably this will include the work of lesser-known artists.

Having said all that, I really feel no need to make excuses for the inclusion of an interview with an artist such as a Gabriel. Rich man or not, he remains a figure of considerable influence, and irrespective of what you may think of his music, warrants the respect accorded to him. I need scarcely point out the

One small step for man; one giant leap for electronic musicians with a fax machine. This month, twins Klive & Nigel Humberstone of soundtrack duo In The Nursery.

MT ease

1 What was the first synthesiser you ever played? "A Yamaha DX7 was the first that we played and hated ever since – but the first synthesiser that we bought and loved was a Logan String Machine, shortly followed by a Roland S-10."

2 Who is your favourite musical pioneer? "Has to be Mr MIDI for allowing us to realise the music in our imaginations without being tied to the technicalities of reading and writing music."

3 What's the difference between Bela Bartok and Mr Blobby? "Bartok is one of the great originals among 20th Century composers, whilst Mr Blobby is composed of pink latex rubber."

4 What's the difference between a drum kit and orchestral percussion? "A drum kit is OK for your average 'couch potato' of a musician – but playing and incorporating orchestral percussion is just a tad more interesting and challenging."

5 Playing live: why bother? "Nothing quite matches the instant feedback from a live audience. You can spend days in a studio environment and never come close to it."

6 Which record says most to you about music technology? "Let's be obscure here – 'Walk On Gilded Splinters' by The Flowerpot Men, for the powerful fusion of experimental cello and programmed heavy beats – sadly missed."

7 What does the phrase 'multimedia' mean to you? "Expression, an artform for artists – a means to an end, a desire to communicate."

8 How do you react to hearing a sample of your music on someone else's record? "I've yet to hear anyone use our material, but Ian Price from 808 Suite admitted to trying once. The closest we've heard being sampled was collaborating with Andrew Weatherall on the Sabres Of Paradise single 'Smokebelch', where on the David Holmes remix he used the military snare drumming of Q, our percussionist."

9 What is the next piece of equipment you would like to buy? "The Axis BRC and a second ADAT to keep our first one company."

10 Will technology become invisible? "Only in the sense whereby 'invisibility' means that the machine is not ruling the mind where ideas come first, and technology offers access to a wealth of different textures."

ITN news

The writing nucleus of Klive and Nigel Humberstone was launched as In The Nursery in 1981, with a debut album *When Cherished Dreams Come True* following in '83. A unique

sound was based around a backbone of orchestral percussion and military snare drum. Further classical influences, integrated with sampling technology, were unveiled with the release of *Twins* in 1986.

1989 saw the group move to Third Mind Records, who released *L'Esprit, Sense and Duality* amid acclaims for the 'filmic' nature of ITN's music – borne out by the recent release of their first feature film soundtrack: *An Ambush Of Ghosts*.

recent offerings of the other members of the band he was once in. NL

Machine music

● Gary Caulfield's comments about the Theramin reminded me of that old chestnut of electronic instruments not being as expressive as their acoustic counterparts. I think there are synths which, in their own way, are as expressive as violins, guitars etc. Perhaps the problem is that records featuring expressive keyboard playing are not being given a high profile.

There are new Keith Emersons out there, and thanks to small labels they're getting some exposure, but not enough to convince the world and his missus that synths are more than black boxes. This doesn't mean that today's electronic music by people like System 7 and Future Sound Of London lacks expression - far from it. Indeed, the efforts of these musicians - and hundreds like them - are breathing vitality back into synth music.

What I am trying to say is that it's a great shame that even with such innovative people around, electronic music - from Stockhausen to The Aphex Twin - is still deprived of the respect it deserves. The occasional display of keyboard pyrotechnics won't change things overnight, but what the hell - it will be damn good fun.

Richard Clews
Wolverhampton

▶ The thing that always concerned me about the synth/expression debate is that what people are referring to when they speak of expression in this context is simply dynamic range - the movement between highs and lows. What is seldom considered by those with no involvement with electronic music is the equally important area of sonic expression - the selecting of a sound which complements perfectly a given piece of music. This, of course, is where synthesis and sampling really come into their own.

Whilst acknowledging Brian Eno's point about the time wasted when flicking through bank after bank of patches trying to find the perfect sound, no one will ever convince me that the finding of that perfect sound isn't actually worth it - that it isn't as valid a form of musical expression as any other. It may fly in the face of traditional thinking, but having mastery over the sonic potential of electronic instruments is every bit as worthy a goal as instrumental dexterity, and is certainly less likely to lead to the kind of indulgence which has characterised the work of Keith Emerson and the like.

The other thing that puzzles me is the describing of certain kinds of music - personified, for the sake of argument, by artists such as Kraftwerk - as being 'emotionless' or 'expressionless'. This is patent nonsense. Music of this kind may not reflect those emotions we choose to identify with as humans, but that doesn't prevent it from evoking an emotional

response. Music made on machines it maybe, but it isn't music for machines. NL

Ye Olde MT

● Someone's been messing around with the magazine again, haven't they? Not only has 'In The First Place' suddenly been moved to pages three and four, someone has decided that the old photographic technique of sepia toning, so beloved by our grandparents, is the best way to advertise hi-tech music.

It's an interesting concept. What, I wonder, can we expect next - a 'family' shot of the editorial team with the Editor (replete with waxed moustache) stood proudly behind his staff sitting and kneeling in front of him? Or maybe Ian Waugh will be given the latest valve radio to review.

Russell Joyce
St. Helens

▶ Yes alright, we screwed up... don't rub it in. There was, I'm told, a problem at the printers with the colour separations. Everyone's very sorry about it - and yes... damn it - we're embarrassed! It won't happen again. Probably. Satisfied? NL

Opinions expressed in readers' letters are not necessarily those of the Editor, who cannot be held responsible for their contents and reserves the right to abbreviate letters where necessary.

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GRIEF

**Your technical problems solved.
Write to: Grief, MT, Alexander House,
Forehill, Ely, Cambs CB7 4AF.**

Q Perhaps I should begin by saying what an excellent magazine MT is and you have once again hit the nail on the head by exposing a new medium of expression – multimedia.

May I, however, be the first to gripe in the 'Grief' column? I have recently bought a Video Master and I would like to disagree with your comments in the article in issue 82, August 1993. For those who cannot afford big toys this is a major breakthrough. My gripe is – no MIDI on the Video Master. Having said that, there must be a way around this. Are there any books on MIDI programming for the Atari STE and are there any utilities already on the market that fit into Video Master?

I read in your December issue the 'Where MIDI meets video' article. It was very interesting but not really helpful as my digitiser and software is by Microdeal and in the article David James talks about Rombo. If there is anyway that you can help I would be very grateful.

Tony Canderton
Alkmaar, The Netherlands

A Thanks for the comments, Tony. We think multimedia and the combination of video and music is the obvious way forward for the musician – and the music industry, come to that. MT boldly goes and all that. Give it a year and we'll see how many more – other than Pete Gabriel *et al* – have embraced it.

You're not the first to gripe in 'Grief' by a long chalk. Don't know what part of the Video Master review you disagree with unless it's to do with the fact that it's rather low level. If that's so, I can't see how you can

disagree because it is. Hell, not even MIDI as you so rightly point out.

Anyway, as regards your questions...

There are a couple of books about MIDI programming, including *The MIDI And Sound Book For The Atari ST* at £21.24 from IMP (0525 718181). It's a few years old now, however, and you may have trouble tracking one down. There was another book with a weird back-to-front title called MIDI (or Music) Programming for the Atari ST by R.A. Penfold. I can't find reference to it anywhere now but I think it was published by Babini. Penfold has published books through PC Publishing (0732 770893) so you may be able to get in touch with him through them.

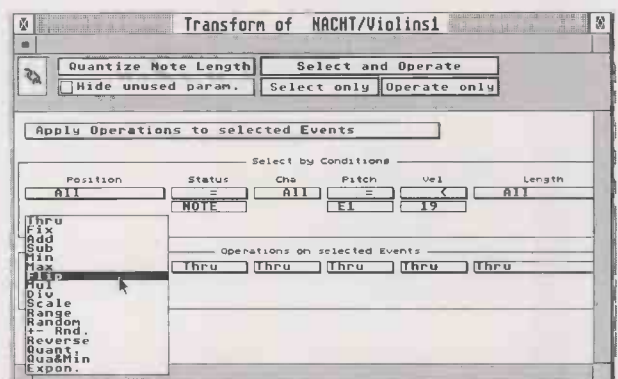
I'm not aware of any plug-ins for Video Master. Microdeal has recently sold out to HiSoft so if you give them a call on 0525 718181 they will tell you if there is anything new in the offing.

Perhaps you should talk to David (071 435 8092) and ask if any of his software is adaptable to Video Master. In the article he did say he'd be willing to talk to anyone interested in collaboration. IW

☆ *There is a much more effective way of creating non-standard tunings than the tip you suggest in November's issue. However, you do need a synth/sampler that recognises polyphonic aftertouch and, unfortunately, many do not. But if you have one, here's what to do.*

Set up your synth with poly aftertouch routed to modulate pitch (a semitone is sufficient). Set up a real-time transform in Notator to re-map incoming note numbers to poly aftertouch and also allow note information to pass.

As it stands this is pretty useless as note 64 generates a poly of 64, note 65 gives a poly of 65 – and so on. It's fine for basic stretch tuning but not much else. What you must do is remap the data via one of the user-definable key maps. You can then set the tuning for each note in turn. It's very laborious but well worth it.



Micro-tuning the Notator Logic way – on the Transform page

The beauty of this approach is that it works in real-time, it is polyphonic (unlike the pitchbend method) and by setting up different key maps you can quickly change between scales. The bad news is that because each note actually consists of 2 bits of data now, you must be very careful when editing not to separate them.

I have not used this setup extensively but I have tested it and enclose the necessary Transform for Notator on disk. It would work better on Logic where you could place the Transform on the output rather than the input of the sequence but I have not had time to try this yet.

When working with custom tunings it is worth creating a sine wave type patch which will aid tuning by ear. With real-world sounds there is always some element of pitch blurring which makes it harder to accurately assess tuning. Incidentally, this is one of the reasons why equal temperament is found, even by people with quite sensitive ears, to be acceptable on the piano.

Any research in this subject is good use of the amazing technology most musicians can afford these days. It beats the shit out of sampling some tired old drum loop from a sample CD, adding a 1-bar bass pattern... the rest is unfortunately not history yet.

Well done MT, for encouraging this sort of experimentation.

Gavin Greenaway
Hersham, Surrey

Video Master: no MIDI, but new owners HiSoft see a multimedia future.

A Ah, you were doing so well up to the end when your music predilections got the better of you. But if it's any consolation I agree entirely.

Your method is an excellent example of the use of technology but you do need a bit of 'the right gear' to do it. Notator Logic, as you say, would be superb for this sort of thing. In fact, it's an absolute trove for power users.

We'd like to keep the microtuning channel open so if anyone else has anything else to say about it, you know where to write. We'd also like to encourage the use of programs like Logic for nefarious purposes, so if you've devised a mega Environment set-up, send it along with a few words of explanation. All we need now is to hear some of this microtonal music. If you've written it, we want to hear it – send it to 'Dare!'. IW

Q A question and a plea from the heart. Starting with the plea; I have two synths – a TG500 and Wavestation A/D. On the whole they are really good but I have a gripe. Like many other musicians, I like some of the sounds but need to give them a little tweak – pitchbend range, remap zones and so on.



Preset sounds: are manufacturers giving us too much ROM and not enough RAM?

In the case of the TG500, the majority of factory sounds are stored in ROM and cannot be altered. I could copy them to RAM but this would overwrite another, possibly useful, factory sound. As I am never certain which sound will fit a song until I am rehearsing it with a band, I like to keep all of my options (sounds) open. What I am saying is – manufacturers, please don't put performances, voices, patches or whatever in ROM. Just put the waveforms there and include empty RAM slots at all levels of the hierarchy.

Korg goes part of the way with the A/D as the RAM 2 bank can be used for your own wave sequences – but you can only get to this level from a patch. As there are no empty patches you have to edit an existing one and this means that other performances containing this patch will be altered, too.

Now onto the question – is there such a thing as a box containing knobs, wheels and sliders that can be assigned to MIDI Controllers? With so much external real-time control offered by modern synths it's a shame that they only have a couple of wheels and sliders with which to control them! It would be nice if this box could take over most of the duties of a Master keyboard such as organising program changes, zone mapping and even playing MIDI sequences (I'm getting carried away!) freeing the keyboard for what it does best – sending Note and Velocity information. How about it guys?

Martin Papier
Finchley, London

A Well... sure manufacturers could give you empty RAM slots. But isn't it better to have them filled with more sounds? That's the idea of having a programmable instrument, after all. All you need is some form of voice storage so you can save the manufacturer's RAM sounds – say to a RAM card, a MIDI Data Filer or a computer-based voice librarian. You can then tweak to your heart's content confident in the knowledge that you can load the RAM sounds again at any time.

I have come across instruments whose RAM banks contain duplicates of the ROM sounds and personally I feel a bit miffed about this. It's like the manufacturers were too lazy to program their own instrument. I'll throw the topic open for discussion among our erudite readership – and any manufacturers who might be reading this.

As regards your question – there are a couple of MIDI box-type gizmos which you might be interested in. Peavey's PC1600 (around £329) contains 16 sliders, 16 buttons and a data wheel. These can transmit

virtually any type of MIDI message from continuous controllers and program change data to SysEx messages. You can create up to 50 settings which can be instantly recalled. (See review in MT April '93)

There's also Quasimidi's Turbo-Volcon/D – cute name, eh? (around £319 from BCK. Tel: 0708 448799) which can create eight independent overlapping keyboard zones across two instruments, each with lots of settings such as volume, transpose, velocity curve and so on. It also has eight rotary knobs which can function as real-time performance controls to adjust aftertouch, modulation, volume, pan etc.

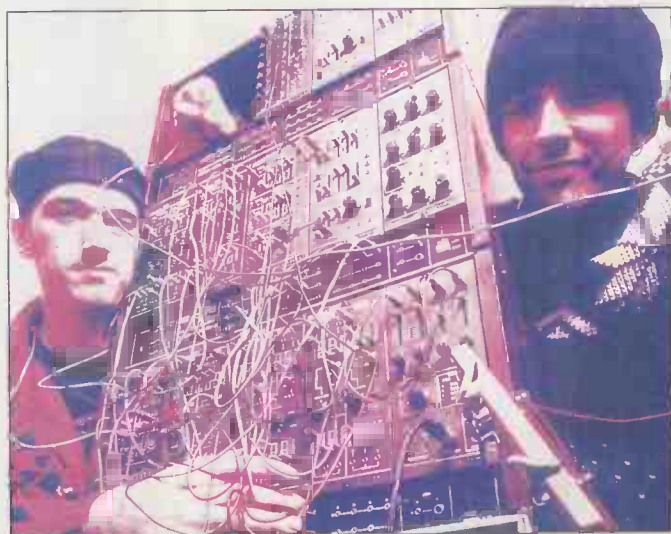
You might also consider the slightly cheaper Esmeralda (around £219) which has fewer functions and features, or the Hot Foot Dual Port Programmable MIDI Remote Controller (around £569 from Ablesure on 0206 751165) which can transmit virtually any type of MIDI message, including SysEx by stomping on a set of footpedals. (Reviewed in MT Aug '93.)

And while we're on this subject, remember that although many modern synths can respond to changes in real-time, some will tend to glitch if you throw too much data at them, especially while playing. IW

Q I recently heard that Meat Beat Manifesto have used a Roland 100M modular synth that used to belong to The Human League. Is this true, and if so, where can I hear the beast in action?

Andy Leibnitz
London

A Certainly is true, Andy – it belonged to Ian Craig-Marsh, in fact, and the best examples of the machine's new lease of life are on the album *Satyricon*, released by Play It Again Sam Records in 1992. In particular, check out the track 'Original Control (Version 2)' for the full effect of a rasping analogue sequence sync'd perfectly with heavy hip hop beats. PW



Jack Dangers and Jonny Stephens of Meat Beat Manifesto, making friends with a former member of The Human League: the Roland 100M.

Unfortunately, we cannot answer readers' queries on the phone and we are unable to reply individually by letter. All letters to Grief will be deemed intended for publication.

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Aphex Type C II	£259	Lexicon LXP1 & 5	£399
BEHRINGER ALL NEW	Lexicon LXP15	£849	
Behringer Compose	£299	Roland SDE330	£449
Behringer Ultratex	£292	Roland SPV330	£449
Behringer Duoflex	£125	Sony DP range	low UK
Behringer Danoiser	£169	Yamaha SPX900	£599
Boss SE70	lowest UK	Zoom 9001	£179
dbx boom box new	£225	Zoom 9000	£189

QUADRAVERB+ £299

ART MULTIVERB SE

£325
NEW BOXED

ZOOM 9120 only £295

BBE 362 / 462 £199 / £299

To insure the frequency components of any audio signal reach the listener in the proper relationship, the BBE process uses phase correction for the 3 frequency bands. It does not add artificially created harmonics of any kind. Both units are stereo and offer Definition and Lo-contour adjustment, while the 462 has separate controls for both channels.

DJ producer

TECHNICS SL1210 industry standard record deck inc cart. POA

VISCOUNT STUDIO MULTI-EFFECT

When our product specialists heard the prices on this new range of multi-effects, they were sceptical. After a brief listen, however, quite a few revealed the strength of Viscount custom VLSI technology in departments like dynamic range, and signal to noise that out-perform units at twice the price. But it's impressive are the algorithms themselves. Developed in Europe by a team of leading music engineers to suit current up-front mixing techniques, they're characteristically smooth and free from the harsh grainy overtones associated with many of today's budget units. Reverb, for example are clean, natural and spacious. And we're confident enough to say that if you are a fully satisfied return the unit within 5 days for a prompt and courteous refund.

AS REVIEWED IN SOUND-ON-SOUND NOV 1991

EP1

£239

EP2

£13

EP3

£13

EP4

£13

ER2

£124

With similar sound quality to the excellent EPX2, ER256 is a dedicated reverb unit which offers a wide selection of refined reverbs and delays. As the name implies, there are 256 different presets

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Gemini PMX12	£156	Vestax PMC-05T	£239
Gemini PMX16	£210	Vestax PMC-10-II	£299
Gemini PMX200	£340	Vestax PMC-15	£349
Gemini PMX2500	£370	Vestax PMC-20SL	£349
Gemini PMX3000	£399	Citronic Master/Mix	£485
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MIDI hardware



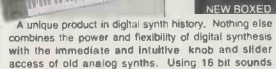
AKAI S950EX £1099
 Package includes:
 • Time & Space CD with 1000 samples
 • 750k RAM expansion (scope purchase on £50 floppy disks - the last of these industry standard machines and the best selling sampler ever. 11 outputs + Timestretch + Exchange disks with \$1000 + 48 kHz sampling rate + Huge library available + 1.5 Meg RAM + SCSI + SP/DIF option cards + Full synthesis features... No other sampler gives all these features at anywhere near this price. Turnkey galactic exclusive. Hurry while stocks last!!!

S3200, S3000, S2800, CD3000, S01
 Unbeatable prices

E-MU MORPHEUS £90

The most exciting new synthesizer for years... in addition to the superb 16-bit sound quality and straightforward user-interface that Emu are famous for, Morphus 2-plane technology offers new sounds and expressive control that you've never experienced before. This instrument is the first absolute definite winner I have encountered in my lifetime - Sell the family heirloom, prepare your credit card and bank account, pick up the telephone, get your order in now! Synthesis is your game, Morphus is THE instrument to buy - Martin Russ, Sound on Sound, Dec 1993

ALLESIS QUADRASYNTH Now IN



ROLAND JD800
 lowest price NEW BOXED

A unique product in digital synth history. Nothing else combines the power and flexibility of digital synthesis with the immediate and intuitive knob and slider access of old analog synths. Using 16 bit sounds sampled at 48 kHz as the basis, the JD800 processes these through the famous Roland digital filter with resonance to give stunning walls of sound to compete with the greatest sonic blasts from the past.

We have secured an exclusive on the last ever shipment of these dream-machines. Limited availability

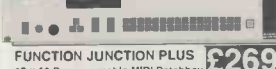
Waldorf MicroWave RRP£999 **£899**

FATAR STUDIO MASTER KEYBOARDS

The 48 & 61 synth-action keyboards offer full-size velocity sensitive keys (128 levels) with a firm but light action. Keys are designed for minimum flex and positive seating. FATAR's flagship models feature a fully weighted and counter-balanced action keyboard with 88 piano depth keys. Both models have a split capability, and the PLUS also has pitch & mod wheels, 3 separate outs, adjustable key-response curves, and assignable footswitches and pedals.

We feel that these keyboards are the best we have played if you disagree, we will give you money back.

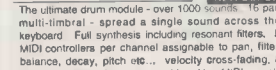
Kurzweil K2000 £1599



FUNCTION JUNCTION PLUS £269
 16 x 16 Programmable MIDI Patchbay

These patchbays have a unique 8-way merge facility. Additional features include: Zoning, MIDI filtering, transposition & delay, velocity offsets, scaling, compression, expansion, switch and cross-lane, Controller remapping, MIDI "panic" button provides complete system reset. 64 user-patches can be recalled using MIDI. This unbelievable offer will last soon!!!

YAMAHA RM50 £399



The ultimate drum module - over 1000 sounds. 16 part multi-timbral - spread a single sound across the keyboard. Full synthesis including resonant filters, 5 MIDI controllers per channel assignable to pan, filter, balance, decay, pitch etc... velocity cross-fading, 8 outputs, 6 trigger inputs, ground-breaking MIDI sample dump option, 4 card slots (Huge range of up-to-date sound quality, ridiculous price. Hurry! Hurry! Hurry!

40% OFF + SECOND HAND & EX DEMO • UP TO

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 Oberheim H1000 £399 Proteus1+ £599
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- Roland J750 24 bit stereo sampler £2389
 Roland MKS32 £1799 Proteus2XR £449
 Roland DS00 £949 Proteus3 £449
 Roland JD900 £1150 Proteus3XR £545
 Roland JV1000 £1425 Vintage Keys £699
 Roland JV80 £899 Prolformance £249
 Roland JV60 In stock Prolformance £295
 Roland JV35 In stock MOTHER KBDS £299
- Realid SC55 Mk2 Sound Canvas £449
 Roland JV80 POA Roland A30 £299
 Roland F55 In stock Roland PC200M2 £189
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 Yamaha SY85 £999 Alesis SR16 £199
 Yamaha SY95 new £599 Alesis DA new £299
 Yamaha TG500 £749 Boss DR660 new £299
- Roland DJ70 sampler - great for MCs £1177
 Yamaha TG300 In stock Roland R8 Mk2 £399
 Yamaha TG100 £299 Yamaha RY30 £349
 Oberheim H1000 £399 Yamaha RY10 £199
 Akai S2800 new LOW Alesis Datatask £299
 Akai S1000 £1899 Alesis M1TB £179
 Akai S01 £599 Roland S855 new £POA

ROLAND ATW-10 PACKAGE £499

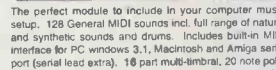


Almost every PC owner we speak to is looking for some way to combine proper hard-disk recording and MIDI playback. The ATW10 card includes 2 channels of CD quality hard-disk recording at full Roland General MIDI synthesizer (like an SC7), and a multi-effects processor. Bundled Sound Impression software offers full WAV file editing, mixing, playing and integration with MIDIFiles and MIDI files. You can use it with any MIDI sequencer. **COME IN AND SEE IT IN OPERATION!!!**

KAWAI EXCLUSIVES

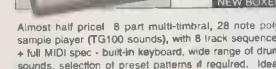
- while stocks last
- G-MEGA 32 part Synth Module RRP £649 DEAL £449
 K11-great sounding fully editable 32 part synth with resonant filters, vel & A-touch keybd £949 £699
- MDK01 8 part Master keyboard with pitch and mod wheels £309 £299
 G-55 MIDI sequencer 3.5" disk drive £409 £399
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DREAM GMX-1 £139



The perfect module to include in your computer music setup. 128 General MIDI sounds incl. full range of natural and synthetic sounds and drums. Includes built-in MIDI interface for PC windows 3.1, Macintosh and Amiga serial port (serial lead extra). 18 part multi-timbral, 20 note poly, responds to MIDI volume & pan for computer controlled automated mixes. Must be heard to be believed.

YAMAHA QY10 £149



Almost half price! 8 part multi-timbral, 28 note poly sampling player (TG1000 sounds), with 8 track sequencer & full MIDI spec - built-in keyboard, wide range of drum sounds, selection of preset patterns if required. Ideal as writing tool / sound module / backing machine. Smaller than a video tape - sounds on the move! Ideal stocking filler. Runs from batteries or AC adapter (optional). These are the last units available anywhere - order now, don't be disappointed - these will fly.

QY10 / PC200-II £319
 QY10 / Novation MM10 £299
 QY10 / Kawai MIDIkey £379

MIDI SOLUTIONS Midi Processing units from £59.95

Exciting new range of real-time MIDI processing boxes at exceedingly good prices.

2 way merge - works with SysEx data tool £59.95
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 Relay - Converts MIDI note data for punch/buff £69.95
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These units are programmed from your computer using simple SysEx messages. Your sequencer must be able to send these messages in order to use the units

COMPUTER DIGIDESIGN SPECIAL DEALS

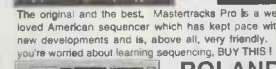


Call to discuss your Mac package

Apple Macintosh software
 NotatorLogic Cubase Score Vision 2.0

£299 £399 £299

MASTER TRACKS PRO £199



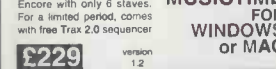
The original and the best. MasterTracks Pro is a well loved American sequencer which has kept pace with new developments and is, above all, very friendly. If you're worried about learning sequencing, BUY THIS!

ENCORE FOR WINDOWS OR MAC £469



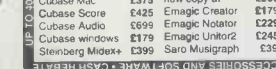
Encore's unrivalled ease of use has made it the ideal choice for musicians who want to compose using traditional score notation, and to print out professional quality manuscript. It offers four methods of entering music, including MIDI real recording and music input. Encore is a "pure" notation program. It is perfect for the educated musician, who finds other forms of display irritating. It is excellent for education purposes, as you see what you play immediately notated, thus making sight-reading sound simple.

MUSICTIME FOR WINDOWS OR MAC £229



Popular budget version of Encore with only 8 staves. For a limited period, comes with free Trax 2.0 sequencer

MUSICATOR FOR WINDOWS VERSION 2.0 £295

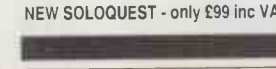


Now with 32 staves instead of 16. Full mixer automation, professional SMPTE sync facilities, multiple MIDI ports, transcription of MIDI inputs and punch in and out on the fly. Upgrades available for existing customers. Please call

FREE ACCESSORIES + SECOND HAND PC/MAC

Steinberg Cubase £289 Alan Fagan from £499
 Cubase Lite £99 Emagic NotatorLogic £289
 Cubase Mac £375 new copy at £289
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 Cubase windows £179 Emagic Ultrator £245
 Steinberg MideX £399 Sarr Musicgraph £39

MIDI QUEST version 4.0 £219



Universal Editor and Librarian packages

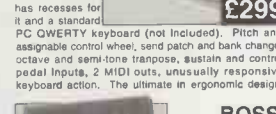
THE WIDEST MIDI DEVICE SUPPORT AROUND
 For Atan, Macintosh, DOS, Windows and Amiga. Now supports 185 MIDI devices, including Vintage Keys, Kawai K11 & G-Mega, Wavestation SR, X3, 2 and 03, Waldorf MicroWave, SY85, TG500 and TG100, and many more. *235 for the windows version.

NEW SOLOQUEST - only £99 inc VAT

VINTAGE Synthology ~ service, and provide full

Synthesizers. We carry the largest inventory of analog including ARP, Moog, Roland Bucha, Serge, Oberheim, Korg, Sequential - modular synths, polyphonics and monophonics. We can locate all rare synths and rare parts. Unusual machines include 1920's RGA Theremin, The Obermoog, the last brand new Xpanders and Metr21s in the world. Moog string filter.

FATAR Computer Music Station £299



The CMS61 comes with mouse mat and has recesses for it and a standard PC QWERTY keyboard (not included). Pitch and assignable control wheel, send patch and bank change, octave and semi-tone transpose, sustain and control pedal inputs, 2 MIDI outs, unusually responsive keyboard action. The ultimate in ergonomic design.

BOSS DS330 "Sound Canvas" £299



IBM® PC COMPATIBLE
MAXPAK FOR WINDOWS
 version 2.1 £235

MCI Multimedia Control + Sample Playback + Real-time Drum Pattern Editor + JuiceBox + Multi-stave Notation + TrueType Print-out + 200 control SysEx mixer + Generic Bulk Librarian + MIDI Machine Control etc...

SOUND FX Classic3000 £239



16 bit sampling, high quality General MIDI wavetable synthesizer, CD-ROM interface and MIDI interface. 24 note poly, 18 part multi-timbral. Suitable for PC hard-disk recording. SCC1 / SoundBlaster compatible

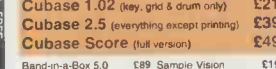
MAUI £199



A lot of PC musicians are seriously disappointed with most sampling cards. Although they are good for hard-disk recording, they can only play one sample at once, not looped, not triggered from MIDI and only at the original pitch. However, add the MAUI to your sampling card, and you can assign any WAV sample file to the MIDI keyboard, and play it over a 10 octave range with up to 32 note polyphony. The Maui has 256k on-board RAM (which is why it can do all this), but this can be expanded to a terrific 8 Meg. allowing nearly 100 seconds of breaks, loops and instrument sounds.

And as if all this wasn't enough, the Maui also has a built-in Wavetable synth with Gen MIDI compatibility. Power drums, mellow pianos, super strings and breathtaking choirs. Works well with any windows sequencer.

CUBASE FOR WINDOWS 4 PC versions available



FACT: PC Cubase for windows is already the best selling version of Cubase worldwide. WHY? The PC is the only true industry standard (ie all of industry). Reliability is ferocious. PC competition, you can now buy a 486 PC for a pittance. It is many times faster than an 8 MHz 1040. *32 bit chip, up to 66 MHz clock, IDE hard-disk, industry Standard expansion slots etc... There is no doubt that the PC has the largest range of serious business software tool

PC MIDI interfaces

- CMS, Key, MIDIMan, Music Quest, Voyetra, MOTU...
- PC MIDI card £89 KEY MS124 £175
 Steinberg PC1 £81 KEY MP128 £175
 Voyetra V22 £116 MOX32m £295
 Voyetra V245 £285 2PnOUSE £219
 KEY MS101 £115 MIDI Express PC £399

STUDIO hardware

STUDIO RESEARCH MIDI SYNCHRONISERS
 SmartSync Excellent value sync box £189
 SyncMan - SMPTE box with merge £129
 MacSyncMan as above with Mac I / F £199

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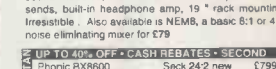
Alesis RA100 £259 JBL Control 10 £949
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Ideal for near-field monitoring

STUDIO RESEARCH NEM24 £169

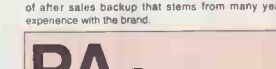


Imagine a 24 channel mixer that introduces no additional noise. 20 jack inputs and 4 balanced XLR mic inputs. Using your sequencer to control the MIDI volume and MIDI pan on your MIDI keyboards and sound-modules, the NEM24 offers unequalled value - 4 sends, built-in headphone amp, 19" rack mounting - irresistible. Also available as NEM8, a basic 8 or 4x2 no noise eliminating mixer for £79

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 Phone PE30400 £249 new £399
 Phone PE30000 £249 new £399
 Phone PMX1600 £249 new £399

NEW Folio 4 & Folio SI



SOUND CRAFT SOUND FOLIO MIXERS from £349
 NEW INC VAT

Almost everyone involved in music production at some stage dreams of owning a Soundcraft console. The legendary sound quality, reliability and ease of use means a Soundcraft equipped studio must be taken seriously. A minor miracle has been performed, using the world's most advanced production technology, and revolutionary manufacturing techniques, to bring you Soundcraft quality at a previously unimaginable price.

Turnkey has an unparalleled 10 years experience with the brand, from advice, finance & installation to a quality of after sales backup that stems from many years experience with the brand.

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* Interest Free credit (typical APR 0%) is available on selected items only. Both are subject to status. Soho Soundhouse is a licensed credit broker under the 1974 consumer credit act.

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Progress in work

Peter Gabriel *Xplora1* CD-ROM for the Mac

Xplora1 is well named, for in addition to representing Peter Gabriel's first exploration of CD-ROM as an artistic medium it puts you, the user, in the position of an explorer, setting off on a voyage of discovery through the richly diverse world of Real World.

Think of it as an interactive, non-linear documentary. All the elements for a detailed documentary on Real World are present, you just have to put them together in your own way. Actually, 'put them together' isn't quite right, because you can't actually assemble elements from *Xplora1* into your own linear-style documentary. Personally I think this would be a worthwhile feature to have – together with the ability to jump directly to any segment of your documentary.

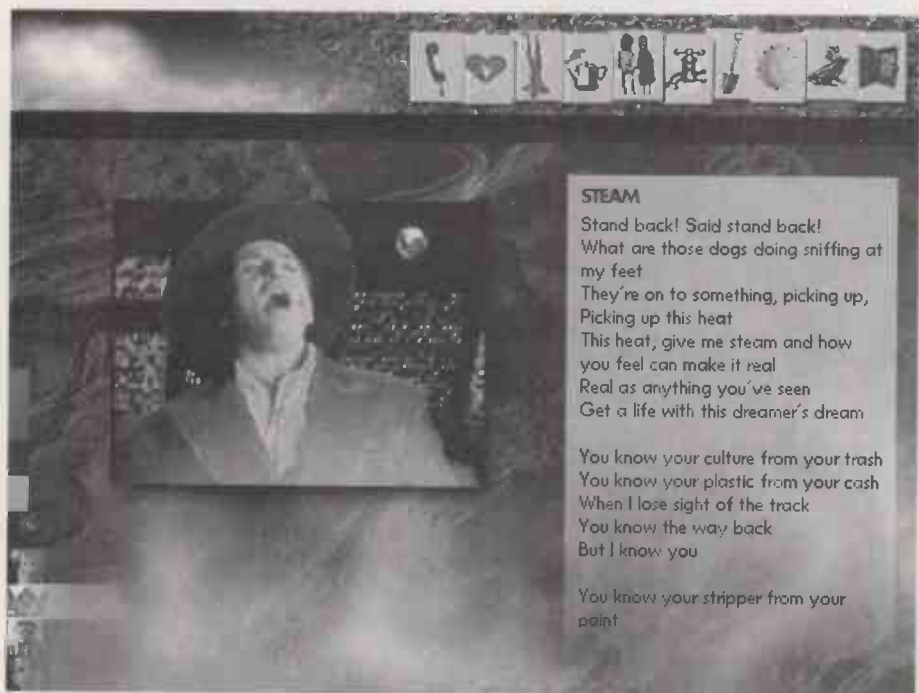
Xplora1 could also benefit from having some direct-access features in its present, non-linear form – so that, for instance, you could jump directly to the mixing room or to the jam session. The CD-ROM's



'exploration' theme is all very well, but, once you've explored, having to retrace your steps each time you want to get somewhere on subsequent visits can

become tiring. In part this is down to the inherent access-speed problems of CD-ROM – ie. lack of speed. Running *Xplora1* on a double-speed drive (the standard until quad-speed drives become more affordable), the delays of several seconds which occur each time it needs to load in a new chunk of data (which is frequently) can become tiresome. On the other hand, *Xplora1* doesn't really need the speed and immediacy required by games; in a way it even benefits from a more leisurely approach, in that you are more inclined to absorb and reflect, rather than simply skate over the content. For all the novelty value of CD-ROM with its interactivity, non-linear approach and multimedia presentation, ultimately it is still content which determines the value or otherwise of a CD-ROM product – and this is where *Xplora1* scores.

In addition to the CD-ROM disc itself, the package provides a lavishly-produced colour booklet containing some 40 pages of text and pictures. Along with contributions from Gabriel, the book includes interviews with people involved in creating his videos, extracts from *The Box* magazine, production



STEAM

Stand back! Said stand back!
What are those dogs doing sniffing at
my feet
They're on to something, picking up,
Picking up this heat
This heat, give me steam and how
you feel can make it real
Real as anything you've seen
Get a life with this dreamer's dream

You know your culture from your trash
You know your plastic from your cash
When I lose sight of the track
You know the way back
But I know you

You know your stripper from your
paint



Various artists
Phase One (Positiva)
Quality Produce
(Cooltempo)

Having a 'dance division' has become *de rigueur* among the major labels during the last couple of years, and these two compilations – from Positiva within EMI, and Cooltempo within Chrysalis – illustrate why. Credibility is what they crave, of course, and infiltrating the underground dance scene has been a lot easier than responding to punk was 15 years ago. Positiva's concentration of acid house contrasts with Cooltempo's wider brief, which includes garage, go-go, 'Washington funk' and hip hop, but authenticity they have in common.

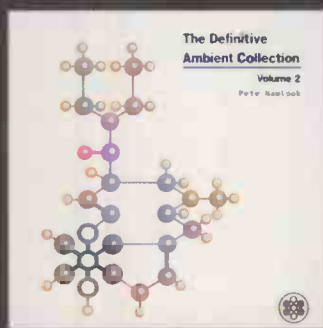
Insides
Clear Skin (Guernica)

Formerly known as Earwig, J Serge Tardo and Kirsty Yates have evolved out of indie campus troubadours with a sequencer into club-literate Steve Reich disciples – with a sequencer. *Clear Skin* is one 38-minute exploration around a repeating tuned percussion figure, gently stroked with guitar and rinsed in a few liquid samples. Frippy, trippy and bold in a truly independent way.

James Bernard
Atmospherics (Rising High)
If you've heard 12's by Influx, or by Cybertrax, you've heard James Bernard. Furthermore, if you've got a recent Korg synth you've probably heard James Bernard as well, because he worked for Korg USA as a programmer before being snapped up by Rising High for his visionary ambience. He still holds a capacity with Korg as troubleshooter. Spikier than your average synth-washed chill, *Atmospherics* brings both an experienced musician's and a trained audio engineer's sensibilities to bear.

Pete Namlook
The Definitive Ambient
Collection Volume 2 (Rising High)

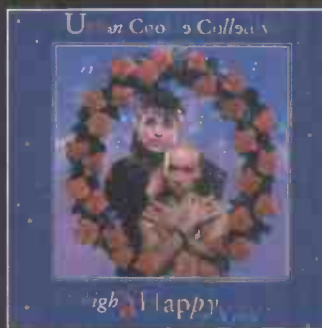
Frankfurt-based DJ and Mixmaster Morris collaborator Namlook makes a further selection from the growing library of electronic sounds on Rising High. Expertly edited into a continuous mix, what we have here is the equivalent of nearly an hour and 20 minutes in the chill-out room with Namlook at the controls. More E, vicar?



Various artists
Time 1010 (Time Recording)
Em:t 0094 (Time Recording)
You've read the feature (*MT*, November '93) – now buy the compilation albums. Nottingham's Time Recording here supply timely chances to catch up with what's been happening on the label, and to discover on what the reputation is based. Stinking good beats, mainly. And then, on *Em:t 0094* (Time backwards, geddit?), a preview of what's to come: cranium-adjusting ambience including your friend and mine, Woob – first encountered at the *MT Demo Forum* last November. See, it *does* happen.

Urban Cookie
Collective
High On A Happy Vibe
(Pulse 8)

A consistently robust collection of dance anthems from the team that brought you 'The Key, The Secret' – and a string of chart hits maintaining strict quality control in a medium too-commonly accused of being throwaway. One Cookie that doesn't look like crumbling for a while yet.



details for Gabriel's *Secret World* tour, and information on Amnesty International and the Witness program. "Books have a richness and speed of information delivery of their own," writes *Box* editor Martha Lady in her introduction, and it's hard to disagree; this particular book is an integral part of the package.

Xplora1 the CD-ROM is a fledgling product in a fledgling artistic medium, but the richness, variety and depth of its content give it real value beyond mere novelty. If you're already Mac- and CD-ROM-equipped and a fan of Peter Gabriel and/or 'world' music, *Xplora1* is worth, er... exploring. **ST**

System requirements

Any colour-capable Apple Macintosh computer, 3Mb RAM minimum (4Mb or greater recommended), System 7, a 256-colour display or greater, a Mac-compatible CD-ROM drive of any speed.

Claris' Hypercard Player together with Apple's QuickTime 1.6.1 and Sound Manager 3.0 system extensions and Sound 8.0.1 control panel are included on the *Xplora1* disc.

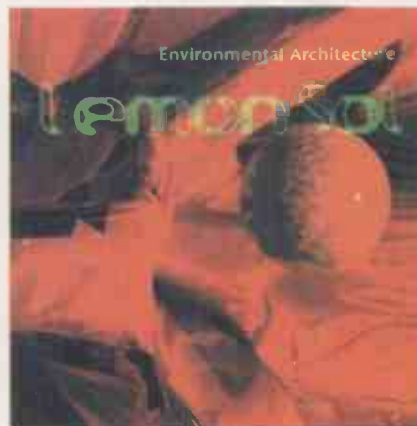
Price: £39.95 including VAT

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Lemon Sol
Environmental
Architecture (Geurilla)

Quite a few big names are dropped in the promotional blurb accompanying this debut album from Mark Cheney and Michael Sershall, a pair of South of England ex-DJs. Stockhausen... Kraftwerk... Eno... all of them tough acts to follow for anyone with a couple of VCOs and a sampler to rub together. Nevertheless, *Environmental Architecture* manages to avoid sounding like either over-ambitious folly or reverential pastiche.

Having identified the tradition to which they no doubt belong, the duo have re-upholstered the settings and re-sprayed the sonic surfaces to reveal something of a souped-up classic. Over the last couple of years, Mark and Michael's home studio (Solus – love it when studios are named after the band) has taken shape, and by the sounds of it a satisfyingly autonomous little place it is, too. A delicious array of timbres flicker and sparkle in a refreshing musical landscape, in which the beats are often reconfigured into welcome variations on the tried and well and truly tested four-on-the-floor pattern. Contractually ensconced



in William Orbit's former stable Geurilla, Lemon Sol would seem to be in the right place at the right time. **PW**

Nine Inch Nails
The Downward Spiral
(TVT/Island)

"Goddamn this noise inside my head" sings Trent Reznor in 'The Becoming'. Thanks for sharing it with us, say legions of NIN fans across the aching globe. Because, with more than a little help from co-producer Flood, Trent has achieved what a great many studio-bound seers struggle to achieve: ▶

KEYBOARDS

ANALOGUE ROLAND Juno 106 inc. case, £350. SH101 inc. grip (boxed), £230. SH101, £180. SH-2 dual oscillator, £250. SH-9, £180. RS-09, £120. MC-202 Micro-composer, £180 P&P inc. Mark. Tel: 0226 206767.

ANALOGUE KEYS – Roland SH101 inc. MGS1 grip (boxed) £230. SH101 £180. MC202 inc. manual £180. RS09 £100. R8 drum machine (boxed) £295. PG1000 D50 programmer (boxed), £135. Mark. Tel: 0226 206767.

ANALOGUE SYNTH Yamaha CS5 1978. Slope-backed, weird whale noise-maker. Excellent condition with manual, £150. Tel: 0742 482760 and leave message.

ARP ODDESSEY, £350. Oberheim SEM, £350. Memory Moog, £750. Oberheim BFX sequencer, £150. TEAC A108 sync cassette deck, 350. Steven. Tel: 0726 66715.

CASIO CT650 full size with full MIDI spec and manual power unit. a bargain at £85. Alan. Tel: 051 677 8696.

E-MU SYNTH – as new £950.

Yamaha SY85 very good condition, with manuals, £900. Tel: Chris, 0244 674567.

EMAX HD keyboard £850; Roland D50 £399; Korg 707 £175; Yamaha DX27 £120. HR16B £129; HR16 £99; Quadverb + £199; Midiverb 2 £99; Microverb 3 £99; Midiverb £75; DS201 £169; LX20 £129; C1000S £120. Tel: 0274 620004.

ENSONIQ SQ1 workstation, great sounds, hardly used, boxed with manual, £600. Stuart. Tel: 0355 32416.

KAWAI K1M digital synth module (expander) and manual, good condition, £100 ono. Tel: 0353 667378.

KAWAI K1M with sound card, £195. Dave. Tel: 0386 553560. KAWAI K3 analogue mega synth, velocity-sensitive keyboard, full MIDI, polyphonic, Alpha dial for easy editing, £300 ono. Matt. Tel: 061 248 5312.

KORG 01W FD virtually unused as surplus to requirements, boxed, manuals and training video, complete, as new, £1250. Tel: 0253 349009.

KORG 01WFD – excellent condition, never, gigged. Complete with manuals £1150; Yamaha QY20 – excellent condition, boxed with manuals £250. Apply: 34, Hardwick Bridge Caravan Park, Kings Lynn, Norfolk. PE30 4EV.

KORG M1 workstation, perfect condition, home use only. Includes librarian software and over 800 sounds. £799 ono. Tel: 0603 762266.

KORG M1R loads of sounds, £750. Yamaha TX802, £500. Oberheim Matrix 1000, £250. Akai ME30P MIDI patchbay, £100. Elka 5-octave master keyboard, £200. All very little

use. Dave. Tel: 0297 552566.

KORG MTR rackmount (Synthworks editing software plus 1000s of pro-sounds), orchestral RAM cards, only £650 for complete package. Andy. Tel: 0532 430177.

KORG M3R expander, excellent condition, multitimbral, programmable sounds and FX, separate outs, £350 ono. Tel: 0260 280131.

KORG M3R, £380. Roland D110 plus sound cards, £260. Cheetah MS6, £180. Philip Rees V10 MIDI Thru unit, £20. PC Music software: Music Printer Plus v.4, £95, Jammer, £90. MIDIQuest multi-instrument editor, £90. Carl Stock Tel: 0507 606956.

KORG MS20 with case and cables, manuals, MS01 foot controller and MS04 modulation pedal. £500 the lot. Tel: 0444 413057.

KORG POLY 800 MkII plus manual, £100. Dave. Tel: 0442 872204.

KORG POLY A100 plus extras sounds, £100; Casio CZ1000, 3 RAMS, £100; Yamaha KM602 mixer, £50. All excellent condition. Tel: 0403 262909.

KORG VOCODER EC10, £250. Korg Mini 700, 380. Yamaha DX100, £80. Roland. Tel: 0243 830697.

KORG WAVESTATION SR mint, 6 months old still under warranty, extra sounds on disk with dedicated librarian program. Supremely expressive synth with rave reviews in hi-tech magazines, £800 or swap for Wavestation EX keyboard. Wayne. Tel: 0254 202032.

MINI MOOG Model D in good condition with professional flightcase, £500 ono. Tel: 0602 284078.

MOOG PRODIGY, £200. Roland Juno 6, £150. Akai X7000 sampling keyboard with upgrade, 80 disks, £400 or swap all with cash adjustment for nice workstation ie. SY85 or JD800 or similar. Mark. Tel: 0732 773196.

MOOG SOURCE, £300. Yamaha CSS, £100. Kenton Pro II MIDI-CD converter, £120. Merseyside 0744 35567.

PEAVEY DPM3 SE Plus synth/workstation, £750. Phil. Tel: 0260 275390.

PROPHET 5 Rev 3.2. The classic analogue dream machine. 120 user-programmable memories, good condition with flightcase £895 – buyer collects. Tel: Stan, 0742 586480.

ROLAND A110 MIDI display unit, rare. Juno 106 Korg Wavestation SR, Roland M240 line mixer. All mint condition, home use only – offers. Steve. Tel: 0202 581141.

ROLAND ALPHA JUNO II, £300. Juno 60, £250. MSQ700, £150. SH101, £140. TR606, £80. Luke. Tel: 061 303 9585.

ROLAND D110 home use only plus Dr T's editor, 1000s of Pro Sounds on Atari disk, £325. Tel: 0533 811422.

THE WAREHOUSE

The Warehouse contains MT's readers' ads – the largest repository of high-tech bargains in the Northern Hemisphere. Some of the ads are free to place; others are 'priority' ads for which you pay to jump the queue – next issue guaranteed. Priority ads appear in bold.

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ROLAND D20 multitimbral workstation 8-track sequencer, disk drive, digital FX, 32-note polyphonic, integrated inspiration generator, manual, £600. Yamaha DX100, £65 ono. Tel: 0898 402104. ROLAND D5 plus 1 sound card, £290. Home use only. Mick. Tel: 0788 570195. ROLAND D550 (rack-mount D50) home use only. Immaculate – includes editing software and over 600 sounds. Tel: 0603 762266. ROLAND D550 plus PG1000 programmer and ROM card. Mint condition, £450 per pair. Gen SX1000 mono analogue, £50. Yamaha DX100, £75. Tel: 0903 772702. ROLAND DR550 MkII – new, unused in original packaging £130. Tel: 0638 720090. ROLAND E20 with gig bag, sustain pedal, audio leads, boxed with

manuals. excellent condition, £450. Matt. Tel: 0628 73648.

ROLAND JD800 pro synth sounds for Atari ST £5 per disk; Ensoniq SQ80 pro synth sounds £5 per disk; Roland Juno 60 pro synth sounds £5 per cassette. Tel: Pete, 081 367 1720.

ROLAND JD800 synth, Roland MCS0 sequencer, £1250 ono. Mr Martin. Tel: Chilwall, Nottingham 222133.

ROLAND JUNO 106 plus manual, good condition, £350. Tel: 0224 323007.

ROLAND JUNO 106 with case and manual, vgc, £350 or PX for Cheetah MS6 plus cash. Roland JV80/880 piano PVC card, £35. Tel: 0752 550199.

ROLAND JV80 synth cost £1200, sell for £895. Unemployment forces sale. Mint condition, only 2 months old. Paul. Tel: 0302

538204.

ROLAND JV880 rack-mount modules with expansion board, hardly used. Excellent condition, £650. Roland MT100 sound module and sequencer with Atari editor, £274. Paul. Tel: 0536 761014. ROLAND JX10 Super Jupiter keyboard, excellent condition, £500. Tascam 464 4-track studio, boxed £500. Tel: Martin, 081 847 0738.

ROLAND JX8P synth. Classic '80s sounds, 5 octaves, aftertouch, MIDI £400; Elka MK55 MIDI control keyboard, 5 octaves, aftertouch, ideal for rack synths, sequencers, etc. £250. Tel: David, 0272 412290.

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ROLAND U110 module, 2 cards, home use only. Boxed with manuals £185. Yamaha TX7 (DX7) module, home use only, boxed with manuals £185. Tel: David 0372 275293

ROLAND U110 module, £175. Cheetah MS6 analogue synth module, £175. Len. Tel: 0367 240732.

SOLINA STRING synth – as featured on Vintage Keys. Great string and brass sounds. A true Classic £175 ono. Korg Poly800, broken pitchbend £95. Tel: 0533 835455.

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YAMAHA CS50 leave those boring old moves behind with this bizarre 1978 specimen. £200 will secure you with the sweet sounding love child of the big CS80. Richard. Tel: 0902 343081.

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YAMAHA SY85 synth sequencer, 90 FX, disk drive, sample playing. Used at home, lots of disks, RAM cards, brilliant sounds, great keyboard, still boxed, only 1 month old (with receipts), £975 ono. Tel: 0388 776110.

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YAMAHA TG55 expander boxed with manual. EMC editor/librarian for Atari ST and rock and pop sound cards, £325. Paul. Tel: 0273 677112.

YAMAHA TX81Z and RY30 with house and rap card. Proteus 1, Roland S330 with monitor, mouse and library - going for a song contact Pete 0204 844834.

YAMAHA TX81Z - make me an offer. Korg DW8000, £205. Dean. Tel: 0908 235113.

SAMPLING

AKAI S1100 and S1100EX samplers. 64Mb, 20 outputs. Version 2 software for direct-to-disk recording. IB104 digital in/out, SCSI, SMPTE, FX. Version 4.3 operating system. Cost over £12,000 accept £7,995 or part-ex for Kurzweil K2000R and Lexicon PCM70. Tel: 0860 482822 or 081 883 4329.

AKAI S01 sampler, brand new, still boxed with disk library and CDs, £600 ono. Tel: 021 358 7612.

CASIO FZ1 16-bit sampling keyboard with resonant filter, 2Mb, Avalon sampling-editing software, huge library, tutorials, Cubase, Owners Club news letters, complete package only £699 ono. Andy. Tel: 0532 430177.

CASIO FZ1 home use only plus Avalon editing software, full library, £700. Tel: 0533 811422.

EMAX 1 full library inc. Emax Steinberg Soundworks, very little use, £950. Dave. Tel: 0297 552566.

ENSONIQ EPS+ sampler 2x memory expansion, loads of sounds on disks from the USA, £700 ono. Paul. Tel: 0272 239506.

ENSONIQ EPS16 plus digital sampling workstation in good condition, £1000 ono. Corpral Lambert. Tel: 0332 367310.

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ENSONIQ MIRAGE rack sampler with rare 50KHz expansion cartridge, £325 complete. Yamaha TG55, 16-bit module, £300. Mackie 1604 mixer, still under guarantee, £725. Fostex M80 8-track virtually unused, £695. Michael. Tel: 081 558 3504.

PRO 12 sampler for Atari ST - good quality samples, £80. Pascal Gabriel sample CD, £15. Tel: 0908 235113.

PROPHET 2002 rackmount sampler with real filters, good MIDI spec and arpeggiator, 0.5Mb upgrade, £450. Tel: 0726 66715.

ROLAND DJ70 sampling workstation 16bit quality sampling, contact Malcolm or Paul. Tel: 0206 41796 or 790028.

ROLAND DJ70 sampling workstation brand new in the box, unused, all the manuals etc. Surplus to requirements, offers around £1400 (cost £1700 2 months ago). Dave. Tel: 0222 712539 (ansaphone 24-hours).

ROLAND S550 SCSI interface £100. Tel: 0638 720090.

ROLAND W30 keyboard sampler including disks and manual, £850. Tel: 0253 882910.

ROLAND W30 SCSI interface, unused in original packaging £150. Tel: 0638 720090.

SIMMS 2x4Mb 17ms, Mac-type, German made, new unused, £265. Gerry. Tel: 0442 234747.

RECORDING

ALESIS ADAT, £2495. Allen & Heath GS24, £2795. Alesis BRC, £1150. Fostex RH, £995. Sony DTC1000, £750. Roland R70, 3375.

E-mu Proteus II XR, £575; E-mu Proteus III World, £425. All ono. Richardson. Tel: 0689 854979.

ART SGE multi FX processor stereo and MIDI great for keyboards and guitars. Good condition, must sell, £200 ono. Tel: 0302 341082.

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CASIO DA7 DAT portable tape recorder, still under guarantee, £275. Len. Tel: 0367 240732.

FOSTEX 820 20-channel mixing desk 8 bus, 3Fx sends, 3-band EQ, insert points on all channels. Quiet as digital. 1 year old, home use only, immaculate, £1500 (cost new) - only £989 ono. Brian. Tel: 0602 209845.

FOSTEX 820 mixer 20-8-2 with 3-band EQ (2 swept), 3 auxiliaries, 46 inputs at mixdown. Good desk, excellent condition £825; Fostex M20 1/4" 2-track with centre track timecode, excellent condition £350. Tel: 081 878 0512.

REALISTIC ONE-PIECE stereo electret condenser microphone with rotating elements for verticle or horizontal use. Ideal for live recordings. Absolutely new and unused £15. Tel: 0638 720090.

ROLAND M120 mixer £200; Digitech 7 second delay £120, HH power amp 75+75 watts, rack mount £200; Mod80 II modules inc. case - offers. Tel: Graham, 0252 542990 after 8pm; 0734

885803 9 to 5pm.

SANSUI MR6 6-track recorder, immaculate condition. barely used, boxed with manual, £250.

Yamaha MR 12:4:2 mixer, comprehensive features, excellent sound quality, boxed, manual, perfect condition, £300 offers.

Matt. Tel: 0734 784091.

SANSUI WSX1 6-track cassette recorder with built-in 8-channel mixer, digital revert and stereo cassette deck, £350. Tel: 0367 240732.

SIMMONS SPN 8:2, MIDI automated rackmount mixer, £195. Tel: 081 783 0537.

SONY MZ1 portable Mini Disc recorder: 16 Bit 44.1kHz sampling random access (unlike DAT) 3 months old. Forced sale!!! £399 ono. Tel: 0246 410799 evenings.

STUDER A80 2" 24-track tape recorder plus remote, £4900 or part-ex studio equipment. Fostex 4030 plus 4035 remote control synchroniser, £690 or part ex. Tel: 0753 542720 days only.

STUDIO FOR SALE: Tascam 248 8-track, Alesis S2 mixing desk, Various popular keyboards eg M1, Korg wavestation etc. All items can be sold separately. Tel: 0248 73763.

TASCAM 38 - 8-track, 1/2" recorder including Dynamix 3000 16:8:2 mixer. £1300. Tel: 0332 863626.

TASCAM M30 mixer 8:4:2, immaculate condition, fantastic sweepable EQ. perfect for recording, live or DJ, £250. Also Casio FZ1 memory expansion wanted. Tel: 071 437 1207.

TASCAM TSR8 multitrack tape machine. dbx, 3 reels of 1/2" tape. Home use only - immaculate. £1475 ono. Tel: Geoff, 091 213 5914.

TASCAM M30 mixer 8:4:2, immaculate condition, fantastic sweepable EQ. perfect for recording, live or DJ, £250. Also Casio FZ1 memory expansion wanted. Tel: 071 437 1207.

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working order. Mick Rogers. Tel: 0703 225823.

ROLAND R8 drum machine with 808, 909 and ethnic percussion cards, £350. Adrian. Tel: 021 458 6934 after 6pm.

ROLAND R8 drum machine. Home use only, £375 ono (or swap for R8M). Tel: 0603 762266.

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Tel: 0734 415144.

ATARI 1040 STE with mouse. 12 months old with manuals £190. Tel: Stuart 0275 875646.

ATARI 1040 STE, SM124 monitor, Notator v3.1 plus other software, £500 ono. Adrian. Tel: 021 458 6934 after 6pm.

ATARI ST sampler AVR Pro12, £80. Pascal Gabriel sample CD, £15. Dean. Tel: 0908 235113.

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BARGAINS - ATARI 520 STE 1 Mb £135; 520 STF with Sequencer 1 £70; Alesis SR16 £130; MT32 module £110; Breakthru sequencer (with manual) £65. Tel: Chris 0869 249554 after 7.00pm.

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QUINSOFT FB01 librarian for Atari ST - offers. Tel: 0203 416653.

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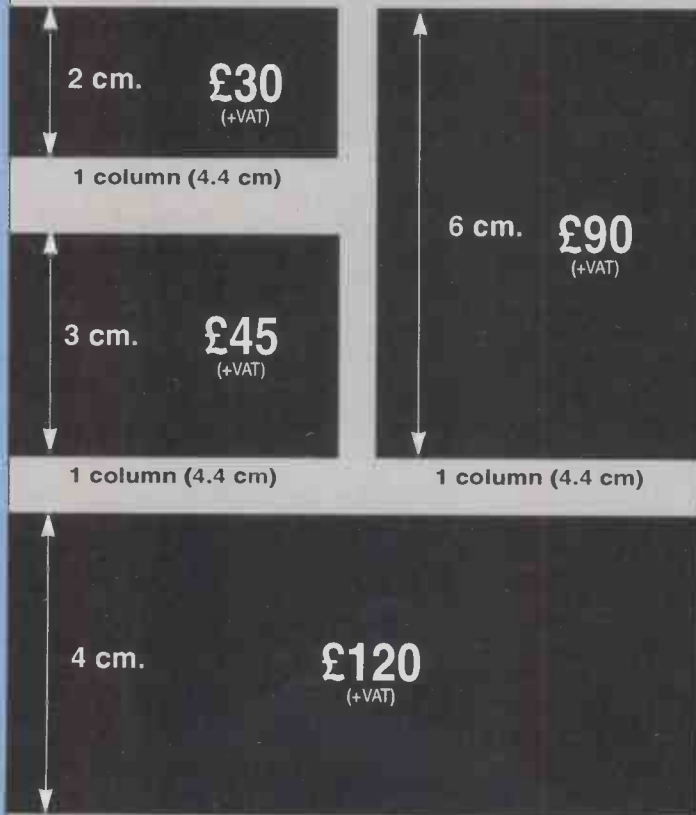
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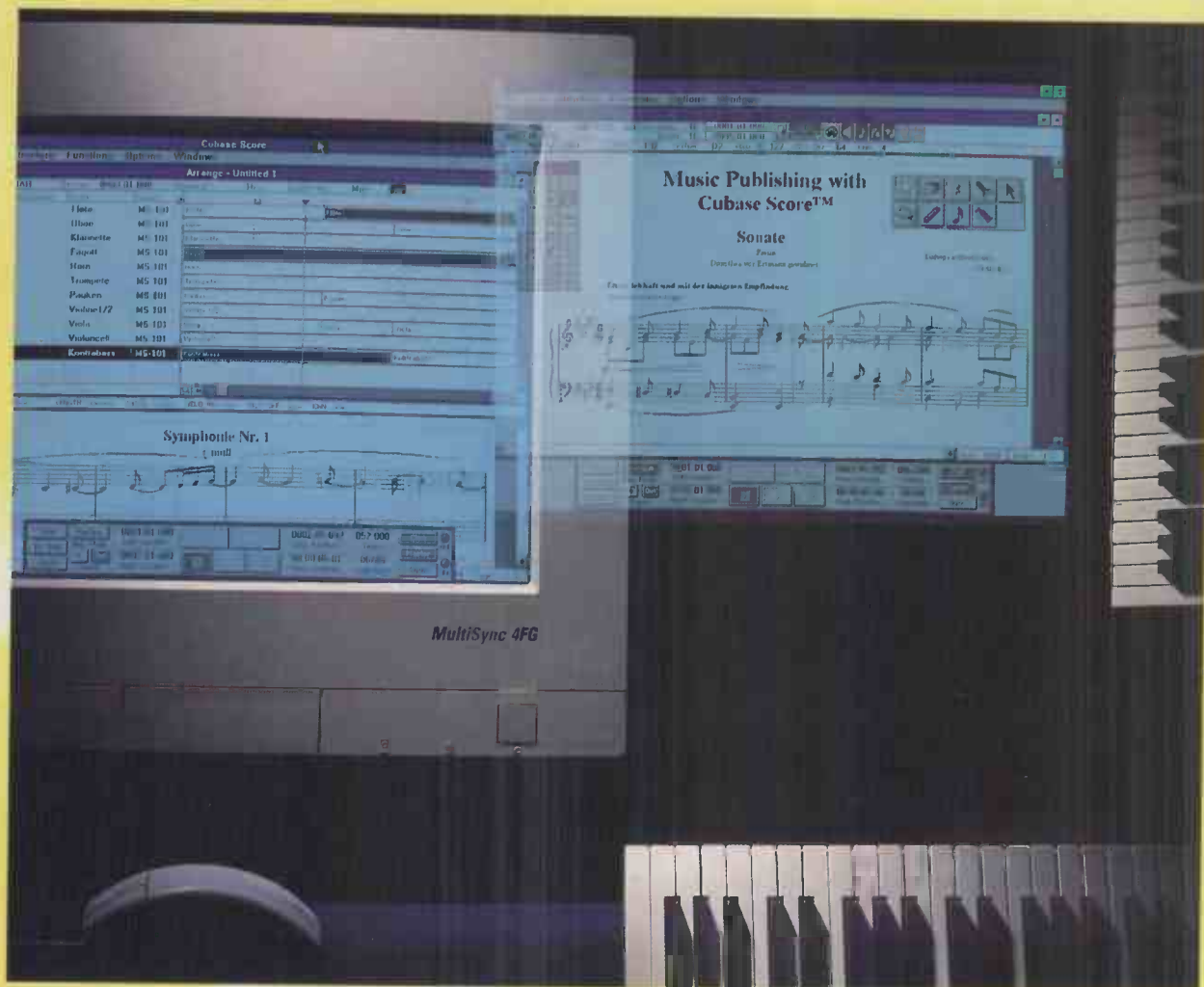
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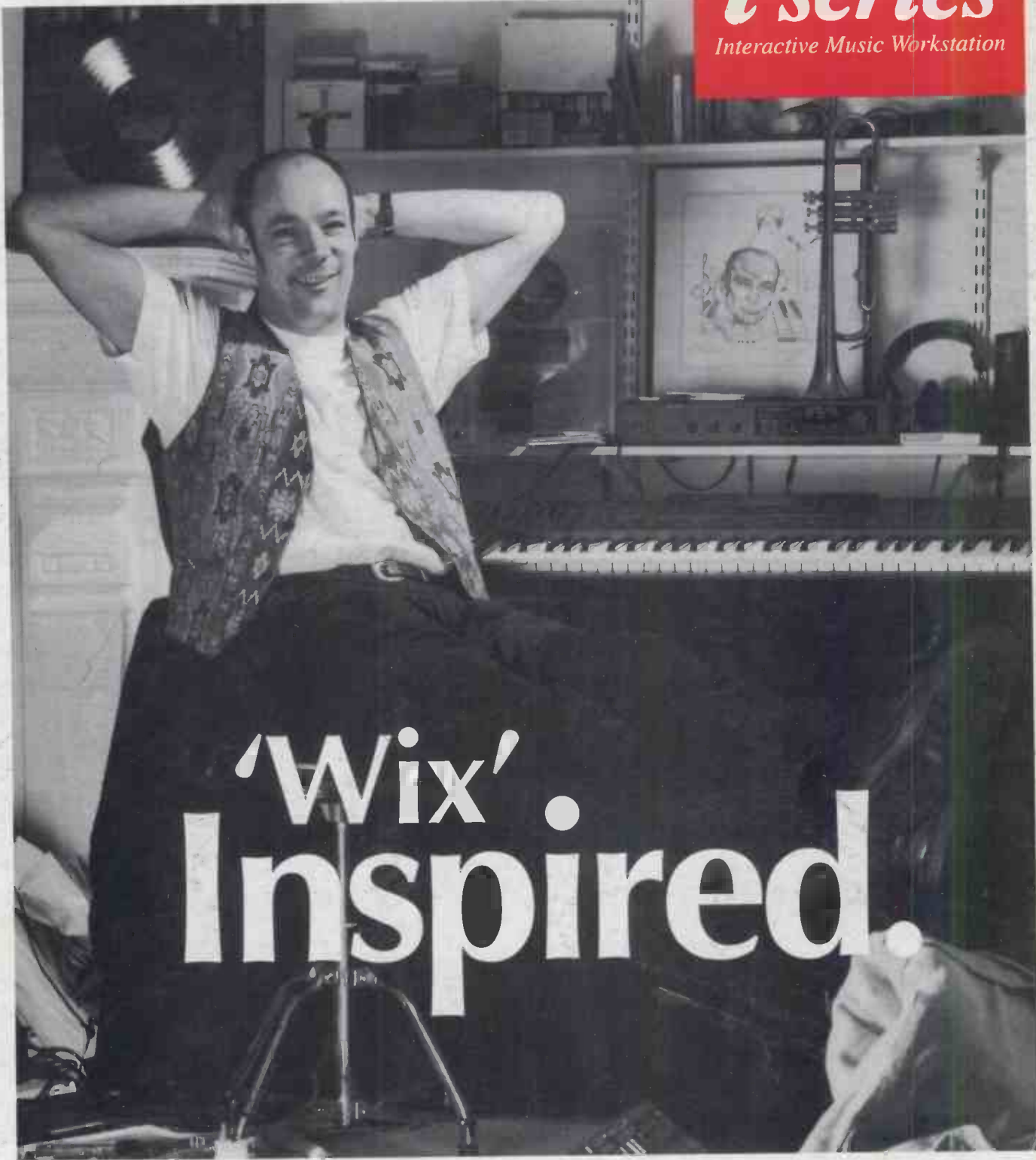
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