

# MT

THE MUSIC TECHNOLOGY MAGAZINE

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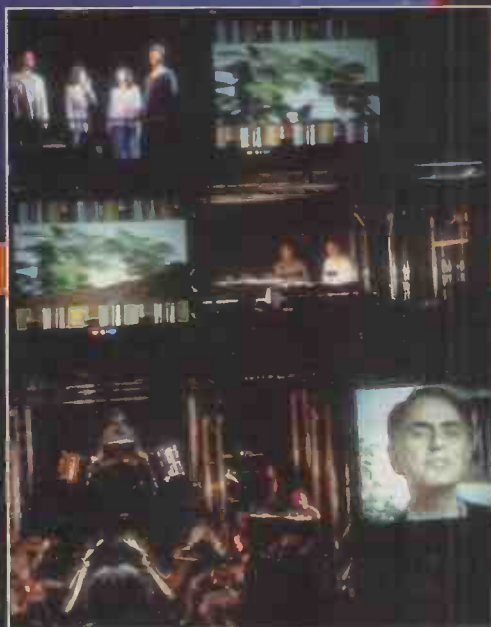


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## *the first place*

So here we are. Page three and already things look very different. A new logo, a new cover, a new layout, new paper even. Most importantly... a new agenda. Not for the first time, *MT* has reinvented itself and, chameleon-like, shed its old skin and entered a new phase in its development. I won't burden you with stories of sleepless nights, impossible workloads, frayed tempers and hard decision-making. That's what you've just paid us £1.95 for. I will, however, ask you to pay particular attention to the scope of the magazine and perhaps pause to consider why changes were necessary.

Technology has, once more, come to be seen as an enabler; a means of empowerment rather than a millstone round our necks. Though unlikely to be seduced by the 'white heat' of technological development as perhaps we were in the '60s, there is nevertheless a new willingness to embrace it and investigate the possibilities it opens up for us. And in the creative arts those possibilities could be limitless. Could be? Well, that depends very much on what we believe to be possible and how few restrictions we impose on ourselves.

The process through which *Music Technology* has become, simply, *MT* has been one of shedding self-imposed restrictions. We haven't achieved it in a single issue; there's more to cover than 100 pages could possibly allow. But we know where we're headed. And from here it looks fascinating.

Your comments and observations – as ever – are gratefully received.

Nigel Lord

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*SoundFoundation Gold Card for the Korg Wavestation*

*Emagic Notator Logic for the Atari ST*

*Hot Foot programmable MIDI remote controller*

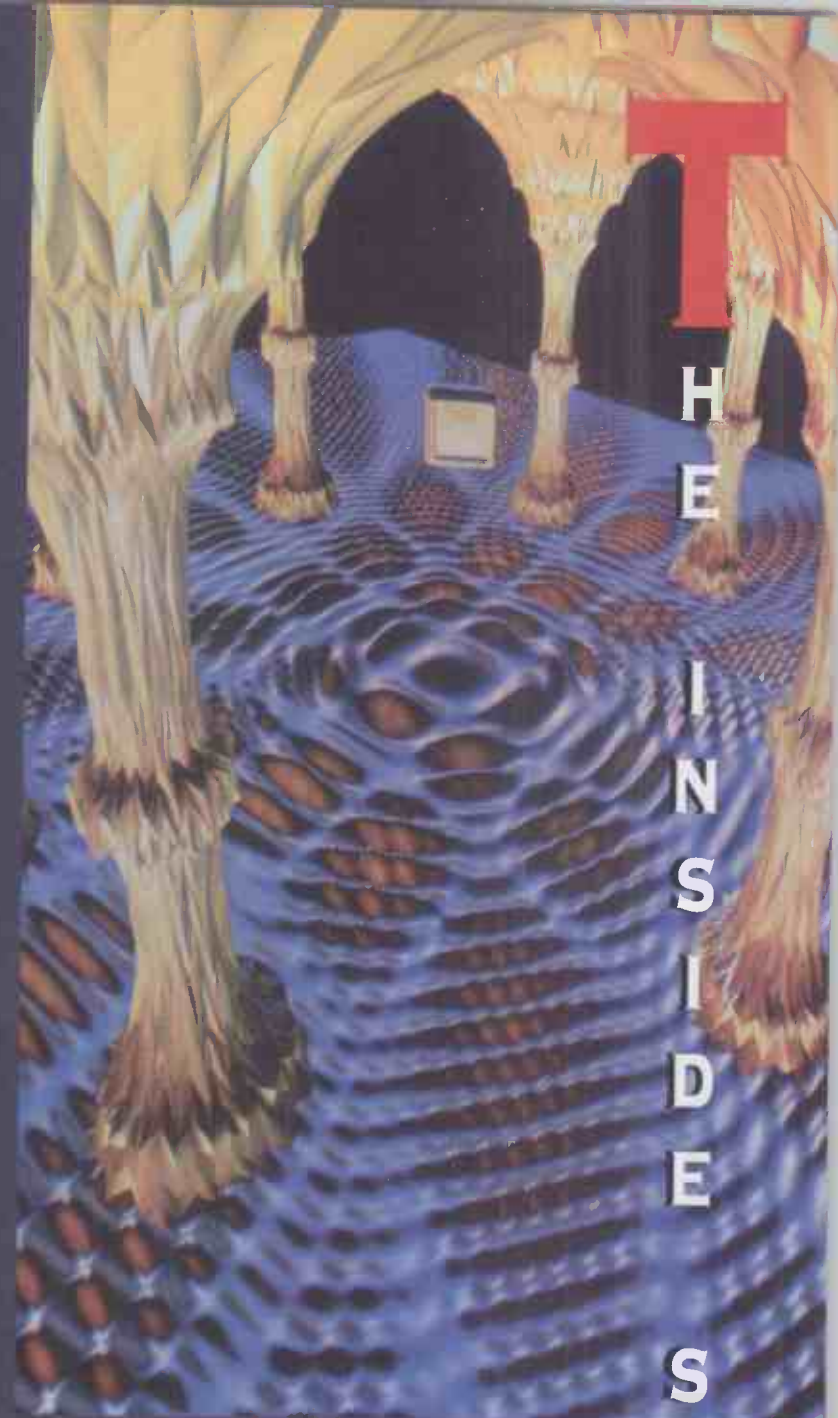
*Perfect Pitch Francinstien stereo enhancer*

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*Your demos reviewed*



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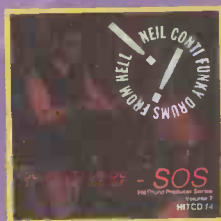
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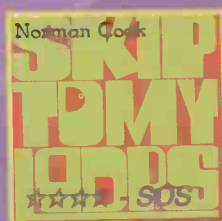
## Volume Ten - Megabass REMIX! Sample CD

Our latest release from leading mixers Megabass, specially designed for professional remixing, megamixing, and DJs in addition to anyone making dance music. Megabass have mixed Madonna, C&C Music Factory, 49ers, Altern 8, The Shamen, Black Box, 2 Unlimited, and many more in addition to their own hits and exclusive mixes for Radio 1, Kiss FM, Capital and the Mastermix DJ service. ■ "...If you're looking for insta loop gratification, stop here...this CD is faultless...it's another dance workstation, but fresher than most, and offers a generous helping of relevant dancepop/rave crossover ingredients...I enjoyed it immensely, and so will you." - SOS, April 93. ■ "...perfect for the most vicious dance track...there are enough useable samples included on this CD to fit into any kind of track...9/10." - Future Music, April 93. ■ "...it takes something special to stand out...Remix! is something special...inherent versatility which makes Remix! an essential studio accessory...just too funky to ignore...a rhythm track programmer's dream...for sample addicts the world over, it's much, much more than a quick fix." - H&SR, April 93. It features Impossible to get ■ Bangs & Whooshes ■ Rave & Techno Samples ■ Massive collection of Vocal Hooks ■ MC Samples & Shouts ■ in-demand techno and rave breakbeat loops to funky and weird loops ■ Plus loads more.



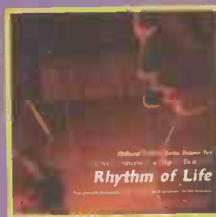
## Volume 7 - Neil Conti's Funky Drums from Hell

Prefab Sprout's Neil Conti has provided the groove for such diverse artists as David Bowie, Annie Lennox, Primal Scream, and Thomas Dolby. The combination of funky drummer, top engineer, Daniel Lazerus, and Metropolis' mega-bucks studio has resulted in the most funky, stylised, classy loops ever recorded. ■ "...the playing is immaculate...a controlled looseness in the playing...the snare drum sounds like a snare drum should...Definitely the best live drumming CD." - SOS, Feb 93. ■ "...this compilation represents the coming together of everything that has been learnt about drumming in the last thirty years - taut performances, impeccable recordings, skilful tuning and above all, the value of the groove...I can recommend this CD wholeheartedly...If these funky drums are from hell, the Devil still seems to have all the best music." - MT, Mar 93. ■ drums breaks with real attitude sure to become classics. ■ specially extracted single hits to customise breaks plus a selection of much sought after hi-hat patterns.



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

Aside from being Beats International's main mover, Norman is one of the UK's most successful remixers - James Brown, Fine Young Cannibals, and Double Trouble, to name but a few, have all had the treatment. A massive selection of tempo-grouped, totally devastating drum and percussion loops project this CD into totally uncharted territory. Loops range from 84 BPM to obscenely fast and are complemented by a sensational collection of vocal ad libs, FX, Bases, Drum & Perc. Hits, Guitar, Reggae, Flute, and Synth samples plus loads more. ■ Over 70 minutes of samples ■ Certainly the classiest dance sample CD - by miles.



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

There's no better percussion CD on the market than this. Danny and Miles have worked with the likes of Tina Turner, PSBs, Dire Straits, The Beloved, George Michael, and Julia Fordham plus countless others. They're two of the best there are and this CD's production quality shows them off to their best effect. Don't be fooled, this CD is ideal for almost any music, pop, dance, ambient, new age, it'll add a air of class to anything it touches. You can't be serious and not have this one. ■ "...as good as the best in the Synclavier library...inspirational...It's sonic credentials are impeccable...A connoisseur's product." - SOS, July 92. ■ "The production is superb: the recordings of the different instruments are outstanding and stereo panning is employed extensively...a very classy CD...for those who need access to a library of specialist percussion sounds." - Future Music, Nov 92. ■ Around 55 minutes of percussion grooves ■ Unparalleled performance and recording quality ■ RSS Samples plus Mixes ■ PLUS an extremely comprehensive collection of single hits and Much More!

## Volume One - Pascal Gabriel's Dance Samples

The First. And still one of the best. If you haven't got it yet, where have you been? His work with Bomb The Bass, S-Express, EMF, Inspiral Carpets, and many more has established Pascal as one of the UK's most respected Dance Producers/Remixers. ■ "If you were putting together a list of the top people involved in dance music, you couldn't leave out Pascal Gabriel...extremely varied and usable...no matter what kind of electronic music you produce you can actually imagine using just about all the sounds included. 9/10" - Future Music, Nov 92. ■ "...house gold dust...breaks new ground..." - MT, Dec '91. ■ "...off-beat, quite distinctive, and highly usable. Better still you almost certainly won't have heard them before...useful and memorable...a revelation...uniformly excellent...the basis for many a hit." - SOS, Jan, '91.

## Volume Three - David Ruffy's Drum Samples

Unlike most drum sample CDs on the market this one sounds contemporary. It also features a great collection of specially recorded loops. Sinead O'Connor, Mica Paris, Alison Moyet, Yazz, Neneh Cherry, and many more have chosen Dave to give them the groove, now so can you. ■ "Recording quality is very spacious and clean...one of the best sounding bundles of rhythms you're likely to hear...should be snapped up by rhythm-hungry sample owners straight away. 8/10" - Future Music, Nov 92. ■ "Recording quality is good...patterns employed cover a wide range of styles...He more or less has a beat for all seasons, including emulations of many commonly used breaks, and there are no copyright problems." - SOS, May 92. Over 263 hits and 140 loops, 70:53 minutes. Snares, Kicks, Hats, Toms, and Cymbals, Performance Velocities - 4 or more! Miking Variations, Modern Usable Drum Sounds, RSS Samples, PLUS over 140 brand new hot drums loops - too good to sell! Live & Sequenced Loops! and Much More!



## Volume 5 - Pete Gleadall's Samplography

Few artists have influenced the path of modern pop music more than George Michael and the Pet Shop Boys. Whenever those guys go into the studio they take Pete with them. Why? Because he knows what it takes to make a hit single and he has a sound library built specifically for that purpose. This CD features 1400 of his best samples, 'everything you need except loops'. ■ "Put simply, the sounds on Samplography are fantastic...finest and meanest...designed to slot straight into the mix...Their genesis was in the studio itself, and it shows." - H&SR, Dec 92. ■ "Samplography tells the story of 1980s/90s pop music as seen through the S1100 of Pete Gleadall...this set is one of the cleanest I've heard." - SOS. ■ This CD features great synth basses, pads and leads from MKS80's, various Moogs, Prophet V's, etc. but on top of this there are loads of really choice drums and percussion loops, a phenomenal collection of really kicking guitar samples, amazing string sections, hits, gospel choirs, brass, FXs, Sub-basses, and more! There's even a 15 Meg S1000/1100 data section.



## Volume 8 - JJ Jeczalik's Art of Sampling

The Art of Noise virtually invented sampling, this CD gives you access to the sounds that inspired a generation of samplers and placed JJ at the cutting edge of innovative sampling. JJ was also part of the Trevor Horn production team that delivered such masterpieces as ABC's Lexicon of Love and Frankie Goes To Hollywood's Relax and Two Tribes. All the best sounds from JJ's Fairlight libraries are on this CD - over a decade's worth of PROVEN HIT MATERIAL. ■ "For a collection of odd noises and use-able instruments, this CD is ideal...a refreshing change. 8/10." - Future Music, April 93. ■ "Nice to see serious samplers being offered for...seriously classic...classic...well atmospheric...Quirky...Slice Of Sampling History." - SOS, March 93.



## Volume 4 - Coldcut's Kleptomaniac!

Coldcut can always be found at the cutting edge of dance music. They launched the careers of International Stars Lisa Stansfield and Yazz. This CD has been widely acknowledged as being one of the most original and inspirational of it's genre. Get this CD and get ahead of the crowd. ■ "Coldcut's samples are raw, wicked and packed into the terraces...the quality of the music content is very high...quite brilliant, and definitely going into my 5770...this CD represents another 'must have' for any serious dance enthusiast." - SOS, May 92. ■ The finest selection of ultra-rare loops ever compiled - over 400 unbelievable loops! ■ Male & Female Spoken & Sung Vocals ■ Coldcut's Exclusive - Hed & HPN Samples ■ Superb range of mega scratches! ■ Media snatches, FX, Robot Vox ■ Full selection of drum & perc samples ■ Hits, Stops, Breaks, Synth & Bass samples ■ BEYOND DESCRIPTION - HIGHLY USABLE! ■ Over 1165 Samples, Over 73 minutes

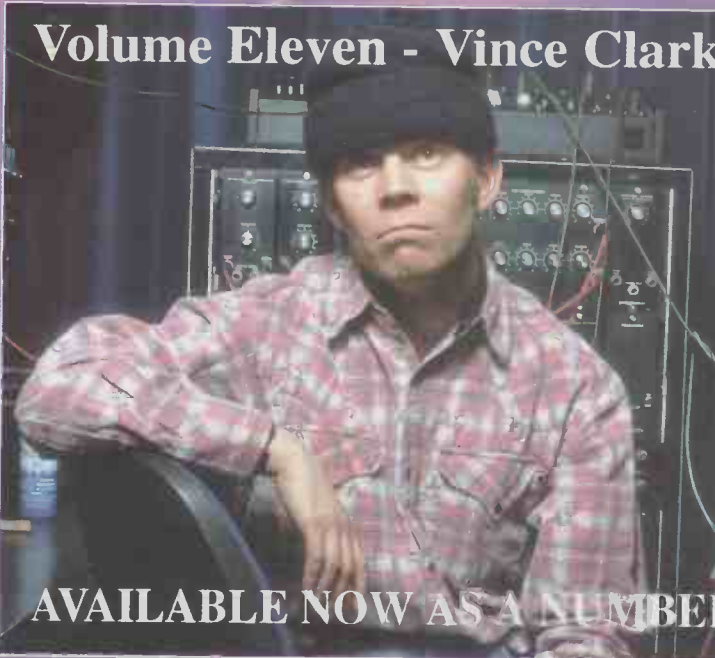
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# AMG's Latest & Greatest!

At AMG we have had three of our Sample CDs awarded the maximum five stars in Sound On Sound's Sample Shop review pages. And at the time of going to press Neil Conti's Funky Drums From Hell, Coldcut's Kleptomaniac! and Peter Siedlaczek's Orchestral Sample CDs were the ONLY CDs to have achieved this distinction. Our latest CDs are set to follow that tradition. At AMG we always select the finest exponents of their art. You have a choice, but if you want the best, AMG is your only choice. Exclusive Source for ☆☆☆☆ Samples!

## Volume Eleven - Vince Clarke, Lucky Bastard



This collection features 100 sounds created especially by Vince during the month of chaotic analogue synths in his Amsterdam Studio. A former member of Depeche Mode, Yazoo, The Assembly, and now Enigma who better to produce the ULTIMATE ANALOGUE SAMPLE CD? Synths featured include Roland System 100, System 700, ARP 2600, Moogs, SCI Pro One, Korg Poly Fusion, VCS3, Serge, Obie, Xpander, and more. It features hundreds of constantly evolving synth sequences, so you can either grab chunks or extract single sounds for the ultimate in user-definet creative sampling. There's a selection of multisamples along with many samples from Enigma's last 'Phantasmagical' World Tour. Perhaps one of the most unique features of this CD are the drum loops. Vince has created using only synthetic analogue sounds, all the loops are broken down for ultimate flexibility so you can easily create your own custom loops using these unique sounds. Just about every record he's ever done has been a hit, and this is no exception! Ben and is bound to be a hit. No disappointment and place your advance order now and get this CD before everyone else has it!

AVAILABLE NOW AS A NUMBERED LIMITED EDITION OF 1000

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



This volume sets new standards for drum sample CDs. Although Keith is widely acknowledged as virtually inventing Hip Hop, his work, and this CD, covers a far wider scope. 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 beat for James Brown, REM, The Rolling Stones, Annie Lennox, Seal, 808 State, Malcolm McLaren, 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 Wimbush and Adrian Sherwood. The superb performances featured on this CD were recorded at Orinoco and Steve Lipson's new personal studio, The Aquarium so, as you can imagine, the recording quality is absolutely state-of-the-art. Aside from tons of choice grooves (all bpm'd 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 Drummer, Killer Studios, and Killer Production. This CD kicks like a mule!

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## Big Red Book 93

If you've ever fancied owning an up-to-date list of every musical recording available in the UK (and a list of the deletions) then you'll probably be interested in the *Music Master 1993 Big Red Book*. It's big, it's red and it's the kind of thing record shops use for ordering recordings. For £215 you get a *Big Red Book*, free fortnightly updates including classical information, and a loose-leaf binder.

For more information contact Music Master, Paulton House, 8 Shepherdess Walk, London, N1 7LB, Tel: 071 490 0049, Fax: 071 253 1308.



## A big fat zero from heaven

For those MIDI Song File users on format 0 systems, Heavenly Music have just completed conversions of their entire Megga Tracks MIDI song file library, so now Yamaha's MDF2 and the likes have access to nearly 600 top-quality titles. A starter pack is available from HM for £3 (refundable against your first order of three or more titles). A utility is also available for

Atari users to convert format 1 MIDI files to Format 0, priced £12.95.

Also available via HM is the essential Jarre collection., nine Jean Michel tracks on one disk configured for GM/GS compatibility. This costs £19.95

For more information contact Heavenly Music, 39 Garden Road, Clacton on Sea, Essex, CO15 2RT, Tel/Fax: 0255 434217.

## A Sound Impression for PCs

Asystem USA has announced the release of *Sound Impression v3.5* multimedia software for Windows 3.1. When combined with a suitable sound card, *Sound Impression* will "transform your PC into a digital audio and MIDI production system". The system is intended to provide a low-cost opportunity for company presentations, broadcast and video production, home recording, games creators, multimedia authors and musicians.

It offers a stereo component rack-mount interface for Wave recorder/player, MIDI player, CD player and mixing panel. Five more components are also accessible from the front panel including the 16-Track Wave Composer, Session Manager and MIDI Program panel.

The system features hard-disk recording, editing and mixing capabilities across 16 edit windows. Among the features mentioned above is the 16-Track Wave Composer. This is similar to a digital audio sequencer, letting you mix any or all 16 tracks of digital audio into a single composition.

The system requires a 386 or 486 PC, 4Mb RAM, hard disk, a Windows compatible sound card, EGA/VGA graphics, Arial True Type font and CD-ROM drive.

*Sound Impression* has a UK list price of £89 including VAT. For more information contact Digital Music, 27 Leven Close, Chandler's Ford, Hants, SO5 3SH, Tel: 0703 252131, Fax: 0703 270405.

## Escape to Kentish Town

The Forum at Kentish town has started a monthly club called ESCAPE. Future Vision Productions, the organisers, describe it as "a progressive musical and visual extravaganza with elegance". It will mix the finest in upfront dance music on the main dancefloor accompanied by a major visual experience mixed live. The upstairs ESCAPE bar offers a more relaxing alternative with new up-and-coming DJs.

The Forum has a state-of-the-art PA and lights. The four bars stay open until 2am with drinks "at pub prices, not club prices". There's

even a Haagen Daaz ice-cream machine for the real trendies. The ESCAPE club runs monthly from 23rd July.

For more information contact The Forum, 9-17 Highgate Road, Kentish Town, London NW5, Tel: 081 960 2225 or 071 284 2200 (box office).



A Great Escape at the Forum

## Blue Ribbon service

Owners of Blue Ribbon Soundworks software packages *Bars and Pipes Professional* and *SuperJAM!* for the Amiga may be interested in a new UK Customer Support Service. Set up to deal with orders and software enquiries, it's available to anyone who is in need of any kind of information regarding Amiga music software and existing owners of

Blue Ribbon software who are in need of technical support. A 24-hour telephone service is provided, manned during office hours, and they promise to answer all calls within four rings!

For more information contact The Blue Ribbon Soundworks, UK Customer Support, PO Box 211, Richmond, Surrey, TW9 3HY, Tel/Fax: 081 332 6959.



## Multimedia 93: showing the way ahead?

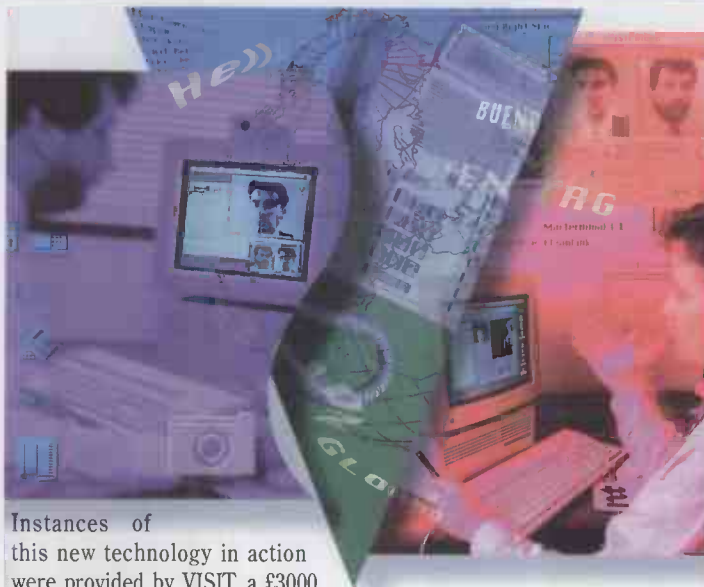
Videoconferencing, desktop video, full-motion video on CD... There can be no doubt that visuals are the fuel powering the multimedia engine – and visuals aplenty were on display at this year's Multimedia Show, which took place over 3 days in June in the spacious surroundings of Earls Court 2.

Notable by their absence were Apple, Commodore and Philips, all of whom had prominent stands at last year's show – maybe they're saving their pennies for the Consumer Electronics Show later this year. However, there were still some 80 exhibitors demonstrating a wide range of multimedia applications and services, from interactive training software to CD-ROM entertainment software, desktop video editing systems to desktop videoconferencing systems, optical media mastering and duplication services to optical media packaging services, add-on video boards to plug-in sound cards, interactive POS (Point Of Sale) systems to image archiving and compressing services...

On the desktop video front, systems included the Fast Video Machine (Mac and PC), the Radius VideoVision Studio (Mac), SuperMac's Digital Film (Mac) and the Avid Media Composer (Mac). These are all systems which allow for the digital capture and editing of video in the computer domain, and – with the exception of the high-end Avid system – they bring sophisticated facilities to the desktop for a few thousand pounds.

The Amiga's sole presence at the Show was in conjunction with the Videopilot V330 computer-controlled video editing system. This allows you to compile video edits and add special effects to your videos by remotely controlling a pair of edit VCRs. A Complete Video Editing Solution Pack consisting of the Videopilot V330, an Amiga 1200 with 80Mb hard drive, Scala and D-Paint software and a user video is available from distributors Apollo Mercury Ltd (0792 476076) for £1995 inc VAT. To that, of course, you'll need to add the cost of a couple of VCRs and a camcorder. A PC package is also available at £2495 inc VAT.

To my mind the most striking multimedia technology at the Show was videoconferencing.



Instances of this new technology in action were provided by VISIT, a £3000 greyscale video system for the Mac and PC from Northern Telcom, and a £50,000 colour system from PictureTel International, who had a live linkup with their central office running during the Show.

Holding a remote conversation with someone on one of these systems is a strange but captivating experience, a bit like being able to talk back to your TV (and wouldn't we all like to be able to do that). However, there's a lot more to videoconferencing than being able to see (and, of course, hear) the person at the other end of the line – at the same time you can pass files between one another and sketch out ideas together on an onscreen 'whiteboard'.

The possibilities video conferencing opens up for remote collaborative working are exciting – as a musician, for example, you could collaborate with other musicians anywhere in the world. Videoconferencing effectively collapses geographical space; unfortunately, what it doesn't collapse is the cost of the phone calls! Current systems work via ISDN lines, which are widely available on current telecommunications systems (basically, they transfer data digitally at high rates down existing copper-wire phone lines).

With the honourable exception of Roland, who were exhibiting a pre-release version of their RAP-10 plug-in GM/GS sound card and MIDI songfile playback software for the PC (see news item 'RAPPING with

Roland' for more details), the MI companies stayed away from Multimedia 93 in droves – which just goes to show how clued up they are. Aren't GM modules supposed to be the hi-tech music companies' contribution to the multimedia mix?

As it was, the field at Multimedia 93 was largely left open to mass-market PC sound-card manufacturers like Creative Labs Inc., the Singaporean company responsible for the Blaster series of sound-cards – including the Wave Blaster GM – compatible card, which retails for just £149.95. Westpoint Creative are the distributors, on 0743 248590.

Although Multimedia 93 wasn't a huge show, it did provide a very effective – and very well-attended – forum for presenting the latest multimedia developments in (almost) all their diversity. If there was a shortcoming, it was the business orientation of the Show – consumer applications were all but ignored, perhaps because absent companies like Sega, Nintendo, Philips, 3DO and the like see the Consumer Electronics Show as the right forum for consumer multimedia.

Also notable was the absence of any street-level developments in multimedia, as exemplified, for instance, by Hex. Unfortunately, the consequence of such absences was a shortage of riveting content – and ultimately it's content, not form, which will kick-start the multimedia revolution.

## Save cash and shoe leather

Going to the Scottish Music Show or the Scottish Record 'N' Pop Fair? Why not go to both? It's dead easy this year as they'll be in adjacent halls at the SECC Glasgow on 11th and 12th September.

And, as an added incentive to visit the two shows, the organisers have got together to offer visitors special discounts on admission prices. Visitors to the Scottish Music Show will be given a 50 pence discount on the admission price to the Record 'N' Pop Fair while those attending that event will get £1 off the admission price to the Scottish Music Show. So, no excuses really.

For more information contact Music Maker Exhibitions, Alexander House, Forehill, Ely, Cambridgeshire CB7 4AF, Tel: 0353 665577, Fax: 0353 662489.

## Hey teachers, leave those recorders alone!

Are you a music student fed up with plonking xylophones when you'd rather be sampling? Or, are you a secondary school teacher baffled by your kids talking about MIDI, multitracking or mixing? If your answer to either of the above is "yes" then you may be interested in three new courses offered by the City of Westminster college. Designed to meet the needs of secondary school music teachers, these courses look at the practical and theoretical sides of music technology and its use and development in the classroom. The emphasis will be on music technology as a creative tool and on giving teachers plenty of hands-on experience as well as ideas and inspiration for encouraging student composition.

So if you want to get 'with it' or simply want to drag your teacher into the twentieth century, give em a call.

For more information contact The City of Westminster College, Paddington Centre, Paddington Green, London W2 1NB, Tel: 071 723 8826, Fax: 071 258 2700.



# SCANNERS

## Two more for your microwave

Two more sound cards are now available from Metro Sound for the Waldorf Microwave. Each card has 64 sounds and 64 multi programmes. They cost £45 for ROM and £65 for RAM (both prices including VAT).

For more information contact Metro Sound, 10 Frimley Grove Gardens, Frimley, Camberley, Surrey, GU16 5JX, Tel/Fax: 0276 22946.

## Pop solutions



Looking to get yourself noticed above the melée of people making music for fun and profit these days? If so, maybe what you need is a fresh marketing angle – and one company have come up with just that.

rGB Image Solutions was founded in 1992 by technical illustrator Terry Burgess and mechanical engineer Tristan Greatrex to enable them to pursue their ideas concerning interactive presentation and entertainment material. One idea which they've come up with is the PopDisc, a floppy disk for the Apple Mac containing textual information on a group or solo artist together with pictures and digitised sound – effectively a 'press kit on a disk'. The company have already produced 2 PopDiscs, one for the band Trousershock BC and the other for metal guitar hero Michael Schenker. The former includes band photographs and biog, a discography, a picture of an NME front cover and a review from the rock weekly, together with around 1 minute 15 seconds of recorded music ("resampled to 11kHz in

## eScaping from The System

Multimedia makes for some strange bedfellows, it seems. Take, for instance, videopunk visionaries Hex (cf. news item in MT June '93) and consumer electronics giant Philips. Last year Hex approached Sandy Mackenzie, Publishing Manager of Philips Interactive Media UK, the branch of Philips responsible for developing titles for the company's CD-i interactive home entertainment system. Speaking to MT, Sandy recalls:

"They showed me the work they'd done on *Global Chaos* a title for Commodore's CDTV system. Although CDTV was supposed to be a dirty word around Philips, I was intrigued, and asked them to come up with some ideas which would play to the strengths of CD-i."

The result was *eEscape*, a CD-i disc which has, according to Sandy, "generated more column

order to make the file sizes workable") accompanied by a sequence of animated video frame-grabs of the band. The Michael Schenker disk includes the guitarist's complete discography from 1972 on, details of his new album, a puzzle section, and a competition section with CDs of the new album as prizes for 5 winners; a portion of the album's first track is also included on the disk as a sample loop. The company intend to sell the Michael Schenker PopDisc for £3.50.

Both PopDiscs were produced on an Apple Mac IIx with MacroMedia MacRecorder, Mass Microsystems QuickImage frame-grabber, Canon UC10 camcorder and Agfa flatbed scanner hardware, together with MacroMedia Director, Adobe Photoshop, Adobe Illustrator, MacroMedia SoundEdit Pro, MacroMedia Player and Stuffit DeLuxe software.

As you might imagine with all this heavy-duty graphics hardware and software, rGB also undertake graphic design work; among their completed projects is the artwork for Michael Schenker's current solo album.

For more information, contact rGB on 0734 696535.

COMPACT  
disc  
Interactive

CD-i  
MUSIC

# eScape



PHILIPS

inches in the short time since its launch than almost any other title on CD-i." *eScape* combines dance tracks from the likes of Irresistible Force, Eon, Coldcut and B12 with interactive psychedelic computer graphics.

So pleased have Philips been with this addition to their CD-i catalogue that they recently held a post-launch launch party for it at hip London club Ministry of Sound. The corporate bullshit was put on hold for the night (ie. no boring speeches and market analyses from grey-suited drones), and the assembled throng of media types got down to some serious networking while downing copious amounts of psycho-active 'smart' drinks and experiencing *eScape* in the sort of setting it's ideally suited to, complete with large video wallscreen and pumping club sound system.

"We are so excited by the possibilities shown by *eScape* that we've commissioned two more titles from Hex," says Sandy. "Although we gave them some technical support on the first disc, they're already pretty much self-

sufficient in CD-i now, and they're developing the next two titles themselves. These will explore the further-flung corners of ambient and techno music, and will give fans of Hex's style of visuals a chance to peer further into the darker recesses of their imaginative world."

Sandy adds that the work with Hex is just part of a range of music titles he's currently developing at Philips Interactive.

"You'll soon be hearing quite a lot about a title from indie label Rhythm King," he says, "and in the pipeline are some fascinating titles which will bring all the features of synths and sequencers and a video editing toolkit to a CD-i player near you!"

So, forget all those boring golf games, encyclopedias and the like – CD-i is connecting with the fast-moving, mashed-up culture of the streets.

For more information on CD-i, *eScape* and upcoming titles, contact Philips Interactive Media UK at 188 Tottenham Court Road, London W1P 9LE, Tel: 071 331 1369, Fax: 071 580 6757.



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Finally, you can have real-time, free-flowing control of mixer levels, stereo AUX sends and mutes. Create mixes far more complex than you ever could by hand — and then store, recall and tweak them at any time.

OTTO-1604 responds instantly to commands without adding noise or in any way degrading the CR-1604's superb specifications. It controls —

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- ALT 3/4 Bus levels (a feature not possible on non-automated CR-1604s)
- Muting of individual input channels, AUX returns, ALT 3/4 & main outputs
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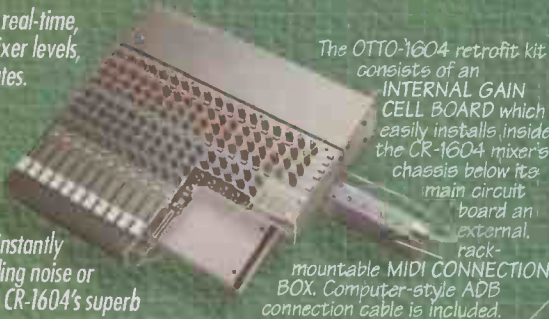
OTTO works with any sequencer that includes graphic faders. But if you work on the Mac, you get an added bonus: OTTOmix™ dedicated mixer automation software that runs along side your current sequencer using MIDI Manager or OMS.

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We designed the CR-1604 to re-define compact 16-channel mixers by packing it with features and endowing it with "big-board" sound quality. Today it's the small mixer of choice for top TV and feature film soundtrack composers, session keyboard and electronic percussion musicians and thousands of home project studio enthusiasts. CR-1604s have also logged millions of miles on superstars' world tours.\*

Not surprisingly, this level of acceptance has inspired a number of "imitation CR-1604s." When comparing them to the original, remember that only the CR-1604 lets you add full-fader MIDI automation at any time. Hear the OTTO-1604 and CR-1604 at your Mackie Dealer today.

\* See the full list of Mackie endorsees in our colour brochure. All company and product names are trademarks or registered trademarks of their respective manufacturers.



The OTTO-1604 retrofit kit consists of an INTERNAL GAIN CELL BOARD which easily installs inside the CR-1604 mixer's chassis below its main circuit board an external, rack-mountable MIDI CONNECTION BOX. Computer-style ADB connection cable is included.

FADER UPDATE MODE lets you control OTTO from external fader packs that generate MIDI continuous controllers.

BAR and BEAT counters.

MARK for cue points.

ARCHIVE SECTION can automatically save your work to a different file name after each mix.

OTTO ASSIGN switches the screen between up to 3 OTTO-ed CR-1604s.

TOOL BOX for global editing.

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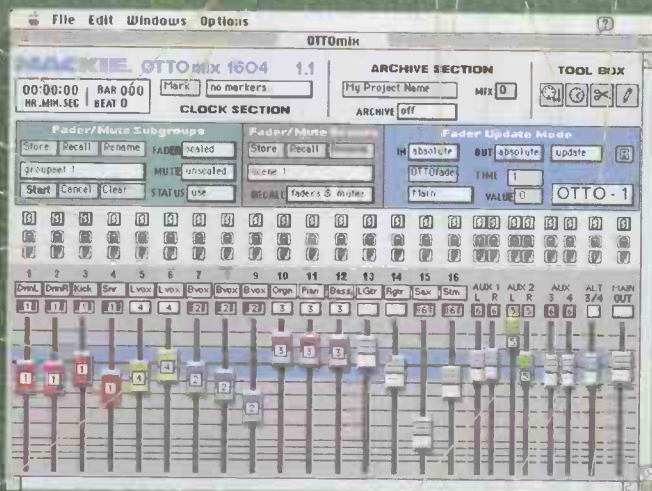
Assign unlimited fader and mute SUB-GROUPS.

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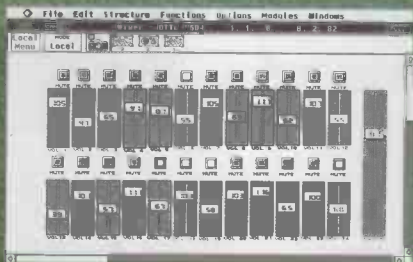
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Assign unlimited scaled or un-scaled Subgroups across up to three OTTO-ed CR-1604s for 48-ch. automation!



AUX 1 thru 4 LEVELS. ALT 3/4 LEVEL. MAIN L/R OUT LEVEL.



Shown above: Graphic faders in Cubase for ATARI

Offering on screen virtual faders include: Steinberg's Cubase, Mark of the Unicorn's Performer & Digital Performer, Opcode's Vision & EMagic's Notator. PC/Windows software that include or will include OTTO-1604 support are Big Noise Software's Max Pak, 12 Tone Systems' Cakewalk, & Master Tracks Pro by Passport Design.

OTTO-1604 connects to MIDI sequencers via an outboard MIDI connection box that includes IN, OUT and THRU jacks.

Front panel buttons control LEARN, SNAPSHOT MUTE and BYPASS functions. You can also add an external fader pack for hands-on control... and daisy-chain up to three OTTO-ed CR-1604s (via MixerMixer) for 32 or 48-channel automation!



The OTTO-1604 MIDI Control Module

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# Scanners

## Korg get interactive

Due soon from Korg is the X3 Music Workstation, essentially a cheaper version of the 01/W. Features include 32-voice polyphony, a 61-note dynamic keyboard, 6Mb PCM ROM, 200 internal RAM and 136 internal ROM Programs, 200 internal RAM Combinations, a built-in 2DD floppy disk drive with Standard MIDI File compatibility, and a 16-track onboard sequencer with a 32,000-note capacity. The 136 ROM Programs form a General MIDI-compatible sound set, with 128 individual sounds and 8 drum kits for MIDI songfile compatibility.

To introduce the new synth Korg are also bringing out a mixed-mode CD which contains 9 music tracks created using the X3, playable on any standard CD player, and 1 CD-ROM track, for which you'll need an Apple Mac computer with 4Mb RAM, a colour monitor and, of course, a CD-ROM drive.

Of course, not every potential X3 buyer has a Mac, let alone a CD-ROM drive, so this is something of a trail-blazing move on Korg's part; however, the demand for Macs and for CD-ROM drives is growing all the time (you try getting hold of an Apple CD300 CD-ROM drive - there's a waiting list of several weeks for the damn things).

So what does the CD-ROM track give you? Well, in addition to an explanatory 'Read Me' file, you get an illustrated, interactive onscreen guide to the features and capabilities of the X3, and a 'remote control' program for the music tracks (which can be played via the CD-ROM drive's audio outputs). Some of the demo songs have been annotated by their composers to provide specific information on the techniques and sounds which were used in their production ie. you click on an onscreen button at a particular point in the music and the Mac program presents you with the appropriate information.

Could this be the future of product promotion for MI companies?

For more information, contact Korg (UK) Ltd at 8-9 The Crystal Centre, Elmgrove Road, Harrow, Middlesex HA1 2YR, Tel: 081 427 5377.

## Transparent sampling for the Amiga

Silica Systems have just announced details of a new 8-bit Amiga sound sampler, the Great Valley Products (GVP) DSS 8+. Silica are aiming it at "more serious users of sound samplers" who aren't happy with their existing set up but can't afford to pay the higher prices of 16-bit samplers. It comes with a wide selection of software including a sequencer and control software allowing the DSS 8+ hardware to be accessed from other applications and other sampler software titles.

The hardware includes automatic channel switching, a programmable low pass filter



See-through sampling from Silica

and a built-in mixer. This is mounted in an unusual see through case allowing users to see all the intricate bits 'n' pieces. The DSS 8+ costs £69 including VAT.

For more information contact Silica Systems, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX, Tel: 081 309 1111, Fax: 081 308 0608.

**KORG**

So exactly what do you get from the Korg X3? There are 200 sounds of a... your hands on to produce the 128 of your... With... pre-programmed combinations thousands of man-hours of expert voicing are at your fingertips. The... is a stereo place and with an... rhythm section that... never talks back. And when you come to master your final mix, there's a range of... that would be the pride of any studio.

A joystick can be a much more natural way of modifying data in real-time than by using 'nobs'. Click on and move the joystick below and try it yourself. On the X3 as well as horizontal action for pitch bend, up and down movement can be assigned during program editing to modify sounds while they are being played live.

How about this joystick for the X3? Easier than one based on three wheels? CHECK IT OUT

At the start of this track I've created a few sounds, which flow from side to side using two-roller 12 DMDS pans. As this track progresses I apply the same technique to a pitch and drum mix. It's a great effect because you can pan the total mix dynamically over and about the individual pan settings of the drums. What does this all mean? Sounds don't have to stay still. You can override the programs and drum lists and set things flying! The sequencer will even generate the pointing data for you.

REPEAT



## Lucky Bastard's on his way!

Bloody nice bloke that Vince, all his royalties from the CD will go to charity.

Vince Clarke's sample CD - the latest in the Producer series from AMG - is due out this month. Subtly titled *Lucky Bastard*, the CD features analogue-man Clarke's favourite bits, recorded during April this year at his studio in Amsterdam. Included are such classic synths as the ARP2600, VCS3, MiniMoog, Emulator Modular and Oberheim Xpander. The synth drums and percussion used on Erasure's recent *Chorus* Tour are also thrown in. The CD runs for more than 70 minutes and costs £49.95.

AMG are also currently running a 'Buy three get one free' offer on their other Producer Series CDs. Since they are also giving a free *NOW* demo CD away with every order, you effectively get five CDs for the price of three. The offer lasts until the end of August.

For more information, contact AMG at PO Box 67, Farnham, Surrey GU9 8YR, Tel: 0252 717333, Fax: 0252 737044.

## Music to MIDI

Producing musical notation from MIDI data is has been with us for some years: those who can't read music can fool their friends or music teachers into thinking they're experts by converting their MIDI compositions to scores in an instant. Now, you can do it the other way around with MIDISCAN from Digital Music, a PC software package that converts printed sheet music into type 1 (multi-track) MIDI files by scanning the printed music. Once scanned,

the music can be edited and then converted into standard MIDI file format for use in your MIDI sequencing or notation software.

MIDISCAN is available at a special launch price of £195 + VAT - a saving of £90 against the list price of £285 + VAT.

For more information contact Digital Music at 27 Leven Close, Chandor's Ford, Hants, SO5 3SH, Tel: 0703 252131, Fax: 0703 270405.



## Suck on this

It's the ad on everyone's lips; the perfect attention-seeking statement, symbolising yooof, rebellion and, er...female bits. Fantazia, Britain's most successful 'legal' rave organisation, have been showing their nipples around the country in an advertising campaign for their new compilation double-album which features some of the best acts from their many raves. *Twice as Nice* follows their successful first album, *Fantazia - The First Taste*. It features 10 artists who've all contributed previously unreleased material. Included are Rat Pack, Sunset Regime, DJ Vibes, PSI, Transhuman, Nicky Mac and Shake Ya Bones. Orca provide a whole five-track side of ambient music for the album, completing an aural experience that should satisfy most taste buds.

For more information contact Fantazia c/o Mark Borkowski PR, 21 Conduit Place, London, W2 1HS, Tel: 071 262 5005, Fax: 071 262 1247

## Travels in HyperSpace

"We are a loose alliance of people involved in integrated and interactive media production. We are committed to increasing knowledge and awareness of digital media through arts, educational projects and events."

So runs the press release/manifesto from HyperSpace, an independent and self-financing group operating out of the unlikely setting of the Regent Palace Hotel in London - also, coincidentally, the venue for hip London club Knowledge.

HyperSpace organise meetings to exchange ideas and information related to the production of digital media. As well as covering such topics as animation, sound production, graphic design and hypermedia, they discuss the cultural and social implications of these developments. They also produce HyperSpace, a magazine on a disk which is intended to provide a base for people to show innovative and creative work.

"If you are producing or thinking of becoming involved in multimedia production, check us out," say HyperSpace.

If you want more information or want to be included on their mailing list, write to Tony Hall, HyperSpace, Regent Palace Hotel, Piccadilly Circus, London W1A 4BZ, Tel: 071 439 1934, Fax: 071 287 0238.



## RAPping with Roland

On display for the first time at this year's Multimedia Show was the RAP-10, a Roland GS sound module on a plug-in card for the PC. It features 300 CD-quality sounds and independent 2-track recording to hard disk with 8- or 16-bit sampling in mono or stereo. This allows singing/dialogue recording and simultaneous music playback, as the RAP-10 also comes with software providing playback of MIDI files as well as sample editing on a PC running Windows 3.1. For more information contact Roland, Rye Close, Ancells Business Park, Fleet, Hants, GU13 8UY, Tel: 0252 816181, Fax: 0252 812879.



The Palace Zaandam, Holland (above) and the Venue Dundee get George's treatment

## George tries a new angle

ABQ is a new lighting design company run by George Ashley-Cound, previously Director of Design with Light Angles. ABQ London offers a lighting design service for touring light shows and installation, if required. George is best known for his design work on The Empire, Leicester Square, Nik Kershaw's world tour, Motorhead's lighting and the visuals at the Garden Club, Covent Garden.

For more information contact ABQ, 73 Woodlands, Harrow, Middx HA2 6BN, Tel/Fax: 081 866 6202.

## New group for DJs

It seems that certain people within the music industry are finally realising that your average DJ knows a thing or two about music. The Association of Disc Jockeys has been founded to give recognition and raise awareness of how important the DJ is to the industry. The ADJ will enable

members to be aware of changes in the marketplace, including new equipment, job opportunities etc. They are also hoping to provide assistance to the professional DJ on all aspects of the industry through a series of workshops and regular newsletters. A series of competitions

are planned to find out the best DJ within several music categories with an annual awards ceremony to announce the winners.

The annual membership fee will be £25 but further incentives to join include discounts at certain music, hi-fi and clothing shops and discounts

## Sony's free hour

Sony have slashed the price of their Metal-XR tapes in a new promotion aimed at giving consumers a feel for the tape.

Described by Sony as "ideal for CD recording", the tape has also been praised in the hi-fi press,



Two tapes for the price of one and a quarter...or something.

voted best Metal Tape by *What Hi-Fi* magazine in 1991 and 1992.

The price for a two pack of 90-minute tapes will be £3.99 until the end of August - £2 less than normal, so you effectively get three hours for the price of two.

For more information contact Sony, Sony House, Soth Street, Staines, Middlesex, TW18 4PF, Tel: 0784 467000, Fax: 0784 463278.



# HOW TO SAMPLE IN

BUY ANY 3 AUDIO CDs (MINIMUM ORDER VALUE £119), AND GET A 4TH CD OF YOUR CHOICE FREE (VALUE UP TO £49.95)

**NEW!**  
**ZERO-G**  
**Technotrance**  
**£49.95**



FROM THE SOUNDS OF THE UNDERGROUND TO THE SOUNDS OF THE CHARTS!  
**TECHNOTRANCE** brings you all the classic synth & FX samples you need, each presented with a short demo so you can hear just how effective these samples are before you even sample them, making Technotrance the most instantly usable sample CD ever released!

These are the sounds you always wished you had, arranged in logical easy-to-find sets, with accompanying advice for using the sounds effectively.

1. Classic Rave Synths, Special Rave FX, and Rave & Hardcore Bases. Experience the sheer power of these sounds - "Only for the Headstrong!"
2. Progressive House Hooks and Top Twenty Stabs. Put any of these sounds against a good beat and you'll have instant success - the sounds that stay in people's minds so that they'll be able to remember your track after first hearing it in a club, shop or on the radio. Strictly for the Dancefloor!
3. Techno Synth FX & Chords and Techno Piano Chords. Weird & Wonderful synth FX to add spice to your track!
4. Breakdown Pads. Choice of dreamy chords and single notes.
5. Cross-faded Trancers, and Filtered Synths & Bases. Get some "movement" into your tracks with these **PROGRESSIVE** sounds.
6. Acid Bases & Bubblers, and Talking Bases. The language

- of Acid from A to Z and more.
7. Top-end Tinklers, and Euro-style Synths. The sounds to give your mix that cutting edge - a good balance to the unconventional - very Trancey!
8. Analog Corner. Selection of old Wasp, Moog, ARP, and Juno Straight-off-the-Wall Synth FX.
9. Shattering Sub Bases. Watch the speakers!!!
10. Classic House & Garage FX. Stab piano, Organs & Sax, and Garage organ chords. Only the Most Essential!
11. Industrial FX. Assortment of "Klings & Klangs".
12. Ambient Atmospheres. Dreamscapes etc.
13. Ethnic Experiences. "Progressive Percussion, Synth & FX. A touch of the exotic and very NOW!"
14. Effected Drums. Reverberated snares, Flanged hats, - NOT an old beatbox collection!

PRODUCED FOR TIME+SPACE BY M.J. DUNNE OF RONJON PRODUCTIONS

**ZERO-G**  
**Groove Construction**  
**£39.95**



THE SAMPLE-CD PACKAGE THAT TEACHES YOU HOW TO CREATE PROFESSIONAL DANCE RHYTHM TRACKS! ONLY £39.95 including CD & MIDI-file diskette. What use is a MIDI sequence without the right sounds? What are great sounds without great sequences? Imagine you were able to break down classic loops and breakbeats, and then refine them to the exact needs of your track.

With **GROOVE CONSTRUCTION** you can! Well organised, superbly documented... well up to T+T's usual standard... helps promote individuality... if you're looking for a set of loops with which you can mess around and leave something of your own identity, this is definitely the CD for you! (Music Technology).

By analysing the grooves, you can understand the differences and definitions: how *House* differs from *Garage*; how a *Hip Hop* drum groove differs from a *New Jack Swing* groove; what type of sounds to use on a *Streetsoul* rhythm and how true *Techno* differs from *Rave*. And at the same time give yourself the tools to create professional quality rhythm tracks!

- This CD/MIDI-file package covers all the current dancefloor grooves:  
1: TECHNO / EURO. 2: RAVE / HARDCORE. 3: HOUSE / GARAGE. 4: HIP HOP / R&B. 5: STREETSOU. 6: 70'S FUNK. 7: NEW JACK SWING / U.S. DANCE.

Each set has 20 classic groove/loops and the 25 best samples that style. You get the loops, then the individual sounds in the order they are mapped onto the keyboard, then the MIDI sequence (rhythm pattern data) on floppy disk as a standard MIDI file for any Atari or Mac-based sequencer. An easy-to-understand booklet shows what samples are used in each groove, where to map the samples on the keyboard, and the names of the MIDI tracks containing the relevant data - straight-forward, logical, yet so powerful. No sound appears in more than one percussion set, and where possible, the position of each percussion instrument on the keyboard conforms to MIDI General Standard.

THE SOUNDS THAT WORK AND THE RHYTHMS THAT MATTER!

PRODUCED FOR TIME+SPACE BY M.J. DUNNE OF RONJON PRODUCTIONS

**XL-1**  
THE SEQUEL TO THE X-STATIC GOLDMINE!  
**£79.00**



THE WAIT IS OVER!! The first in a new series of sample-CDs from POLESTAR MAGNETICS (the Company who gave you the X-STATIC GOLDMINE, a top-rated international success), XL-1 is a new concept - a brave attempt to make it easier for you to judge a sample's character, groove & feel by presenting them in unique "CONSTRUCTION KITS" as well as "the traditional way". By giving you both these systems we believe you get a complete "Tool-Box" of Dance-Samples plus freedom & flexibility to work the way that suits you the best.

HERE'S A QUICK RUN-DOWN OF WHAT YOU GET ON THE FIRST CD OF THIS DOUBLE CD PACKAGE...

- Construction Kits: Each has 30 Samples (Loops, Drums, Bass, Instr, Vox, FX etc). As shown in the short Demo of each track, all samples

work in a musical context and at the given BPM. Lots of effort & time went into these tracks to give you the inspiration & feel of all the different sounds, styles & moods.

- Drum & Percussion: In total 360 samples of all types, all originating from Dance Trax of all eras.
- DAT back-up Section No. 1: All the drum & percussion sounds from trax 61-90 of the CD, sampled & mapped for the AKAI S1000 & S3000 samplers. Ready to play!

AND ON THE SECOND CD... Hiphop/perc. loops/rare grooves from jazz to funk. Relaxed & kicking. Tekno/house loops: hardcore breaks & pounding housebeats. For clubland & ravers. Rolls & Breaks: Ragga, Funk & Jazz Breaks to spice up your beats. Jazz & Funk Bass: Acoustic & electric tones & loops, for solid foundations

- Bass Synths & Techno Loops: sub & dub basses, Rave Riffs, Acid Loops & Garage Samples.
- Funky Stuff: Hammond, Leslie, Rhodes, Planos, Clavinets, Funky Guitars, Sax, Trumpet, Horns, Stabs & Squeals
- Chords, Sweeps & Pads: A Huge Collection of Tekno Chords, Bleeps & Trance Tones. Analog Sweeps and Chill-Out Pads. From The Frantic to The Frail.
- Fx & Vox: Wails, Shouts, Chants, Mystique, Spins & Bangs, to mention a few.
- DAT Back-Up Section No. 2: All the Drum Loops from Trax 1 to 30 of the CD, sampled & mapped for the AKAI S1000 & S3000 SAMPLERS. Ready to play!

In Total More Than 2500 Samples - MASSIVE! and ONLY £79.00 for both CDs! CD ROM version coming!

**Zero-G**  
**Masterclass Series**  
**ETHNIC**  
**£49.95**



THE ETHNIC LOOPS, BEATS & VOCALS SAMPLE-CD PRODUCED BY THE PARADISE ORGANISATION.

"Essential for the clubbed-up dance samplist... Vital & fresh samples... diverse, original & well-recorded... Go out and buy this. If you are subsequently disappointed, get out of the dance scene, you philistine!" (Sound on Sound, UK). A huge collection of ethnic rhythm loops, percussion, vocals and effects for dance producers, remixers, DJs and artists, including:  
• AFRO-LATIN BREAKS • ORIENTAL LOOPS • AFRICAN BEATS • RARE ETHNIC PERCUSSION AND PERCUSSION LOOPS • TRIBAL CHANTS • UNUSUAL ORIENTAL VOCALS • ETHNIC FLUTES AND OTHER INSTRUMENTS • FULLY INDEXED • ETC, ETC.  
Some initial user reactions - "Very useful progressive House - just what I was looking for" (Judge Jules, Kiss-FM, London). "Mental - I'll never buy another record" (Phil Perry, DJ/remixer). "Wicked breaks & ethnic loops" (Leftfield).

**DANCE & Industrial**  
**£49.95**



"THIS IS ONE MOTHER OF A SAMPLE CD, GO OUT AND BUY IT NOW!" (Review - Music Technology, UK).

- ALL NEW AND ORIGINAL LOOPS
- OPTIONAL MIDI-FILE FLOPPY DISK OF SEQUENCES • ALL STEREO • INDEX POINTS FOR ALL SAMPLES
- OVER 550 INDIVIDUAL SAMPLES

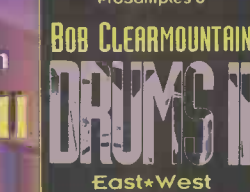
Available on audio CD or CD-ROM. Features include ability to load many of the loops into any sequencer from optional midifile disk so you can change individual samples in a loop; change the tempo without changing the pitch; cut and paste loops together etc. Some loops even created by heavy industrial machinery!

REVIEWS: "Get hold of this CD - you really do owe it to yourself." (Music Technology, UK). "An education in itself... a hands-on insight into how the pros do it... lives up to expectations... pristine quality... a chance not to be missed." (Sound-on-Sound, UK).

"A hard fist-full of deadly loops & hard-edged percussion to give your tracks attitude!" (Future Music Magazine, UK)

Great new prices!.....AUDIO CD: £49.95 including midifile disk - please state ATARI or MAC. CD-ROM: £199 (AKAI or SampleCell formats). NEW! Limited Edition (100 Megs) Akai CD3000 version of the CD-ROM just released - only £139.00. (Dance/Industrial Vol. 2 coming soon! Every loop will have a MIDI file - release approx July. 93).

**Bob Clearmountain**  
**DRUMS II**  
**£49.95**



INTRODUCING THE SEQUEL to the world's best selling drums sample library from top producer/engineer **BOB CLEARMOUNTAIN**

The most unique and innovative feature of DRUMS II is the ability to play the samples with TRUE DYNAMICS (especially when triggered by pads). Most of the sounds on DRUMS II were recorded with SOFT, MEDIUM and HARD hits to enable complete control over the dynamics of the performance. Usually only a single sample is adjusted in level in your sampler to imitate dynamics. However, a drum sounds completely different when hit soft, medium or hard. Capturing these differences in the recording is the only way to provide true dynamic control and SOUNDS THAT MATCH the performance.

The CD features hundreds more brilliantly recorded drums (some processed with the famous Clearmountain touch) and loads of crisp new cymbals & hi-hats. Now only £49.95 "Due to Clearmountain's immaculate recording techniques and clear understanding of sampling musicians' need, Drums II is top of the heap. 10/10 for quality AND selection." (Keyboard, USA)  
Also still available: the very highly respected & essential Vol. 1 "DRUMS I" and Vol. 2 "PERCUSSION & BASS", still only £49.95 each (Also available on CD-ROM in AKAI, SampleCell & Emulator III formats, only £199.00)

**BRAND NEW!**  
**ANALOG TO DIGITAL**  
**£49.95**



NEW from Voltage Controlled Music - an absolutely superb CD - believe us this will be a winner! It's been compiled from the best of classic & contemporary instruments spanning the past 2 decades:  
• Both Analog and digital synths • Ring Modulators • Guit. E-Bow • Samplers • Coders & outboard FX • Mind blowing electronic loops & arpeggios • Amazing pads & Textures • Unique treated analog drums • Unsurpassed trance & ambient tones • Chords • Combined analog & digital layers • High standard of basses & Leads • Unique 'RAW WAVES' data from Moog, SCI & Roland - easily create your own living sounds • List of old synths used is endless • An extremely well-documented & presented product • If you only buy one Class. CD make sure it's this one!!



# TECHNICOLOUR

OR BUY ANY 3 CD-ROMs (MIN. ORDER VALUE £595), AND GET A 4TH CD-ROM OF YOUR CHOICE FREE (VALUE UP TO £199)\*

\* OFFER IS FOR A LIMITED PERIOD ONLY, SO GET YOUR ORDER IN QUICK!

## Barbara Dennerlein's HAMMOND B3

£49.95



100's of unique Hammond B3 organ grooves, riffs, licks & FX. Barbara Dennerlein's organ technique is legendary - a star attraction at major Jazz Festivals worldwide, she's released a series of albums of high international repute. This is a CD in line with that legend. We are talking world-beating funk & funk!! - her rhythm, feel, drive & groove cannot be taught. Special features: House & techno inspirations; a dozen chromatic sampled Hammond B3 sounds with & without Leslie FX; 23 MIDI data back-up section for Akai S1000, complete with looping. Also, you will even receive with the CD a floppy disk containing 15 minutes of completed arrangements in Blues/Jazz/Funk. Whether you are looking for high quality multi-sampled B3 organs or just great powerful techno-style organ loops, this CD has to be checked out! Only £49.95 including MIDI file disk.

## DNA BEAT BLOCKS featuring Clyde Stubblefield

£54.95

NEW



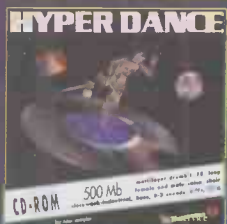
### Clyde Stubblefield - The Funky Drummer on James Brown's biggest hits!

Offering a new technology to marry MIDI to Audio: DNA Groove Templates. Each loop has an accompanying set of DNA Groove Templates, which are Quantize Templates for popular sequencers, and they lock events in the MIDI world to THE PRECISE FEEL of Clyde's playing in the real world. No more moving of individual notes clock by clock to get them in the groove.

IF YOU THINK CLYDE WAS HOT BACK IN '69, HANG ONTO YOUR HATS - HE'S EVEN HOTTER NOW! (please specify ATARI, MAC, or IBM PC format).

## HYPER-DANCE CD-ROM

£199.00

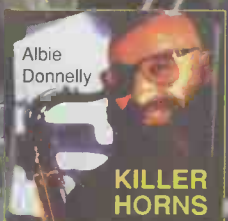


500 Mega-byte CD-ROM in Akai S1000/3000 series format: "HYPERDANCE" contains the best of the sounds from the popular German "Looping" audio CD, and the newly released "Clockwork", and "Voice Spectral" audio CDs (Best Service, Germany), plus 30% new material. 500 Mb for only £199.

Special limited offer - purchasers of Hyperdance or Hyperspace are eligible to buy an Apple "CD150" CD-ROM player from us (excluding SCSI cable) for only £99.00 ex VAT !!

## Albie Donnelly's KILLER HORNS

£49.95



COMING SOON (June '83) on both normal audio CD (£49.95) AND on special "mode" CD-ROM (Only £139.00)! This brass sample collection, put together by Best Service in Germany, is sure to become a standard studio item for R&B, funk and soul production! And get this - incredibly, the CD-ROM version is a "Mixed Mode" CD-ROM - it is a combined version of an audio CD (45 min) and CD-ROM (170 Meg), and is available in 3 formats - Akai, Emu III, or Ensoniq. Albie Donnelly, from Liverpool, bandleader of "Supercharge" and studio professional, has pulled out all the stops for this project. All material original, and includes hundreds of Riffs, licks, Shots, Stabs, Falls & Swells. Also complete sections, and a wide variety of tones. The definitive horn sample CD for Dance-orientated production. Alto-, Tenor-, Baritone-Sax, Trombone, & Trumpet. Albie invited many of the world's best horn players to participate in this CD!

BRASS AT IT'S BEST!

## DNA BEAT BLOCKS featuring Wilson Laurencin

£54.95

NEW



### FUNKY DRUMS FROM HEAVEN!

Slamming playing, 78 mins., 550 live drum loops (all-original), complete with revolutionary DNA Groove Templates AND midi-files for EVERY loop. Wilson is definitely one of the funkiest & most technically proficient drummers we've ever heard. His ability to play simultaneously with both style & aggression gives each loop a unique distinctive character. A very wide variety of sounds & combinations, from crystal clear kits to massive & daring effects, using top-notch outboard gear. Includes useful tips on drum arranging.

## HYPER-SPACE CD-ROM

£199.00



"HYPERSPACE" contains the best of the sounds from the equally popular German "Bizarre Planet", "Science Fiction", and "Sound Collection" audio CDs (Best Service), plus 50% new material including construction sets, freshly-recorded orchestra stabs, etc. - over 500 Mb!

Fantastic material for those needing general sound effects and atmospherics for film and soundtrack productions, or multimedia.

## Zero-G Masterclass Series FUNK GUITAR

£49.95



NOW ALSO ON AKAI CD-ROM!! Produced by lifelong funk-head VLAD NASLAS The DEFINITIVE SAMPLE CD FOR CLASSIC DANCE GUITAR RHYTHMS AND EFFECTS

"Meticulously prepared & presented... virtually noiseless... engineering & playing first class... cool, fresh & funky... a definitive collection... the best I've heard... light years ahead of the previous competition" (Sound on Sound, UK).

"Irresistibly catchy stuff... pulsating riffs just begging to be put over a thumping dance beat... will crop up on countless chart & club hits." (CU Amiga, UK). "Zero-G's Funk Guitar is, with distinction, the best sampling CD at the moment" (Keyboards, Germany)

Guitar rhythms, timbres & FX from cool & slinky to hot & bothered, from the mellow chug of early JB's incl. many different 'wah' sounds through 70's Fusion & Disco, incl. the 'Talkbox', to the cutting 80's dance sounds, and new programmed off-the-wall FX, incl. robot-type sounds, vocoded guitar, & rhythmic gating loops. The warm open sound of classic funk/dance, recaptured by using the guitars, amps,

and FX of the period. CD-ROM version out now!! - includes 30% extra material - an unbeatable guitar resource for discerning studio professionals.

• WIDE VARIETY OF TEMPOS (BPMs GIVEN) • ULTIMATE SELECTION OF CLASSIC GUITARS & AMPS USED • 1, 2, & 4 BAR LOOPS • ALL ORIGINAL MATERIAL • METICULOUS AUDIO QUALITY • 1244 SAMPLES (1700 on CD-ROM) • 79 MINUTES TOTAL

Authentic rawness & totally indispensable for anyone in a funk groove. Audio CD £49.95, Akai CD-ROM £199.00

## DNA BEAT BLOCKS featuring ARMANDO BORG Percussion Incognito

£54.95

NEW



This third & final package in the Beat Blocks series will be immensely successful since it fills a big gap in the average producer's sample repertoire. Key features are - Incredible musical versatility - a large percussion selection, masterful playing, over 500 percussion loops, with tempos ranging from 50 to 170 bpm!!

Armando Borg is a master percussionist of the highest order. With his knack for subtlety & invention, this is by far the best collection of percussion grooves ever assembled. Armando plays stylish impossible-to-program patterns with Agogos, Bongos, Cabasa, Congas, Clave, Cowbells, Guiros, Maracas, Panderos, Rain Sticks, Shaker, Shakerays, Tambourine, Timbale, Triangle, Woodblocks, + other misc. instruments. Patterns offer a wide variety of styles & tempos, & offer a much greater degree of versatility than drum grooves. For example, often the same pattern can be used in House, Reggae, Soca, Techno, Calypso, Latin, Jazz, Soul Ballad, Rap or Fusion.....this is a CD for everyone.

The optional floppy disk contains DNA Groove Templates (i.e. quantise templates for use with Steinberg/Cubase, so you can match the timing of your own programmed midi parts to the feel of Borg's live playing in the percussion loops) and MIDI-files (standard files of every loop for you to load into ANY sequencer, which provide a very accurate programmed representation of Armando Borg's natural playing). (please specify ATARI, MAC, or IBM PC format).

## ZERO-G DATAFILE CD-ROM

£199.00



The DOOMSDAY DISC!... UNQUESTIONABLY THE FASTEST, MOST POWERFUL & COMPREHENSIVE DANCE PRODUCTION WEAPON EVER CREATED. OVER 3250 SAMPLES KEYBOARD-MAPPED AND READY TO LOAD INTO YOUR AKAI S1000/1100 SAMPLER.

We are talking FAST creativity - the way it should be. Imagine you want to find a good vocal sample to use as a hook - just press a button and there's a different one on every key of the keyboard! - ready to try out against your track. Or imagine being able to find the right loop or snare for a particular project in seconds by instantly loading up huge banks of proven sounds - one to every key. All the hard work has been done, giving you the creative freedom you've always dreamed of. Immediate access to the entire contents of the most highly-acclaimed dance sample library in the world. Quite

simply, no other sample library has achieved so many stunning reviews in the world's hi-tech music press. Any producer or remixer in possession of this product will definitely be in hot demand.

• DETAILED SAMPLE AND PROGRAM LISTING • MAPPED TO THE KEYBOARD AND READY TO LOAD STRAIGHT INTO YOUR SAMPLER REVIEWS: "A REFERENCE AGAINST WHICH ALL SIMILAR SAMPLE-CDs MUST BE JUDGED...UNRESERVEDLY EXCELLENT...THE MOST COMPREHENSIVE DANCE SAMPLE RESOURCE IN CIRCULATION...AMMUNITION FROM THE FRONT LINE...UNBELIEVABLY VALUABLE..." (Music Technology, UK). "THE GREATEST SAMPLING TOOL EVER RELEASED TO THE PUBLIC!" (DMR Dance Music Report, USA). "AS A SOURCE OF SOUNDS AND INSPIRATION, ZERO-G REALLY WORKS" (Home & Studio Recording, UK). DON'T GET LEFT BEHIND... THE CD-ROM market is exploding - we strongly advise getting a CD-ROM drive for your sampler if you haven't already done so - there are so many new CD-ROM titles imminent. We offer the whole range of low-priced DAC drives, TRADE-IN YOUR DATAFILE CD's FOR THE CD-ROM VERSION! We'll give you £25 each for them!! We want you to appreciate the speed and power of this library in its full ready-to-load form. Just send us your CDs with your order, and include payment for the difference. Special limited offer - purchasers of the Zero-G Datafile CD-ROM are eligible to buy an Apple "CD150" CD-ROM player from us (excluding SCSI cable) for only £99.00 ex VAT !!



# WIN

## A KORG WAVESTATION

### SR MODULE!



On the right is what we said in our review of Korg's Wavestation SR module back in the January '93 issue – and now you have a chance to win an SR for yourself in our exclusive competition!

Features of the Wavestation SR include:

- ★ Advanced Vector Synthesis
- ★ 32-voice polyphony
- ★ 55 digital effects programs
- ★ 24-bit effects processing
- ★ 484 samples and single-cycle waveforms
- ★ 8 ROM Banks, 3 RAM Banks
- ★ 550 Performances
- ★ 385 Patches
- ★ 352 Wave Sequences
- ★ card storage of Performances, Patches and Wave Sequences

As usual, all you have to do to stand a chance of winning is answer three outrageously simple questions:

**"IN A SYNTH WORLD DOMINATED BY SAMPLE-BASED INSTRUMENTS, THE WAVESTATION HAS BEEN THE PROVERBIAL BREATH OF FRESH AIR. BY PLACING THE EMPHASIS ON ABSTRACT WAVEFORMS AND WAVE SEQUENCES AS OPPOSED TO IMITATIVE SAMPLES, IT HAS OPENED UP A DIFFERENT SOUND WORLD FOR ADVENTUROUS MUSICIANS TO EXPLORE... THE WAVESTATION SR... MAKES THE IDEAL COMPANION FOR A MORE CONVENTIONAL SAMPLE-BASED INSTRUMENT."**

1. How many U high is the Wavestation SR?
2. Which Korg synth shares its name with a well-known British motorway?
3. What is the name of Korg's newest workstation synth (it's in the mag – somewhere!)?

Write your answers on a postcard together with your name, address and telephone number and send your entry to:

Wavestation SR Competition  
MT  
Alexander House  
Forehill  
Ely  
Cambridgeshire CB7 4AF

Our Automatic Multiple Entry Detector is infallible and has been programmed to terminate all offenders with extreme prejudice. You have been warned. As always, the Editor's decision is final, and no correspondence or telephone calls will be entered into. We're busy too, you know.



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TIME+SPACE - THE WORLD'S FINEST COLLECTION OF PROFESSIONAL SOUND LIBRARIES ON CD & CD-ROM



## Clockwork

£39.95



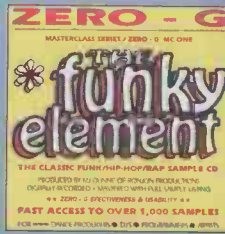
### NEW FROM BEST SERVICE IN GERMANY CLOCKWORK CD

Get some new-style rhythms in your track now! Mechanical atmos, metallic/percussive sounds, tick-tock clocks, "time" pads, industrial sequences, techno drums, rhythmic machine loops etc. "Will give your music a truly original taste... rich stereo imaging throughout... all the necessary sounds to construct rhythmic textures that'll keep any club pumping till dawn... a serious must for any techno-industrial composer's timbral arsenal." (Keyboard, USA). "Undoubted source of inspiration for some future dance monster" (Sound on Sound, UK)

### Zero-G Masterclass Series

## FUNKY ELEMENT

£49.95



### THE CLASSIC FUNK HIP-HOP / RAP SAMPLE-CD

LOOK WHAT THE PRESS ARE SAYING ABOUT "THE FUNKY ELEMENT" BY M.J. **SOUND-ON-SOUND:** "Loops sound like extremely rare grooves... Best collection of its type I've come across... Mean sax notes, howls & squeals... guitar licks sound authentically 70s... no passengers here. A well-targeted, well-played, well programmed collection of funk elements." **FUTURE MUSIC:** For authentic funk feel you're spoilt for choice. Straight-from-the-flare-era feel... So fresh, so eminently usable, so FUNKY. 9 out of 10" **ST Format:** "For hip-hop & funk it's all here."

### Zero-G Masterclass Series

## AMBIENT

£49.95



A particularly versatile collection. A fantastic array of dreamy atmospherics/effects for use in ambient dance, film work & all futuristic/spacey/new age/trance music.

**SOUND-ON-SOUND:** "BOUND TO APPEAL... TEXTURES ABOUND: SOME WINDY, SOME WATERY, SOME JUST PLAIN WACKY... AN ARMY OF WHOOSH, METALLIC, ANALOGUE, AND OTHER TEXTURES... HITS THE MARK SQUARELY!" **FUTURE MUSIC MAGAZINE:** "PERFECT FOR MAKING ORB-STYLE TRANCE RECORDS... CREATING THOSE EVER-EVOLVING TRANCE-DANCE SINGLES SHOULD BE A DODDLE!" **ST FORMATS:** "WELL RECORDED... LANGUAGE IS INADEQUATE TO DESCRIBE THESE SOUNDS... IF YOU ARE LOOKING FOR EFFECTS TO ADD TO YOUR SCI-FI MOVIE, OR NEW AGE ATMOSPHERICS, START HERE."

## Voice Spectral

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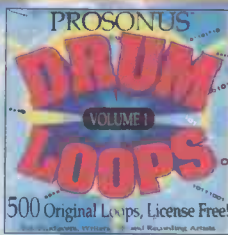


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# TOYS R US

Utah Saints Jez Willis and Tim Garbutt had three hit singles with Annie Lennox, Kate Bush and Phil Oakey guesting on vocals. Only they didn't - the real singer was called Akai. They have already proved that the 'live' singer is redundant. Now they're on the road with a multimedia show that reflects the sensory assault of TV and Nintendo chaos. And whilst their debut album *Utah Saints* has been extending their reputation into established CD territory, future product promises to be equally multisensory. Whether it's computer graphics, laser disc or virtual reality, the Utahs will be there when the next generation of recorded product arrives.

Interview by Phil Ward

## On this whole live thing...

Jez: "The image I had of the portable-keyboard performer was the dodgy jazz band with an SH101, right up here on top of a mound of keyboards. So I use the hand-held Yamaha KX5, and the beauty of it is that you can chuck it around a bit. And you can lay out the keygroups to have three or four keys doing the same thing — so if you miss the 'right' key, you're covered. In most things we do, there's an anarchic punk streak, and if you lose that it makes it too sterile. We're trying to make machines rock."

Tim: "We played a big rave in Miami with 808 State, Rage Against The Machine and Meat Beat Manifesto, with techno DJs inbetween, and it was really cool. The variety of music was the important thing — in America, 'rave' covers a much wider spectrum. Over here, you either get garage, or techno, or breakbeat, or whatever, but everything should be mingled."

Jez: "That night in Miami was really dynamic, and I think by necessity things are going to have to get more dynamic over here, with bands touring together. Our first break out of the rave circuit was doing a festival with Jesus Jones about a year ago. The rave circuit was frustrating because it was geared up for people miming to DAT, and we would have made more money if we'd done that, but we didn't want to stand in front of a few disconnected keyboards for half an hour and pretend to be Utah Saints..."

Tim: "The big worry for us was going from three sample-based hit singles to selling albums, which is really important. Only a few dance-based acts have done it yet — 808 State, Prodigy, Sunscreen — and they're the ones that go out and do the live thing."

Jez: "On stage, we want the freedom to run about, so about 40% of what we do is on DAT — basic kick and sequencing — and everything else is played on top."

## On the way forward...

Jez: "There are some bands who almost want to deny they use



technology, and go completely acoustic. For us, that defeats the purpose, because the way forward is to use new sounds and new combinations of sounds, and the way to do that is to use samples. Technology is the way forward in everything, and it's the way forward in music. I started out as a keyboard player, but then I found I could get computers to play what I couldn't play, so that seemed like a pretty good way forward..."

### On supporting U2...

Tim: "We did some dates with U2 in Europe, and we thought we'd sequence everything on stage, but we only had two weeks to prepare so we remixed about 40% of the parts in each song onto DAT.

"We didn't have much time to soundcheck either. U2 would soundcheck right up to the doors opening, so half the time our first song would be getting the levels right in front of the audience.

We didn't have our own monitor engineer, either, so it would take half a song to get a level changed, waving across this huge stage to their monitor man..."

"They do some cool stuff: they drop samples and loops from video cassette over the top of what they're playing, like Martin Luther King making a speech.

That's a great move forward, sampling with video so it's all linked in.

The next thing we're going to do is look into ways of properly synchronising the video screens that we use on stage with the music."

Tim: "At the moment it's just computerised graphics, but when it incorporates real footage it'll get quite scary..."

Jez: "It's a shame, in a way... maybe music should be able to exist on its own. But the sensory assault from visuals and sound is closing the gap between them, and that's the way forward."

### On having hit records...

Jez: "We started out expecting to sell a thousand white labels, but then we got signed. And we ended up in the ridiculous situation of having a Top Ten hit and only one song. So we've been trying to catch up with our own success for the last two years. We tried to step back, but then things started going well in America, so we had to go out there. You never get a chance to catch your breath."

### On sampling vocals...

Jez: "On the next single, 'I Want You', I sampled myself and put it through the Digitech Vocalist — which is a brilliant machine. I then resampled that with pitchbend on it, so there's this really weird effect on the chorus. It's down to whatever a track needs. We wanted to do three tracks using a sampled voice as the lead instrument, now we've done that and we'll move onto other things. But we'll always use samples, taking things and putting them into a different context. We'd rather spend £3000 on a new sampler than a 'classic' analogue synth..."

Tim: "We don't collect synths, we collect CDs..."

Jez: "What made me realise that samplers could rock was when I was doing some bass in Peter Hook's studio in Manchester, and I thought I'd →

### On future pop media...

Jez: "TV has become such an important part of the culture, we're surrounded by information and disinformation. It has huge benefits, but huge disadvantages too, as a medium, and we want to show images from TV in a new context to highlight this. For us, it has to be something that doesn't detract from what we're doing on stage, but which provides an added visual stimulus. We're still experimenting, at this stage.

"What's happening is that video games are taking over from music, but the music on most games is appalling. As people start buying multimedia formats, we have to make sure that the music is not an afterthought, so you can buy a CD with really good music on it, plus some kind of visual element as well — whether it's virtual reality, CDI or whatever. We really want to get involved as it develops. At the moment, virtual reality is commercially fairly basic, and very expensive, but what's going to happen is that the visuals will get more realistic. It's quite scary, but when that happens the music better be good..."

### on stage:

Jez: Korg 01/W; Stepp guitar synth; bass; Yamaha KX5 triggering rackmounted Akai S1100.

"The Stepp triggers the S1100, too. There's a switch for internal/external sounds. It takes some getting used to; the strings on the neck aren't attached to the strings that you hit. So there's no delay, and it gets the note to play from the left hand, and how you want to play it from the right hand simultaneously. And when you're dealing with MIDI, you're never quite sure what information it's getting. One wrong touch, and you can completely scramble the S1100. It'll send out all sorts of filter and SysEx information, when all you wanted was an A..."

"We're going to get a 3000-series Akai so we can improve the loops in the studio. Just about all our records phase a little in the rhythm section, because of the slight delay between left and right."

Tim: 2 x Technics turntables; Made II Fade mixer; Akai S950; Yamaha KX5. Tim also operates the DAT machine.

"The only drawback with DAT is that

once you've finalised the mix, it's a fixed length and you can't change it according to how well the song's going."

Lee Dyson: Korg 01/W

Keith Langley: Simmons pads triggering Yamaha RM50 rhythm sound module; Samson Concert TD Series noise reduction unit. The pads play bass drum, two snares, two toms and a timbale.

Peligrino Riccardi: acoustic percussion.

Jez: "There's no click, so if there's bad monitoring, and three of us are playing loops with two of us playing along, then we can go into some pretty weird jazz polyrhythms..."

6 x Sony TV monitors (courtesy of Nintendo); the video images are also projected onto a black backcloth.

Tim: "We're both complete Sega and Nintendo freaks, and we're really interested in virtual reality and CDI, so the video images are dominated by computer graphics."





add some keyboards. So they gave me an old Emulator. And when it went down, and all the lights started flashing, the engineer just said 'give it a good kickin' and it will sort itself out'. I felt you just don't *do* that to such an expensive piece of gear, so he came in and kicked it so hard he raised it off the ground. And it was fine after that. That was when I knew these things weren't precious, they could have energy and life."

### On sampling as theft...

Jez: "We'd never just use the essence of someone else's song and use it as the basis of our own — although that is a valid art form in itself. Sampling gets a bad name because there are some unscrupulous people around who'll take anything and use it as the basis of their song. But if you extrapolate that argument to an absurd degree, every keyboard manufacturer would have to sue everyone that uses their sounds, because they created the sounds. People who slag off sampling then pick up a guitar and play in the same style that someone else has already done."

Tim: "'What Can You Do For Me' came out about the same time as PM Dawn's single that used Spandau Ballet's 'True', but because there was a rap over it people's attention was focussed on that. We created something new with Annie Lennox's voice, but because it was the voice — the focal point — people gave us a much harder time. As soon as there's a 'singer', everyone ignores the backing track."

Jez: "This argument will probably go on for years. When 'S-Express' came out, *MT* was full of letters saying 'anybody can do this', and the editorial reply was always 'OK, go and do it, then...'. Which was absolutely right — and still is." ●

### in the studio:

Jez: "We started out with an S950 and a Kawai K1, and that was it — that's what we did 'What Can You Do For Me' on. We had two days studio time for three hundred quid. At the moment, we're still having to write in the studio — Lion Studios, in Leeds — but once we've got a good set of monitors we'll start working at home."

Tim: "We don't use tape, so we won't need a multitrack."

Jez: "We're really impatient: it takes so long to wind back tape... So if we're doing vocals we put them onto DAT, sample one line at a time and trigger them from Cubase. It takes a little longer at the recording stage, but saves a hell of a lot of time at the mixing stage. And I believe there's going to be an audio add-on to Cubase — digital recording built into Cubase — so we'll be able to do vocals and everything side by side. That'll be really good for us."

#### synths & samplers:

Roland JD800 (Tim: "I love messing around on the sliders...")

Ensoniq SQR (Jez: "Ensoniq gear is so unreliable. I really like it for bass noises, but I've had two ESQ1s and two SQRs now and they just kept on going down.

I'm sorry, but I've got to say that...")

Akai S1100

Korg M1

Korg 01/W

Roland D110 \*

Roland U220 \*

Roland S220 \*

Digitech Vocalist

E-mu Vintage Keys \*

Roland JX1 (x 2) \*

#### rhythm:

Boss DR550

Yamaha RM50 \*

#### sequencing & editing:

Atari ST

Steinberg Cubase

Steinberg Synthworks M1 editor

Steinberg Avalon sample editor

Digidesign SoundTools

Alesis Datadisk SQ \*

Midtemp PMM88 MIDI

patchbay/processor \*

#### mixing:

Soundcraft 6000 24:16:2 console, at Lion Studios in Leeds.

\* Guy Hatton, Lion Studios

### On record

title	format	label	released	reached
What Can You Do For Me	single	frrr/London	August '91	10
Something Good	single	frrr/London	May '92	4
Believe In Me	single	frrr/London	April '93	8
Utah Saints	album	frrr/London	May '93	10 (still in Top 30)
I Want You	single	frrr/London	July 5th '93	



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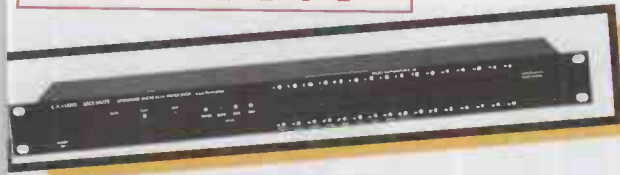
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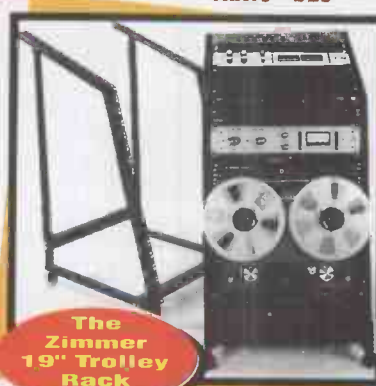
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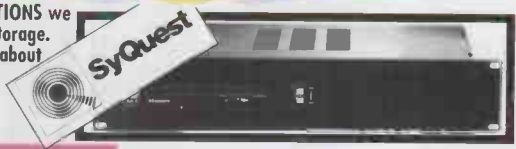
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Mixing live music with multi-channel video, *The Cave* is a groundbreaking new music theatre piece by composer

Steve Reich and video artist Beryl Korot – serious art for the MTV generation...

# Opening

**W**hen the sorrows of the world pour daily into our living rooms through the TV screen in a kind of performance art of misery, what should be the response of artists living and working today? Should they attempt to grapple with the harsh and often complex realities of life around them, or should they portray other visions of life? For the American composer Steve Reich, the answer is clear.

"We're living in a society where we really need to take account of reality, nothing more, nothing less," he says. And his latest work, a large-scale music theatre piece developed in collaboration with his wife, the video artist Beryl Korot, does just that. Premiered in Vienna during May of this year, it was also staged during June in Amsterdam, which was where your writer travelled in order to see it and to talk to its creators.

Four years in the making, *The Cave* is a multiple media work of impressive breadth and depth. Using the Biblical story of Abraham and Sarah as a narrative framework (see 'The historical background to *The Cave*' on page 28), Reich and Korot have explored the meaning which this story holds today for the people of three different cultures – Israeli, Palestinian and American. In doing so they have created a form of art well suited to the age of MTV and CNN: documentary music video theatre.

Essentially, *The Cave* adds a video dimension to the concept of documentary musical reality which Reich developed in his previous piece, *Different Trains*, a concept which revolves around the use of literal speech samples and 'speech melodies' derived from these samples (see *MT*'s January '89 interview with Steve for more details). *The Cave*'s speech samples are transplanted into the realm of video, in the form of short video clips taken from the many interviews conducted by Reich and Korot in preparation for the composition of the piece. With the involvement of Korot – a video artist of long standing who pioneered multiple-channel video works in the '70s (see 'Beryl Korot' on page 28) – the visual dimension of *The Cave* involves a great deal more than simply replacing the sampler with a TV monitor. *The Cave* is a theatrical piece, complete with

an elaborate 3-tier stage set, the centrepiece of which is an 'arch' of five 6' x 8' video screens. The 13-piece musical ensemble – a typically Reichian collection of keyboard, wind, string and percussion players – mostly occupy centre stage on the lowest tier, within the frame of the video arch, while the four singers alternate between the middle and upper tiers (which are linked by means of two spiral staircases), always remaining outside of the arch.

A combination of moving images and still pictures are back-projected onto the five screens. The moving images consist for the most part of 'talking heads' – the individual interviewees taped responding to questions asked by Reich and Korot – while the accompanying stills are blown-up segments of single video frames 'grabbed' from the interviews. In addition to being part of an elaborate visual counterpoint constructed by Korot on her multiple screens, the stills act as visual characterisations of the interviewees – and sometimes, when the link with a particular interviewee has already been made, they also act as visual cues, indicating the imminent reappearance of an interviewee. You don't have to be 'video-smart' to follow *The Cave*, but it helps.

While parallels can be drawn with 'soundbite culture', *The Cave* is a densely-constructed and slowly-evolving piece which avoids the easy consumption tactics of mainstream TV. For one thing, it doesn't have a straightforward narrative structure; while there is narrative, in the form of text 'typed' live onto multiple screens in several languages, *The Cave* is primarily about commentary – specifically, the diverse views expressed by the 54 interviewees on the characters and events of the narrative. The three Acts into which the work is divided focus respectively on the Israeli, Palestinian and American perspectives. Lasting 2 hours 16 minutes in total, *The Cave* itself is an extended commentary on how people's views are shaped by the culture in which they live.

The interviewing for *The Cave* was done by Beryl and Steve in Israel (East and West Jerusalem) and America (New York and Texas) using a Panasonic CLE200 S-VHS camera and AG7400 S-VHS deck and a

Neumann shotgun microphone.

"When we started to think about doing this work," Beryl recalls, "I was saying to people 'We're going to go S-video through this whole thing until the final mastering', and people were saying to me 'This is a big mistake you're making, it's just not a good enough format'. I was saying 'Well, this is all that I can afford, and if you're careful enough with the lighting you can do it.' I don't know in retrospect whether I would have had the courage to say that all over again. But it worked."

Back home, the pair had adjacent soundproofed studios, and it was here that the creative process began.

"An important point about the use of technology in this piece," Beryl says, "is that, for the four years which preceded getting the playback system designed for the performance, we each worked separately with the equipment that we had in our own studios, without engineers, without anybody else doing the editing, just by ourselves, as artists would work with their tools. The interesting question was: could we use these tools of today to really sustain something that had depth and breadth, like in traditional art with traditional tools?"

The first stage involved Steve sifting through the videotaped material to pick out the vocal

**Steve: "We're living in a society where we really need to take account of reality, nothing more, nothing less."**

phrases that he wanted to use musically.

"Let's say I was working on Act I Scene 1 and I wanted to know what the Israelis said about Abraham," he explains. "Beryl had catalogued everything that was said, which was no small job, so she would give me the video tape and I would go through the material, just taking the audio outs from the 7400 deck. When I hit on a sentence where I thought 'This is really a winner', I would sample it into the FZ1s and



# Windows



then notate the speech melody down on manuscript paper.

"So I'd end up with two or three pages in my notebook of quotes in different keys and different tempos and different metres, and then the work of composition was to take a selection of these that would tell a story and at the same time move with reasonable grace from musical section to musical section."

Grappling with the problem of giving the music an overall harmonic thrust in each Act, Steve found the solution in the documentary material itself. Acts I and II both conclude with video material shot in the mosque at Hebron – and the resonant frequency inside the mosque gave him his concluding harmony: A minor.

"What made this piece work, what made it happen, was our commitment to the documentary aspect of it," he says. "Whenever there was an aesthetic problem, musical problem or dramatic problem, a further, closer examination of the documentary material itself would provide answers."

"And to visual problems," adds Beryl. "In a way the video and the music inhabited separate territories and then came together because of this common bond to the documentary, and because of the technological link provided by SMPTE."

With his FZ1s given over to the speech samples, Steve transferred all his instrumental samples into Digidesign's SampleCell board for the Mac. Both were controlled from Finale,

which he used in preference to manuscript paper for writing and scoring the music.

"I'd save the music as a Finale file, but then I'd save it also as a MIDI file so that I could open it in Performer," he recalls.

"Performer was the way for me to communicate with Beryl, because it's marvellously handy with SMPTE and it displays the bar number and the SMPTE time simultaneously. SMPTE was our *lingua franca*; Beryl would come into my studio and say 'Where's Isaac?' and I'd say 'He's 23:06:42:21', then she'd say 'Thank you, bye bye'; that was our conversation! She had pages of Finale printout with all these red numbers on them, which were the SMPTE numbers."

The two studios were linked by means of three cables – two audio and one SMPTE – which ran out of the window of one studio and in the window of the other! When the time came to transfer the music for Beryl to work with, Steve slaved Performer on his Mac to her video setup via SMPTE and they downloaded the output of SampleCell via the audio link.

In her studio, Beryl had a 5-monitor setup with five Panasonic VCRs which she ran from her Mac via a control interface developed by Californian company Advanced Remote Technology Inc.

"The first decision I made about the piece, which preceded anything that Steve did," she says, "was that it was going to be a work visualised on five screens – and five screens in a

particular shape into which the musicians would be placed. Having five screens gives you a tremendous variety of options yet it also keeps the focus. So in the studio I always worked five at a time in making my decisions for each section of the piece.

"Steve had to give me the music first in order for me to be able to decide how I was going to place the people on the screens. Essentially the first thing I did when he gave me the music was say to myself 'OK, we have six characters here, where do I want them to go?' So, for instance, I would decide 'OK, Nadine is very prominent in this Act, I'm going to give her the 1/4 position. She's talking against Ephraim Isaac, who's the other most dominant person, so I'm going to give him the 2/5 position.' Then there were other characters who would get 2/4, 1/3, 3/5, and those people would all get placed. The reason I doubled the speaker was because you immediately abstract them once you double them, they're no longer documentary, and I wanted to take the material to another plane."

Beryl used a PC-based setup to work on the stills which complement the moving images. Each still was created by 'grabbing' a single frame from video into the computer, then using graphic editing software to zoom in on a section of the grabbed image. The resulting 'blown-up' image could then be written back out onto videotape. Beryl had one record VCR hooked up to the Mac (for the video editing) and another to the PC (for the stills creation); when →



she had finished writing to a tape in one of these machines, she could transfer it to one of three playback VCRs, and start working on another tape. In this way she was able to build up her 5-channel video 'tapestry'.

Once the tapes were compiled, they were mastered to Betacam and backed up onto digital tape, and the masters were sent to 3M in Minneapolis for transfer to laser video disc – the chosen playback medium for the live performance of *The Cave*.

The computer-controlled laser disc playback system was designed by Ben Rubin, a graduate of the MIT Media Lab, and built to his specification by David Canning, who has previously built video systems for the Academy Awards and a Genesis tour. In this system the laser discs are controlled from a playlist running on an IBM PS/2 computer – with a second PS/2 running in parallel so that it can be switched in should the first fail.

The control interface between computer and players is another ARTI system, with one master control box running two slaved boxes which control five laser disc players each. Because each laser disc holds only 30 minutes of video, each channel has two players assigned

## The historical background to *The Cave*

*The Cave* takes as its narrative framework the Biblical story of Abraham and Sarah. The cave in question is the Cave of the Patriarchs, final resting place of Abraham, Sarah and their descendants. According to Jewish mystical sources, this cave is a passageway back to the Garden of Eden; it is also said that Adam and Eve are buried there.

Located in the largely Arab town of Hebron on the Israeli West Bank, the cave has great religious significance for both Jews and Muslims. While Jews are descended from Abraham and Sarah through their son Isaac, Muslims trace their lineage to Abraham through his son Ishmael, who was born to Sarah's handmaid, Hagar.

Today the cave site is still dominated by a 12th-century mosque. Although the mosque remains under Moslem jurisdiction, the Israeli government maintains a presence at the site, making it the only place in the world where both Jews and Muslims worship.

Isaac and Ishmael came together at the cave to bury their father. Today, it stands as both a reminder of common heritage and a symbol of the possibility of reconciliation for Palestinians and Israelis.

to it, and the control system is able to switch, under automation, from one player to another. When the 2nd players of each pair take over, discs can be replaced manually in the 1st players.

The final stage in the playback system is the projection setup, which was designed by Jack Canning. This takes the laser-disc outputs and displays them on the five screens.

"For me the piece succeeding in visual terms really depended on how well his projections

looked," Beryl says. "His use of double projectors for each screen, just run-of-the-mill Sony projectors but piggy-backed so that the luminance is doubled per screen, was just phenomenal. I worked for four years looking at all the images either on the computer screen or on video monitors, and I was terrified... But Jack kept reassuring me, and showed me occasionally over the years what the images would look like."

## Beryl Korot



carrying the same video material are 'woven together' over time, with each channel articulating its own rhythm through the alternation of image and grey leader tape.

She also co-founded and co-edited *Radical Software* magazine (1970), the first publication to document the work and ideas of artists on alternatives to existing communications systems, and in 1976 co-edited *Video Art*.

Between 1980 and 1988 she devoted herself full-time to oil painting, creating works on handwoven and traditional linen canvas which were based on the characters of written language.

In 1989 she returned to working with video when she and composer Steve Reich began filming documentary material for *The Cave*. Over the next four years she developed a multiple-channel video realisation of this material, drawing on her earlier concepts while also using computer-based video and graphics technology to explore new creative possibilities.

A pioneer of multiple-channel video works, American video artist Beryl Korot is best known for her 4-channel video installation *Dachau 1974* and 5-channel installation *Text and Commentary*, both of which have been exhibited in galleries and museums internationally.

Drawing on the ancient technology of the loom for inspiration, she developed the concept of a multi-channel 'video tapestry' in which paired channels

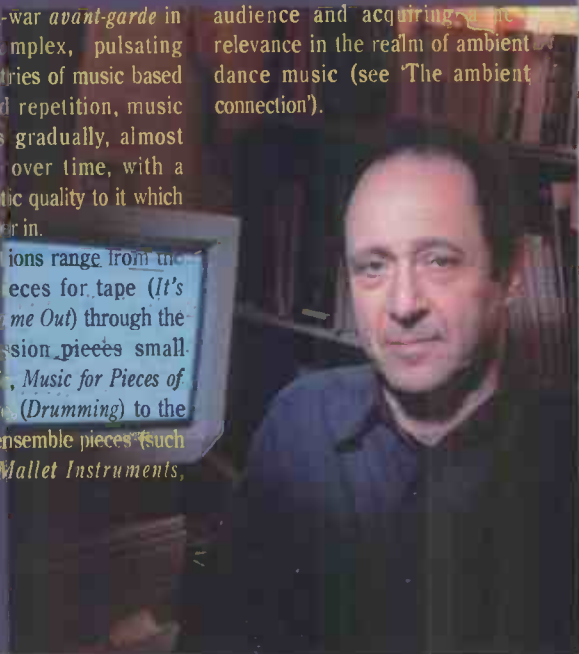
## Steve Reich

Now 56 years old, and with a compositional career spanning almost 30 years behind him, Steve Reich has a substantial and diverse canon of works to his name. Formative encounters with bebop music, the ferocious, angular rhythms of Stravinsky's *The Rite of Spring*, the complex polyrhythms of African drumming and Balinese gamelan music, and the repetitive, pattern-based music of Terry Riley's pioneering composition *In C* gave him a fundamentally rhythmic take on music. Later, as a composer in his own right, he instinctively rejected the serialist abstractions of the European post-war *avant-garde* in favour of complex, pulsating rhythmic tapestries of music based on pattern and repetition, music which unfolds gradually, almost imperceptibly over time, with a powerful hypnotic quality to it which draws the listener in.

His compositions range from the early phase pieces for tape (*It's Gonna Rain*, *Come Out*) through the classic percussion pieces small (*Clapping Music*, *Music for Pieces of Wood*) and large (*Drumming*) to the more melodic ensemble pieces (such as *Music for Mallet Instruments*,

*Voices and Organ*, *Music for Eighteen Musicians* and *Tehillim*), the large-scale orchestral works (*The Desert Music*, *Three Movements*, *Four Sections*) and the *Counterpoint* series of multitracked solo instrument pieces (including *Vermont Counterpoint* for flute and *Electric Counterpoint* for guitar). Around two thirds of his compositions are available on record, primarily on the Nonesuch and ECM labels.

One of the few contemporary 'serious' music composers to have acquired – and maintained – a popular following over the years, his music is now reaching a new audience and acquiring new relevance in the realm of ambient dance music (see 'The ambient connection').





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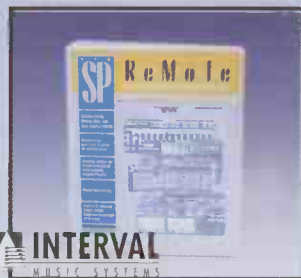
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→ At one time, a work such as *The Cave* would have existed only in a single form. However, with the plethora of media technologies and outlets available today, Steve and Beryl plan to make it available in a variety of formats, ensuring that it will reach a much wider audience than the relatively few who can attend a live staged performance.

"Using onscreen windows, and reconceptualising each of the different scenes, I'm going to be reconstructing the piece for a single video channel," says Beryl, "and that will

then become a videodisc to be distributed by Voyager and Nonesuch and a VHS tape to be distributed by Warners."

"There will be a single CD of some of the music from *The Cave*, too" Steve adds, "and we're looking at the possibility of doing a smaller, single-screen version of the piece, with most of the sound taken out, that I could tour as a concert piece with my musicians."

"Also we'll be doing a video installation of *The Cave*" continues Beryl. "The piece as it existed in my studio will be shown at the Whitney Museum of American Art, because it does show the basic skeleton of the work as it is without the musicians and singers, as we worked on it."

And Steve already has his sights set on new possibilities for future works.

"I could see doing a piece designed for television using onscreen windows, especially after Beryl's done the single-channel version of

## Live dates

UK performances of *The Cave* will be taking place in London at the Royal Festival Hall from Wednesday 18th to Monday 23rd August at 7.30pm, with an additional performance at 3pm on Sunday 22nd.

Tickets ranging in price from £7.50-£25.00 can be obtained from the Royal Festival Hall box office, tel: 071 928 8800.

up for moving music theatre on. I think it's exciting to see musical theatre be not just the Broadway musical on the one hand and opera on the other. So I hope *The Cave* is the beginning of a dialogue with a lot of people, and the MTV people for sure."

Just as surely as the merging of technologies is bringing artists from different disciplines closer together, so it is also breaking down the barriers which have separated 'serious' and 'popular' cultures in the past. *The Cave* exemplifies these changes, and as such is a landmark work. In its pursuit of 'documentary reality' it is also a brave work, dealing as it does with a reality which is full of religious and political tensions. And in the array of artistic and technological techniques it employs, it is also a challenging work, one which opens up many new possibilities for artists working with today's media

technologies.

"There's no telling how one could present *The Cave* very effectively five years from now," says Steve. "And there's no telling what our next piece will be like. But probably it will happen sometime before the millenium ends!"

In the meantime, you can experience *The Cave* for yourself by getting along to one of the seven shows taking place at London's South Bank arts complex during late August (see 'Live dates' above). Oh, and try to get along to one of the earlier shows, because chances are you'll want to see *The Cave* a second time, and a third time...●

## Cave kit

### Field recording

Neumann shotgun microphone  
Panasonic CLE200 S-VHS video camera  
Panasonic AG7400 S-VHS video deck

### Studio

**Beryl Korot**  
**Hardware**

Advanced Remote Technology Inc media synchronisation network consisting of 1 ARCH1 master control box and 5 ARM individual video deck controllers  
Apple Macintosh Plus computer fitted with 16Mhz Radius Rocket accelerator board  
386 PC-compatible machine fitted with TrueVision AT Vista 32-bit-colour frame-grabber board  
Panasonic AG7500 record video deck (x2)

Panasonic AG7510 playback video deck (x3)

### Software

Advanced Remote Technology Inc Video Publisher video editing software (Mac)  
AT&T Rio graphics manipulation software (PC)  
High-resolution QFX graphics manipulation software (PC)

### Steve Reich

#### Hardware

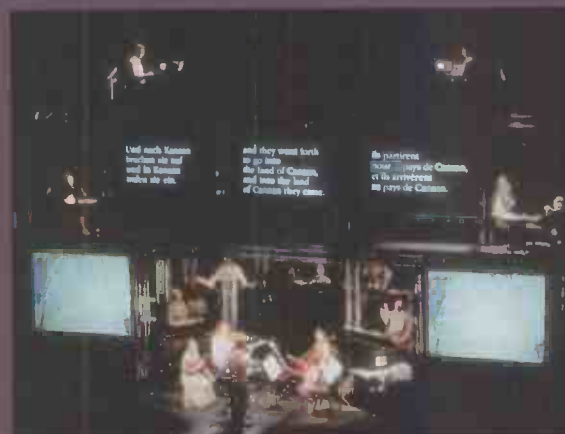
Apple Macintosh IICI computer  
Casio FZ1 and FZ10M samplers  
Digidesign SampleCell board

#### Software

Mark of the Unicorn Performer sequencing software  
Coda Finale notation software

### Visual performance

Advanced Remote Technology Inc Pro MC media controller (x3)  
IBM PS/2 DOS computer (x2)  
Pioneer LD-V 4400 laserdisc player (x12)  
Sony video projectors (x 10)



*The Cave*," he says. "People see this kind of work as cutting edge, hi-tech, but basically there's a folk technology aspect to it. The technology is only going to get cheaper, and better at the same time. This is urban folk art, and you're going to see more and more of it, so I think in a sense time is on our side, because as time passes *The Cave* will begin to seem more central to the culture.

"In fact, as far as I'm concerned, *The Cave* is not the end of something, *The Cave* is the beginning of something, for us and I hope for other people. I hope other people will say 'Well, that's nice, but... take that!' I mean, I think we're

## The ambient connection

The Orb's sampling of *Electric Counterpoint* on 'Little Fluffy Clouds', the opening track off their influential 1991 debut album *The Orb's Adventures Beyond the Ultraworld*, is perhaps the most high-profile example of the connection between Steve Reich's music and today's 'ambient' dance scene. Respected ambient DJ Mixmaster Morris considers Reich's music to have been massively influential on the development of the ambient scene. Himself a big fan of Steve's music, he has often opened his DJing sets with *Music for Eighteen Musicians*.

"I always play loads of his stuff out," he says. "As well as *Music for Eighteen Musicians* I often play *Vermont Counterpoint*, sometimes *Octet*, 'Drumming Part 3' I've used quite a lot, and *Come Out* I've played once or twice for the more hardcore event. I played *Electric Counterpoint* at Glastonbury. His music is so contemporary, it's directly parallel to what people are doing now."



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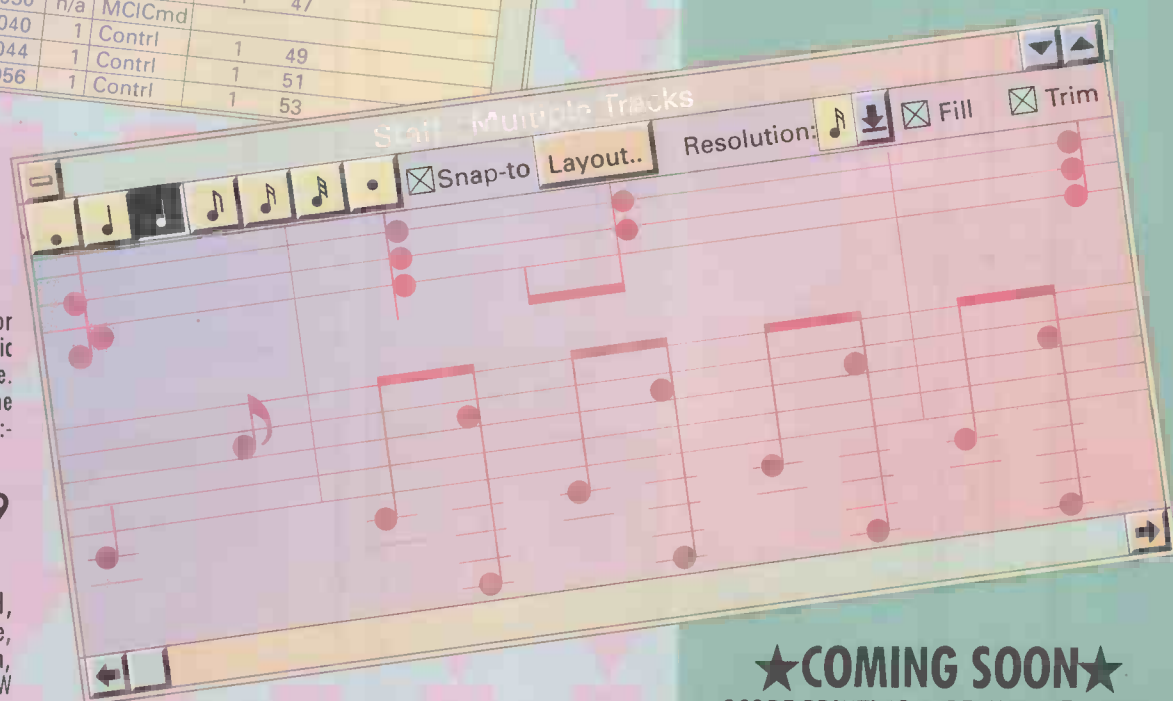
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1	00:00:02:28	2:1:000	1	Note	A 5	80 30
2	00:00:02:28	2:1:000	1	Contrl	1	5
1	00:00:02:28	2:1:000	n/a	Wave	1.13 sec @22KHz 8-bit Mono, 24K	
1	00:00:02:29	2:1:002	1	Contrl	1	11
1	00:00:03:01	2:1:006	1	Contrl	1	19
1	00:00:03:02	2:1:018	1	Contrl	1	29
1	00:00:03:03	2:1:022	1	Contrl	1	35
1	00:00:03:03	2:1:026	1	Contrl	1	41
1	00:00:03:03	2:1:028	1	Contrl	1	47
1	00:00:03:05	2:1:030	n/a	MCICmd		
1	00:00:03:06	2:1:040	1	Contrl	1	49
1	00:00:03:08	2:1:044	1	Contrl	1	51
1	00:00:03:08	2:1:056	1	Contrl	1	53



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# A-Z TO OF ANALOGUE

The aim of this series is simple: to provide a comprehensive directory of every analogue synthesiser ever made. Not quite so simple were the decisions that had to be made over just what constitutes an 'analogue' synthesiser – or, indeed, what it is we mean when we use the term 'synthesiser'. Consequently, some selections may seem a little arbitrary. Included will be instruments like the better-known electric pianos and organs; left out will be drum machines, stand-alone sequencers, effects units, vocoders and those guitar/wind synths which aren't regularly used as expanders in their own right. (All these may one day get their turn in separate A-Z's!)

If, or perhaps I should say when, omissions or mistakes occur, you are invited to let me know, c/o MT, forwarding all the details (and preferably evidence) that you can muster. A complete list of these – along with any other updates and additions – will be published at the end of the series, and those who have contributed will be fully credited. I am personally compiling a more detailed database which will one day be used to complete a comprehensive analogue synthesiser encyclopaedia, so any extra information will be useful for that as well.

My thanks go to: Bob Williams for his invaluable help in checking entries, providing additional facts, and giving me access to the vast number of modular synthesisers which lay outside my price range; to Andy Horrell, EMIS, Bristol; Mushroom from Massive Attack; Toni Rutherford (Akai UK); David Whittle (Akai USA), and Martin Straw for his information on the near-mythical ARP Centaur.

Peter Forrest August 1993

## Key Facts

**Dates:** These refer to the approximate year of manufacture. New instruments were often on sale for quite some time after production ceased and precise chronological information is difficult to come by (all help gratefully received!). Where any doubt occurs you will see a question mark.

**Prices:** The original price quoted is that which you would have paid in the shops; the target price is what you could expect to pay now for a fully-working example in reasonable condition.

**Users:** If the exact model of synthesiser used is unclear, users are included under the maker's name.

**Stars:** A maximum of five stars (except for truly remarkable instruments) is given in these categories:

**Interface** – how easy it is to connect up to other synths or sequencers. MIDI, obviously, scores highly, so does the ability to MIDI up using an external unit or internal interface. CV/gate at 1 volt/octave scores higher than a volt/Hertz implementation – which in turn scores higher than having no interface at all!

**Sounds** – simply how good the thing sounds. Obviously subjective, this is an area open to potential disagreement. Who's to decide whether a Moog 3C sounds better than a Prophet 5..?

**Controls** – how comprehensive, versatile and useable the controls are. A good set of dedicated knobs and switches obviously counts high, and so do touch-sensitivity, foot-pedal options and the feel of the keyboard.

**Memories** – 100 or more memories (and MIDI) will tend to get five stars. Anything less will get proportionately fewer.

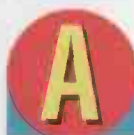
**VFM** – Value for money. Again, an area of subjective opinion. Many feel that programmable MIDI polyphonics with VCOs represent the best value, but you might not!

**Character** – that indefinable 'something' that makes a synth desirable. Wood panels, knobs and uniqueness score highly.

**Collectability** – people collect strange things, but this category takes into consideration rarity and general interest/desirability rather than bizarre obsession.

**Ease of use** – intuitive, unfussy and easy-to-adjust controls count high. So too does the lack of complicated hidden menus, button-pushing and parameter access.

Where no stars are awarded, it means that either certain features are not included at all (eg, no interface connections) or the category is not applicable (eg, value for money in respect of a synth only released as a prototype).



AKAI

Although Akai made their name by producing the world's first affordable sampler – the S612 – and the industry standard S1000, their earliest high-tech music products included the MG1212 multitracker and the AX80 synthesiser.

● AX60 – MIDI, 6-voice, 6-VCO, 64-memory, 61-note, split/unison keyboard. Appeared – and worked – at BMF August 1985 (see *E&MM Sept '85*).

**Original price:** Not sold in the UK, but was available in the US (at least).



- One of the last synthesisers until the JD800 to have knobs and (principally) sliders.
- Not touch-sensitive, from keyboard or over MIDI. →



- • Good arpeggiator.
- Chorus.
- Eight keyboard split points storable.
- MIDI thru.
- Unison mode.
- Edit recall button.
- High pass and low pass filters.
- White noise generator.
- External sync socket for arpeggiator.
- Sample input: you can load Akai samples (esp. S612/700, X7000) straight in via a 13-pin plug for editing/treatment with VCF, VCA, chorus, unison, etc.

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

- **AX73** – MIDI, 6-voice, 6-VCO, 100-memory, 73-note, split keyboard. 1986-1988. Rather like an MX73 with an 6-VCO analogue synthesiser thrown in free.

Original price: £599.

Target price: £180



- Velocity sensitive
- Same sample input as the AX60.
- Quite reasonable to use as 6-octave mother keyboard – except for it's rather light and 'clicky' feel.
- No knobs and sliders to speak of.
- Digital parameter access.
- Programmable chorus.
- Pulse Width Modulation on all waveforms.
- MIDI splits and MIDI Thru socket.
- Light grey in colour (which looks good on samplers but not on keyboards).

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

- **AX80** – MIDI, 8-Voice, 16-VCO, 96-memory, 61-note keyboard. 1984-1987.

Original price: £999

Target price: £220

E&MM review: Dec '84



- Velocity sensitive
- Excellent blue and orange fluorescent graphic displays – possibly the best on any mass-produced synth.
- No knobs or switches, but good layout and displays make up for this in some ways.
- Angled rear panel for easy connections.
- 32 memories are preset – only 64 are writeable.

- Sounds good, though not always quite as powerful as the 16 VCOs (and eight sub-oscillators) would lead you to expect.
- No indication, during editing process, of which patch you are editing.
- Better keyboard action than the AX73.
- Thick, lacquered wood ends.
- Like the AX60, a black as opposed to light grey body.

Interface: ★★★★★ Memories: ★★★★★  
 Sounds: ★★★★★ VFM: ★★★★★  
 Controls: ★★★★★ Character: ★★★★★  
 Collectability: ★★★

- **AX90** – MIDI, 8-voice, 16-VCO, 96-memory, 61-note keyboard. c.1986 may have only existed as a prototype. Akai UK say: "No details are available on this as it was only put forward for evaluation purposes."

Projected price: c. £2199



- Outwardly similar to the AX80
- Velocity sensitive
- Same excellent graphic displays.
- Different sounds included.
- All sounds in RAM (as opposed to the AX80's mixed bunch including 32 in ROM).
- Different chips to the AX80.

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

- **VX600** – MIDI, 6-voice, 6-part, 12-VCO, 37-note keyboard. Probably another prototype-only model.

- Multitimbral
- 5 knobs, 1 slider – parameter access.
- 50 patches, 40 programs, 20 code memories (?)
- 13-pin DIN socket for editing samplers.

- **VX90** – MIDI, 6-voice, 6-VCO, 100-memory module. 1986-1988. Ended up as a 2U rackmount AX73, rather than a 4U rackmount AX80/90 which was a shame. Six VCOs can't be all bad, though. One to watch out for at the right price.

Original price: £399.

Target price: £120 – £150.

Users: Bizarre Inc.



- Input for Akai samplers on 13-pin DIN plug (same as AX73 and AX60).
- Unison mode included.

Interface: ★★★★★ Memories: ★★★★★  
 Sounds: ★★★★★ VFM: ★★★★★  
 Controls: ★★ Character: ★★★

## ANS

ANS produced a one-off optico-electrical synthesiser in the former Soviet Union. Users: Alfred Schnittke, Sofia Gubaidulina. Compilation album released on Melodiya record label.

## Aries

Aries produced a modular synthesiser kit – similar in concept to Digisound in UK. Made by Rivera Music Services, Boston, Mass.

## ARP

Major American synthesiser manufacturer founded in 1969 by Alan R. Pearlman after working on Gemini and Apollo space projects, designing amplifiers. First product was the massive, modular 2500, followed by the 2600 and Odyssey. The company had financial troubles in the early '80s and went into liquidation during development of what became the Chroma.

- **16-VOICE** – Electronic Piano, 16-voice, 73-note, weighted wooden keyboard. 1980-c.83. The 16 voices referred to are 16 tones, accessed by 16 push-buttons. Lesser versions were available – 4-voice (and 8-voice?).

Original price: £109

Target price: £100

Users: Vic Emerson, Stan Shaw.

- Velocity sensitive
- Piano sounds not very realistic (by current standards); some voices usable, though.
- Vibrato and stereo phasing.
- Detune of one of two master oscillators possible.
- Stereo out and in and headphone socket.
- Soft and sustain pedals.
- Very good keyboard feel for the time – better than most synths today.

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

- **2500** – Duophonic, 5-VCO, modular synth with slider patching, c. 1970. Originally called 'Tonus'. "Much better oscillators than the Moog" – W Carlos, 1971.

Original price: \$2300 – \$8500.

Target price: £6000 (£8000 with 'wings').

Users include: W Carlos, Vince Clarke, David Hentschel (Genesis producer), JM Jarre, Hugo Montenegro, Guido Mylemans, Roger Powell, Gerald Shapiro, Pete Townshend. Also used in the climactic mothership scene in *Close Encounters*. One is apparently in storage at the Science Museum.





- Infinitely flexible modulation possibilities.
- Slider system does away almost entirely

with patch-leads.

- Large – even larger with optional wings with more modules.
- Simple onboard sequencer.
- Split keyboard with reverse-colour keys.
- Strong sounds.
- Amazing pose potential – a staggering artefact.

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

- **2600** – Duophonic, 3-VCO semi-modular synth. 1970–c.78 Probably the first synth to use sliders for all its controls.

**Original price: £2600 down to £1575.**  
**Target price: £1300.**

Users include: 808 State, Tony Banks, The Beloved (Mk I version), Michael Boddicker, Arthur Brown, Richard Burgess, Vince Clarke, Steve Cunningham, Depeche Mode, John Entwistle, Brian Gascoigne, Miquette Giraudy/Gong, John Hollis, Steve Howell, Bob James, JM Jarre (*Zoo Look*), Joy Division (*Closer*), Dave Macrae, Daniel Miller, Steve Porcaro, Roger Powell, Steve Roach, The Shamen, Pete Townshend ('Who Are You?'), Ultravox, Ian Underwood, Edgar Winter, Stevie Wonder (sometimes with voice-box), Joe Zawinul (two on *Sweetnighter*, *Mysterious Traveller* and *Black Market* albums).

Sampled for E-mu's Vintage Keys.  
 (MT retrospective: Apr '88)



- Easy to see where controls are set.
- Early models had nasty optional keyboard; later models had decent optional 4-octave

duophonic keyboard with extra LFO.

- Strong sounds at both ends of the audio spectrum.
- Lots of fiddly bits.
- A delight to play.
- Audio input/envelope follower for processing other instruments.
- Spring reverb, headphone socket, internal speakers all contribute to feeling of self-sufficiency.
- First (preferable) version was dark grey with white legend; later versions black with orange legend.
- White, pink and low frequency noise available.
- All standard connections normalised, but able to be modified by patch-cords.
- Another classic artefact that reflects its era.

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

- **AVATAR** – Monophonic expander with guitar interface, 1977. A powerful and versatile expander (with a free enamel badge!). Typical 1978 advert read: "Stolen from the Gods of the Keyboard – bestowed on the disciples of the Guitar. Send 50p P&P to receive a free demo record."

**Original price: £1500.**

**Target price: £160 – £240.**

Users include: Steve Howell, Jimmy Page, Par Example, Red Sun, Mike Rutherford, Big Jim Sullivan, Pete Townshend.



- Good synthesiser (CV/gate) interface connections.
- Two VCOs.
- Noise.
- Ring mod, cross-mod, sample/hold, etc.
- Balanced (XLR) audio out. Very similar (apart from pitchbend) to Odyssey MkII.
- Fiddly and difficult tuning.
- Small black and colour-coded knobs very liable to break.
- Guitar synth interface impossible to use if guitar is played in the normal way!
- 'Hex-fuzz' can be effective.
- Separate fuzz processor for each string, so lead lines and chords can be equally clean or dirty.

VFM: Memories:

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

- **AXXE** – Monophonic, 1-VCO, 37-Note, keyboard developed from Odyssey. 1975-c.81. For style changes between Mark I and II, see Odyssey entry.

**Original price: £380.**

**Target price: £120 – £200**

Users include: 808 State, Jude Allen, Adrian Chase, Rick Davis aka 3070 (Cybotron), Baby Ford, Pascal Gabriel, Herbie Hancock.

- Same good CV/gate interface as Odyssey (orange Mk IIs).
- 'Thinner' sounds than Odyssey – less going on – but still angular and powerful.
- Supplied with with 155-page manual

(*Lessons in Electronic Music*), overlay sheets, interface charts (eg. for hook-up to Solina String Ensemble) and book of 50 patches.

VFM: Memories:

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

- **CENTAUR** – Quasi-orchestral 61-note polyphonic synth 1977-c.78. When technical complexities of polyphonic pitch/voltage conversion became too great, R&D was channelled into Avatar and (eventually) Quadra projects.

**Projected price: \$15,000 – \$20,000.**

Users include: Tony Banks (briefly)

- An enormous synth – far deeper front-to-back than the largest Oberheims.
- Similar design to the later Quadra; many more controls, but no memories.
- Overheating problems doomed it to failure – too much going on inside (115 separate printed circuit boards!).
- Average time between breakdowns on prototypes: 2 hours.
- Two polyphonic sections, independently variable VCOs with selectable waveforms and a VCF each;
- Pulse width modulation with own LFO.
- Monophonic lead synth, 2 VCOs, VCF, ADSR, PWM, LFO – all variable.
- Monophonic bass synth (1 VCO), but very powerful, with pitches mixable.
- Vast array of interface sockets.
- Originally also designed to be a polyphonic guitar synth.

Interface: ★★★ VFM:

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

- **EXPLORER 1** – Preset 37-note keyboard synth with variable section. c.1976 – c.78.

**Original price: £450**

**Target price: £150**

Users include: Canned Rock, John Entwistle

- Preset voices like Trumpet, Tuba, Flute, Clarinet, Pulsar and Lunar Lander.
- Variable ADSR and VCF.
- Sliders for volume, repeat, delayed vibrato, portamento, etc.
- Also re-structured and included in Solina C112 organ (triggered from highest note of upper keyboard).

Interface: VFM:

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

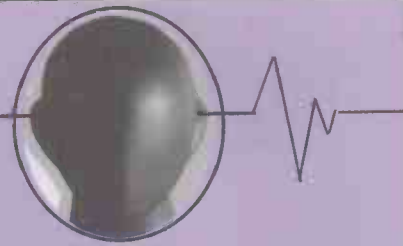
*To be continued*



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Roland TR626	£119	Yamaha QX 21	£119	Roland U220	£299
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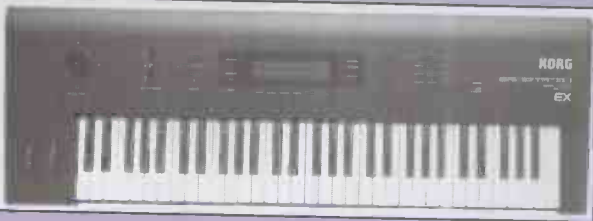
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# The hard edge

## Direct-to-disk recording explained

Wot, no tape? Recording acoustic sounds straight into a computer will soon be as common as MIDI sequencing and 4-track taping. So here's *MT's* beginners guide to the future, from basic principles to the latest available systems. On the case: Ian Waugh.

It's a funny old world, innit? For years musical instrument manufacturers have been beavering away to give us better sound courtesy of digital synthesis – and now fashion dictates that we buy up old analogue instruments at grossly inflated prices. The fact that you can produce all these old analogue sounds – and more! – on

virtually any digital synth seems to have escaped notice. But let's not allow the facts to get between a fool and his money.

The recording industry, too, has experienced something of a back-to-analogue backlash. Having busied itself for years developing low noise, high clarity digital recording systems (so that the record companies could

busy themselves ripping off the CD-buying public) musicians and producers – demonstrating their customary perversity in these matters – respond by going back to using analogue tape because, they say, it's inherently 'warmer'. What they actually mean is they don't like the high frequencies in their music which tape conveniently masks, and they

find the clarity embarrassing. Ah well.

For most of us, still struggling with personal multitrackers and budget 4- and 8-track tape systems, digital recording is a luxury we only wish we could afford. But the fact is, it's a luxury which is becoming ever more affordable – particularly in the area of direct-to-disk recording – with systems now retailing for just a few hundred pounds.

Before we get down to the nitty gritty, let's sort out the difference between digital multitrackers and direct-to-disk recording. Although both types of system convert audio

### System selective



Sync up those guitars with Cubase: Steinberg's Cubase Audio



Roland DM-80R: hard disk recording without a computer!

The most popular direct-to-disk systems are still based around the Apple Mac, but the PC is quickly becoming a popular alternative. There are also systems for Atari's Falcon and Commodore's Amiga.

The following list does not claim to be exhaustive but aims simply to point you in the right direction if you're looking into the possibility of buying a direct-to-disk system...

**Digidesign** were probably responsible for the launch of direct-to-disk systems with its ProTools package for the Mac. The company has a current list of about seven direct-to-disk systems which run on the Mac and PC and it's well worth getting further info if you have one of these machines.

**Opcode's** Studio Vision (now down to £499.95 from MCM) for the Mac can integrate with Digidesign's Audio Media card and the two are available for £1173.83.

**Steinberg's** Cubase Audio from Harman should soon be available for the Atari ST/Falcon, the PC and Mac. This integrates direct-to-disk recording with Cubase and is bound to prove popular with Cubase users. It can support up to 16

tracks of audio with ProTools and it can also work with Yamaha's new CBX-D5 hard disk recorder (around £2500).

**Emagic's** Notator Logic Audio from Sound Technology will follow fairly soon, too, first on the Mac and later possibly on the Falcon. Sound Tech also handle **Mark of the Unicorn's** Digital Performer which is supported by MotU's own digital board and Yamaha's CBX-D5.

**Roland** has a range of DM hard disk recorders and **Akai** launched the DR4d (£1599), a 4-track hard disk recorder at Frankfurt this year. You need a hard disk in addition to the unit but the system is not based around a computer.

**d2d's** software and hardware for the Falcon has already been mentioned and has been reviewed on page 62.

The **Soundscape** system offers 4-track direct-to-disk recording for the PC for £2500 and was reviewed in our July '93 issue.

**Studio Audio & Video** also has a 2- and 4-channel up-market PC direct-to-disk system called SADiE, reviewed in our January '93 issue.



data to digital data and back again, digital multitrackers such as the Alesis ADAT and Tascam DA88 record the data in a linear fashion onto video tape much like a traditional analogue multitracker – except, of course, the data is in a digital format. Direct-to-disk recording writes the data directly to a hard disk.

Unlike tape, you can access any part of a disk – and therefore a song – almost instantly. This has many benefits when it comes to editing and we'll be looking at these later. But for now let's consider the other principle advantage of direct-to-disk recording – the high quality sound.

Digital recording does away with the background noise which is an inescapable part of any tape recording. Good AD converters will ensure a broad, flat frequency response with highs and lows that aren't subject to the vagaries of tape characteristics. You can also back up a recording with no loss in quality and 100 percent accuracy.

Other traditional audio problems which simply disappear with the switch to digital recording include crosstalk, drop outs, noise reduction

colouring, counter slippage, timecode problems (through dropouts and/or timecode leaking through to adjacent tracks) and tape speed problems such as wow and flutter.

Impressive as the sound quality argument is, however, the real benefits (for most people) of direct-

## The hidden cost of direct-to-disk

Compared to the cost of a personal multitracker, a direct-to-disk recording is still a relatively expensive business. The Falcon promised to bring affordable direct-to-disk recording to the masses with its built-in direct-to-disk hardware, but still the cheapest system, including a monitor and software will cost around £1500 – more if you want a greater recording time and better quality. And whichever direct-to-disk system you plumb for, there are hidden costs which should be taken into account when working out your budget.

The first is the size of the hard disk. Assess your requirements carefully in terms of recording time. If you need 400Mb of disk space, remember that after formatting and partitioning, a drive could lose 20Mb, so a physical 400Mb drive could end up only giving you 380Mb.

If the direct-to-disk system can run in conjunction with a sequencer, you may also need to invest in extra RAM.

But the most vexed question is that of backing up your data. When you've filled a disk with a song or album, you have to wipe it if you want to record new material. You could backup to floppies, but apart from the cost it would take an age – you'd need over 150 high density floppies to back up a 200Mb hard disk!

A far more convenient option is to use a tape streamer which is used for backing up traditional computer disks, or to backup to DAT. As you'd probably be mastering to DAT (you couldn't use all that digital technology and master to tape!) this could be the best option, though you'll need a direct-to-disk system with digital ins and outs (most have these, but Falcon users will need extra hardware).

Another alternative is to backup to optical disks. These typically store about 120Mb of data and cost about £40 each, although the drives are currently around £1000! Optical drives are too slow to be used for direct-to-disk recording although they can be used successfully for other computer applications.

to-disk recording are to be found within the list of editing features. These are akin to many of the facilities you'll find on a sampler, but unless your sampler can take upwards of 200Mb of RAM (which, at a conservative estimate, would cost about £7000!), direct-to-disk recording lets you work with much larger files.

There are three main advantages – accuracy, quality and versatility. As you're no doubt aware, digital data is comprised essentially of numbers – huge strings of numbers, in fact, but each one individually accessible and capable of being changed. You can't get much more precise than that. No faffing about rocking reels past tape heads armed with a razor blade. And none of the problems associated with editing stereo or multitrack tape recording. Most direct-to-disk systems allow you to edit individual tracks – or just one side of a stereo recording.

And of course, numbers don't deteriorate with editing. You can shuffle sections of the recording around *ad infinitum* (if you've got that long) with no loss of quality. You can also bounce tracks – repeatedly – on a multitrack system with absolutely no degradation of signal quality.

Another huge advantage is the non-destructive nature of the editing. You could look at this rather like a software jukebox which lets you specify the order in which you want a series of MIDI files to play. Simply select a portion of the recording and drop it into a playlist. Totally new

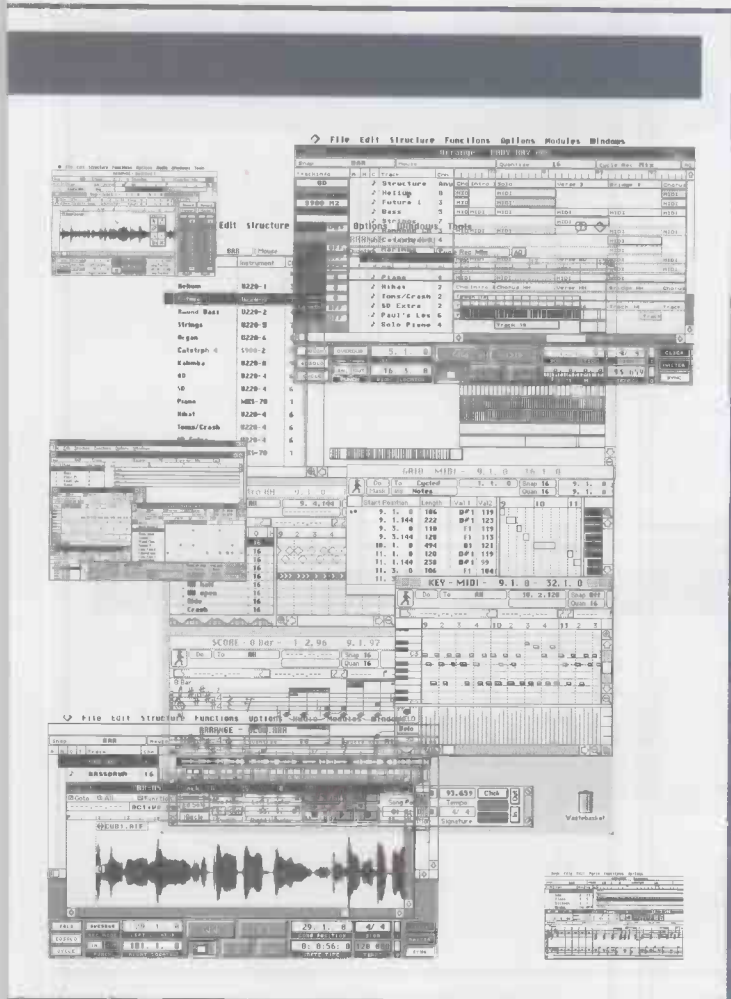
recordings can be built up in this way: all the system does is to play back sections of the recording in a different order using a series of markers. The original recording stays intact.

If the first vocal chorus is better than the second, you can create a playlist which uses the first one whenever the chorus occurs. You can record several takes of a section of music and paste the best one into the final version. In fact, you could paste in that excellent high note the singer hit in an otherwise naff verse, recording into a better recording of the verse in which the high note was fluffed.

In many ways, you can think of a direct-to-disk recording like a MIDI recording – editing is possible down to the level of individual notes through a variety of different functions. Of course, the precise nature of these will vary from one system to another, but cut, copy and paste should be pretty standard. It's also likely that there will be invert, fade in and out, and crossfade facilities and indeed, on-board digital effects which may be applied in real time during playback.

Other useful functions might include EQ and timestretch/compression which would let you, for example, squeeze a 33 second jingle into 30 seconds without altering the pitch.

Direct-to-disk recording has uses other than the creation of a song. It can be used, for example, to select the running order of songs on →





→ an album. Say you have a DAT master but want to re-jig the order of the songs. Load the tape into the system digitally (there will be no loss of quality) create a new playlist and save it back to DAT. You might also decide to crossfade the end of one song into the start of another. Again, no problem.

Direct-to-disk is also becoming the preferred medium in film dubbing. As the recording can tie in with SMPTE very easily, it's a simple matter to sync film and sound.

**A**t this point it's perhaps worth including a few words about digital inputs. Once a sound has been converted to a digital format it makes sense to keep it in that format during any edit or transfer procedures. To convert it into analogue audio to transfer it to another device will inevitably result in a loss of quality (albeit a very small one). Most samplers have a digital interface or a provision for adding an optional one. DATs have digital in/outs and some CD players include them too. Many sample CDs now also feature digital data tracks which you can load directly into a sampler via a digital interface – and, of course, into a direct-to-disk system.

As the production of music is carried out more and more in the digital domain, digital inputs on equipment will become more prevalent. At the Frankfurt show earlier this year, Akai even announced the imminent launch of a digital patchbay.

Notwithstanding my comments at the beginning of this feature, when such high quality becomes a possibility, few people would want to yield an inch to the ravages of analogue systems.

But all this versatility does require a degree of power from the system playing host to it. For example, the hard disk itself will need a pretty fast access time so the system can read the data off it fast enough to prevent hiccups. A computer-based system will also demand a certain amount of power from the computer's processor – although if the system uses an external hardware unit, the computer should have a fairly easy time of it and should be largely free to handle MIDI data, etc.

And this brings us to yet another massive advantage of direct-to-disk recording – the complete integration of digital audio and MIDI sequencing. This, for many people, would be the ultimate recording set-up: a system which can play back a MIDI sequence and an audio recording together, with no tape sync problems and the simultaneous viewing and editing of the two types of data.

Most direct-to-disk systems can do this, but you'll need to check the specs as sending out MIDI data in sync with digital audio data requires a considerable amount of processing power and there might be limitations.

**I**t could be argued that we don't actually need direct-to-disk technology. After all, we managed perfectly well for years with vinyl and cassettes. And a good analogue multitrack recorder with noise reduction can produce excellent results. But the plain fact is, digital recording is of a much higher order; indeed, the quality matches that of the CD playback systems which have found their way into between 30-40% of homes in the country. Combine this with the powerful editing facilities and the fact that the

technology has now reached the stage where it is affordable for the semi-pro and enthusiastic home user (it's virtually a must for the professional) and I think you have a pretty convincing argument for investigating the possibility of going

direct-to-disk.

As technology marches inexorably onwards, more changes will come. There will almost certainly be a move towards 20- and 24-bit systems; smaller, faster more reliable hard disks; and of course, regular →

## Quality CD

In any discussion of digital recording technology, the phrase 'CD quality' inevitably crops up. But what precisely is CD quality and just how good is it? CDs have a sampling resolution of 16 bits and a sample rate of 44.1kHz. However, these specifications alone are not enough to guarantee a 'CD quality' performance.

The number of bits refers to the data storage format – the more bits, the greater the accuracy of the digital representation of the sound. In an ideal world, 16 bits would provide absolute accuracy (or as near as damn it), but the data has to get into the system and out again. There is no point in storing data to a resolution of 16 bits if the playback circuitry can only output with an accuracy of 14 bits.

To put it another way, a 16-bit machine should have a signal-to-noise ratio of 96dB – which is commonly accepted as being CD quality. That's the theoretical dynamic range. If the converters aren't up to scratch and were operating at, say, 14 bits, then the SNR would be down to a theoretical maximum of 82dB.

Because of the AD and DA conversion process, a 16-bit system will actually have a SNR of around 90dB. However, if you leave a little headroom while recording, the SNR drops even further.

What this boils down to is that in order to guarantee a 16-bit resolution, the equipment should actually use more bits. This is why you will now often see high quality equipment quoting an accuracy of 20 and 24 bits. There's little doubt that in time, all high-end equipment will be built to this specification and then we will truly have CD or 'real life' quality.

Until then, check the specs of equipment carefully and don't assume that anything which offers 16-bit resolution and a 44.1kHz sampling rate will automatically give you 'CD quality'. The Atari Falcon is a case in point. Although the specs quote 16-bit resolution and high sample rates, the resulting output falls somewhat short of this ideal. (See the review of d2d's 4T/FX on page 62.)

## Hard disk, big bucks

As with samplers, direct-to-disk recording is a trade off between quality and space. Assuming you are recording at 16-bit resolution and at a sample rate of 44.1kHz, 1Mb of hard disk space will be required to store 10 seconds of a 1-track recording. A typical 4-minute stereo recording, therefore, will need about 50Mb.

If you want to use direct-to-disk to re-order the tracks on an album in one take, say for a CD, and the album is 45 minutes long, you'll need a 600Mb hard disk. For the Mac this will typically cost around £900, for the ST around £900 and for the PC about £700 – plus VAT! Why the difference in price? A combination of tradition, competition and supply and demand.

One thing you must bear in mind is the speed of the drives. Most of the larger drives will have an access time of around 15ms which you'll probably need if you are using a multitrack system with more than two tracks. The manual for the direct-to-disk system in question will tell you what the minimum speed of the drive should be. Some stereo systems are happy with 20 or 28ms drives.

## The conversion business

Direct-to-disk recording saves sound to disk in digital format, but what exactly happens to the sound during the conversion process?

Recording works on the same principle as a sampler. An analogue-to-digital (AD) converter measures or takes a sample of the sound at regular intervals. The frequency with which this occurs is referred to as the sample rate and expressed in kHz or so-many-thousand samples per second. CDs use a sample rate of 44.1kHz.

In a 16-bit system each sample is represented by a number (the digitisation process) between 0 and 65536. This is the sample resolution. For the wireheads, a 16-bit number consists of 16 binary bits

– 1111111111111111 – which translates as  $2^{16}$  or 65536. But you knew that already. Didn't you?

If you use a lower resolution, say 8 bits, then the numeric range would be between 0 and 256 which will not give as accurate a picture of the sample as 16-bit resolution. Being in numerical form, the data can easily be handled by a computer and this allows for extremely accurate editing.

Once complete, the numbers are squirted out through a digital-to-analogue (DA) converter which translates them into sound again.

You can copy digital data with 100% accuracy as, again, all you are doing is copying a stream of

numbers. This is what caused the fat men in the plush record company offices to sweat when DAT machines arrived – suddenly technology had made it possible for anyone to copy a CD with no loss of quality. This led to the inclusion of SCMS (Serial Copy Management System) into many consumer DAT machines which allowed an original recording to be digitally copied, but prevented further copies being made from that copy. It was a futile act, as SCMS override units soon appeared.

This has nothing to do with direct-to-disk recording, by the way, unless you master the recording onto DAT. As, of course, you will.

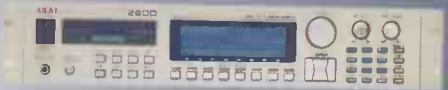
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Of course, as with today's analogue machines, there will always be a noticeable quality difference between these machines and professional systems. But even at its lowest level the quality of the personal direct-to-disk systems will be far superior to present-day tape multitrackers. And given the right number of bits, there's no reason why a personal direct-to-disk system should not give the same quality results as a heavy-weight pro system. After all, even without a direct-to-disk system it's possible to record professional quality music (using a MIDI sequencer) by recording direct to DAT. direct-to-disk systems will simply extend that ability into the analogue audio domain.

That digital is going to be the preferred recording medium of the future there can be no doubt. The only question to be asked is whether

to opt for a digital tape system, such as ADAT, or go direct-to-disk. You might also find yourself mulling over whether to dive in now or wait until your chosen system becomes even cheaper. In real terms, a direct-to-disk system today is cheaper than those early Teac 4-track machines (I had an A-3440 which cost around a grand over 12 years ago!). But you may think it's worth waiting a year or so to see how the situation pans out. Trouble is, by then, everyone will have one. Not that this is a good enough reason to part with your money now, but it is worth considering just how much experience of direct-to-disk systems you could gain in 12 months and how much of a creative – and commercial – advantage that could prove to be, particularly in the semi-pro arena. You may even be able to hire out your direct-to-disk facilities to song writers and semi-pro studios.

The choice, as ever, is yours. But rest assured that MT will be doing its utmost to keep you abreast of new developments and new systems as and when they appear. There's no doubt in our minds that one day all recording systems will be made this way. ●

## Contacts

- Akai, Haslemere Heathrow Estate, Silver Jubilee Way, Parkway, Hounslow, Middlesex, TW4 6NQ. Tel: 081 897 6388.
- Atari UK, Atari House, Railway Terrace, Slough, Berkshire, SL2 5BZ. Tel: 0753 533344.
- d2d Systems Ltd., St. John's Innovation Centre, Cowley Road, Cambridge, CB4 4WS. Tel: 0223 420252.
- Digidesign is currently setting up a UK office address but can be contacted on 0483 740009.
- Harman (UK), Unit 2, Borhamwood Ind. Park, Rowley Lane, Borhamwood, WD6 5PZ. Tel: 081 207 5050. Fax: 081 207 4572.
- MCMXCIX, 9 Hatton Street, London, NW8 8PR. Tel: 081 963 0663.
- Roland (UK), Rye Close, Ancells Business Park, Fleet, Hampshire, GU13 8UY. Tel: 0252 816181.
- Sound Technology plc, 15 Letchworth Point, Letchworth, Herts., SG6 1ND. Tel: 0462 480000.
- Soundscape, 26 Castell Coch View, Tongwynlais, Cardiff, CF4 7LA. Tel: 0222 811512.
- Studio Audio & Video Ltd, The Old School, Stretham, Ely, Cambridge, CB6 3LD. Tel: 0353 648867.
- Yamaha-Kemble, Sherbourne Drive, Tilbrook, Milton Keynes, MK7 8BL. Tel: 0908 366700.

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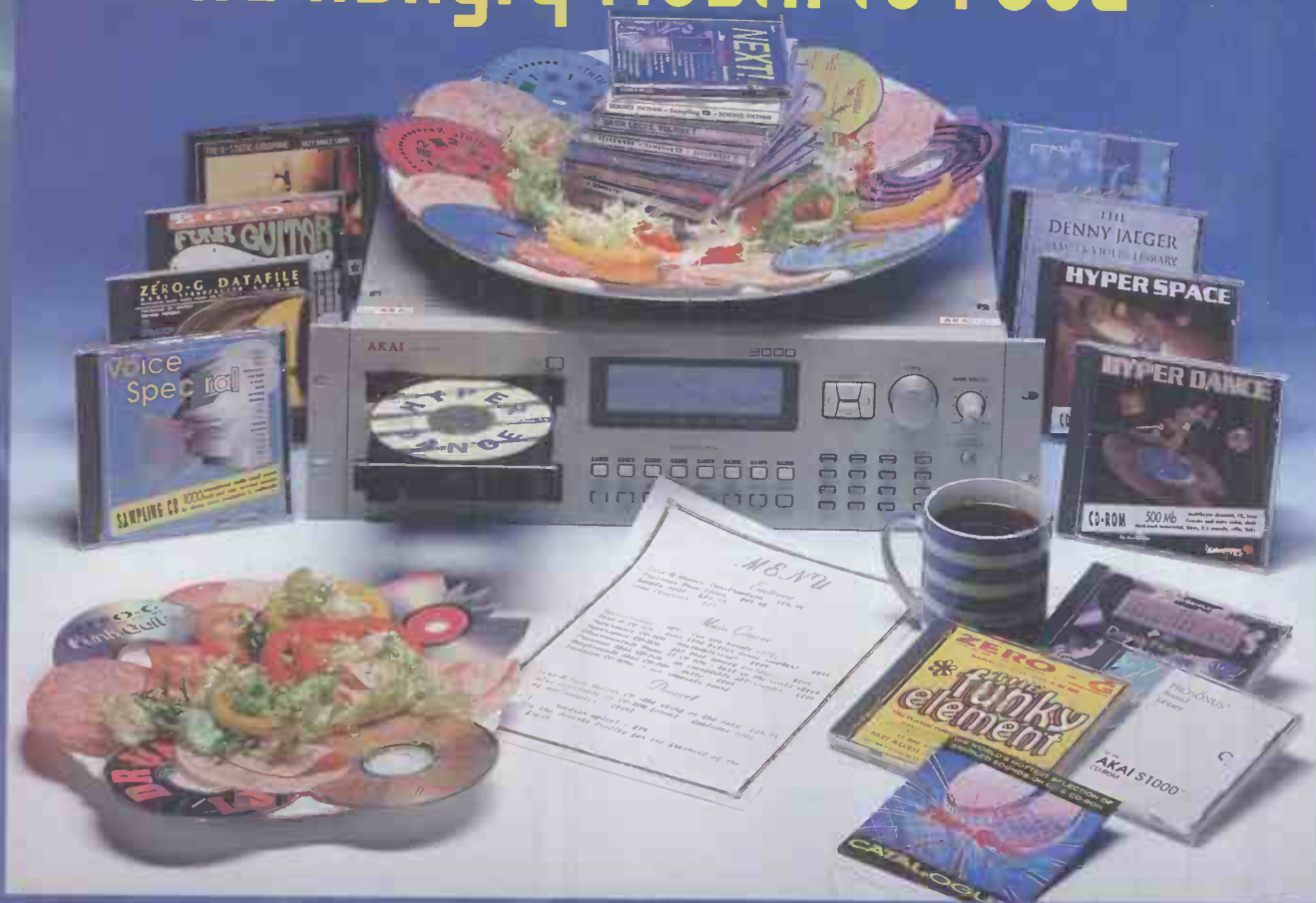
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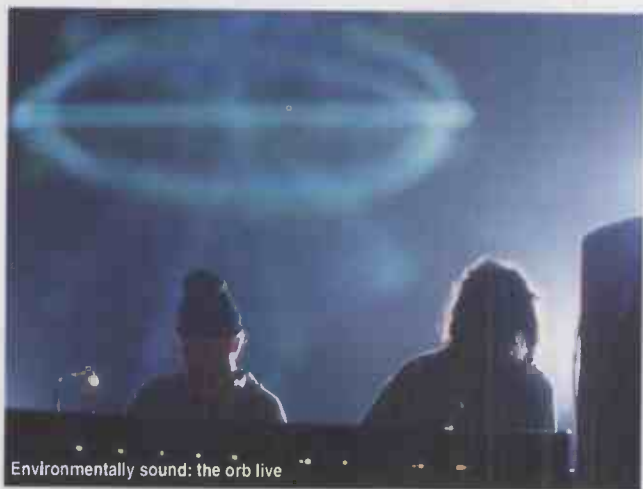
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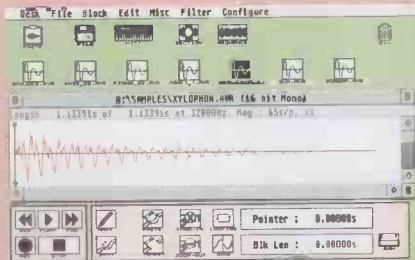
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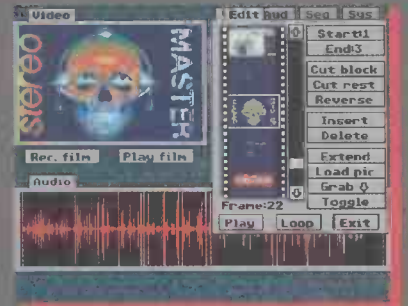
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# Touching Bass

Part 7 of our series finds Simon Trask getting into a jazzy funk thang – synthbass rules!

Noticed anything different about this month's examples? Yep, some of them consist of several musical parts, not just a bassline in isolation. In fact, the examples which do quote only a bassline can be used in conjunction with some of these other instrumental parts, too – in particular the drum and percussion parts.

With the focus once again being on funk basslines, it seemed like a good time to show the bassline interacting rhythmically with other musical parts. Of course, you're free to pick and choose as you want – you can record all the parts into a sequencer, or you can play the basslines by themselves or with just the drum and percussion parts for accompaniment. The choice is yours. Incidentally, tempo this month should be 96 bpm.

Of necessity, the multi-part examples include a clef which we haven't touched on yet in this series – though if you've been reading up on music theory since the start of the series you'll have come across it. Yes, I'm talking about the treble clef (used for the Space Voice pad part in Example 1 and for the strings and electric piano parts in Example 3(b)).

When you see a treble clef on a staff, the lines of the staff from bottom to top read: E, G, B, D and F, while the spaces in between read: F, A, C and E. Put them together and you've got the note series: E, F, G, A, B, C, D, E and F. As with the bass clef, you can indicate notes above and below the staff by using ledger lines as an extension of the staff. Incidentally, the E on the bottom line of the staff is the E immediately above middle C.

In last month's examples the common rhythmic factor was syncopation across beat 3 in the bar. This month, the feature which unites all the basslines is syncopation across beat 2 – more specifically, an offbeat note on the 4th semiquaver of beat 1. If you look at the snare part on the drum staff, you'll notice that it too plays this offbeat note, rather than the standard snare backbeat on beat 2; not surprisingly, this has the effect of reinforcing the offbeat note played in the bassline. The classic example of this syncopation is provided by Herbie Hancock's classic jazz-funk track 'Chameleon', from his 1973 album *Headhunters*, where the bassline and the snare part both hit on the 4th semiquaver offbeat.

**Example 1** is a typical jazz funk-style bassline. In addition to the 16th-note syncopation across beat 2, there are milder 8th-note syncopations within the 2nd and 3rd beats, and another 16th-note syncopation in the 4th beat which propels the bassline forward to the downbeat of the next bar. The busy clavinet part acts as a rhythmic counterpoint to the bassline, and should be played in a staccato, 'clipped' style. The pad part is included to add an atmospheric quality to the music; harmonically it's a bit strange in relation to the bass and clav parts, but that's part and parcel of its effect.

The three parts of **Example 2** could be considered

as basslines for different sections of the same track: 2(a) gets thing rolling, 2(b) hypes up the action, and 2(c) is best suited to a breakdown section i.e. where the music breaks down to just bass, drums and percussion. As for other instrumental parts for 2(a) and 2(b), you could use the pad and the clav, or the strings, electric piano and clav. The electric piano and strings parts are actually intended for 3(b) – but what the hell!

In **Example 3(a)** there are 16th-note syncopations across beats 2 and 3, giving the bassline a strong sense of forward motion; the instrumental parts to use with this Example are as for Example 3(b).

In **Example 3(b)**, a change of harmony from G to C is basically created by transposing bar 1 up a 4th. See 'Instrumental Parts' box-out for a list of the instruments used in this Example's ensemble.

**Example 4(a)** shows how you can get a chord change into a single bar in this style. **Example 4(b)** is a 'mutation' of 4(a) which goes somewhat atonal, and in the process acquires an 'acidic' quality (TB303s to the ready!). In fact, this bassline is two notes short of being a 12-tone row. Perhaps if Arnold Schoenberg were alive today he'd be creating acid 12-tone music. Or perhaps not.

While the pitch sequence of 4(b)'s bassline suggests acid, its rhythmic aspect and the rhythm of the drum track are, well, funky. Acid funk, perhaps – or acid jazz funk. If you're feeling adventurous, you could drop in 3(b)'s electric piano part over the bass and drums!

That's your lot for this month. Keep those basslines booming... ●

## General MIDI/GS Format compatibility

All the examples were created using sounds from Roland's JV30 synth, which is a GS Format instrument. Consequently, if you have a GM or GS instrument you can play the examples using the 'right' sounds (in the case of a GS instrument, literally the same sounds).

The patches I used were: Synthbass 1 (patch 39), Electric Piano 2 (6), Clav (8), Strings (49), Space Voice (92) and the Standard drum kit (kit 1). The electric piano sound I used was in fact an altered version of the standard EP2 sound, created by setting the filter cutoff point to -6 and the resonance amount to +50; this sound was stored in Electric Piano 2's User Patch location.

As for the drum and percussion parts, the sounds I used were: Kick Drum 1, Snare Drum 2 (Tight Snare), Pedal Hi-hat, Open Hi-hat, Short Guiro and Claves.



Ex1

Ex2 (a)

Ex2 (b)

Ex2 (c)

Ex3 (a)

Ex3 (b)

Ex4 (a)

Ex4 (b)

### Instrumental parts

Reading from top to bottom of Example 1, the instrumental parts are: pad (Space Voice), clav, bass, percussion and drums. Similarly, in Example 3(b) the parts are as follows: strings, electric piano, clav, synthbass, percussion and drums. Reading from top to bottom of the Percussion stave in both examples, the percussion parts are: claves and short guiro. Reading from top to bottom of the Drums stave: pedal hi-hat, open hi-hat, snare and kick.

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# Sound And Vision

Jean Michel Jarre is back. Only this time the king of keyboards and the master of multimedia has a new goal: to stage his own kind of raves all over Europe. With a new album *Chronologie* under his belt, and deep in preparation for his first ever 'tour', Jarre has plenty to say about bad old-fashioned rock'n'roll. Excuse me, Elvis, but here comes the French Revolution...

Interview by Phil Ward

## Europe In Concert

For the first time, Jarre will be conducting a concert tour – as opposed to the famous one-off spectacles – through the summer and autumn of 1993, providing much wider opportunity to witness his re-invention of the concert stage. Confirmed dates, as at June 30th, are as follows (the 'phone numbers are for ticket details):

- July 28th Mont-St Michel, Normandy, France (+33 1 45 72 11 68)
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- Oct 2nd Expo Site, Seville, Spain (+34 57 481765)
- Oct 6th Olympic Stadium, Barcelona, Spain (+34 57 481765)
- Oct 9th Hippodrome, Madrid, Spain (+34 57 481765)
- Oct 15th Flaminio Stadium, Rome, Italy (+39 6 322 3444)

Look out for shows planned for Germany, Istanbul and Athens.

## On rave

"MT is really close to my preoccupations at the moment. I've been very involved in the rave scene, and I really like the way dance and rave acts are using technology at the moment. It's a mixture of the old analogue synthesisers with '90s technology, and that's exactly what has inspired me for the new album, *Chronologie*. It combines what I have used before – like *on Oxygene* and *Equinoxe* – which are synths that create strong melodies and harmonies with a very warm character and plenty of colour, mixed with samples and scratches.

"If there are rave acts who consider me like a 'Godfather', well... it's because of the combination of analogue synths and sampling with multimedia, but also, I guess, the idea of pirating through virgin areas – like the skyline of Houston, or Docklands – an outdoor area where you can improvise a party. For Bastille Day in Paris three years ago, that's exactly what I did – and two million people came! So I really like this idea of putting on my own equivalent of a rave, all over Europe, with the musicians I want to convey my music in my own style."

## On analogue

"After having explored ethnic and world music during the '80s, with Zoolook and things like that, using a lot of digital equipment, I really consider a lot of old analogue synthesisers to be a kind of Stradivarius of electronic music. Nowadays, no one can match the sound of a Minimoog, for instance. That's why everybody is chasing the old gear. It's not just fashion. The first Linndrum, or the 808 or 909, these have a quality of sound, yes, but also of having been made as musical instruments – not just as Japanese marketing products.

"And also, for me, having always worked with and been excited by synthesisers, I really think an analogue synthesiser is the most evocative instrument – one with which you can most evoke, not reproduce, a real sound. I've worked a lot with samplers, too, of course, and I do think there is a risk in taking a fragment of 'reality' which becomes instantly dead. It's like severing an arm from the body; I'm sorry to be morbid, but there is a morbid approach to soundscapes with sampling. It can be interesting, but it has limitations. What I love about analogue synths is that you can 'invent' the sound of an orchestra, or the sea, or a train... just as Fellini hated location shooting, and felt that evoking the sea in a film studio was much more powerful. It gives you the idea of the sea. And an



analogue synth can give the idea of a violin, or the idea of a drum. The TR808 is a long way from the sound of a real drum, and that's what makes it interesting...

"But the synthesiser also has intrinsic sounds of its own, which don't emulate or even evoke sounds in nature... which is why it's one of the most important instruments in the history of music. Firstly, you can create your own timbres - you can be your own craftsman. Secondly, you have access to so many sounds which have never been heard before."

### On modern synths

"It's a nightmare. We are regressing. Unfortunately, I don't think manufacturers will change course, because when Bob Moog was developing the Minimoog, for instance, or when the ARP 2600 was made, or the EMS, people were creating prototypes, for musical reasons - not commercial reasons. They weren't businessmen, they were engineers, inventors, musicians. Today the synth market is a multinational, corporate concern, so the sales of a Minimoog are not going to match the sales of a DX7 or an M1. They've tried, and the JD800 is a good example - I like it very much, the combination of access and memory - but after a while you realise that the basic sound is much thinner than a true analogue synth. You have everything built in, all the effects which are very catchy, but when you start to incorporate them in the studio you find that it's almost impossible to mix them. They're already full of frequencies, reverb, delay... and if you switch them all off you're left with a very poor sound, usually.

"The best way to build a good sound is to start from a mono source, rather than starting with a stereo sound which is mostly

delay, or a phase difference between right and left which can create problems in the mix later on. And it's so frustrating to have to take those effects off first, before you can start working.

"Everything in the '80s was done the wrong way round. Instead of using technology to ease the process of programming, we've made it more complex. I saw a reverb/delay unit recently and the manual had 89 pages! This is a joke. Who cares if the unit can recreate stone, leather or wood surfaces?! No one has experienced the difference in real life, it's an absurd situation. This is why I've decided to be much more direct, as in the rave scene, and just use technology for what I need and nothing else. I don't want to learn Japanese any more...

"I like the K2000 very much, and I'm working with Kurzweil on improvements to the sampling card and other details. It's probably the best synth on the market just now; it can be as complex as you like, but you can change sounds very quickly."



### Special offer

We are giving away a free copy of the Summer 1993 issue of *Conductor Of The Masses* - the dedicated international Jean Michel Jarre magazine - to the first 20 readers who write to *MT* with the correct answer to the following question:

**In which part of Paris did Jean Michel hold his outdoor concert on July 4th 1990?**

The Summer issue focusses on the album *Chronologie* (above) and the Europe In Concert tour, so mark your entry "Chronologie Quiz".





## On sampling

"When I started out I worked in a French music research centre with Pierre Schaeffer, who created the concept of Musique Concrete just after the Second World War. So that takes us back to before you and I were born. And this guy was the first in the history of music to talk about music in terms of sound, instead of notes and harmonies, and to take a microphone into the street and record cars, doors, people. In 1950 he did a kind of concerto for one door, splicing up the tape recordings and making something which might be done with an Akai S3000 today. So in a sense, this guy is the Grandfather of dance music – or sampling, at least. And having worked with tapes in this way, I just had to get a Fairlight – I think Peter Gabriel and myself were the first to get one from Australia – which, of course, enabled you to do this so much easier.

"But then sampling was developed in so many different ways through the '80s. You have the Art Of Noise' approach, which is to take fragments of reality and make fun with it – a very interesting artistic proposal. And then you have the use of sampling as a kind of universal way of making music, which in my opinion is wrong. Because if you sample a trumpet, it still doesn't sound quite like a trumpet. You should use sampling to create, to invent new sounds, not just to imitate sounds. It's OK for advertising, for soundtracks, it's very practical – and as a songwriting and arranging tool, of course. But, to me, the most interesting use of sampling is to transform and process sounds – then it becomes a real instrument. Otherwise it's just a library.

"The problem with the Akais is that they're for the Japanese brain. Take looping: if you want to edit the beginning of the sample, you have to start at the end. It's mad, like somebody who reads right-to-left trying to read left-to-right."

## On Croissy Studio

"I like to have a variety of recording methods. Some parts are recorded live without any sequencers, straight onto 24-track. When sequencers are required, I use the MPC60 – because I'm used to it – in conjunction with timecode on the multitrack. Those sequences are then recorded onto tape as well as in the MPC60, or Notator on the Atari. But I'm not a big fan of the mouse! It's a real pity that no one has found an alternative. The JL Cooper console – where you can be in front of your Mac or Atari like a 24-track – is interesting. I still think that if you have 10 fingers, using one mouse is like being a cripple.

"I'm not questioning the opportunity to make music with a joystick, a wheel, or whatever interface. But from my personal point of view I like a variety. So I have keyboards, and a

multitrack which is the timecoded master, and the MPC60 or C-Lab which are the slaves. And I'm constantly developing new gear. Well before MIDI, Michel Geiss – an engineer/musician with me since *Oxygene* – developed the Matri-sequencer, where you can have real-time sequences triggered by pins; it has a matrix of 100 lines and 12 notes, and you can change octaves for any note, too, and using the pins you can play in real-time sequences, loop them, and it used a single frequency to link different synths. That was in 1978, and I used it on all my early stuff. The technique was very close to MIDI.

"And in the last year we've conceived a version for the '90s – the Digisequencer – using the technique of touching LEDs. It has a matrix of LEDs, and you can instantly program any kind of sequence, loop any section, make polyphonic sequences or use it as an arpeggiator, and it all works with SMPTE or MIDI timecode. It's very much the brain of the studio, now. I also want to develop new types of instruments for the projects I'm working on now, such as a synth based on the ARP 2600 but represented on a 1-page LCD, and incorporating old and new filters from the Minimoog to the JD800. It has audio inputs for acoustic sound, like a sampler; it has memory; and beside the LCD you have virtual faders and

## Live wires – plans for Europe in concert

"There isn't a click-track for every song. Sometimes we run sequences on ProTools; sometimes using arpeggiators. I'm looking at ways of getting round the problem of re-sequencing everything every night; I'll probably use a Cyclone, a Prophet VS with its transpose function, and the Digisequencer that we built. I like running sequences live – there's no DAT.

"There'll be three keyboard players, each with a K2000 and an S3000, plus one player has a Korg T3, one also has a JD800, and one has a JD800 and JD1000. I have a lot of portable prototypes, like the circular keyboards with nine octaves within easy reach, and the Melodica with a built-in MIDI transmitter, plus Minimoog, AKS and EMS, and the DJ70 for scratch effects. I'll probably also take the old Fairlight, too!

"I'll have one drummer, using the Simmons SDS2000 with new pads with real skins, and ddrums. And a percussionist with acoustic instruments from India, Tibet and North Africa, and also electronic pads. Plus a fantastic hard rock guitarist called Patrick Rondat, with whom I'll be doing duets of sequencing and guitar using delay. That will be entirely improvised live, without a click.

"I'm going to play *Oxygene* like in the past – with just a Minipop drum machine live, with a few sequences and one keyboard, by myself. A kind of minimalist live version..."



knobs which you can touch to instantly access and alter the parameters. There's also a sampler I'm working on with two technicians, which uses a card from the new Macintosh to try to improve sampling and programming together."

## On multimedia, or The Revenge Of The Keyboard Player

"I wanted to create a new format for concerts to escape from the routine of the rock concert, and the keyboard player trapped behind – in the old days, keyboards – and now a screen, watching TV all the time. Also playing and listening to music outdoors is a unique experience; you're not a victim of the reflections of ceilings and walls. So I've always been keen for the music to be performed outside. Furthermore, I've been frustrated for several years by the sight of the 'stadium machine', huge concerts presenting a formula which hasn't essentially changed since the days of Elvis Presley: one singer and a band. There may be more PA, but between Elvis and Michael Jackson there is no change in terms of concept and visuals. It's great in a theatre, but to pay so much to watch an act on a stage so far away... it's frustrating. It's such an old-fashioned concept to maintain the focal point on one singer, in a huge outdoor concert. Now, in the '90s, the stage is no longer the focal point – just as at a rave.

"I never considered myself the Mick Jagger of electronic music. I'm much more interested in how to visualise the music, how to convey to the audience the emotions I try to put into the music. And I believe the grander the scale you give, the more you receive from an audience. In a way, despite the scale of concerts I've given before, the conviviality and complicity with the audience was much more powerful than it would have been in a theatre with just one stage, one synth and a band. Somehow you match the scale of the audience. And to do this I've had to develop a lot of special techniques, linking visuals and sounds.

"We've developed MIDI interfaces, but also other types of interface to connect lasers, lights and images to the music. And a lot of tricks like, all the musicians are fed information about lights and visuals through headphones, and I'm able to control a lot of things at the same time. I'm a conductor of vision, not only of sound.

"The laser harp is a very good example of an instrument developed for this purpose. Instead of strings, it has beams which you touch to

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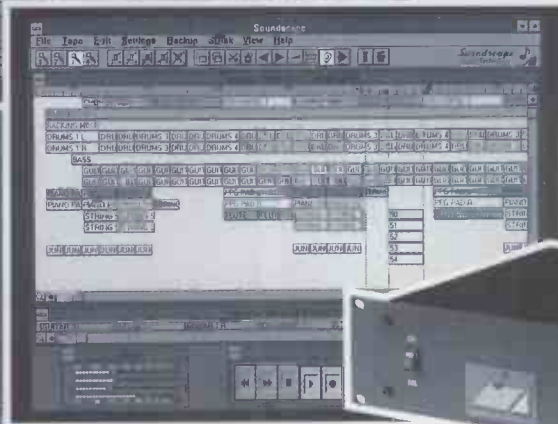
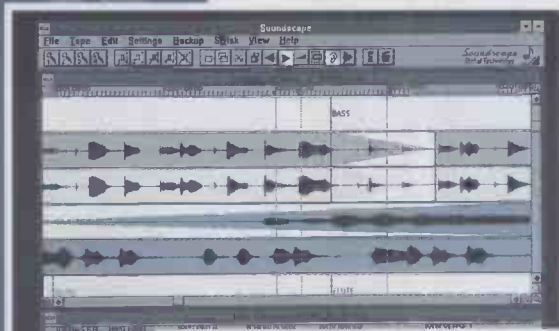
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sound a note. And the beams are like keys, because you have velocity and aftertouch. What I like about this idea is that you can involve yourself physically, which is missing at the moment from performing with keyboards. Also you can be seen from a distance, so you are sharing more with the audience, through technology."

### On technology

"I'm amazed by how conformist we've been in the '80s. We think we're free because we can receive satellite and cable TV, but we have exactly the same images in New York, Tokyo, Madrid or London. We think because we can travel right round the world in 24 hours, we are liberated - but we have never lived in such conformist ways. Including performance, obviously. I'm sure that in 30 years' time this period will be seen as dominated by a copycat attitude. People claim a whole new concept, yet it's just that a light is red instead of blue... or there are three dancers instead of one. We should be like kids with technology, not afraid of it.

"There have been some silly articles recently claiming that kids are not as creative now as they were in the '60s and '70s - it reminds me of

my parents talking about their 'day'. It's amazing how people from the '60s are becoming as 'square' as those they criticized then. It's ridiculous. What's different is that there were no references then. It's true that a new form - rock and roll, if you like - was being created, but now the many references - the access to greater technology and music - means there is probably more creativity. All we need is a more provocative and subversive attitude towards technology and the system."

"That's exactly what I like about the rave scene: it challenges the formats of 'the business', and the performer is not the most important thing any more. I'm trying to do the same with my tour starting at the end of July. But you encounter such resistance. As long as you're playing Hammersmith, with a band and Varilights, that's fine, but if you move away from that you're treated like a martian.

"At a time when everybody is talking about communication, we can scarcely communicate with our neighbours. For

example, sometimes I can't get hold of *MT* in Paris, which I regret because we must always be looking forward, and yet Paris is closer to London than Glasgow. We're not using technology to our advantage, so it's complicating the process instead of easing it. So in performance, and in the recording studio, we must be technological 'pirates', and use it as kids use toys, with a fresh attitude, and unfettered by Japanese manuals..."

### On Chronologie

"*Chronologie* is closer to *Oxygene* and *Equinoxe* than anything inbetween, and it completes a kind of cycle, in the way the music is constructed and in the use of old analogue gear. There is '90s technology, too - digital loops done on the DJ70 - mixed with the melodies and harmonies from the JP8 or the Oberheim, for example. I'm happier with this album than with any other for a long time."

### On record

title	format	label	released	reached
La Cage	album	EMI Pathé	1969	-
Aor	ballet score	-	1971	-
Deserted Palace	album	EMI Pathé	1972	-
Les Granges Brulées	film score	-	1972	-
Oxygene	album	Polydor	1976	2
Oxygene Part IV	single	Polydor	1977	4
Equinoxe	album	Polydor	1978	11
Equinoxe Part 5	single	Polydor	1978	45
The Illness Of Hamburg	film score	-	1978	-
Gallipoli	film score	-	1979	-
Magnetic Fields	album	Polydor	1980	6
The China Concerts	album	Polydor	1982	6
Music For Supermarkets (only one copy made)	-	-	1983	-
The Essential Jean	compilation	-	-	-
Michel Jarre	album	Polydor	1983	14
Zoolook	album	Polydor	1984	47
Rendez-Vous	album	Polydor	1986	9
Fourth Rendez-Vous	single	Polydor	1986	65
Houston-Lyon, Cities In Concert	album	Polydor	1987	18
Revolutions	album	Polydor	1988	2
Revolutions	single	Polydor	1988	52
London Kid*	single	Polydor	1988	52
Oxygene Part IV (remix)	single	Polydor	1989	65
Jarre Live	album	Polydor	1989	16
Waiting For Cousteau	album	Dreyfus	1990	14
Images - The Best Of	compilation	-	-	-
Jean Michel Jarre	album	Dreyfus	1991	14
Chronologie	album	Polydor	May 1993	-
Chronologie (Part Four)**	single	Polydor	June 1993	-

\*featuring Hank Marvin

\*\*remixes by Sunscreen, Praga Kahn and Black Girl Rock

### Jarre's junk, as used on Chronologie

Digisequencer  
 Kurzweil K2000  
 Minimoog  
 ARP 2600  
 Akai MPC60  
 Akai S1000  
 AKS  
 EMS  
 Roland JD800  
 Korg 01  
 Korg 03  
 Roland TR909  
 Boss DR660  
 Synthex  
 Eminent  
 Emu II (for that Mellotron-esque choir, "even if you have to kick it to get it working")  
 Roland JP8  
 Roland DJ70  
 Digitech Vocalist  
 Fairlight (for orchestral percusslon sounds)

Studer 24-track analogue multitrack with Dolby SR, mixed onto Studer half-inch analogue (... "far better than any digital medium. I've mixed onto both at the same time, and a kid of 10 years old could tell the difference")

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- DSP Effects Library (64 + 64)
- 100 Performances
- 10 Songs
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- Clock: Time and Date

## SEQUENCER

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Ensoniq

# TS10

synthesiser

Fancy a bit of S&S?  
Ian Waugh can't get enough,  
and Ensoniq have got just the thing...

**G**od no! Not another S+S synth! The last few years have seen more variations on S+S (samples + synthesis) instruments than Lloyd-Webber has written songs around C, F and G.

Ensoniq's TS10 doesn't actually break new ground in the S+S department, but it does have a refreshing approach to instrument design. Here's a company that's done its homework, researched the market, listened to the punters and produced an instrument to fill a need – the performing musician.

What we all want are sounds, good ones, lots of 'em and with easy accessibility. The TS10 has 180 factory presets and 120 user-programmable sounds – that's 300 in all. They are arranged in banks of six, selected by ten Bank buttons which are in turn organised into Banksets, of which there are five, selected by repeatedly pressing the Bankset button. It's easier to operate than it sounds – honest!

One nice feature of the TS10 is the ability to load new samples into the memory, and up to 20 can be stored in two other Banksets. You get 2Mb of RAM with the machine, which can be expanded to 8Mb.



The main display is two long lines of LEDs which can show the names of up to six sounds. You select one by pressing one of six soft buttons around the names, and the selected sound becomes underlined. You can layer this with one of the other sounds by double-clicking on another button.

The basic unit of sound construction is the Voice. A program or sound is made up from six Voices and one Effect. A Preset is a combination of three sounds – think of them as handy 'performance memories' – which let you create sound combinations, splits, layers and so on. The organisation of sounds is actually a little more intricate, because each of the three sounds in a Preset has a set of associated Track parameters such as mix, pan, timbre, transpose, detune MIDI channel and so on. In fact, the TS10 manages to integrate the sounds and sequencing side of itself very well.

The sonic architecture is very powerful and sophisticated, with a

## Sequential circuits

The sequencer has 24 tracks, arranged in a rather novel way. 12 of the tracks are used to record sequences which can be as long or as short as you like, and may be given an 11-character name. In Song mode, sequences are assigned to play in order in up to 99 steps, each of which can be made to repeat up to 99 times.

In addition, each song has another 12 tracks

which are independent of the sequence tracks, but which run alongside them like linear tracks. You could create an accompaniment in the 12 sequence tracks, and use the linear tracks to add the toppings and/or to record the 'live' bits. No, you wouldn't cheat, would you?

Of course, you could be bolshy and ask why we couldn't just have 24 'normal' tracks, but I suspect most users will be happy with the 12

sequence tracks in practice. The sequence-style arranging feature is a little like that used by pattern-based sequencers, and I found it generally preferable to the linear-based sequencers you find on most workstations.

The sequencer capacity is a most reasonable 30,000 events, yet this can be expanded to around 97,000 events with the addition of the SQX-70 (around £199).



Photos: James Cumpsty

myriad of programming options. To create sounds, you can use the built-in 254 waveforms or user-loaded samples. A neat feature is the Surrogate Program option. The RAM is volatile, so the instrument forgets loaded samples if the power is removed. In such cases you can assign an alternate ROM-based sample to act as a stand-in.

Now that idea must have come from a guy plagued by intermittent power supplies – although one would have thought the obvious and better solution would have been to provide battery-backed RAM. Unfortunately, that's not an option on the TS10.

The sound effects are provided by a custom Ensoniq chip. There are 74 effects algorithms with variation controls which can be linked to performance parameters such as aftertouch and velocity.

Put all this together and you can create everything from analogue synth sounds through new-age pads to techno basses. Strong features are the Transwaves and Hyper-Waves which let you create vector-style sounds. The Hyper-Wave architecture allows up to 16 Waves to be defined in a list which can be swept, cross-faded and timbre-shifted. It's got the lot!

OK, so the sounds are mega. Let's look at the performance controls. The keyboard has 61 keys, velocity sensitive of course, and it has both Channel and Polyphonic Aftertouch. Ensoniq as a company seems very fond of Polyphonic Aftertouch, and it certainly adds a level of performance to the instrument.

The Pitchbend and Mod Wheels are to the left of the keyboard as usual, but half-recessed, which is somewhat unusual – although they aren't uncomfortable to use. Above them are two Patch Select buttons

which are unique. They let you select alternative groups of Voices within a sound, so you can very easily change a sound either dramatically or subtly.

The disk drive is used to save and load songs, sounds and samples. It can handle quad-density disks – that's a potential capacity of 1.6Mb – as well as lower-capacity disks with a maximum capacity of 78 files. However, the system doesn't recognise standard MIDI Files, so you simply can't prepare your material elsewhere.

The manual is very good, but a few more pictures wouldn't have gone amiss – and at over 300 pages it's just slightly lighter bedtime reading than *War And Peace* – although the story line lacks a certain je ne sais quois. It's thorough – and it needs to be in order to explain all the TS10 functions. No one could accuse the TS10 of being under-documented.

As a performance instrument the TS10 shapes up well, but there are many users who want an instrument to double as a multitimbral sound source. The TS10 is only 12-part multitimbral, which must lose it some potential buyers. Furthermore, it doesn't even acknowledge the existence of General MIDI. Well, OK, that's cool.

Obviously the TS10 is aimed at the pro – who, of course, probably doesn't know what General MIDI is. Still, GM is an added selling point and, after all, the machine will not be bought exclusively by professionals.

Its 32-note polyphony is the minimum you'd expect from a new, current instrument, and it assigns its Voices dynamically so you shouldn't run out of notes – except perhaps in mad bouts of insane pyrotechnics – and certainly not while playing live.

Niggles? Well, the LED display isn't as high-tech as you might expect, and it is certainly a drawback when it comes to graphics – but it's a whiz for cutting through a dark stage.

The lack of MIDI File compatibility must also be a major drawback, even to the pro. There surely can't be many musos now who don't use a computer-based sequencer, or at least a good dedicated hardware sequencer.

I've yet to see any built-in sequencer with a tenth of the facilities or friendliness of a computer sequencer, and I really don't want to learn how to use an arcane system which I didn't want to find in the keyboard in the first place. But that's just me, and regular readers will know my dislike of workstation sequencers (*Don't we just, Ed*). But, having moaned my head off, the TS10's sequencer is one of the best I've seen.

Apart from the performance aspects, the TS10 is heavily into synthesis – a programmer's dream – but not something the average user, pro or otherwise, will be able to drop into and pick up. Without a doubt, such users will be happy to use these off-the-shelf sounds.

Other than that, the TS10 is just about as complete a synthesiser – in the full sense of the word – as has appeared on the market in, ooh, ages. At home or in the studio, the TS10 is a very desirable piece of kit, and if you were only allowed one keyboard on stage it would be difficult to think of a stronger contender. ●

## THE LAST WORD

Ease of Use	Easy on a performance level, but beware hidden depths
Originality	It is S+S, but with many nice touches
Value for money	Heavy bucks, heavy machine
Star Quality	A winner for the performing muso
Price	£1999 RRP
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NJD

REVIEW

# IQ250 & IQ-MX40

## Intelligent Lighting System

Musicians and DJs can shed light on their stage acts. John Wright takes an IQ test...

**F**aceless, imageless, anonymous, lacking in character. What am I referring to here? The Tory cabinet? The Shadow cabinet? The new Ford Mondeo? Nick Faldo? In fact, it's none of these. They are all terms which have been used in the British press over the past two years to describe bands performing live dance music.

Exporting studio-based music to the stage just isn't that easy. Most of it is produced using a considerable amount of immovable equipment, making the music itself difficult to recreate in a live situation. And if you do finally manage to haul your collection of analogue synths and samplers onto the podium, actually working all that technology to create a 'live' performance takes a considerable amount of concentration - leaving you little time to choreograph dance routines, prance about with a microphone or thrust your groin at the audience.

It can also be argued that the focus of dance music is the groove itself, not the people creating it. And many would say this was a good thing. But people like to have both their aural and visual senses bombarded when they go to a gig of any sort - which is why an increasing number of dance, techno and ambient bands are turning to complex lighting, video, projection and special effects to enhance their performances.

And this is exactly why NJDs IQ250 and IQ-MX40 lighting system is attracting so much interest from musicians and DJs alike. Basically, NJD have come up with a 'robot' light which emulates many of the effects of much larger club and touring systems, but which represents ridiculously



special indeed. Suddenly, you and the stage is bombarded with a constantly-evolving spectacle of light; not only do these things move exactly on the beat, they can even be programmed from your MIDI sequencer - providing you have the right interfaces.

**T**he IQ system at present encompasses the IQ250

lamps themselves and the IQ-MX40 controller. Up to 16 lamps can be run from a single controller, creating some pretty stunning visuals. But you don't even need the controller to get the lights working - they already incorporate individual microphone sensors for responding to sound. So you can employ a whole bank of IQs, or just one on its own, to illuminate your gig. Flexible or what?

As I said earlier, the IQ250s include a set of internally-changing



Photos: James Cumpsty



good value for money. If you've ever been in a club, or watched a dance/pop gig, or worked as a DJ, you'll have seen robot lights in action.

They consist of a high-power projector lamp, a series of interchanging colour and shape filters to alter the beam, and a moving mirror to bounce the light around in a host of different patterns. For the gigging techno-head, they can transform a lacklustre lighting system into something very

dichroic colour filters, and shape filters (known as 'gobos'), which can be controlled externally by the MX40, or which change randomly in time with your bass beat. Eight colours are available - red, green, blue, cyan, magenta, yellow, pink and orange - and the five gobos cover normal circles, squares, dots, stars or tunnel shapes. The mirror then bounces the light in a variety of preset patterns, such as up/down, side-to-side, diamond, octagon, figure-of-eight - the list goes on.

The actual power of the lamp is impressive given the physical size of the IQs; a 250 watt dichroic reflector is focused to provide an intense beam of light that will sweep across all but the largest of stages. It's worth mentioning that the lamps are also very portable: get a couple of cases made up, and one person could easily carry four at once.

Although normal use would involve them hanging from a standard lighting bar or wall bracket, the interesting thing about robot lights is that they can be angled in almost any direction and still look good. Power can be taken from a common 240 volt switching pack (or a 13amp socket,

### DMX - ride on time

DMX, for the uninitiated, is the industry-standard lighting control protocol; keyboards have MIDI, lights have DMX. Interconnection is performed by simply chaining lights on a DMX buss together with a single 2-core-and-screen cable. DMX carries all the information required to control colour, movement and gobo changes; each light on the circuit is given an 'address' (like a MIDI channel number), and a master controller such as the MX40 will then identify individual lights for control.



come to that!); sockets for DMX In and Out can be used to chain the lamps together and/or connect them to the MX40.

The MX40 doesn't include MIDI control itself – it's basically a preset pattern/colour/gobo switcher – but we'll be looking at dedicated MIDI-DMX interfaces in the near future.

So, once you've hooked your IQ250s (I used two for the purposes of this review) to the MX40, you can set up various repeating pattern, colour and gobo changes, which either work in time to a sound signal (via the audio input at the rear) or according to the speed set up on the MX40s front panel. The sheer number of permutations available should keep most people twiddling away for hours, but even this controller doesn't show off the full potential of the IQ system – you need to get into some serious sequencing to do that.

That said, a set of IQs with an MX40 still represents something of a bargain. The effects have to be seen to be fully appreciated, and actually having an automatic light show thumping along to your tracks is an experience not to be underestimated – whether you're a performing musician or a DJ.

The system is incredibly easy to operate, capable of stunning results and offers one of the simplest ways to give your gig that extra 'something' that no amount of stage presence can provide.

More and more, these days, musicians are faced with the task of producing an exciting stage show which matches the multisensory

environment of the club, the rave and the imagery of TV. With the release of the IQ, NJQ have made life much easier for musicians who have realised the need for a controllable lighting system simply by making it available at a value for money price. With a set of IQs in your rig, you'll be creating nothing short of a dazzling performance. Faceless techno? Bollocks. ●

## THE LAST WORD

Ease of use	Couldn't be simpler
Originality	At this price, highly original
Value for money	Excellent
Star Quality	Essential for any stage act
Price	IQ250 - £351.33 inc. VAT each IQ-MX40 - £151.57 inc. VAT each <b>Special Offer</b> - for four lights and one control unit £1408.83 inc. VAT.
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d2d Systems

# 4T/FX and d2d Edit

software for the Atari Falcon

Ian Waugh goes directly-to-disk, and finds the Falcon on the crest of a wave...

In the tech spec for Atari's new(ish) Falcon computer you'll find reference to a DSP - Digital Signal Processor. It's a Motorola 56001 chip operating at 32MHz with a performance of 16 MIPS (Million Instructions Per Second). Listed uses for the chip include the connection of low-cost 19.2K baud fax/data modems, voice-mail systems, JPEG/MPEG image compression and direct-to-disk digital audio recorders...

So, is this the power-without-the-price Atari has been singing about? A computer with built-in direct-to-disk recording capabilities (and those all-important MIDI sockets, of course) sounds just what the budget-conscious muso needs right now. That and some direct-to-disk software.

d2d (cute name, guys) are a software development company involved in the production of software for high-end digital recording gear. The company were apparently given a Falcon development machine and actually showed an early version of a direct-to-disk package at the official Falcon launch in Düsseldorf last year. Now, finally, the production version has hit the streets.

There are actually two pieces of software - 4T/FX and d2d Edit. 4T/FX offers 4-track direct-to-disk recording with built-in FX. d2d Edit is bundled with this but is also available separately. It offers stereo direct-to-disk recording with editing; the 4T/FX has no edit facilities at all.

Potential purchasers will need a Falcon with a hard disk and at least 4Mb of RAM. The programs are protected by a dongle which has to be plugged into the Falcon's parallel port, but this has a thru socket so you can still connect a printer or even other dongles.

4T/FX only has one main screen which is laid out rather like a 4-track recorder. It has four fixed sample rates - 50, 32, 24 and 12kHz. Interestingly, the Falcon's clock can't generate a 44.1kHz or 48kHz sample rate (the rates usually employed by CDs and DATs) although these are attainable through the use of an external device such as d2d's SPDIO or Singular Solution's A/D64x. The SPDIO is a digital



interface which will allow you to back up to a digital device such as DAT. It's expected to retail for around £299.

Disappointingly, Atari have opted for a miniature stereo jack mic socket for the Falcon's audio input. This is simply not up to professional standards and makes it difficult to get a good line level signal into the machine. Atari are apparently considering fitting Falcons with phonos (although I certainly won't be holding my breath) - a move which would also benefit home users as most domestic hi-fi systems have phono connections.

To record a track it's necessary to open a file for it on disk. Recording uses traditional tape transport controls and is quite straightforward, but the program doesn't have an input level meter so you can't check the recording level.

The Mic input is actually 'hard wired' to tracks one and two. So, to record on the other two tracks you have to open the files created by tracks one and two into tracks three and four and then record on tracks one and two again. The software is capable of recording on all four tracks simultaneously, but this requires additional hardware in

## Disk drives - the bigger the better

With direct-to-disk recording, size is everything - at least as far as hard disk drives are concerned. As the name suggests, audio data is converted into a digital format and saved to a hard disk. And we're talking large amounts of data, here.

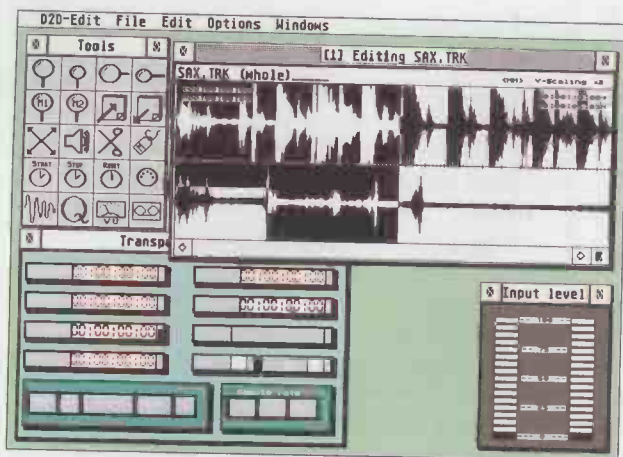
Using the Falcon's 16-bit resolution, a 1-second stereo recording at 50kHz will consume around 200K of disk space. A typical 4-minute song will use about 50Mb of disk, and if you're creating a 4-track opus that four minutes will require a 100Mb hard disk.

The Falcon's built-in hard disk is 65Mb and it comes divided into four partitions (essentially mini disks in their own right) each 16Mb in size. You can record each track in the d2d software on a separate partition, but you can't split a track across two partitions.

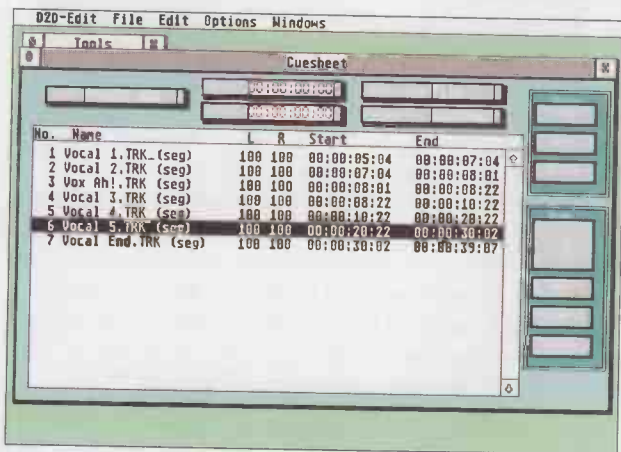
In its default state, therefore, the Falcon's drive will only permit a track to be 16Mb in size, and this translates to a recording time of 1 minute 20 seconds. If you only want to do 2-track recording, you could reformat the disk and create two 32Mb partitions which would double the recording time. You

could also record at the lower sampling rate of 32kHz which will give a 16Mb partition and recording time of just over two minutes. However, if you use the lower sampling rate you may notice a drop in quality.

Whichever way you look at it, one fact is inescapable - for serious direct-to-disk work you need a larger hard disk. The good news is these have fallen dramatically in price over the past couple of years: a flick through the relevant computing mags should bring you up-to-date with current prices.



The main functions in d2d Edit each have a window. Recording takes place in the Transport window and the track appears as a waveform in the Edit window.



The Cuesheet in d2d Edit lets you play back sections of a recording in any order – ideal for remixes.

the form of d2d's 4I/4O unit. This will feature professional inputs and its own AD and DA converters – more about this in a moment.

You can bounce tracks in time-honoured multitrack tradition and apply the built-in effects using the Effect Send and Effect Return sliders. There are 10 effects in all: delay, flanging, chorus, ring modulation and reverb. Each has up to four parameters which may be adjusted from the main screen. As this kind of effects processing is simply(!) a matter of processing numbers, it should be relatively easy to add other effects by writing new processing algorithms.

Of course, one of the main uses of a direct-to-disk system is to run it in sync with a sequencer so you can record a MIDI backing in the sequencer and add vocals, acoustic instruments and so on in the recorder. 4T/FX can run as a desk accessory and sync to Cubase v3 without using a multi-tasking environment such as Multi-TOS. The insert on the box says it will also sync to Notator Logic but at the moment this is not the case.

d2d is aware of the problem and hopes to sort it out soon. But the full release version of Logic has only just become available for the ST, so perhaps the company was using a slightly different beta test version. In any event, running Logic and 4T/FX together on a 4Mb Falcon proved a very tight squeeze (unless one of the programs was hogging memory).

4T/FX will also sync to an external sequencer using MIDI Time Code (MTC) so if you're thinking of buying a Falcon, hang onto your old ST for the moment!

To edit a 4T/FX track you have to export it into d2d Edit which handles two tracks as a single stereo file. The file formats of the two programs are different and to load one file into the other program you have to run it through a converter in d2d Edit. This program has several major processing and edit functions each with their own window which can be resized and positioned anywhere on the desktop. A Toolbox window gives you quick access to functions such

as zoom and to the windows.

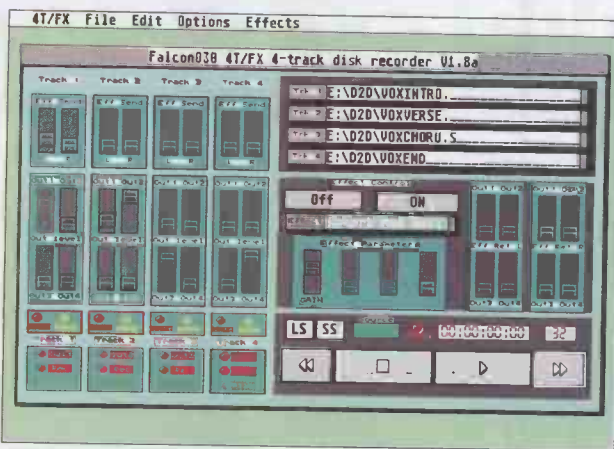
There is also an Input Level meter here, thankfully, so you can set up the optimum recording level. However, on the system I was using, it kept flickering with spurious noise. Time to take a break to examine the sound quality, methinks...

If you run a signal into the Falcon's Mic socket and monitor the output from the headphone socket, you get a pretty good idea what the circuitry is doing to the signal. On my system there was a noticeable loss of high frequencies and, believe it or not, the resulting sound seemed to have reverb added to it. The extent to which this is noticeable depends on the input signal. It's less obvious with an orchestral mix, for, example, than with a dry drum track.

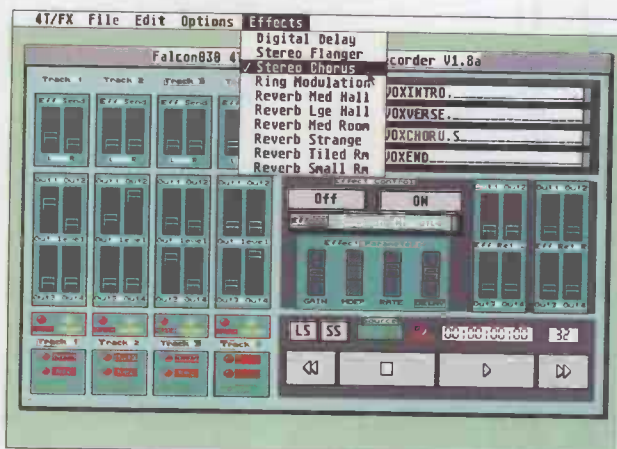
I should point out here that I was using a Falcon running TOS 4.01 and apparently this has now been superseded by TOS 4.02. (The ROM is surface-mounted into the mother board and updating it is not an easy business – so check the TOS before you buy a Falcon.) Now d2d claim that the Falcon's input socket and audio matrix are really not up to giving us the CD quality we would like. They also say that the input noise problem can vary from machine to machine and is more prone to appear on the earlier TOS 4.01 systems. This was all news to Atari's technical department who claim the system is being used in several professional studios, and leave us to draw our own conclusions. So we'll do just that.

Quite simply, the output is not CD quality – a fact to which d2d would attest – but it will be once the company releases the 4I/4O which will directly access the DSP and bypass the Falcon's sockets and AD converters. This, however, is expected to cost about £399 which takes the edge off 'affordable direct-to-disk' such as the Falcon has been promising for the past year. Back to the plot...

d2d Edit has only two sample rates – 50 and 32kHz. Recording takes place in the Transport window which has more options than the 4T/FX recorder. You can set the recording length plus punch in and



4T/FX has one main screen set out like a 4-track recorder.



4T/FX also has 10 built-in effects which have up to four adjustable parameters.



out points, stamp a recording with MTC to sync it to other devices and place up to eight markers in the recording to help with editing. Marker positions may be entered manually or by tapping them in real-time by pressing the space bar during playback.

You can find your way around the recording by scrubbing with the mouse – a quaint practice which allows you to move the mouse through the edit window and hear the section of the sample as you pass over it.

Edit functions include cut, copy, paste and erase and it's possible to save marked areas. But there are none of the more interesting or sophisticated functions you might find on other (more costly) direct-to-disk systems, or which you might associate with sample editors – such as time stretching, reverse, fades, dynamic adjustment and so on.

Non-destructive edits are carried out in the Cuesheet by assembling a list of previously-saved marked segments of the recording. You can't load a segment into the Cuesheet directly from the Edit window but

THE LAST WORD	
Ease of Use	Easy peasy
Originality	New to the Falcon
Value for money	Affordable direct-to-disk recording
Star Quality	The first of its kind
Price	4T/FX (including d2d Edit) £299 inc VAT d2d Edit £150 inc VAT
More from	d2d Systems Ltd • St. John's Innovation Centre • Cowley Road • Cambridge CB4 4WS • Tel: 0223 420252 • Fax: 0223 421096

the segment files only store the position of the segment, not the actual sample, so this saves valuable disk space. The Cuesheet may be played by using MTC or SMPTE and a Clock window lets you check that the Falcon is receiving this data correctly.

Overall, the programs are easy to use although you will need to refer to the manual to check a few functions. This was incomplete at the time of writing, but a new version together with the latest software updates will be issued free of charge to all registered users.

As the first serious direct-to-disk software for the Falcon, the two d2d programs are certainly an attractive proposition, but I do feel they should be better integrated and should be given at least some of the bells and whistles of other direct-to-disk programs on other computers. There is also the question of sound quality to bear in mind, and the current lack of synchronisation with any software sequencer other than Cubase v3. That said, the system is useable and certainly affordable.

But for serious recording, you really have to budget for the 4I/4O unit, and possibly the SPDIO if you want digital integration. You'll probably need a larger hard drive, too. When all this is added up, of course, the Falcon's promise of cheap direct-to-disk recording starts to look rather less appealing, but it is still cheaper than most direct-to-disk systems on other machines. You get what you pay for.

There are those who think Atari has missed out on a golden opportunity to bring budget-priced CD quality direct-to-disk recording to the mass market, but the fact is the Falcon – with d2d software – is available now for home users. CD quality – for those that need it – will be available soon for a little extra. If d2d really gets behind the system, it could become a serious contender. It's the first for the Falcon, and that's the one by which others will be judged. ●

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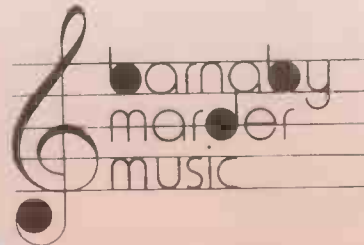
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Microdeal

# Video Master

For the Atari ST

Ladies and gentlemen, the Atari is about to go multimedia.  
Sample and see, with Ian Waugh

**V**ideo Master is, according to the blurb, "an integrated multimedia video and audio sampler". Simply put, it lets you combine digitised video clips and audio samples to produce a movie or presentation. You can even sync the audio to a degree. We're not talking Cinemascope or promo videos here, but the package lets you put together computer-based video and animation displays at a price you won't believe.

The Video Master box contains an L-shaped cartridge which plugs into the ST's cartridge port and includes audio and video phono sockets and Contrast and Black Level controls. The cartridge is connected to your VCR or video camera which, hopefully, will have a phono video out so all you'll need is a standard phono-to-phono cable. If not, it will probably be worth investing in one of those video lead packs which contain enough plugs and sockets to connect just about anything to anything else.

The program runs in low resolution although it's essentially a black and white display (more about this in the boxout). The Contrast and Black Level controls are used to optimise picture quality – the Contrast doubling as an audio volume control while sampling. Audio need not come from the video source and you can record the audio separately. In fact, you can often get better results this way.

The main screen shows the picture in the top left quarter and has an 'oscilloscope' waveform display for the audio along the bottom. There are four pop-up cards or menus – Video, Audio, Sequencer and System – which select various program operations. These are in the top right of the screen so the video and audio displays are always visible.

When recording the video you can select frame rates from 25 down to 2 per second. This is essentially a trade-off

between smooth animation and memory. A single frame takes about 8K of RAM – and disk storage space. Also, the more frames you display per second, the shorter the movie.

The program splits the RAM into video and audio areas (perhaps it's doing too much work to assign them dynamically) which you can reconfigure if you don't require much audio, for example. A 1Mb ST with about 800K of video RAM will hold about 80 frames which should give you



This is the Sequencer and one of the clips which was NOT used

10 seconds of playback at eight frames per second – or four seconds playback at 20 frames per second. Although by no means essential, a hard disk and extra RAM is very useful.

**T**o record a clip you simply click on record and start your VCR or roll the camera. The window shows the scenes you are recording and the frame counter advances across

## Colour me sepia

The standard video display is in black and white (actually 16 shades of grey) although you can tint it red, green, blue, cyan, magenta, yellow or sepia (this is excellent for atmospheric 'old photo' effects).

You can record in colour in two ways. Both require the signal to be split into three – red, green and blue. One involves the use of a separate RGB colour splitter and is the preferred option – although whether or not you choose to go down this road will depend on your enthusiasm and determination to record in colour.

The other method involves taking three shots of the same image placing red, green and blue filters (which are supplied) over the lens. You need to keep the

camera and source rock steady and get the lighting right; a tungsten lamp will produce a yellow tint, for example. And if you're using a camera with automatic exposure control it may overcompensate for the filter.

The system is rather cumbersome for stills and you'll certainly have to rule out any action shots. However, the facility is there and full marks for including it. A couple of sample pictures (in Spectrum 512 format) show how effective colour can be. The demo movie supplied also contains coloured action shots of Roobarb the dog – he can run but can he sing?

The system can also produce pictures with up to 4096 colours but due to restrictions on the ST they

can only be displayed in 16 colours, or, using Spectrum 512 mode (built into the program), 512 colours. Falcon owners get a special version of the program which can digitise full colour pics in 4096 colours in True Colour screen modes. Start saving.

You can save a quarter-screen image to disk in Degas, Neochrome, Spectrum and IFF formats although they are expanded to full screen size with a resulting blocky look. However, you can edit them and alter their palette. There are Import and Block Colour facilities, too.

Clearly, for most users, colour will be something to experiment with. Most serious action work will be done in black and white or with tints.

the screen with each frame recorded. Click on Play to play it back – dead easy! After recording, you can 'scrub' through a sequence by dragging the frame counter slider with the mouse.

The Audio card lets you record samples, edit them and then save to disk for use in other programs, or import samples from other sources into Video Master. Sampling follows the usual computer-based sampling procedures; a Listen function lets you monitor the incoming sound, you can use markers to highlight and isolate sections of the sample for editing and you can do an audio scrub by dragging a marker over the sample.

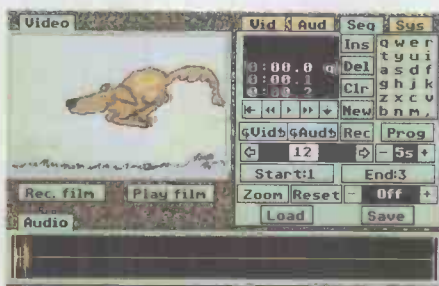
Recording rate is variable from 1-16kHz. 16kHz is high enough for reasonable quality – okay in a mix, as they say – but a few Hertz short of ideal. However, you can get away with much lower sampling rates if you're recording speech or trashy music. As with the video frame rate, it's a trade-off between quality and RAM – although audio uses far less RAM than video.

Edit functions include Reverse, Clear, Delete, Fade, Volume and Squash which compresses samples albeit with a slight loss of quality. Video Master supports, AVR, SPL, IFF and raw sample formats and a Flip Sign function may make foreign sample formats useable.

After recording the sound and video, there are lots of edit options to help you put these into a final audio/video sequence. The Video Edit screen lets you scroll



Here we are in the Editor, editing the grabs of the complete screen dumps of the program. Er, can I go back to singing now?



Da di dah, da di dah, da-da-da-da-di di da di dah



This is Monty's friend Dennis the Cat who does backing vocals

through the frames as if they were on 35mm film and you can also remove unwanted frames and load more in from disk. The load process shrinks standard ST pics to quarter-screen size – nice – and you can define blocks of frames for bulk editing.

Once you've got the video and audio into the program and organised the clips the way you want them, your next step is to sync them together. This is done in the Sequencer and basically involves assigning video and audio clips to up to 24 keys on the ST's keyboard and then pressing the keys in the order you want the clips to playback.

The process is easy enough, although ensuring smooth audio playback (if you're trying to sync a song to video, for example) can be a bit involved. However, you can record in step time and the sequence can be tidied up after recording. In order to minimise the amount of space needed, each clip can have a different frame rate and sample playback speed. You can also use loop functions to give you more playing time. When it's all done, you can assemble a stand-alone player routine using the Vidi Play program. This requires you to write a short control script in a text editor – though there are only six basic commands.

Video Master can work with full screen pictures, but this

requires an exceptionally clean video signal. Doing a full screen grab – especially in colour, using the filters – is not a task for the faint-hearted.

Okay, so it's a little basic. And certainly Steve Spielberg has nothing to worry about. But dammit, this thing is fun! What did I do with it? Well, my first project was to record Monty (my Bernese mountain dog) singing 'Everything I Do (I Do It For You)'. No it wasn't easy – temperamental these singers – and it was made more difficult because he only opens his mouth to bite and I was running out of postmen. But that's another story.

After a lot of hard work trying to get the mouth and the words in sync I had a clip a few seconds long which was far from perfect – but even in its imperfection it was hilarious!

Okay, so let's get serious. In most audio/visual presentations, the audio track makes considerably more of an impression when linked to pictures. So even if the visuals aren't 24-bit quality, a good soundtrack can have a large compensatory effect. It's a little strange, then, that the digitiser was packaged with an 8-bit sampler instead of one of Microdeal's 16-bit jobbies – although you can load in samples created with Replay 16 (reviewed in our December '92 issue), Replay Professional or one of three other



samplers. You can even record the audio using one of them – though Video Master, naturally, only works with the Video Master cartridge.

As video clips take up so much space, some form of compression routine would have been useful, especially for handing your work out on floppies. But really, at the price it's difficult to fault. Microdeal have done it again – another piece of fun kit at an unbelievably low price. Low cost multimedia on the ST starts here. Okay Bryan, let's go for another take – and try to keep in sync with Monty this time ●

## THE LAST WORD

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Emagic

# Notator Logic

for the ST

A new version of Notator already?

Get ready for the Atari screen-age riot – Ian Waugh reports.

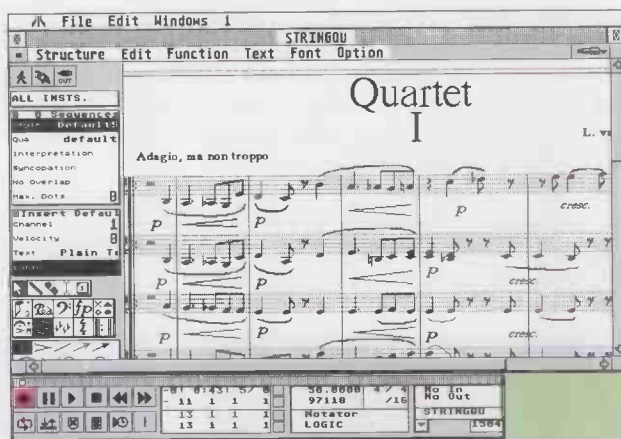
Things happen quickly in the software business. No sooner do we review Notator Logic version 1.1 for the Mac (see our April '93 issue) than version 1.2 appears, and then version 1.5 pops up ready and raring to go on the ST and Falcon with many new features. So let's see what we got...

In the Arrange window there are Real-time Groove Design and Time Stretch features. Groove Design is a sort of customised quantisation and will be familiar to Notator users, while Time Stretch lets you alter the length of a sequence and changes the durations of the notes to fit. Interesting.

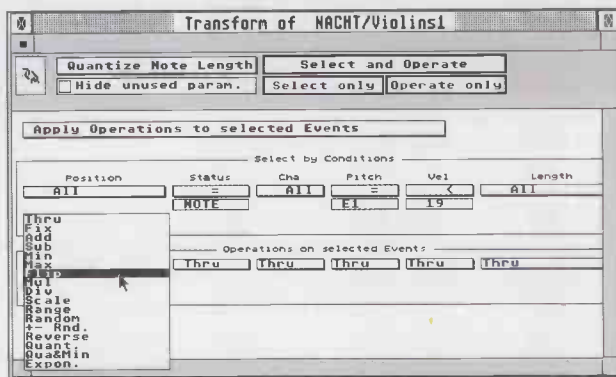
The Transport window has also been altered to display a giant SMPTE box – which is useful if you work at the other end of your studio to the computer – and there are several other interesting new functions such as Flip, Reverse, Scale, Range and Exponential. There are also a number of preset transform functions such as double- and half-speed, humanise (although you could make your own humanise function in previous versions of Notator), reverse position, reverse pitch, transpose and exponential velocity. Also included is a new tool in Hyperedit which can be used to draw in linear changes such as fades.

The Environment window has many new features. Every instrument can be directed to a certain MIDI output without the use of cables. There's a new object called Multi Instrument which represents a complete sound module. You can now use the Real-time Transform Object as a Filter, and Mapped Instruments are now able to have volume and pan settings like normal instruments. There have been several new additions to the Key Commands set, too, such as Save Zoom, Go To Position and Copy Events, and you can now hear a click through the monitor (hooray!).

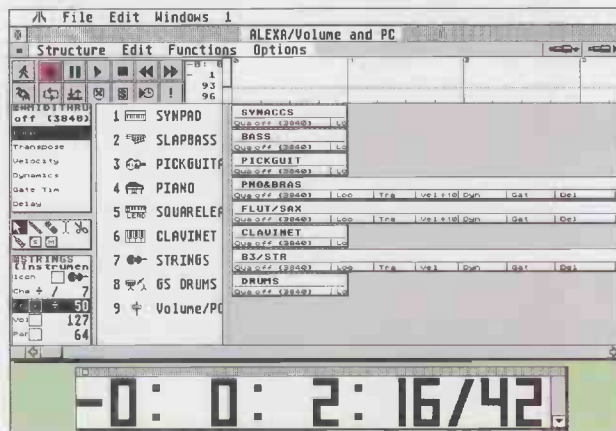
But of all the windows, the Score window has probably been updated the most. It now has three different types of subwindow. The Instrument Set window lets you create an unlimited number of instrument groups to be displayed in the score. For example, you could create an Instrument Set just containing piano if you only wanted to see



Many of Notator Logic's scorewriting facilities have been improved and it can now produce very good scores.



The Transform window lets you do many unspeakably mathematical things to innocent MIDI data.

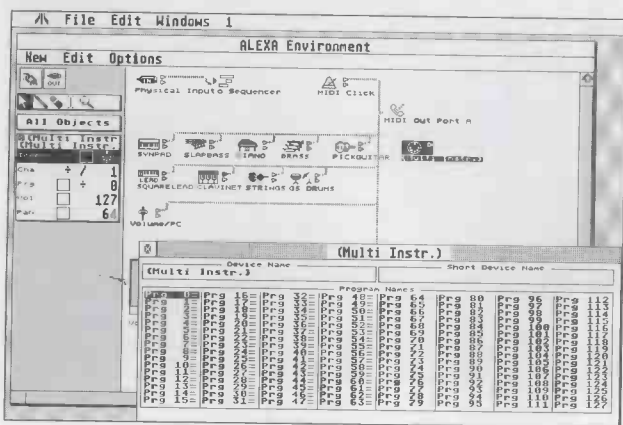


A SMPTE display for the short-sighted.

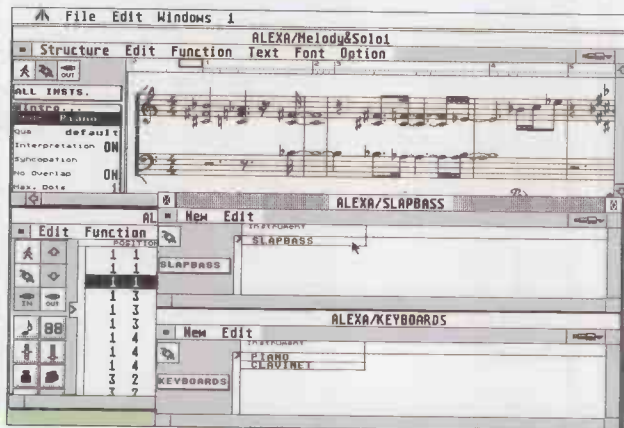
## Protection rackets

The ST/Falcon version of Logic is protected by a dongle which plugs into the computer's cartridge port. It's actually rather more than a dongle – it's called the LOG 3 and it has three extra MIDI Outs, giving you access to 64 separate MIDI channels. It also has a Thru socket so you can plug in another cartridge, and it's compatible with Unitor 2 which is a SMPTE synchroniser and MIDI expander with two extra MIDI Outs and two more Ins.

LOG 3 will also function as a dongle for Notator SL version 3.2 so existing Notator owners wishing to upgrade to Logic can run the two programs from the one dongle during file transfer operations. Notator won't run on the Falcon, so if you want to upgrade to a Falcon you'll have to upgrade to Logic, too. Interestingly, there is an upgrade path from Notator on the ST to Notator Logic on the Mac...



The new Multi Instrument object can hold details of a complete sound module – although you have to name the sounds yourself.



You can create Instrument Sets which restrict your view of the score to certain groups of instruments.

the piano part of a score. Likewise you could create a set for the strings or brass section.

The Text Style window works in a similar way and lets you create text styles such as font, size, attributes and so on. In the Score window, there's now an Option menu with Diatonic Insert (which only inserts notes from the current scale) and Hide/Show Parameters. Using the Lyrics function you can tie text to certain notes.

They still haven't included the ability to enter notes in step time from a MIDI keyboard – c'mon guys! – but otherwise the updates are very useful and very welcome. Incidentally, the features in version 1.5 will be the next update for the Mac.

Further to our review in the April '93 issue, I am now happy to report that many of my niggles have been addressed, particularly on the scorewriting side (although there is still work to be done here). Indeed, having used Logic since then I can honestly say that it's the most powerful sequencer I have yet seen, full of many impressive features. Now it's just got even better! ●

## THE LAST WORD

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Citronic

# SM650

Professional mixing desk



Photo: James Cumpsty

Punching, scratching and cutting – Citronic style. John Wright mixes it...

**T**rying to manufacture the perfect DJ mixer must be something of an R&D nightmare. No sooner have you added the finishing touches to a product, perhaps months in its development stages, than DJs discover yet another way to use – and abuse – their rig in search of the ultimate mix. The demand is then for new and revised features that allow them to practise their new techniques easily and effectively – forcing you either to return to the drawing board, or to release a product that DJs simply won't want to use.

Unless, that is, you've been keeping a close eye on how the live DJ scene is developing – and even anticipating new mixing effects before they become fashionable. Citronic are one company who have learned to keep abreast the whims of the DJ, and over the years their mixers have risen to a position of considerable respect in the studio, mobile and club worlds. The SM650 is just the latest example of their understanding of what live mixing is all about.

Make no mistake, this is a professional machine (...it even says so on the top panel!). Designed for top-flight mobile use and club systems, the SM650 carries the kind of advanced features that leave you in no doubt this is pretty serious piece of kit. For example, several dedicated circuits, providing program and in-fill mixes (for remote areas of clubs) are included for installation use; but if you intend this desk to be studio-bound – or even mobile – then these facilities have a variety of other applications.

The sheer number of connections provided on the back panel of the SM650 indicates just how flexible Citronic intend this, their flagship model, to be – right down to the optional balanced/unbalanced main outputs. Of course, you'll never use all of the sockets all at once, but it's nice to know they're there.

**T**he front panel looks rather daunting on first inspection; indeed, if you're not used to professional mixing systems, the SM650 could prove to be a bit of a techno shock. But within a few minutes you should find things beginning to become a little clearer – particularly as things are laid out in a highly logical (and therefore effective) way.

Basically, there are six channels on the SM650: two dedicated mic strips, two CD strips and two – guess what? – phono (turntable) strips. (Incidentally, the latter four also carry stereo line inputs for other sources, such as a tape deck or sampler, and these can be called up by means of dedicated front panel switches.) All channels feature a nifty illuminated 3-band EQ section – the mic inputs have the additional benefit of a sweepable midrange – and access to two of the three available Auxiliary Send busses, which have their own master level controls.

Start buttons are included for those who can control their CD machines or decks remotely, and, naturally, a prominent headphone Cue switch can be used to monitor each input. Reflecting its professional specification, Citronic have opted for high-quality level faders on all the channels – these have what can only be described as a very sensuous feel (...try them, before you scoff).

No DJ desk would be complete without crossfade, but the SM650

takes things that bit further by allowing you to assign the side of the crossfader (X or Y) that each of the CD and phono signals appears on. You can also switch the crossfader out completely (not everyone uses it, you know...), and override it in a mix by using a channel's Punch control. This button simply brings the chosen signal to both sides of the crossfader at once – allowing you to get up to all sorts of weird scratching and transformation effects. Clever stuff. I would, however, like to see the crossfader being made easier to replace; these controls, unsurprisingly, have a habit of wearing out, and fitting a new one on the SM650 appears to involve the desk equivalent of open-heart surgery.

**B**ut enough of this pre-occupation with knobs. You know it's built well, and you know it can hook into 99.9% of rigs. So just how does it perform? Well, for the most part, the answer has to be 'admirably'. As with any high-end desk, the SM650 takes a bit of getting used to, but once you know the controls and the layout, you can get involved in some intensive deck work. I tried it with a fairly average mobile rig (two decks, CD, tape and sound system) and in a similarly average studio setup, and in both systems Citronic's attention to detail really did shine through.

The SM650 is extremely quiet, pleasantly responsive and well-designed; everything from the EQ to the bar-graph meters is top notch. If I have one minor whinge, it concerns the colours scheme – I'd quite like to see more brightly-coloured fader and switch caps to help you make out the controls more easily under changing light conditions. Black, grey and beige on a blue background isn't the best combination to work with when the strobe's on and a smoke machine is coughing its guts out at you. I personally don't find it particularly stylish either...

Such quibbles aside, one can only conclude that the SM650 is a professional desk in strictest sense of the word, and an obvious choice for those who are serious about their mixing. Clearly, Citronic's awareness of the needs of the DJ is paying rich dividends – long may it continue. ●

## THE LAST WORD

Accessibility	Immediately easy to use
Originality	More 'evolutionary' than 'revolutionary'
Value for money	Good
Star Quality	Up there with the best
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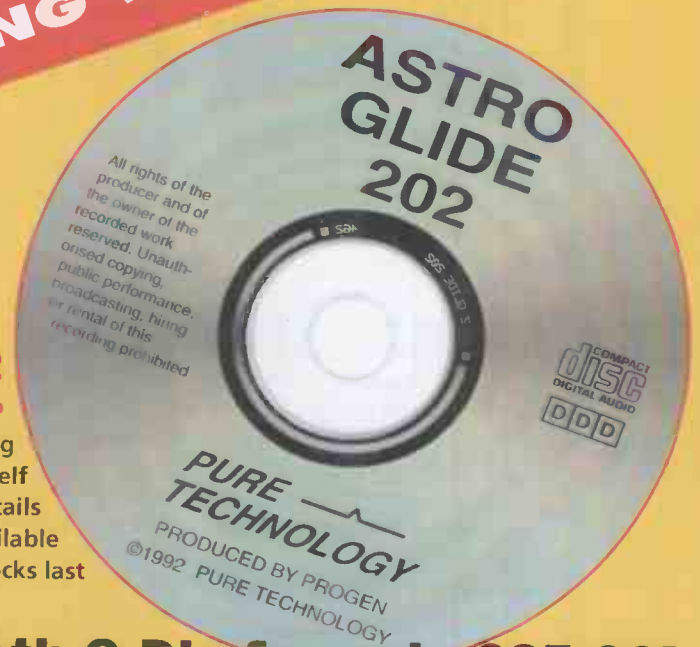
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Tascam

# Porta 07

Ministudio

Nicholas Rowland checks out the successor to the Porta 05, and gets the max from a mini

**D**espite what you may think, it's not so easy parting with good money for a budget multitracker these days. At least not quickly. Comparing the spec sheets of the half dozen or so machines which can be had for 400 notes or less is not something to be tried without the help of a couple of painkillers or a good stiff drink. At this price no single multitracker gives you everything: they all involve compromises. But they all compromise in different areas, making it hard to compare the various machines like for like.

However, the release of Tascam's new Porta 07 Ministudio might just help make your decision a bit easier. Here you have a 'studio in a box' which, without doubt, offers the best all-round package in its price bracket.

The 07 is the successor to the venerable Porta 05 - a machine which was deservedly popular due to its flexibility and ease of use. The Porta 07 has a broadly similar spec, with two important extras: double tape speed now comes as standard, while each mixer channel gets 2-band EQ (the Porta 05 only had EQ on the stereo buss). The 07 also looks a damn sight more stylish.

The bigger front panel is neater and the controls more logically grouped. It's just a shame that Tascam have stuck with those 'boiled sweet' knobs. While they may feel better than they look, I think they bring an unnecessary touch of Toytown to what is otherwise a smart, professional-looking unit.

**T**hough the tape section offers you four tracks on playback, as with many budget multitrackers, you can only record on two tracks at a time. And while it's possible to use all four mixer inputs at once, only two of them will take both mic and line level signals. Otherwise all mixer channels are identically equipped with high/low EQ, Pan, Effects Send and Input Select controls.

There's only one auxiliary send, although there are two returns so you can make the most of those glorious stereo reverb algorithms or ping-pong delay patches. The two return phonos can also be pressed into service as extra inputs if necessary, with the added advantage of control over input volume via the Effects Return master. A stereo sub input provides another route into the mixer if you've got vast stacks of MIDI instruments to accommodate. Note though that whatever you plug



Photo: James Cumpsty

into it will need its own level control.

For monitoring you can stick cans into the socket on the front panel and/or take an output from the stereo phonos on the back. Monitoring options include Remix (for bouncing down and mastering), Effect (for checking FX return levels) and Cue. This last one gives you a combination of what's coming in through the mixer and what's already on tape with four tape cue controls to set up a mix of the tracks on tape.

Visual monitoring is courtesy of four bar-graph meters which may look the business, but because they cover such a small range it is quite difficult to set up levels accurately.

Otherwise, the 07 package works very well. Recording quality is good thanks to the double tape speed, while the tried and trusted dbx noise reduction keeps the hiss at bay. This can be disabled for all four tracks or just for track 4 if you're using it to lay down a sync code. Track 4 possesses a dedicated socket for outputting code to sequencers etc; otherwise there are just stereo outs for the final mix.

Punching in and out, using either the front panel controls or the remote switch is virtually silent - not something that can be said for all budget (and even not so budget) models. Also unlike many rival machines, EQ can be applied at both recording and mixdown - a definite plus.

Overall, the Porta 07 is a well-conceived machine which has plenty of the classic features of the one-stop recording shop. It's easy to use (a fact that should endear it to first-timers), yet it's also versatile enough to grow along with the rest of the home studio. Not only that but its rugged good looks should impress your friends (...don't let them eat the knobs though).

By their very nature, multitrackers tend to have to work hard for their living, putting up with many unreasonable demands on their modest capabilities. The Porta 07 should have no trouble earning its keep. ●

## Hard Fax

**Tape type:** Philips Compact Cassette, Type II (CrO<sub>2</sub>, 70µs)

**Head configuration:** 4-track, 4-channel Permalloy Rec/Play head 4-channel Ferrite Erase head

**Frequency response:** (without noise

reduction) 40Hz-16kHz ±3dB

**Channel separation:** >70dB (@ 1kHz, dbx in)

**Erasure:** >70dB (@ 1kHz)

**S/N ratio (dbx in):** 85dB (@ 1kHz, ref to 3% THD, A-weighted)

**THD:** 1.0% (@1kHz, dbx in)

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8-bit COMPARISON	MONO				STEREO	
	AZTECH SOUND GALAXY BX 11	CREATIVE SOUND BLASTER VERSION 2.0	AZTECH SOUND GALAXY NX 11	CREATIVE SOUND BLASTER PRO II	AZTECH SOUND GALAXY NX PRO EXTRA	
No Of Sound Standards	2	2	4	3	5	
ADLIB	•	•	•	•	•	
SOUND BLASTER VERSION 2	•	•	•	•	•	
SOUND BLASTER PRO II	•	•	•	•	•	
COVOX SPEECH THING	•	•	•	•	•	
DISNEY SOUND SOURCE	•	•	•	•	•	
FM SYNTHESIZER - OPL2	•	•	•	•	•	
FM SYNTHESIZER - OPL3	•	•	•	•	•	
MANUAL VOLUME CONTROL	•	•	•	•	•	
DIGITAL SOFTWARE VOLUME CONTROL	•	•	•	•	•	
DIGITAL BASS & TREBLE CONTROL	•	•	•	•	•	
SAMPLING RATE, RECORDING UP TO:	20KHZ	15KHZ	20KHZ	44.1KHZ	44.1KHZ	
SAMPLING RATE, PLAYBACK UP TO:	44.1KHZ	44.1KHZ	44.1KHZ	44.1KHZ	44.1KHZ	
GAME PORT, WITH MIDI OPTION	•	•	•	•	•	
DYNAMIC FILTERING FOR BETTER SOUND	•	•	•	•	•	
CD AUDIO IN	•	•	•	•	•	
CAN USE MICROPHONE AND CD DURING DIGITAL PLAYBACK	•	•	•	•	•	
SMT BOARD FOR BETTER RELIABILITY	•	•	•	•	•	
FREE SPEAKERS	•	•	•	•	•	
CD-ROM INTERFACE (AT-BUS)	•	•	•	•	•	
PANASONIC INTERFACE	•	•	•	•	•	
MITSUMI INTERFACE	•	•	•	•	•	
SONY INTERFACE	•	•	•	•	•	
CD-ROM INTERFACE (SCSI)	•	•	•	•	•	OPTION
MICROPHONE AGC AMPLIFIER	•	•	•	•	•	
STEREO MICROPHONE INPUT	•	•	•	•	•	
SOFTWARE SELECTABLE IRQ, DMA & ADDRESS SETTING CONFIGURATION RETAINED WHEN POWER OFF	•	•	•	•	•	
MIXER SUPPORT FROM MORE THAN ONE SOURCE DURING RECORDING	•	•	•	•	•	
BUILT-IN AMPLIFIER	•	•	•	•	•	
STEREO LINES IN AND OUT	•	•	•	•	•	

16-bit COMPARISON	STEREO					
	AZTECH SOUND GALAXY BX PRO II	CREATIVE SOUND BLASTER 16 ASP	MEDIAVISION PRO AUDIO SPECTRUM 16	AZTECH BUSINESS AUDIO BOARD	MICROSOFT WINDOWS SOUND SYSTEM	
No Of Sound Standards	6	2	2	2	1	
ADLIB	•	•	•	•	•	
SOUND BLASTER VERSION 2	•	•	•	•	•	
SOUND BLASTER PRO II	•	•	•	•	•	
MICROSOFT WINDOWS SOUND SYSTEM	•	•	•	•	•	
COVOX SPEECH THING	•	•	•	•	•	
DISNEY SOUND SOURCE	•	•	•	•	•	
FM SYNTHESIZER - OPL3	•	•	•	•	•	
DIGITAL SOFTWARE VOLUME CONTROL	•	•	•	•	•	
DIGITAL BASS & TREBLE CONTROL	•	•	•	•	•	
CD QR (V) SAMPLING RATE, RECORD & PLAYBACK UP TO:	44.1KHZ	44.1KHZ	44.1KHZ	44.1KHZ	44.1KHZ	
GAME PORT, WITH MIDI OPTION	•	•	•	•	•	
DYNAMIC FILTERING FOR BETTER SOUND	•	•	•	•	•	
CD AUDIO IN	•	•	•	•	•	
CAN USE MICROPHONE AND CD DURING DIGITAL PLAYBACK	•	•	•	•	•	
CD-ROM INTERFACE (AT-BUS)	•	•	•	•	•	
PANASONIC INTERFACE	•	•	•	•	•	
MITSUMI INTERFACE	•	•	•	•	•	
SONY INTERFACE	•	•	•	•	•	
CD-ROM INTERFACE (SCSI)	•	•	•	•	•	OPTION
MICROPHONE AGC AMPLIFIER	•	•	•	•	•	
STEREO MICROPHONE INPUT	•	•	•	•	•	
SOFTWARE SELECTABLE IRQ, DMA & ADDRESS SETTING CONFIGURATION RETAINED WHEN POWER OFF	•	•	•	•	•	
MIXER SUPPORT FROM MORE THAN ONE SOURCE DURING RECORDING	•	•	•	•	•	
OPTION FOR UPGRADE TO 16-BIT WAVE-TABLE SYNTHESIS	•	•	•	•	•	
STEREO LINES IN AND OUT	•	•	•	•	•	

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Ablesure

# Hot Foot

REVIEW

dual port programmable MIDI remote controller

You let your fingers do the programming, but there are other ways of talking to your MIDI system. Ian Waugh puts his foot down.



Photos: James Cumpsty

## Recognised MIDI messages

Hot Foot recognises, and can be programmed with, the following MIDI messages:

Note On and Note Off. These can be set to any MIDI channel and velocity value. Note values range from C-5 to G+6. You can program the unit to play individual notes and chords.

Controllers from 0-127 can be assigned any MIDI channel and value.

Aftertouch (Key) is assigned a note name, MIDI channel and velocity (polyphonic pressure value).

Aftertouch (Channel) is assigned the channel pressure value and the MIDI channel number.

Program Change takes a number and a MIDI channel.

Pitchbend values are set using four figures and assigned a MIDI channel.

SysEx can be entered in decimal or hex. Hot Foot puts a EoX (end of SysEx) message at the end. You need to know what you're doing when messing around with this.

Song Position Pointer

Song Select Number

Start

Continue

Stop

Tune Request

System Reset

Yes, the name is a bit of a mouthful, isn't it? But at least it tells you what Hot Foot is – and the publicity blurb completes the picture... "Hot Foot – when you can't put your finger on it".

It comes in two parts – a rackmount system unit and a foot pedal remote: you program from the system unit and perform from the foot pedal.

The pedal itself looks like it was made in a Russian tank factory; it's so solid it could almost be roadie-proof. It actually comprises eight individual pedals numbered 1 to 8 – each with an LED above it – plus a further two labelled S (for Shift) and P (for Performance) with a 2-digit LED above to tell you what mode the unit is in and which Performance has been selected.

As you might imagine, it is when these pedals are pressed that MIDI data is actually transmitted, but they can also transmit messages when released or when held down.

They may be programmed with just about any kind of MIDI message (including SysEx data) and these are referred to as Data Streams. They're organised into eight Banks of eight Groups, to give 64 Performance Memories in all, each holding 32 Data Streams which can be accessed





using Shift on the pedal board (bearing in mind that the pedals can send a message when pressed and when released). However, the unit can only hold 150 Data Streams so not all of the possible 2048 (64 x 32) settings can be different.

The system unit has a mammoth 40-character-by-2-line display which gives you information in English – and none of the abbreviated hieroglyphics which most instruments seem to rely on. It also includes two independent sets of MIDI Ins and Outs so you can send data to separate sections of your MIDI setup. Connection to the remote unit is via an 18ft-long cable which terminates in a latching plug so it won't come out if you trip over the wire.

There are three sets of buttons – a group labelled Name, Performance, Assign and Stream; another group labelled OK, Cancel, Insert and Delete; and a pair of cursor buttons. There's also an alpha wheel which is used to change parameter values.

Using the Name button, you can christen your Performances and Data Streams etc, with titles of up to 16 characters – making it possible to get quite descriptive. Performance mode is selected when you want to use the pedal board, while Stream lets you browse through and select the individual Data Streams which may be edited by pressing the Assign button. Incidentally, Performance Memories are battery-backed and can also be saved to an optional data card.

To help with your programming you can copy Performance Memories and Data Streams, and set the number base to decimal or hex. Most manufacturers use hex for SysEx, and computer freaks like to use hex too. But there is a utility which converts between decimal and hex in case you're not a wirehead. There's also a Help mode which is a useful *aide-memoire* if the manual isn't handy.

Speaking of which, the manual is well written but it's essentially a reference book. No tutorial is included apart from a 2-page Quick Reference guide in the Appendix which shows how to define a Data Stream and assign it to a pedal in a Performance Memory. A few

hands-on – or foot-on! – walk-throughs (sorry!) would have been very helpful.

As the Quick Reference section confirms, the biggest complication with Hot Foot is setting up the commands. It's not difficult, it's just that there are a lot of steps to go through and the steepness of the learning curve isn't improved by the inclusion of so few function buttons. That said, once programmed, the controlling front end is superb; the designer is obviously a member of the Musicians' School Of Friendly Interfaces.

So, could you benefit from using Hot Foot? Well, it was principally designed as a real-time device for live use, and if you're someone who finds yourself flitting between settings and setups during a gig, it would certainly merit further investigation to see how much time and effort it could save. Even master keyboards can't easily handle the amount or variety of messages Hot Foot can generate.

If you find that you regularly have to configure and reconfigure your gear on stage or in the studio, then Hot Foot could save you considerable time and trouble, too. Remember, it can do a whole lot more than simply send Program Change messages.

The only alternative to Hot Foot (assuming your master keyboard can't cut the mustard) is a sequencer or MIDI data filer, but then you are totally in the hands of the programmed sequence. You can't easily go round the chorus again, for example, or tell the band that you're going to segue into a different number. But the importance of such an inconvenience will depend on how rigid your sets are.

Another use which springs to mind is the control of MIDI lighting systems. You can stomp on the pedals to activate different effects which might be suggested to you by the venue or the action of the punters on the dance floor.

You'll probably know by now if Hot Foot can help you in your music. It's a solid unit, versatile and (once programmed) easy to use in the field. If you're still not sure, Ableture is offering a 14-day money-back guarantee so you can try before you buy. Can't say fairer than that. ●

THE LAST WORD	
Ease of Use	Good, considering the range of data it has to handle
Originality	Not seen many of these around, have you?
Value for money	Solid gear at a fair price
Star Quality	A versatile beacon in a MIDI wilderness
Price	Hot Foot MIDI Controller £485 + VAT
More from	Ableture Limited • Brunel Way • Severalls Ind Park • Colchester • Essex CO4 4QX • Tel: 0206 751165 • Fax: 0202 751190

## Data Stream programming

Before you can use Hot Foot, you have to tell the pedals what MIDI data they are to generate. The first step is to press the Stream button and use the alpha dial to select one of the 150 Data Streams. They aren't numbered, but unused ones are called 'Unnamed!' Select one, press the Name button and name it using the alpha dial to scroll through the letters.

Assign a MIDI command to the Data Stream. Press the Assign button and you'll see the first command in the LCD which will be called 'Empty!' Use the cursor keys to move to the name and scroll through the available MIDI commands (see 'Recognised MIDI messages' for a complete list) with the alpha dial. Use the cursor keys to move the cursor to any associated parameters such as the MIDI channel, and alter with the dial.

Each item of data in a MIDI message uses a memory position or step. Hot Foot increments these automatically so you can assign several messages to one pedal. Up to 64 items of data can be assigned to a command.

When all the assignments are complete, press Stream and you will be given the option of saving the settings or cancelling them.

Assign the Data Stream to a Performance Memory. Press Perform and scroll to the required Performance Memory. Press Assign. Select one of the eight pedals, shift mode (shifted or unshifted) and the output (No Output, MIDI 1, MIDI 2 or both).

Select Contact type. This can be Momentary, which allows a different Data Stream to be sent on each press and release of the pedal; Latched, which allows

a different Data Stream to be sent for each press/release pair; or Continuous, which sends a Data Stream 50 times a second as long as the pedal is held down.

Select Sense. This can be set to Down or Up. Down will send the data when the pedal is pressed (Down) or on the first press/release for a latched pedal. Up will send the data when the pedal is released (Up) or on the second press/release for a latched pedal.

Move the cursor to the Data Stream name and scroll through them to select the one you've just programmed. Press Perform. Press OK to save.

Scroll to the Performance Bank and Group you want to assign the Data Stream to. Press Name and name it.

Eye & I Productions

## MIDI Crystal

Signal Indicator

A spiritual healing aid with special powers for technologically challenged? A new fangled night-light for those burning the midnight oil? In fact the MIDI Crystal is a neat little visual indicator which lights up whenever MIDI signals are passed through it. Just the thing if you really want to get in touch with your MIDI data, like er... you know, man?

It's a small red 2 1/2" tube filled with electronics and a LED. It has MIDI sockets on both ends so you just plug it in-line between a couple of MIDI cables. It doesn't appear to interfere with the data flow at all. It responds to Note On, Note Off and Controller messages (bright flash); Pitch, Mod Wheel and Aftertouch data (rapid flash); Active Sensing (3-5 flashes per second); SysEx data (steady bright glow); and MIDI Clock signals (steady dim glow).

Of course, if your system happens to send all these at once you won't have an earthly as to what's going on. But it looks pretty and you can use it as a diagnostic aid to help locate faulty MIDI cables - no flashes for you tonight - and check that a device is actually

transmitting data when it's supposed to be. In fact it has already saved me from dismantling my system simply by proving that signals were actually going into an expander when I'd convinced myself they weren't (blush... I'd turned the bloody volume

down on the unit rather than on my mixer!). I've also used it as a MIDI-to-MIDI cable connector. One of my cable runs is quite long and the dog, short of postmen, had chewed through one of the cables. And guess who didn't have a spare long enough?

The Crystal would offer more of a psychedelic display if it used different coloured LEDs instead of just the one, but that would probably have put a bigger drain on the power consumption and maybe add to the cost. As it is, it only requires 3% of the MIDI line power - a reasonable overhead.

All in all, the MIDI Crystal is a useful little gizmo; well worth having to hand if you ever experience MIDI communication problems. And who doesn't? **Ian Waugh** ●



SoundFoundation Producer Series

## Gold Card No.2

for the Korg Wavestation

The first thing that you notice about this SoundFoundation card is that it comes with lots of documentation: Performance List, Patch List, Wave Sequences List and Performance Notes (for example: "Atmospheric! Try octaves on the bass and a slow melody line for full effect. Try Vector Joystick"). There's even a sheet telling you just how great the sounds are and how they make use of the EX in Wavestation EX. (Sorry unexpanded owners, this one's not for you.) Having discarded all this excess verbiage (who reads the manuals anyway?) you plug in the card, play a few notes and... hey, this isn't half bad. SoundFoundation are a spin-off from the Advanced Media Group (AMG) who originally brought you the Valhala cards and billions of sample CDs. And in many ways, this ROM is the natural successor to the Valhala Gold Cards for the D50 and M1 that I was raving about two years ago. Out of the 50 Performances and 35 new Patches on this card, it's hard to find fault with any, and trying to choose a list of favourites is almost impossible.



This may simply mean that the programmer and I have similar tastes, but I don't think so. Most people buy Wavestations because, in a world of samploid AWM/FM tedium, the Wavey is a synthesiser in the true rock'n'roll sense (*Eh? - Ed*). And most Wavestation EX owners will love this card because it pushes the synth's performance capabilities to the edge: sweeping textures, punchy brasses, and pads that previously needed a Jupiter 8, a D50, and an M1 all receiving on the same MIDI channel. OK, some of them are a little close to the factory sounds, but what the hell - they're still damn good!

The card also proves impressive in the wave and patch departments: 32 new wave sequences are supplied, along with 35 new patches - every one of which is excellent and makes use of at least one of the newly programmed Wavesequences

(I checked.). But, given that so many cards draw so heavily upon the internal ROM Wavesequences, it's hardly surprising that this card sounds so fresh.

Above all, I like this SoundFoundation card because it makes me want to play music. It raises my spirits. And there's not much you can say that about these days. Buy with confidence. **Gordon Reid** ●

### THE LAST WORD

Usefulness Very!

Value for money Reasonable

Star Quality Are you serious?

Price £17.50 inc. VAT

More from Eye & I Productions (UK) • PO Box 1099 • Swindon • SN5 7HR • Tel/Fax: 0793 873888

Usefulness Highly

Value for money Not bad

Star Quality As good they get

Price £50 inc. VAT

More from AMG • PO Box 67 • Farnham • Surrey GU9 8YR • Tel: 0252 717333 • Fax: 0252 737044



Perfect Pitch

# Francinstien

stereo enhancer

John Wright plays fast and loose in a world of sonic booms and aural excitors.



Photo: James Cumpsty

**P**ssst! Fancy a 1U rackmount that loads your bass with a depth charge capable of shaking the foundations of Wembley Arena? Or which adds more sparkle and fizz to your hi-hats than an Alka Seltzer falling into a glass of Babycham? Or which creates enough 'space' in your mix to make Dolby Surround sound like your grandad's old radiogram?

Is there a single processor that can do all of this? And is it anything like affordable? The answer to both these questions is yes. It just so happens that Perfect Pitch Music, a small British company, have come up with such a device – and they call it Francinstien. Well, what else?

Whilst it wouldn't be entirely truthful to suggest that Francinstien is the only stereo enhancer on the market capable of such tricks, it is true that Perfect Pitch have a slightly different perspective on the processor market than their immediate competitors.

Francinstien offers three principal types of stereo enhancement: bass lift, harmonic high-frequency enhancement, and a mysterious processing circuit simply known as 'Space'. What's more, it offers these tricks in a package that is extremely easy to operate, is capable of stunning results, and offers superb value for money at under £600.

**C**onnection-wise, both balanced XLRs and unbalanced 1/4" jacks are provided, making the unit ideal for almost any live rig, keyboard system or studio. The front panel is composed of six rotary controls and two buttons with accompanying LEDs. Certain functions are immediately

obvious, such as the Bypass switch, Input Clip LED and Output level rotaries. But the really exciting (pun fully intended) controls are those which govern the three separate enhancement circuits.

First up is the mid- and high-frequency processing section, with knobs covering Mid-Hi Tune, Lift and Harmonics. The basic idea is to 'Tune' the circuit into a particular range of the frequency spectrum, and then use the Lift control to add definition and clarity to the instruments that fall within that range. It's rather like a parametric EQ in operation, but it has a quite unique effect on your sound.

And if that doesn't offer enough in the way of scintillating treble for you, the Harmonics rotary control increases the higher partials of the fundamental notes in the signal, adding a sparkling 'air' to the extreme top end of things.

**H**aving added brilliance to a dull mix, you can then go on to pump up the bass by using the LF enhancer. This is even easier to set up – you simply choose the type of bass sound you're after (either a tight, defined dry 'punch' or a smooth, rolling wash) using the Warm/Dry button, and then turn the Depth control until the bass becomes prominent in the mix. The Francinstien makes bass signals suddenly appear 'in yer face' in a way that boosting the low EQ on a desk never can. For one thing, it doesn't shatter your bass cones, and for another, the additional harmonic emphasis doesn't make the bass sound unnatural. So if you're a dance nut who longs for a killer bass at gigs, or a DJ longing to put the kick back into drum, then Francinstien is for you.

If you're still unconvinced, and like a little icing on your cake, let me introduce you to the Space control. By turning this rotary, all the instruments in a mix suddenly appear distinct from each other, and seem to swirl out from your speakers and around your head. This, as you might imagine, is a pretty hard effect to describe on paper – so you're just going to have to audition Francinstien for yourself.

**I**s that it? In terms of features, yes, but in terms of the impact this device can have on your live or recording mixes, no. Everyone who mixes and produces music should carefully consider Francinstien – it is a phenomenal production tool. It adds that elusive 'magic' ingredient to a track that makes it sound truly professional – and you can't put a price on that, can you? ●

THE LAST WORD

Ease of Use	No nasty LCD display!
Originality	Highly derivative
Value for money	Decent
Star Quality	Invaluable in a mix
Price	£586 inc VAT; with valve output stage (for extra 'warmth'), £734 inc VAT
More from	Baccus Audio • PO Box 127 • Kempston • Bedford • MK42 7HW • Tel: 0234 840408 • Fax: 0234 840400



Contributors:

- Ian Waugh
- Peter Forrest
- Nicholas Rowland
- John Wright
- Ian Masterson
- Dom Foulsham
- Gordon Reid
- Dan Goldstein

# Coldcut

## read MT...



...see next month's *MT* and read about the further adventures of Coldcut in "multimedia pop group" Hex

### Plus

- The Listening Pool - life after OMD
- Oceanic - presets are a *good* thing, honest
- Megadog MIDI Circus - exclusive pics
- Roland JV1000 synth
- Akai CD3000 sample playback system
- A-Z of Analogue - part 2



# dare!

It takes a lot of courage to submit a demo. Submit yours to Dare! MT, Alexander House, Forehill, Ely, Cambs CB7 4AF.

Demos reviewed by Phil Ward

## TEKNIK

Amiga A500; Eidersoft MM2000 sampler; Korg Polysix; Noisetraacker V2.0; ProSound Designer

Jonathan Russell returns with a fifth album from his 'Tek-Labs', pursuing the techno dream with undaunted vigour. Tek-Labs is actually Jonathan's very own Kling Klang-style environment down in Shoreham-By-Sea in West Sussex, a far cry from Düsseldorf to all intents and purposes except Jonathan's Eurocentric goal. Entitled *Oscillation!*, the cassette album comprises 10 new tracks among which is 'Electronique', which featured in May's *Demo Forum* at the Northern Music Show.

The strongest tracks are those which display the heaviest 'dance' influence, which is to say those which are underpinned by the imperative rhythms of the post-house scene. Where these

instrumentals lapse into the more four-square beats of the early-to-mid-'80s, the mood changes and the music begins to sound a little tired. But Jonathan continues to wrest a highly original and imaginative range of sounds from his limited gear, providing unchallengeable evidence to support the theory that limitations are more creative than complete and unbudgeted freedom.

I know for a fact that, since this tape was made, the Teknik project has moved on to studio work with Mark Stagg in Manchester, and early signs are that the Teknik sound is developing nicely. If he can avoid the temptation to emulate his idols too closely, and indulge a marginally more consistent contemporary feel, Jonathan could well land a meaningful deal with some such label as Warp.

Contact: Jonathan Russell, 0273 464142 (West Sussex)

## HEAVEN IN ART

Heaven In Art are already signed to M-CAM (Mainline Consultants & Artist Management) who wrote to us a few months ago with the news that this signing followed on from HIA's appearance in *MT's*



*Demo Takes* page as Tape Of The Month. And, linking the old with the new with seamless grace, here they are figuring prominently in the first ever *Dare!* Well,

Peter Brazier and Mark Palmer certainly do dare, and it's got them not just a management deal but a highly polished and professional image and sound, trading off dance music's sequenced bouyancy

against the traditional cheer of commercial pop.

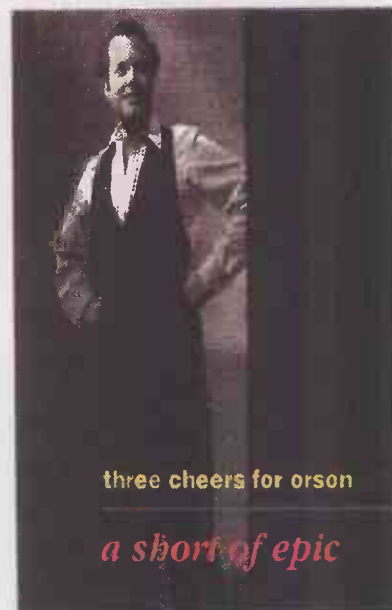
'Never Be The Fool' is a highly club-friendly tune, a little predictable perhaps but few people want to be severely challenged by polyrhythmic experimentation when they're dancing their socks off on Friday nights in Hartlepool. The recording is loud and bright without a hint of distortion, and its clarity and sheen satisfies the requirements of easy pop consumption with barely a hiccup. Typically, for a determinedly contrary music journalist with a jaded palate, I prefer the second track, 'H.I.A. (Do You Understand?)', with its extended instrumental mix and simple hook. Edited down to a 7-inch version, this could still be a stronger single. 'Never Be The Fool' is replete with confidence and certainly supports GM files (that's George Michael, not General MIDI), but it lacks a little weight. The drums are just a little too dry and exposed, and the bottom end generally too frail to provide the necessary 'oomph' for a big pop/dance crossover hit. And since this is a debut single (on Slik City Records) and not just a demo, it's out there competing with the big boys who wear much heavier boots.

Contact: David Clancey, M-CAM, 0480 76067 or 0860 514825 (Cambs)

## THREE CHEERS FOR ORSON

Yamaha MT2X 4-track, EMP100 effects; Boss DR550 drum machine; Shure SM58 microphone; guitars, bass, sax, drums, glöckenspiel; 1 bottle of Johnnie Walker Black Label

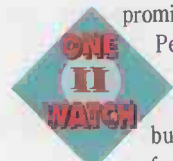
A superbly drunken recording, with scratchings of raw guitar vying with the abandoned vocals for attention. But taking a very large biscuit by far



is the gloriously inept drum programming, which actually enables this particular DR550 to achieve what generations of drum machines have failed to achieve: the duplication of the 'feel' of a real drummer. Albeit, in this case, a real drummer who could best be described as keen but technically challenged.

There's a hint of Lennon in the slap-back echo applied to the vocals on 'Pleasurable Things Don't Happen Any More', which is a sort of highlight, but in the end the metaphysical notion which overshadows all other considerations is that of an artificial construction of plastic, silicone chips and electronic circuitry pissed out of its brain.

Contact: Grahame Shaw, 0467 22855 (Aberdeenshire)



## ALTITUDE

Atari ST; Cubert V2.0; Yamaha TG100 GM sound module, EME-1 reverb; Roland PC200 master keyboard; Commodore Amiga running self-written sample triggering program - 8-bit sampling, 4-note polyphonic.

Altitude is actually 18-year old Charles Chapman, a solo sequencing maniac who hath delivered unto *MT* seven excellent and inventive instrumentals which he describes as variously "ravey" and "moving towards trance". And move they do, through all manner of throbbing corridors of sound. Soft analogue waves are broken up by occasional grainy samples, sometimes awash with ripples of delay and mostly hovering above a small-sounding but steadily beating drumbox pattern. Furthermore, the poor recording quality does not disguise the originality of the ideas, and there aren't many demos you can say that about, believe me.

The most appealing feature of Charles' music is the extent to which he will abandon obvious melody to go with the phrases suggested by the very sounds themselves, and in this he has much in common with current trends in trance. Some of the passages are highly abstract, in a kind of celebration of sound, and this gives the material an energy and a cutting edge which ought to be supplemented by a barrage of much heavier drum beats (and no doubt would be if only Charles had access to a bit more recording hardware). Also, the abstraction of the samples and patches gets us away from the linear, chordal clichés of the rave of a couple of years ago, present here only in vestiges of bouncy piano and semitonal progressions.

An overall sense of light and shade - the dub approach to building a track - completes a very impressive picture.

Contact: Charles Chapman, 24 Magnolia Dene, Hazlemere, High Wycombe, Bucks HP15 7QE

## DES DE MOOR

Atari Mega ST; C-Lab Notator & Unitor II; Yamaha MT3X 4-track; Studiomaster 12:2 mixer; Emax II; E-mu Proformance; Roland JX3P; Cheetah MS770; Yamaha PSS580; Philip Rees V10 MIDI Thru box; Alesis Quadraverb, Microverb II; DigiTech DSP; Casio DA-1; guitars, percussion, piano and cello

A cassette album of 15 songs from a former collaborator with Mixmaster Morris, indeed a member of The

Irresistible Force, until Des decided that his future lay in songwriting rather than in dance music, thereby taking a quantum left at the late-'80s musical crossroads just as technology was taking a quantum right. As a result, these technologically executed songs have a stilted, stagey feel to them, as though the technology is still a substitute for real musos. In this idiom, it's possible that it always will be, which is why other musicians with a head for electricity went the other way, dancing.

Still, 'Out Of Step' has a Joe Jacksony air, a subtle, writhing chord sequence

with latin percussion flavourings and a spiky, insistent piano. Blending sequenced elements with acoustic instruments committed to a 4-track, the sound canvas is admirably broad. This is very much a labour of love, in which Des has brought together songs that have been haunting him for the best part of 10 years, and many fine musicians feature - including Mr C Lab. The cassette is available by sending a cheque for £5.00, payable to D N de Moor, to The Sphere Of Production, 45 Orpheus Tower, London SE14 6HY.

## DEMOCracy

### SHOW CATS IN PLASTIC

Powerful, urgent Inspiral-type pop music, with distorted vocals and guitars and some rapid-fire sequenced keyboard riffs. Manages to avoid the potential muddiness of so many distorted sounds layered one on top of another, and the polished mix communicates a sense of angst and panic rather well. A bit Beatley in places (so what? Ed). Contact: Martin Bird, 081 441 0991 (Barnet).



### THE CATWALK

Highly melodic synth-pop inna Paul Humphreys stylee out of OMD. The chord sequences may be predictable, but the songs are big on naïve charm. Clumsy tom fills; hi-hat too dominant and repetitive on 'Too Much To Sacrifice'; ugly, boomy vocal EQ on 'Child'; but somehow they get away with the guitar solos. Contact: Adrian J. Beeston, 0602 817834 (Nottingham).



### APPLEBOMB

Shuffling, funky white soul from Lytham, where Les Dawson and my Grandmother used to live. Not in the same house, mind. The strong drum programs are complemented by a slight menace in the lead vocals. The tracks are not listed anywhere, so we can only guess at the titles. Contact: Steven Wilding, 0253 736458 (Lancs).

### BUSY BUSY WORLD

Simplistic riffs, a very dry mix, and a horrid, woolly guitar break on 'Dadatown'. More clumsy drum fills and plodding beats, but the breathy, understated vocals remind me of Frazier Chorus - as do the oboe, piano and string bass samples interacting with clipped, boxy percussion. 'My Blue Period' is an excellent song.

Contact: Steve Cooke, 071 700 3121 (London).



### MOVE OVER BEETHOVEN

...And tell The Specials the news. An eclectic 'sound portrait' of gangster Al Capone, incorporating samples of '20s jazz, machine guns and a musical quotation from the ska classic. Vigorous, punchy but a slightly annoying vocal. Contact: Chris Durney, 0272 681569 (Bristol).



### BLUE FLUX

Ambling progressive rock, occasionally lapsing into indulgence and lacking focus. Recognisable presets are not a bad thing in themselves, but depend on the context. When the music aspires to be epic, they undermine the grandeur by sounding too familiar. Free copies of the demo are available from 16 Dinch Hill, Magor, Gwent NP6 3JL. Contact: Thomas Kunze, 0633 880946 (Gwent).







## Free sample?

Dear MT

Please can you clarify the copyright/royalties issues associated with using samples from CD sample libraries. As they are sold for that purpose I initially assumed all samples can be used without paying royalties. However, I began to wonder when I recognised certain breakbeats which have been used on hit records. Have the library creators recreated these loops? Do I have to clear every sample I use from say, The Dangrous CD with The Dangerous CD Company? Or does their copyright only apply to the CD as a whole?

David M Taylor

Kusnacht

Germany

● The whole subject of clearance as it relates to sample CDs was addressed in last month's *Sampling Confidential* article by Dom Foulsham. But I have to say that I personally found the answers given to Dom's questions on this matter a little vague and somewhat unsatisfactory. Check out the article and let me know what you think. NL

## Digital 1 Analogue 0

Dear MT

After reading the letters in your May issue I wish to add the following to the discussion.

Richard Clewes of Wolvehampton discussed the inflexibility of the newer digital synths as opposed to the 'good old times' which were had by all with the analogues of yesteryear. I tend not to agree with this.

Let's consider ease of use. If you're prepared to take the time and get into programming a digital synth, you should experience no more hassles than you would if you were figuring out how to control the voltages of an analogue synth. Agreed, digital synths have very few keys or dials to turn; but what they do have (most of them at least) is a display which does away with the need for a multitude of keys (ie. the *Wavestation*).

Next let's take the digital synths and analogues

and put them in perspective. The analogues were the first step in the electronic music revolution. The next step was the introduction of digital synths. It's a bit naive to think that manufacturers should go back to analogue. On the other hand it's also naive to say that analogue synths have no place in modern music. What we really need is a balance between the two. Sure you can make a good track using only one or the other, but to use both usually makes it just that bit better.

Maybe the solution would be for a synth incorporating both sets of architecture or at least emulation of analogue sounds through software to be introduced. Now add a graphically informative LCD for the analogue programming and numeric/graphic for the digital S&S side and you have a synth which would surely please everyone. But what about the price? Well the analogues had it right with the concept of modularity. If you can afford it, pick up extra options and slot them in. I don't believe that space for extra SIMMS amounts to modularity. What are needed are standards to adhere to with regard to hardware (ie. some sort of operating system). Just imagine a synth with the ability to handle different modules (analogue, s&s, sampling) just through the inclusion of standard interfacing and the ability to load controlling software into the operating system. In my humble opinion this is the next step forward.

Lastly, I would like to point out the most important point again; that of graphical interaction. As the saying goes: a picture is worth a thousand words. Manufacturers should take note of this the next time they set up synth programming pages with figures rounded off to the 10th decimal place.

Kon Wilms

Port Elizabeth

South Africa

## MT Index - latest

Dear MT

I have been reading MT since Mike Beecher was doing the business in 1981 with E&MM and still find the magazine essential to my well being. However, I have one grouse after all of this time; prompting me to write to the magazine for the

first time.

I refer to the annual index which I found essential when combing the Readers Ads and finding something which took my fancy. The appraisal of your experts helped me make my mind up on doubtful purchases more than once, and that was only one part of the index. The last index I have was for 1991 in the January '92 issue.

Any chance of making an old reader happier? All the best.

Chas Hanton

Addlestone

Surrey

● Actually Chas, this does give me the opportunity to apologise for the non appearance of an index for 1992. It was purely through lack of space. Rest assured that the we'll bring things right up to date with a full index for the whole of the period within the next couple of issues. NL

## Stick your neck out

Dear MT

I read with interest a letter in the May '92 edition of MT from Steve Dixon of Basildon. I know about a device to which he refers. It is MIDIVox - a device known as an 'electroglottograph' with a MIDI interface. The electroglottograph monitors the electrical impedance between two electrodes placed on the neck at the level of the larynx which changes as the vocal folds vibrate during speech and singing. The device has a particular advantage in that the pitch signal is highly accurate and completely immune to competing acoustic noise.

It's available from SynchroVoice, 400 Harrison Avenue, Harrison, NJ 07029, USA and was reviewed in the May 1992 edition of *Keyboard* magazine.

It may sound as if I work for the firm involved. This is not the case. I am involved in research into the singing voice; in particular, what parameters we can measure which change when the voice is trained. I have never seen a MIDIVox, but I do use another manufacturer's electroglottograph in my work. I also use a Roland CP-40 pitch-to-MIDI convertor with specially written Atari, IBM-PC and BBC micro computer software for working on singing development and assessment in young children. This may be of interest to Steve Dixon. I mention this in case your publication would be interested in an article on the subject.

David M Howard

Lecturer in Music Technology

● Thank you for taking the trouble to reply, David (and Johan Burman of Sweden who also wrote in).

As regards the article on singing development and assessment – it may well be of interest, please forward it for consideration. And to all our other readers, let me extend the invitation for you to submit any contributions you think may be of interest – particularly in the areas of music, computing, multimedia, club technology, video etc. We offer (reasonably) generous rates of pay, an audience of some twenty thousand readers and the chance to get yourself into every WH Smiths in the country. What are you waiting for? NL

## Career opportunities

Dear MT

As someone who is involved in musical instrument technology I am writing to you to float an idea I have for assisting young musical instrument makers and restorers whilst helping to promote their skills and talents at a national and international level.

If you were about to launch your own small business, making or restoring musical instruments, where would you go? You would need premises, equipment, office facilities and the right environment.

I have the premises – Springwood Organ Works – in the centre of the university town of Huddersfield which, as well as being a famous

centre of musical excellence, is set in some of England's most attractive countryside. We have well-equipped workshops that not only have the basic facilities (such as benches, glue kettles, cramps and drill presses) but also boast everything from a working forge to a lathe. The office has a word processor, photo copier and a fax machine.

I intend to convert one floor of the building into a gallery where instruments would be exhibited, concerts would be held, and students, musicians and even paying members of the public could be entertained, generally promoting the work of all those involved.

The environment would be ideal – a small group of musical instrument makers and restorers, working individually, who could exchange ideas and skills and share a common aim. Road, rail and air links are excellent and we already have groups of visitors from Europe and America – as well as the UK – and I imagine our centre would become a national centre of excellence in musical technology.

If you agree, please help by publicising the idea or introducing it to any young person who may be interested.

John Sinclair Willis  
Conacher & Company  
Springwood Organ Works  
Water St  
Huddersfield  
HD1 4BB

● Happy to be of service, John – though I'd be interested to hear what kind of instruments MT readers would build using glue kettles and drill presses. But I wish you well. NL

**SRM**

Dear MT

I'm writing to ask for help. I've been looking around for companies that deal in loans for home studio equipment, but can I find one – no!

The problem is that I recently lost my job and am now signing on the dole. So I need a company that is willing to help me out with the loan who I could pay back on a fortnightly or monthly basis. That sort of arrangement would be ideal for me as I also have to pay other things off such as maintenance for my son and rent, etc.

Any help you could give me would be much appreciated.

Sky Jones

Harlow

● I'm not sure there's any help I could give you, Sky. But I can see the loan sharks forming a queue even as I write. 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 shorten letters where necessary.

# That WAS Then

MT looks back  
in Ongar. Oh,  
all right, Ely.



Great Moments In Techno – No.2: Michael Nyman (right) sees off a determined challenge from Naked Eyes (above) to snatch First Prize in the 1986 International Giant Synth Finals, Luxembourg. Naked Eyes took maximum points in the Joystick play-offs (below).



The Buchla 700: No keys, no wires, no sound. As used by The Osmonds on 'Crazy Horses'





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Roland SH101 analogue monosynth ..... £124-55p  
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Unison 220 ..... £35-25p  
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MixDown LA ..... £9-40p  
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# MT *tease*

Bureaucracy. Who needs it? Well, we do, because here's yet another form to fill in. Every month, this very questionnaire will go to a deserving fax machine somewhere in the music business. What comes back is between you, me and the telephone bill. This month: Peter Cunnah of D:REAM



## D:REAM on

Peter is one half of dance duo D:REAM, a songwriter by trade partnered by DJ Al Mackenzie. Their first two singles 'UR The Best Thing' and 'Things Can Only Get Better' both hit No.1 in the dance charts, and scored 19 and 24 respectively in the Top 40. Remix work for EMF, Deborah Harry and Duran Duran, among others, has confirmed their status in clubland, whilst the new single 'Unforgiven' – plus a forthcoming album – promise further crossover success.

- 1 What was the first synthesiser you ever played?  
*"Roland S-10 sampler."*
- 2 Who is your favourite musical pioneer?  
*"Brian Eno."*
- 3 What's the difference between Take That and Stravinsky?  
*"Girls learn to masturbate to Take That, but with Stravinsky they learn to make love."*
- 4 What's the difference between a drum kit and a drum machine?  
*"A drum machine is never pissed or late for rehearsals. Then again, you can still pour a pint of beer over a drummer and he'll just keep on playing."*
- 5 Playing live: why bother?  
*"People need to see people: then they need to believe that what they see is what they get. At the moment D:REAM are at a means to an end, in that we use DAT backing tapes to PA in clubs, but I have plans to increase our group to that glorious state where the sleight of hand or one simple signal can break down the set to temper the mood of the audience; this is where 'live' becomes 'alive'."*
- 6 Which record says most to you about music technology?  
*"Sweet Dreams' by The Eurythmics first brought my attention to the idea that computers weren't soulless black boxes, while supplying that thick atmosphere of chunky bass and drum lines that I love."*
- 7 What does the phrase 'multimedia' mean to you?  
*"Completely interactive, all formats, computer-interfaced information."*
- 8 How do you react to hearing a sample of your music on someone else's record?  
*"Flattered that they were inspired to progress from our ideas in their own direction."*
- 9 What is the next piece of equipment you would like to buy?  
*"It doesn't exist, but a completely self-contained workstation similar to Question 7, which I could plug into anywhere at any time just to sort out my ideas. Other than that, the Alesis or Tascam ADAT will do for the present!"*
- 10 Will technology become invisible?  
*"Only when we do!!"*

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POLYPHONIC SYNTHS (In/Out/Thru)	RHODES CHROMA YAMAHA PF15/10/YP40 (Out only)	SEQUENTIAL PRO-ONE ROLAND SH-5 ROLAND SH-09 ROLAND SH-101 ARP Odyssey Mk 1 & 2 ARP 2600 YAMAHA CS-15 ROLAND TB-303 (baseline)	CONVERSION ROLAND TR-808 ROLAND CR-78 (In/Thru only) SIMMONS SDS 5 (In/Thru only)
OBERHEIM OB-X/OB-Xa/OB-8 PROPHET 5 rev 2 & rev 3 (all) PPG WAVE KORG POLY 6/POLY 61 KORG TRIDENT MONOPOLY (In/Thru only) KORG CX3/BX3 (In/Thru only) MEMORY MOOG ROLAND JUPITER 8 ROLAND JUNO 60/6 ROLAND VOCODER VP-330 (In/Thru only)	YAMAHA CS80/CS70M (In/Thru only) SOLINA String Ensemble	YAMAHA CS-15 ROLAND TB-303 (baseline)	
	MONOPHONIC SYNTHS (In/Thru)	DRUM MACHINES (In/Out/Thru)	ORGANS (Out only)
	MINIMOOG MICROMOOG MOOG PRODIGY MOOG SOURCE OBERHEIM OB-1	LINNDRUM 1/2/3 LINN 9000 CLOCK	YAMAHA FS/FX/FE series YAMAHA A/B/C/D/E series TECHNICS E series + G series JVC/350/250 HOHNER D98 & series HAMMOND tonewheel

A FEW EXAMPLES ARE LISTED BELOW - PLEASE PHONE OR FAX FOR OTHER PRICES AND DETAILS

YAMAHA PF15/10/YP40 (MIDI OUT)	Price £146.88 inc. fitting	Kit price £123.38
PROPHET all rev 2 & 3 models (MIDI In/Out/Thru)	Price £246.75 inc. fitting	Kit price £193.88
MINIMOOG (MIDI IN/THRU)	Price £199.75 inc. fitting	Kit price £158.68
Roland TR-808 (MIDI In/Out/Thru)	Price £188.00 inc. fitting	Kit price £141.00

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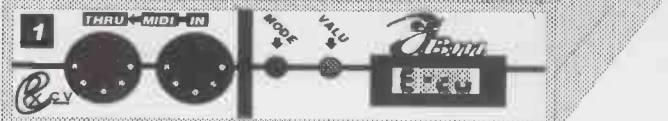
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# GRIEF

## Your worst nightmares exorcised by Ian Waugh

**Q** I have a problem. I am interested in the sounds created by analogue synths and am thinking of buying one. But which one? Ideally, I would be able to record (via a MIDI sequencer) continual filter changes and such like.

Another bonus would be a multitimbral synth with more than one voice. I don't know if this is possible, but you never know. Please help with some info on the subject, otherwise I just know I'll end up spending a wad of cash on something I don't need.

S.C. Morris  
Stoke-On-Trent

**A** Most synths have filter parameters which can be controlled via MIDI, which is what allows them to be edited with a software synth editor. However, being able to control said filters in real-time is another matter altogether, and one which most synths can't handle. If they can, you will often be limited to playing just one sound.

Knowing which synths can handle filter changes in real-time via MIDI means digging into the innards of the manuals. I can only really point you towards one instrument which seems ideally suited to your requirements – Roland's JD-800. This is designed like an analogue synth with lots of lovely knobs and sliders.



Expand your horizons with the Roland JD-990 – knob-twiddling via MIDI.

Twiddling the sliders generates MIDI data which can be recorded and played back via a sequencer.

It's 5-part multitimbral and you can alter all five parts at the same time. What's more, you can even tweak the individual Tones which make up the parts! However, all this tweaking is done with SysEx messages, and if you really go bananas it may affect the important stuff like MIDI note data. But be sensible and you should be OK. You can do similar things via MIDI with Roland's new JD-990 expander, such as using an expression pedal and so on. The JD-990 was reviewed in MT, June '93.

If any reader or manufacturer knows of any other instruments which can perform similar tricks, let us know and we'll print a list of them in a future issue.

**Q** I am a Swedish musician/software developer. I have a studio and I am soon going to buy new speakers. I want a speaker with frequency response from the lowest bass to the most shimmering high frequency. And it is important that the speaker response is flat.

I know that I must listen to speakers myself, but it should be very interesting to hear your point of view. Which speaker is the best:

1. Tannoy 8NFM
2. Tannoy 10DMT
3. Yamaha NS-700X
4. Yamaha NS-40M
5. JBL 4412

It is perhaps some other speaker that you like better? I hope you understand my bad English.

Benny Ronnhager  
Sweden

**A** Your English is better than my Swedish. Come to that, it's better than my English! (here, here! - Ed). However, while we at MT dabble with amplification and monitors and so on, you'd be better off addressing your question to our sister magazine Home & Studio Recording.

I don't actually recognise any of the speakers you mention. I believe the Yamahas are hi-fi speakers for domestic use rather than pro audio studio use. I suspect the others are, too. The only speaker I could personally suggest you look at is the Yamaha NS-10, which is very well respected in the monitor field. But as you yourself said, you've got to listen to them and make your own decision.



St.Etienne producer Ian Catt models the classic Yamaha NS-10s. Ian takes two sugars, by the way.

**Q** A friend and I are currently producing tunes using a powerful PC setup that includes the SB16 ASP and Waveblaster cards. We were considering buying a Roland PC-200 Mk II to use as a controller keyboard, when I noticed that a second-hand JX-3P is of a similar price. Not knowing much about this instrument, we'd appreciate it if you could answer a few questions:

1. What is the polyphony of the JX-3P?
2. Does it have a Local Off control?
3. Is it velocity sensitive?
4. What sort of sounds does it do best?
5. Do either the PC-200 Mk II or the JX-3P have aftertouch?

John Topley  
Lincoln

**A** The JX-3P is 6-part polyphonic, it does not have a Local Off control, nor is it velocity sensitive. It's an all-round type of synth, but it's quite a few years old now. I reckon it's best for organs, strings and analogue brass-type sounds. It does not have aftertouch.

The PC-200 Mk II is velocity sensitive. It does not have aftertouch on its keys, but it can generate aftertouch data via a slider. This is not as immediately expressive when playing, but it does allow you to add aftertouch to a track later, which you may find more useful. Then again, you may not.

The JX-3P has 32 presets and 32 programmable sounds, and you would not be able to call up all 128 sounds

in your sound card from the JX-3P's front panel. The PC-200 Mk II is designed to work with GS (and GM) instruments and sounds, and can transmit 128 program changes. But it doesn't have any sounds of its own – whereas the JX-3P does. Finally, the JX-3P has more keys, although the PC-200 Mk II has an Octave Up/Down switch giving it a 6-octave range.

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A Roland PC-200 Mk II yesterday. Better than the JX-3P?



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## DAT

**JVC XD-2505 £449 NEW BOXED**  
1-bit 64 times oversampling + digital I/O - long play mode - all sub ID codes  
NEW AND USED:  
Aiwa HD5100 £252 Sony DTC77 £499  
Denon DTR80P £275 Sony TCD D3 £499  
Kenwood DX7 £499 Tascam DA30 £1095



**CASIO DA7 £399 NEW BOXED**  
Identical to the £870 TEAC DAP-20 except for the inputs. Great sounding machine, gold plated connectors. The best spec'd portable at the lowest price, in the digital choice. Features sampling rates, 48, 44.1 kHz, axial digital I/O's on gold plated connectors, superior sound quality - LCD display - includes rechargeable battery, charger / mains psu and case - R.R.P. £599 Limited stocks remaining. H

## EFFECTS

**EX-DEMO - CASH REBATES - SECOND**  
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ART Multiverb LT £135 Drawmer DS221 £295  
ART Multiverb LTX £150 Drawmer DL241 £295  
ART SOX-LT new £199 Drawmer LX20 £219  
Quadverb+ £299 Ensoniq DP/4 £POA  
AlesQuadverb GT £299 LA 4x4 POA  
Alesis 3620 £199 Lexicon LXP1 & S £295  
Alesis ME3230 £185 Lexicon LXP15 £799  
Alesis movverb3 £158 SoundTechSP200CL £125  
Ale MIDIVerb new £249 Yamaha EMP700 £399  
Boss Sess £299 Zoom 9000 new UK  
Aphex type C £299 Zoom 9000 new UK

## VISCONTI STUDIO MULTI-EFFECTS

When our product specialists heard the prices on this range of multi-effects, they were sceptical. A brief list however, quickly revealed the strength of Visconti's custom VLSI technology. In departments like dynamic range, and signal to noise they out-perform units at twice the price. But most impressive are the algorithms themselves. Developed in Europe by a team of leading musicians to suit current up-front mixing techniques, they characteristically smooth and free from the high grainy overtones associated with many of today's budget units. Reverbs for example are clean, natural and spacious. Add to this, a vast range of effects and flexibility programming unheard-of at the price for a truly remarkable product. And we're confident enough to say that if you do not fully satisfied return the unit to us within 14 days for a prompt and courteous refund.

**ART MULTIVERB ALPHA £329 NEW BOXED**

24 bit, 20 kHz bandwidth, 90dB dynamic range. 50 effects, up to 4 at once. Control of up to 8 parameters over MIDI. offer breaks all previous limits. No real competition R.R.P. £449

**ART Multiverb LTX 250 great programs up to 3 effects at once £199**

**BBE 462 PROCESSOR £299**  
**BBE 362 PROCESSOR £189**

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 422 has separate controls for both channels

## DJ producer

**TECHNICS SL1210 industry standard record deck inc cart POA**

**True 16 bit digital, stereo input, 32 character back LCD, 95 dB dynamic range, THD 0.02% Full MTC control (in/out) Excellent sound quality, shimmering reverb, full editability, up to 6 simultaneous effects, reverb, chorus, phasing, flange, delays, echo, distortion, pitch-shift 1/2octaves, compression, noise suppressor, 128 presets (105 user spares) space saving half rack design (rack mount kit available) switchable 20 /44 dB operation. 2 footswitch inputs, peak clip and MIDI activity LEDs**

**EPY £239**

**EF £13**

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# PRICE GUARANTEED\*



## MIDI hardware



**AKAI S950EX PACK £999**  
 Package includes:  
 • 750k RAM expansion  
 • Time & Space CD with 1000 samples  
 • 50 floppy disks  
 • 8 way loom

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## FATAR STUDIO MASTER KEYBOARDS

The 49 & 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.

4 OCTAVE STUDIO 49 £119 5 OCTAVE STUDIO 61 £199

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 NEW BOXED

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Kawai K1	£889	Proteus/2 new	£649
Kawai G-Mega new	£499	Proteus/2XR	POA
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Korg Wavestation	£1099	Vintage Keys	£799
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Kurzweil K2000	lowest	MOTHER KBDS	
Roland J800	£1299	Alar MX1000 + Piano	
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Roland JV30	£735	Roland PC200	£129
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## EVOLUTION EVS1 - algorithmic synth in one 19" rack £199



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## The UK 4 TRACK Centre

It is fair to say that Turkey is the birth place of personal Multitrack, indeed the company and its founders were instrumental in the development of the first Japanese products of the early '80s. The philosophy was always to use innovative technology to bring multitrack within the realms of the musician. Our current catalog is still the definitive guide to the subject - comparing all the current machines. Call us for a copy

Our famous 4 track pack includes everything you need to start making music. Sennheiser headphones, microphone with cables, chrome tapes, cables, head-cleaning kit and the best book we've yet seen on multitrack recording, taking you through basic track laying, mixdown etc. with sections on everything from mic placement to synchronisation and MIDI. We've obtained some great 4 track pricing AND for a limited period we will give you the 4 track pack (normal price £59.95) absolutely free with the units featured herein

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CMS cards are expandable, compatible and reliable  
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 Cakewalk Pro £189 Roland SCG-1 £299  
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The 280 is the ultimate 4 track for use with computer sequencers such as Cubase. As well as Doty C, 8 inputs, 3 band sweepable EQ and 2 auxilizers, the 280 sports MIDI machine control via the MTC1, so that your multitrack can be slaved to the computer rather than the other way round which is the norm. 2 automation memories, autolay and auto punch in/out

## TASCAM Porta 05 HS £299

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Cubase Score	£425	Fostex X28H	£349
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## MIXERS

### STUDIO RESEARCH NEM24 24 channel Noise eliminating Mixer £199

Imagine a 24 channel mixer that introduces no additional noise. 20 Jack inputs and 4 balanced XLRs Using your personal control MIDI volume and MIDI Lanes, the NEM24 offers unequalled value + 4 send, built-in headphone amp, 19" rack mounting + Irresistible. Also available is NEM6, a basic 8:1 or 4:2 noise eliminating mixer for £79

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# AND PRODUCE

So what are people doing with all this gear out there..?

## ELEKTRIC MUSIC

*Esperanto (SPV)*

Since leaving Kraftwerk in 1991, Karl Bartos has sought to develop closer contact with like-minded musicians beyond the confines of Kling Klang. Teaming up with Lothar Manteuffel to form Elektrik Music, Bartos has achieved his aim: this album includes collaborations with both LFO and Andy McCluskey. And it shows – the new generation of dance-orientated techno, reflected on 'Overdrive' and 'Information', mingles with the '80s electro-pop of 'TV', 'Showbusiness' and McCluskey's contribution 'Kissing The Machine', unsurprisingly reminiscent of classic OMD.

In fact, the album could have been called *TVaktivität*, given the conceptual link with *Radioaktivität*, Bartos' first studio outing with Kraftwerk in 1975, similarly concerned with communication and the media. Further echoes of those pioneering days abound, not least in the re-emergence of the vocoded, 'robot' vocals, but the melodies are more fluid than those of Ralf Hütter. It's a looseness that no doubt reflects the sense of freedom Bartos now feels, and it's possible that the move away from the inescapably Germanic image of his old band will enable Bartos and Esperanto to establish a pan-European, high-tech musical dialogue to parallel the language of the title. PW



## DAVID SYLVIAN & ROBERT FRIPP

*The First Day (Virgin)*

Renewing their partnership on 1986's *Gone To Earth*, and continuing the intriguing collaborations such as Sylvian's work with Can bassman Holgar Czukay, and Fripp's frequent excursions into uncharted territories such as sessions for The Grid, here they generate a funk-laden and spiky jam, with plenty of room for improvisation throughout. Stick-player Trey Gunn and drummer Jerry Marotta complete a quartet which, in the hands of Peter Gabriel's engineer Dave Bottrill, recalls the Real World rhythm section of David Rhodes, Tony Levin and Marotta himself in no small measure.

Hence the choppy, fuzz-drenched 'Brightness Falls', and the laid-back percussion grooves that act as a rich bed for Sylvian's poetic musings. But mostly it's Fripp's multilayered guitar that dominates, demonstrating every tonal nuance available from a Les Paul and an unstinting studiousness at every turn, from the rapid, staccato and quite impossible scales to the ambient 'Frippertronics' of the closing track 'Bringing Down The Light'. Such beauty is rarely plucked from an electric guitar. PW



## Beyond the Mind's Eye (BMG Video)

Music by Jan Hammer / Art Direction by Ted Mader

Question. You've compiled a video of some of the most astounding computer-generated graphic sequences ever to grace the small (and not so small) screen. The action and intensity of the visuals is overwhelming; every time you watch the clips, you see something new. All you need now is something to stimulate your auditory circuits with a similar intensity, and the ultimate sensory multimedia experience will be complete. You need music created by someone who perfects sound-to-visual scoring down to individual film frames; someone understands soundtrack work so



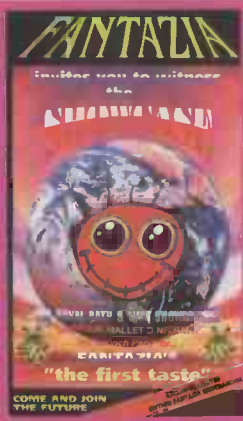
completely that the music slides effortlessly into sync with the graphics. So who do you ask?

Not Jan Hammer, I'm afraid. It is true that Hammer is one of the leading exponents of expertly-synthesized scores for picture; who could forget his storming soundtracks for *Miami Vice* (with albums that went gold and platinum), or his innovative work with a host of other artists and directors? But while the visuals in *Beyond the Mind's Eye* are uniformly engaging, the music is sadly not. These graphics require fluid, evolving, sweeping sounds to enhance them – instead, each clip tends to get the sequenced-bassline-and-widdly-guitar treatment, rather like *Miami Vice's* less talented (and duller) cousin. I do recommend buying this video for the graphics alone; but when you play it, turn down your TV speaker and stick Aphex Twin's *Selected Ambient Works* on the hi-fi instead. Now that's what I call a complete sensory experience. IM

## Fantazia – The First Taste (Creation Entertainments Video)

My girlfriend wasn't going to let me watch *Fantazia - The First Taste*. "What's the point in watching a video of a rave?" she spluttered. "It's hardly the same as being there, is it? You're not exactly going to get the same atmosphere

impressive than the hordes of rave compilations currently lining record shop shelves. And I was right. This film is intended as a supplement to Fantazia's first compilation album – not a replacement for it – and it shows the setting up and execution of one of the most impressive rave events, technically and musically, that I've seen in a long time. The behind the scenes footage of the lights, sound and crew setting up is particularly fascinating – more of this would have been welcome. And as a memento of the event itself, the video works well, with some of the showcased acts putting on a helluva performance. It is true that you can't get the true atmosphere of the event from the video – only those who were actually there could recall what it was actually like – but this tape is best looked open as an analysis and record of what amounts to a massive multimedia overload. You might only want to see it once – but do see it. IM



from a 14" Hitachi portable that you would in a warehouse with a 25k Turbosound rig and fifty grand's worth of lights, are you?"

But while she did make a valid (if obvious) point, I settled down to view *The First Taste* anyway, because I had a suspicion that this video would turn out to contain something slightly more

MT

## OMD

### *Liberator (Virgin)*

Andy McCluskey continues to tread highly commercial water with this new collection of songs, veering from S/A/W-influenced disco to the driving techno of 'Agnus Dei', topped off with a veritable Christmas tree-ful of bells, chimes and hooks.

## GEOFF SMITH

### *Gas Food Lodging (Kitchenware)*

Featuring the voice of Nicola Walker Smith and the strings of The Balanescu Quartet, this is an album that challenges many preconceptions. On 'Fifteen Wild Decembers', Smith employs sequencing and sampling technology in a subtle and successful marriage of chamber music, song and electronics.

## NO MAN

### *Loveblows & Loveries (One Little Indian)*

Mournful voice and violin swirl over a tough, sequenced backing to create a powerful and hedonistic rock/dance crossover. Messrs Karn, Jansen and Barbieri are session guests on 'Sweetheart Raw', but in truth there's more of a Simple Minds tang.

## KLAUS SCHULZE

### *The Dome Event (Virgin)*

A live concert, recorded at Cologne Cathedral with all of Herr Schulze's hardware to hand, plus a studio track 'After Eleven'. The three 'movements' of the concert piece unfold in a tumble-dryer of samples and riffs from around the world.

## SUNDIAL

### *Libertine (Beggars Banquet)*

Notable for the interaction of abstract, menacing samples with the traditional guitar/bass/drums format.

## BRIAN ENO

### *Neroli (Thinking Music Part IV) (All Saints)*

Old-school ambience: no beats, no samples – no nothing, really, apart from a few haunting, suspended notes tossed like twigs onto a pond. Designed to encourage you to think about something else, of course...

## FUSE

### *Dimension Intrusion (Warp)*

## WILD PLANET

### *Blueprint (Warp)*

Another pair of belters from the label doing more than any other to advance the techno format beyond dance, trance or ambient to pastures new.

## European Multimedia Yearbook 93

Researched, compiled and edited by Multimedia Ventures. 540pp.

This Yearbook presents a series of short but insightful Q&A-style interviews with representatives of such companies as Apple, Commodore, IBM, Intel, Kodak, Microsoft, Sony and Philips – all key players in the multimedia field. These are followed by a clutch of articles, under the heading of 'Multimedia Markets', which tackle such topics as strategies for business, the CD-ROM market, information publishing, consumer titles, multimedia in education, and multimedia in marketing.

A series of profiles detailing the state of multimedia in various European countries is followed by two articles which look at the creative and financial aspects of producing multimedia titles – essential practical reading for anyone thinking of getting involved in multimedia production.

With the next section, headed 'The Multimedia Studio', the

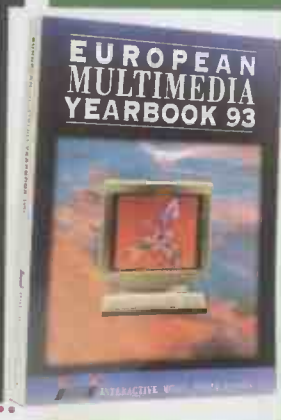
Yearbook gets into the actual technology involved in multimedia production. Included are articles on desktop authoring packages, audio tools, graphics packages, video boards and desktop video editing. The emphasis here is on accessible explanations rather than techno-nerd obsessions – as is the case in the following section, 'New Technology', which includes articles on videoconferencing, high-definition TV and virtual reality.

A 'Further Information' section provides a lengthy list of books, magazines, journals and associations covering multimedia, together with a list of multimedia events and an 11-page glossary of terms.

The rest of the Yearbook – amounting to 366 of its 540 pages – is given over to a comprehensive, Europe-wide directory of multimedia companies, distributors and products – an absolute must for anyone thinking of getting a job in the multimedia industry. If nothing else, it offers proof positive that there actually is a multimedia industry.

The European Multimedia Yearbook 93 isn't for the casual browser. However, if you want to get a detailed, well-informed take on the wide and wonderful world of multimedia without having to fight your way through a mass of hype in the process, this is the book you need. ST

See this month's *Scanners* for information on a special-offer price – exclusive to MT readers.

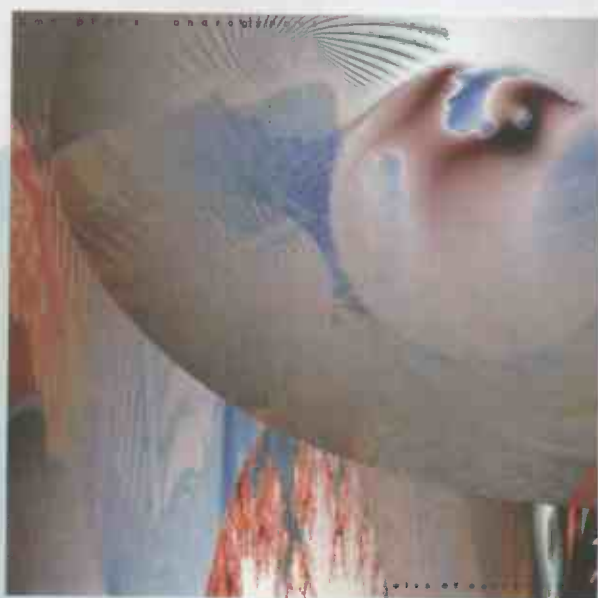


## AMORPHOUS ANDROGYNOUS

### *Tales Of Ephidrina (EBV/Quigley)*

To all intents and purposes, this is a new album from The Future Sound Of London, who have "directed" this collection of shifting soundscapes under that shapeless and sexually ambivalent name. It's a deliberate attempt to refute identity and challenge reputation, part of the continuing battle against showbiz norms currently being undertaken by survivors of the dance boom. And as the anonymous, abstract and downright trippy computer graphics on the cover illustrate, the future sound of ambience is going to have a pretty striking look to it, too.

From the opening 'Liquid



Insects', replete with wiggly sample from Tangerine Dream's *Phaedra*, we're taken on a journey through various aural environments. Whilst we are expected to embrace the work as a whole, with each track segue-ing into the next via some delicious sonic interludes, *Tales Of Ephidrina* – like a luxurious pool – can be dipped into at leisure. The

shadow of the '70s concept album may be lurking in the background, but the saving grace of this kind of work – just as with The Orb – is its steadfastly instrumental stance. Rhythm is now the underpinning theme, and words are not allowed to stowaway unwelcome thoughts on board the post-dance dream-u-like cruise. PW



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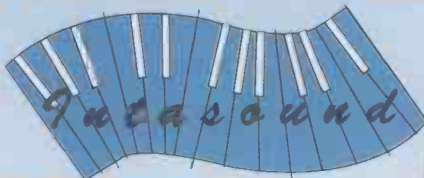
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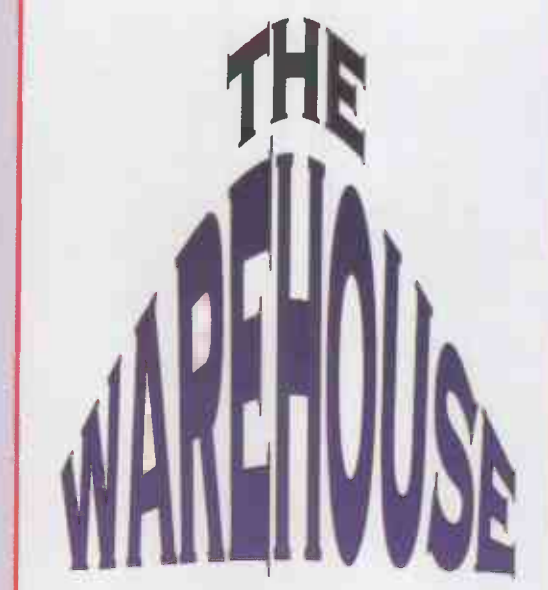
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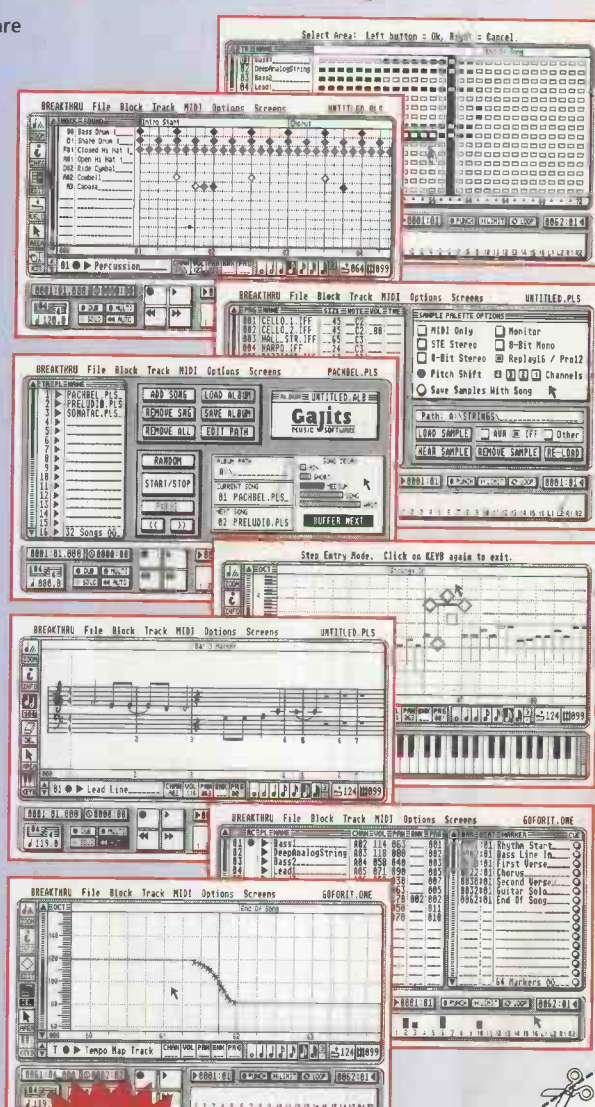
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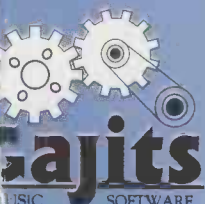
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