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THE MUSIC TECHNOLOGY MAGAZINE

Issue 88
Feb 1994

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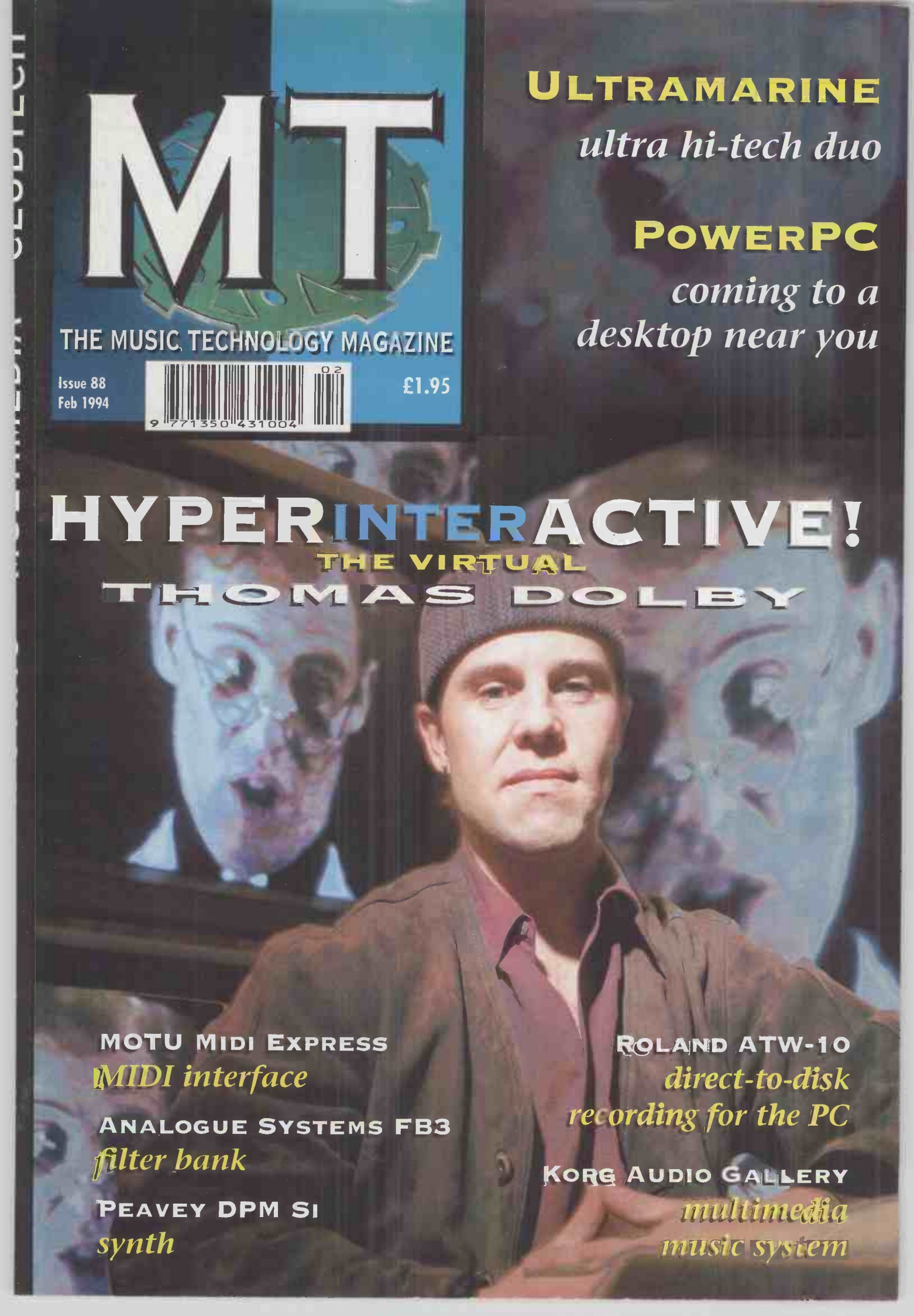

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ERIC LINDSEY LIMITED – A NEW FORCE IN MUSIC

IN the first place

Though it's perhaps a little too soon to judge, early indications from last month's Readership Survey would seem to suggest we have broad support for the changes which the magazine has undergone in recent months. Despite concerns we may have had that things were moving rather faster than many readers would like, it seems that most of you are only too aware of what's taking place in the wider technological arena and see the realignment of the magazine as the inevitable corollary of this.

So what exactly *is* taking place? Are we in the throes of a revolution or is this simply another stage in some evolutionary process which, depending on which theory you subscribe to, began with the invention of the computer, the discovery of electricity – or the production of iron and steel?. Though clearly having revolutionary consequences, the current changes in technology can only really be seen in evolutionary terms. The PowerPC – fast and immensely powerful – is, nevertheless, the natural descendant of the current generation of CPUs (with which it will need to remain compatible if it is to gain wide-scale acceptance). Yet only with the availability of the PowerPC will desktop video, for example, realise its full potential and become in the '90s what desktop publishing was in the '80s. (Even the most powerful of today's personal computers find the going tough when manipulating the vast quantities of data involved in the processing of video images.)

Similarly, one cannot consider the development of the CD-ROM without looking at its immediate predecessor, the audio CD, with us for more than a decade now. Leaving aside CD-i for the moment, the technology of the CD-ROM system differs little from its audio counterpart (indeed, many CD-ROM players currently offer audio CD compatibility). There can be no doubt that the fortunes of multimedia as an exciting new departure in technology are inextricably linked to the development of the CD as a cheap and convenient mass storage device.

Clearly, it's no longer possible to view every new development as revolutionary in itself. Research into any branch of technology invariably involves other technology; each new machine takes its place at the end of an evolutionary line. The revolution comes with the application of technology – the point where people enter the picture, and where, maybe, things start to get scary. It's not the robot with the flashing antenna and the expressionless eyes that should worry us, but the programming which determines whether or not he's on our side. Actually, we are the robots.

Nigel Lord

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BOSS

THE INSIDE STORY

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This month's glimpse over the horizon

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Two guys with a home studio and some racks of really nice gear. Plus two albums of unique electronic music. Simon Trask *meets them*

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The PowerPC should bring whole new meaning to the phrase 'power without the price' But is it still a price worth paying? Ian Waugh *has the answer...*

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Legal raves demand state-of-the-art audio-visual technology, and Fantazia are the experts. Dave Arcari *reports from the dance floor*

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After being locked and deserted for years, the light is switched on again in Dolby's laboratory. Phil Ward *knocks and enters...*

● 45 Quality Control

***Roland ATW-10 Audio Producer** for the PC*
***Peavey DPM Si** synthesiser*
***Digital Music MIDIScan** OCR music software for the PC*
***Mark Of The Unicorn MIDI Express** interface for the Macintosh*
***Korg Audio Gallery AG-101 & AG-102 Multimedia Music System** for PC & Macintosh*
***Big Noise MIDI MaxPak** sequencing librarian, MIDI mixing and live control software for the PC*
***Analogue Systems FB3** filter bank*
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To be or not to be – Phil Ward *will tell you...*

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You have a right to remain silent, but anything you say may be taken down and used in MT

● 77 *MTease*

People that matter answering questions that don't. This month: Richard Barbieri

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If we can't solve your problem then... er, perhaps someone else can – sorry, this isn't a very good sell-line... sorry

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Phil 'Spin-A-Disc' Ward's *special selection. This month: Emergency Broadcast Network, Babble, D:ream and more*

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Home shopping at its best

MT issue 88

February 1994

WHO SAYS YOU CAN'T HAVE IT ALL?

"Great sounds, a world-class sequencer, intuitive interface, effects as good as any I've heard—it's got it all!"
Richard Hilton
Keyboardist/Programmer
with Nile Rodgers

"C'est magnifique—a sound and flexibility you can 'hang' with for years to come!"
Jason Miles
Producer/Composer/
Synthesist

"The TS-10's features are impressive—sort of ENSONIQ's 'greatest hits'. But more importantly, they are integrated logically and seamlessly."
Craig Anderton
Author/Musician

"Whee! Doggies!"
Kevin Robinson
A Satisfied Customer

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The TS-10's 73 effects algorithms are an extension of our powerful DP/4, with enhancements specifically designed for a multi-timbral synthesizer. And we've added a tempo track to our acclaimed 24-track sequencer, which has advanced features like percentage and swing quantization.

But it's the integration of all these features that makes the TS-10 such a pleasure to play and compose with. Musicians everywhere have found that you *can* have it all—just check out some of their comments.

Then ask yourself, "Don't *I* deserve to have it all?"

We think you do.

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"It has a great 'personality', with some new and unique sounds that other synths don't offer."
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Edgar Winter
Recording Artist/
Composer/Performer

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Steve Oppenheimer
Products Editor, Electronic
Musician Magazine

"Anything else feels like a toy."
Bernice Green
Another Satisfied
Customer

Looking for a state-of-the-art synth that gives you the feel of a real piano? Look no further than our new TS-12 Performance/Composition Synthesizer. You'll find a keyboard with all of the advanced features of our TS-10, combined with the 76-key weighted keyboard action from our best-selling KS-32.

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The most compelling reason to own a TS-12 can't be experienced in an ad—you'll have to feel its smooth and responsive action for yourself. For now, check out what top players, reviewers, and customers think. Then see for yourself, by visiting your local Authorized ENSONIQ Dealer. Once you feel and hear the TS-12, you'll be convinced. And more.

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News compiled by Danny McAleer

Yamaha's new 2U for you

The TG300 is the new 2U half-rack size module from Yamaha and joins the existing family of AWM tone modules.

Featuring 16-part multitimbrality and 32-note polyphony, it conforms to General MIDI standard and has a waveform ROM of 6Mb containing almost 200 waveforms. Voices can be selected from any of the 456 preset sounds and 128 editable sounds, and assigned to any of the reverb, chorus or variation parameters.

The TG300 features a computer interface allowing direct connection to a PC compatible or Apple Mac, and Yamaha will be making available their new MIDI Quest range of editors for the Atari, PC and Mac.

The TG300 should be available from February (watch out for a review in next month's *MT*) at a suggested selling price of £649 including VAT. More from: Yamaha-Kemble, Sherbourne Drive, Tilbrook, Milton Keynes, MK7 8BL. Tel: 0908 366700. Fax: 0908 368872.

BYTE THE RADIO

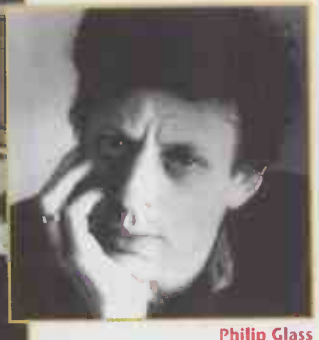
Listeners to BBC Radio 3 are invited to *Byte The Music* in February with a program hosted by Jesus Jones' Mike Edwards, who'll be chewing over the vexed subject of how digital technology is affecting music.

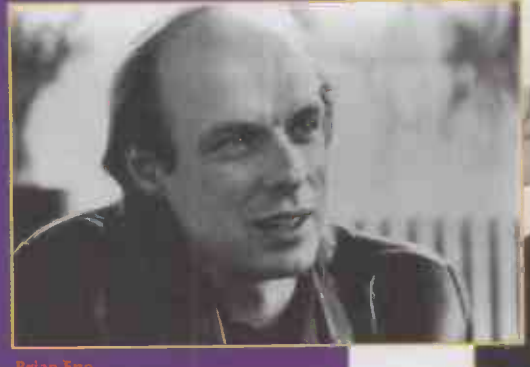
Running from Monday 7th February to Friday 18th February (5.00pm–5.15pm), the program will cover styles from pop to world music to classical, and joining Mike will be such luminaries as Philip Glass, Brian Eno, Wendy Carlos, Anne Dudley and Jez from Utah Saints. Written by former Rockschool drummer Geoff Nicholls and produced by Charlotte Blofeld, the program demonstrates how computer technology is revolutionising music of all styles, how it is undermining conventional ideas of what music is, and how it affects the teaching and performance of music. Coverage is also given to the composition process, copyright and the bridges which link us to world music.

A free *Byte The Music* factsheet on digital technology in music is available from the address below, on receipt of a large SAE. Also running in conjunction with the series is a competition open to 12–19 year olds. The brief is to write an original composition using digital technology. Winning entries will be broadcast on Radio 3 and prizes of state-of-the-art Yamaha digital musical instruments will be awarded. The closing date for entries is Friday 22nd April. For entry sheets and rules, write to *Byte The Music*, Room 2320, BBC White City, 201 Wood Lane, London, W12 7TS.

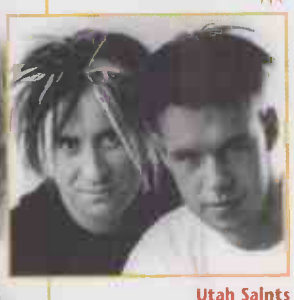
Mike Edwards

Wendy Carlos


Philip Glass


Brian Eno

Anne Dudley


Utah Saints

Now that's what I call CD-ROM

AMG have announced the release of a specially priced CD-ROM featuring all the samples from their two 'Now'-series CDs: *Now That's What I Call Sampling!* and the forthcoming *Now 2: The Future* (scheduled for release sometime in February or March) – plus bonus samples unavailable elsewhere. *Now CD-ROM* is available in all formats from AMG for £50 inc. VAT. More from: AMG, PO Box 67, Farnham, Surrey, GU9 8YR. Tel: 0252 717333. Fax: 0252 737044.

SHOWING OUT

The *MIDI, Electronic Music and Recording Show* is taking place at the Wembley Conference and Exhibition centre this year, on the 22–24th April. Admission to the exhibition costs £8, or £5 in advance, and the seminars are free of charge to all visitors. The seminar program running throughout the event will cover all aspects of music technology and multimedia, providing visitors with the opportunity to discover more about technology at first hand.

Information centres and advice clinics will form part of the seminars, allowing you to put your questions (and complaints!) to the experts and manufacturers. The exhibition will also be the showcase for new products in the UK, following their unveilings at the Frankfurt and NAMM (USA) fairs, including a demonstration of the new VL1 from Yamaha. For further information, contact: Westminster Exhibitions, The Cotton House, PO Box 36, Dinas Powys, South Glamorgan, CF64 4YN. Tel: 0222 512128. Fax: 0222 512045.

Kick out the Jamos

Jamo have just launched the SW8 bass reflex subwoofer with compact Jamo Sidekicks speakers. Designed for smaller systems, the SW8 boasts two 4" woofers each capable of handling 60W RMS and covering a frequency range of 50–200Hz. Impedance is 8 Ohms, and the unit is finished in black with a retail price of £149.99. Complementing the SW8, the Sidekick speakers are also finished in black and are made out of die-cast plastic with built-in mounting brackets which allow them to be positioned anywhere. They feature 31/4" woofers and have a quoted frequency range of 100Hz-20kHz with a power rating of 35 Watts RMS and are said to deliver a rich and precise sound. For further information, Tel: 0327 301300. Fax: 0327 300511.

The acceptable interfaces of MIDI

In keeping up with the increasing demand for PC MIDI software and hardware, Arbiter have just launched the Key MP128 MIDI Interface. Offering eight fully-independent MIDI Outs, the device connects to the parallel port of any PC, and is designed to be used in conjunction with a card interface (such as the MPU-401 or Soundblaster), giving your PC a total 144 MIDI channels!

The Key MP128 is priced £175 inc. VAT. More from Arbiter Pro MIDI, Wilberforce Road, London, NW9 6AX. Tel: 081 202 1199. Fax: 081 202 7076.

Two new PC MIDI interfaces, this time by Mark Of The Unicorn, have also been released into this expanding market. MIDI Express PC is a 1U 19" rackmount that connects to the computer via an expansion card and parallel cable, both of which are provided. It features six MIDI Ins and six MIDI Outs, as well as a SMPTE generator/reader. All of the six outputs are independent – providing up to 96 MIDI channels – and compatibility with a wide range of software is ensured by emulation of the standard MPU-401 type interface.

The second is the MIDI Express PC Notebook, which connects directly to the serial port of a portable PC, providing sequencing on the move. The Notebook version has all the functions of the regular MIDI Express PC, but with only four MIDI inputs instead of six. Both units are supplied complete with Console – a software utility running under windows that provides an easy, graphic way to configure MIDI connections and SMPTE settings.

Incidentally, you can check out our review of the MIDI Express for the Apple Mac in this very issue.

Both the MIDI Express PC and the Notebook version cost £379 inc. VAT. More from: Sound Technology, Letchworth Point, Letchworth, Hertfordshire, SG6 1ND. Tel: 0462 480000. Fax: 0462 480800.

Personal tuition from Claire

OK, OK... before you get hot under the collar, Claire is the new personal music coach software from Opcode Systems, designed to give musicians a 'non-tiring aid' for their instrument and vocal training. The program records, analyses and presents in a visual form the user's progress in fundamental musical skills such as ear training, sightreading and music theory, as well as telling you, via the Mac's internal microphone, how far out of tune your singing or playing is! For more information about Claire contact: MCM, 9 Hatton Street, London, NW8 8PR. Tel: 071 258 3454. Fax: 071 262 8215.

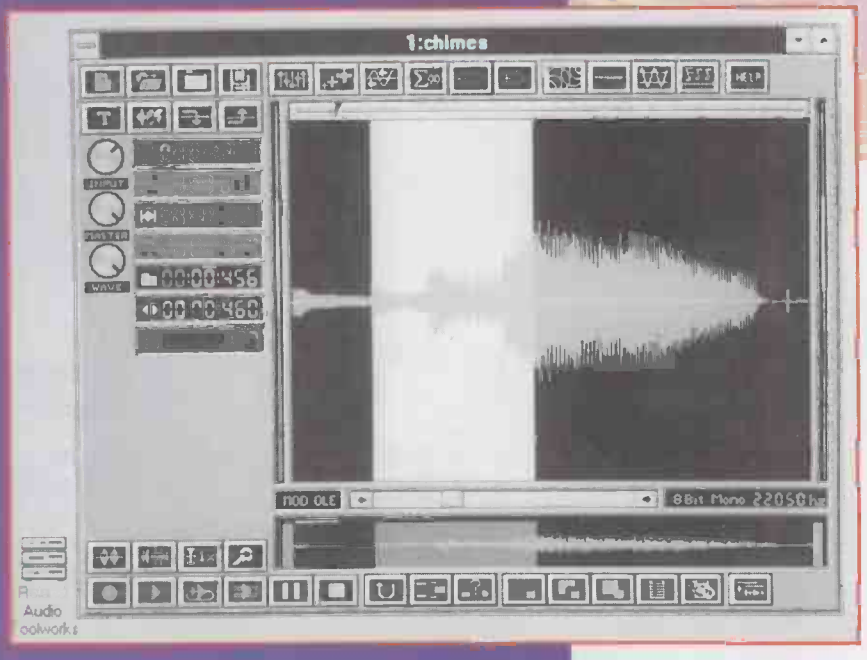
New Roland ISM and GM

The Roland MT-120 is a new Standard MIDI File and ISM (Intellegent System of Music) data player ideal for musicians who wish to practise their skills. The MT-120 achieves this by automatically converting SMF sequence data into the ISM format in real-time, thus making available the "many unique playing functions and practice simulations that ISM data is capable of reproducing". These include the ability to practise pieces of music over and over again at the user's own speed by marking and looping sections, or muting different instruments or parts.

The MT-120 incorporates external stereo outputs with level control to accommodate both keyboard or guitar level inputs, as well as the ability to record songs up to 42,000 events long.

The Roland MT-120 costs £795 inc. VAT. For further information contact: Roland UK, Rye Close, Ancells Business Park, Fleet, Hampshire, GU13 8UY. Tel: 0252 816181. Fax: 0252 812879.

Following the launch of the RAP-10, 16-bit sampling, GM-compatible sound card, Roland have announced a new professional sound editing software package called Audio Toolworks. It offers comprehensive editing of sample wave data (WAV) and Standard MIDI Files (SMF), and features playback in mono, stereo and independent 2-track modes at different sampling rates up to 44.1KHz.

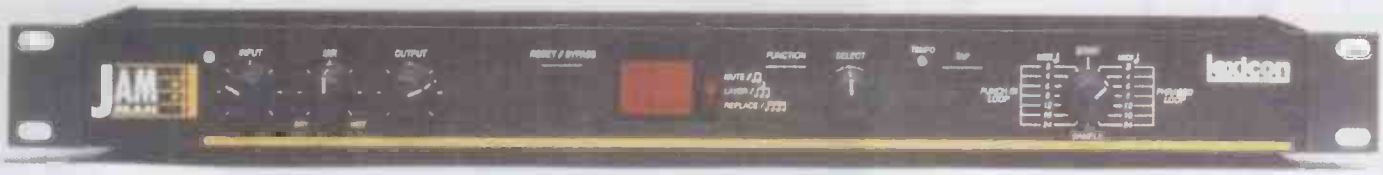


Audio Toolworks also includes an 18-track mixer page for use with 16 GM and two digital sound sources, with independent control of level, pan, effects send, muting, as well as a host of professional features like independent 2-track editing, scrub editing and 'non-destructive editing'.

When combined, the RAP-10 and Audio Toolworks offer a powerful sound editing and recording facility to PC owners. Both sound card and ATW will be available in an all-in-one pack called the ATW-10 (see review in this issue), retailing at £449 including VAT.

For more information, contact: Roland UK, Rye Close, Ancells Business Park, Fleet, Hampshire, GU13 8UY. Tel: 0252 816181. Fax: 0252 812879.

It's JamMan



The new JamMan digital sampler from Lexicon is now available from Stirling Audio. It offers an entirely new method of creative sampling and employs a cleverly-designed interface with useful functions that make it fast and easy to use – ideal, in fact, for live applications. Sample record or playback can be triggered using a front panel switch, foot controller or by an input level audio trigger.

For more information and a free brochure, contact Stirling Audio Systems, Kimberley Road, London, NW6 7SF. Tel: 071 624 6000. Fax: 071 372 6370.

New improved soap

Bigboxpowders have announced their arrival in no uncertain terms, claiming that their team – accomplished computer graphicists Jon Bowen and Katherine Szuminska – are "ablaze with bright ideas about music and video and technology and all that shit."

BBP admit to using computer graphics to convey the images of music but..."don't subscribe to that duckspeak about 'closer interaction between visuals and music'". The team have already released a promo for APL entitled 'The Calling' (Beyond Records) and are set to release a full visualisation of Laurent Garnier's track 'Go To Sleep'.

With an estimated 70% of major label income coming from back-catalogue sales, BBP also pose the question, "what will the future be like if that figure is allowed to rise to 90% or 100%?" The words 'safe' and 'predictable' immediately spring to mind. See also Thomas Dolby, page 36. Find out more by faxing BBP on 0202 399924.

VideoLogic MediaSpace enhancements

VideoLogic has recently made new changes to MediaSpace, its leading digital media adaptor, with major enhancements to its multimedia control software to record and play back from CD-ROM, added support for Microsoft Video for Windows and a new MediaSpace Playback board. The new software release now extends MediaSpace beyond the limitations of digital video by providing a better development environment and tools for multimedia applications.

VideoLogic's range of MediaSpace and DVA-4000 boards provide a 'complete solution' for digital video authoring and playback on the PC. Also released is a playback version which delivers full screen, full motion colour movies with CD-quality audio. For more information, contact: VideoLogic Limited, Home Park Estate, Kings Langley, Hertfordshire, WD4 8LZ. Tel: 0923 260511. Fax: 0923 268969.

It's twins!

Denon have released a new twin cassette deck that features dual outputs to allow the machine to function as two independent cassette decks. The DN-770R also features Dolby B, C and HX Pro noise reduction systems as well as simultaneous recording, high-speed dubbing and pitch control. For more information contact: Hayden Laboratories Ltd., Chiltern Hill, Chalfont St. Peter, Gerrards Cross, Bucks., SL9 9UG. Tel: 0753 888447. Fax: 0753 880109.

Out of the Empty Quarter

The Empty Quarter, a newly-established label, has released the first in a series of companions to their 'bible of industrial music' magazine *Music From The Empty Quarter*.

Now in book form, it features exclusive interviews and a CD of unreleased material from the likes of Lagowski, Blackhouse and Solar Enemy.

More from: T.E.Q. Music, PO Box 87, Ilford, Essex, IG1 3HJ. Tel/Fax: 081 518 3092.

Good workshop practice

The Islington Music Workshop are running another Sound Engineering course on the 14th-16th February, by popular demand.

For more details and a prospectus for this course and others, contact: The Islington Music Workshop, 44 Peartree Street, London, EC1V 3SB. Tel: 071 608 0231.

Analogue innovation

Novation announce the release of BassStation, joining their portable, battery-operated keyboards, but with an added twist – the sound generation is analogue!

Not dissimilar to the mm-10 controller keyboard with two octaves and full-size keys, it has in addition a wealth of brightly blue coloured knobs. It includes a 12dB/24dB per octave cut-off selector switch in the filter section, which enables emulations of analogue modules like the ever popular Roland TB303, and the classic fat, punchy sounds of a Minimoog. Another feature included is MIDI compatibility (which eliminates the necessity for a retrofit which virtually doubles the size of the actual module!). The MIDI spec allows for real-time transmission and reception of the Filter and Envelope sections. The BassStation analogue synthesiser will be available from UK dealers from the end of January, and will have a recommended retail price of £349.99. For more information contact: Novation Electronic Music Systems Ltd., The Ice House, Dean Street, Marlow, Buckinghamshire, SL7 3AB. Tel: 0628 481992. Fax: 0628 481835.

Digital audio at Millenium

Millenium (in Nottingham) now stock and demonstrate one of the very latest digital recording systems for the PC – Software Audio Workshop.

With four stereo tracks and real-time non-destructive editing/mixing, plus the ability to sync to a sequencer on the same PC via a Music Quest MQX-32M, the system is claimed to represent a considerable step forward for those who wish to get into digital recording on the PC, but have so far found the cost prohibitive. SAW also has the advantage of compatibility with Turtle Beach Multisound, Pro Media XA16 Audio Canvas, Digital Audio Labs CardD, and Creative Lab's Soundblaster Pro 16 range.

Incidentally, Millenium are currently demonstrating Steinberg's Cubase Audio for the Atari Falcon 030, so this could be the golden opportunity to compare both systems.

Software Audio Workshop is priced at £579 and Cubase Audio for the Falcon is £699. For more details, or to arrange a demonstration, call Rick on (0602) 531131.

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— Jim Aikin, *Keyboard* Magazine

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Peavey Electronics (UK) Ltd., Hatton House, Hunters Road, Corby, Northants NN17 1JE, England. Telephone: (0536) 205520

Full motion, full steam ahead

The Full Motion video module for the Amiga CD32 launched mid-January will transform the machine into a formidable home entertainment package. The new module allows the CD32 console to play 74 minutes of video from one 5" CD.

Obvious applications would be in movies and music videos, both of which have already been produced as FMV discs. At 25 to 30 frames per second, the picture quality of the FMV discs is actually superior to VHS format, and the sound is apparently of CD quality.

The technology behind the MPEG1 is based on the Video CD standard for linear full motion video agreed upon by major players in the industry – including Commodore, JVC, Philips, Sony, Matsushita and Paramount. The CD32 will play any MPEG1 disc.

Computer games publishers are apparently also interested in the new medium and there are already 30 games titles available with a further 30 more on the verge of release. The machine can also play audio CDs and yes...karaoke discs.

For further information, contact: Commodore Business Machines, Commodore House, The Switchback, Gardner Road, Maidenhead, Berks, SL6 7XA. Tel: 0628 770088. Fax: 0628 71456..

DATS moving

HHB recently announced the launch of their new range of portable DAT recorders. The PDR1000 is a professional portable DAT machine designed to meet the demands of location sound recording applications. Just the thing for those 'in the field' sample collecting trips to far-flung corners of the globe.

The recorder boasts a wealth of features including 44.1KHz, 48KHz and 32KHz selectable sampling rates, balanced XLR Mic/Line inputs, AES/EBU/SPDIF digital I/Os and 48V phantom powering.

In addition to the PDR1000, HHB have also launched the PDR1000TC, a DAT player with timecode facilities. It is equipped to 'jam sync', convert Absolute Time to timecode and to record, generate and reference to time code in all existing international standards.

HHB claim that "despite its higher specification, the PortaDAT PDR1000TC is priced considerably lower than its closest rival". If you want to find out just how considerable the lower price is, contact: HHB Communications Ltd, 73-75 Scrubs Lane, London, NW10 6QU. Tel: 081 960 2144. Fax 081 960 1160..

CyberArts yellow pages

The Institute of CyberArts is compiling a directory of amateur and professional sound and vision productions using computers and synthesisers.

- Listings in the *CyberArts Sound & Vision Directory* will include:
- Recordings primarily produced with samplers and synthesisers.
- Visual productions utilizing computer graphics, fractal images and animation.
- Publications including books and magazines.
- Equipment, software and accessories.
- Promotional merchandise including posters and clothing.
- Other multimedia and interactive artefacts featuring the application of computers and synthesisers.
- Database of contact sources and information services.

Details of productions you feel should be included should be sent to: CyberArts Directory, I.C.A. (UK), The Sound House, PO Box 37b, Hampton Court, Surrey, KT8 9JN. Tel: 0792 360742.

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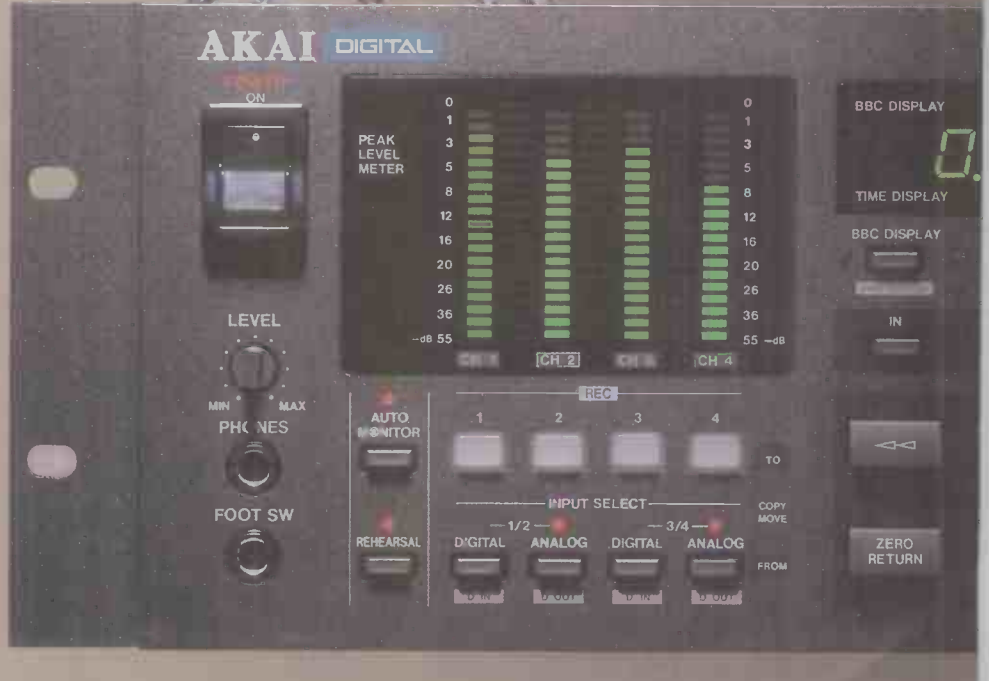
If you are new to hard-disk recording, the DR4d

will quickly show you how to jump from one part of the recording to another and edit or copy a section - all without disturbing the quality of the signal. We have put a 'jog/shuttle' wheel on the DR4d so that you can find the required edit point in a logical manner. The DR4d holds the claim to be the most user-friendly hard-disk recorder on the market!

The Akai DR4d records four tracks of digital audio direct to hard-disk. You can link up to four machines together for more tracks and, if you wish, use the optional DL4 locator for remote control. Four analogue inputs and outputs are provided, switchable for

sensitivity, plus a digital I/O so that you can transfer tracks backwards and forwards from DAT. This means that you can re-edit, or re-arrange, all your DAT tapes without loss of quality!

Hard-disk recording is only better than tape if it sounds better and is easy to use. Check out an Akai DR4d for sound quality, ease of use and convenience against other systems and you'll find out the difference!



Want to find out more? Contact us today for a brochure and the name of your nearest dealer.

Akai (U.K.) Ltd., E.M.I.Division, Haslemere Heathrow Estate, Parkway, Hounslow, Middlesex TW4 6NQ.
Tel: 081-897 6388 Fax: 081-759 8268

Ultramarine have been quietly making a name for themselves with their unique blend of laidback dance grooves, uplifting moods and rich, intricate musical textures. Simon Trask fathoms the depths of their electro-acoustic sound...

this is m

Ultramarine are one of those groups who exist on the fringes of pop, enthused about by the music press and others in the know (including many fellow musicians) yet somehow never quite connecting with popular consciousness. At once subtle and sublime, their music inhabits an ecstatic, idyllic space far removed from the mundanity and superficiality of everyday life, without ever sounding precious or contrived.

"In very vague terms we do see our music as positive and life-affirming," says Ian Cooper, one half of the south London-based duo. "It is very dear to us, we're not doing it with the thought of 'Oh, we've got to get into the Top 30'. Basically it's all very much done on an emotive, gut response level – it's what we feel to be right."

Ultramarine have not only managed to make technology sound organic, they've also managed to create an organic combination of electronic and acoustic sounds, of sequenced and live playing. And with apparent ease they've managed to synthesise into a coherent and consistent musical identity a strikingly diverse set of influences – ranging from mellow '70s American West Coast guitar groups such as America and The Eagles to the purist electronic techno of '80s Detroit and the very English eccentricity of the early '70s Canterbury scene in the form of Caravan, Soft Machine and Kevin Ayers.

Fully paid up members of the Canterbury appreciation society, Ian and fellow Ultramariner Paul Hammond even brought in Canterbury veterans Robert Wyatt and Jimmy Hastings to sing and play respectively on their recently-released third album, *United Kingdoms*, which also features a cover of Wyatt's Matching Mole classic 'Instant Kitten'. It all sounds weirder on paper than it does in practice, but nonetheless the music press have had a hard time trying to pin a label on the group. Ultramarine do use dance rhythms, but typically in a subtle, understated way so that they become just one part of an often intricate yet airy, spacious texture not often found in dance music. They do use acoustic instruments and live playing, but in a disciplined way which has more to do with the rigours of dance music's sequencer-based approach to musical creation than to traditional band dynamics.

"We do gain inspiration from a huge variety of sources and we drag in samples from a vast array of different kinds of music," says Ian. "One of the

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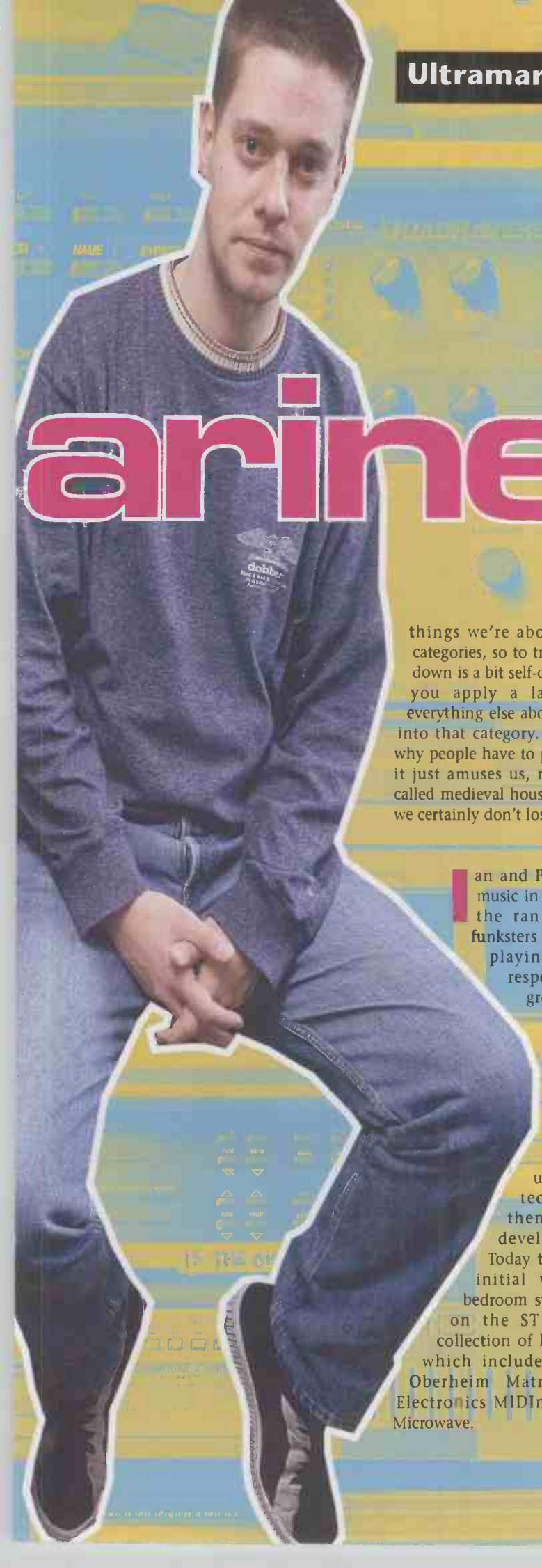

things we're about is sidestepping categories, so to try and pin the music down is a bit self-defeating – as soon as you apply a label to it there's everything else about it that doesn't fit into that category. But we understand why people have to pin labels on us, and it just amuses us, really, when we get called medieval house or techno folkies – we certainly don't lose any sleep over it."

Ian and Paul started making music in the mid '80s within the ranks of avant-noise funksters A Primary Industry, playing guitar and bass respectively. When the group split up in '87, they took a break from the music industry before re-emerging in '89 as a self-contained musical duo under the name Ultramarine, using sequencing technology to give them the freedom to develop their sound. Today the pair do all their initial writing in Paul's bedroom studio, using Cubase on the ST together with a collection of hi-tech instruments which includes an Akai S1000, Oberheim Matrix 1000, Studio Electronics MIDImoog and Waldorf Microwave.

"Quite often we'll start with a sample loop and build the music up around it, not necessarily copying it but relating to it," explains Paul. "Then usually we'll take the sample out, so we're left with sort of a ghost of the original. It's sort of like throwing a random element in the works, which is good because working on things like Cubase everything can be a bit too controllable and you can lose a sense of spontaneity. Working like we do can produce some quite unusual and unpredictable results."

Usually at this initial stage Ian and Paul don't bother to arrange a track in any particular way. Instead they build up all the parts within one sequence loop, then use manual track muting within Cubase to try out different possibilities – once again bringing spontaneity and unpredictability into play.

"For us, as soon as you start to arrange a song in a fixed way you start to limit the ways of seeing it," says Paul. "That's really the last thing we want to do at such an early stage."

While working on their latest album *United Kingdoms*, Ian and Paul developed a 4-stage writing and recording process which allowed them to integrate traditional instrumental recording into their modern sequencer-based approach. Once they had their sequences worked up sufficiently, they decamped to Woodbine Studios in Leamington Spa for eight days, taking their complete home studio setup with them.

For this second stage they brought in a variety of session players to add real flute, clarinet, violin, soprano sax, trumpet and ➤

➤ Hammond organ parts to the music. This took the form both of replacing some sequenced parts with live playing (for instance, a Matrix 1000 organ sound was replaced by real Hammond) and adding live solo improvisations to the sequenced tracks.

Marine music

SINGLES

'Stella' 12" (Brainiak, 1991)
'Weird Gear' b/w 'British Summertime' 12" (Brainiak, 1991)
'Saratoga'/'Nova Scotia' 7" (Rough Trade Singles Club, 1992)
Nightfall In Sweetleaf remix EP (Rough Trade, 1992)
'Kingdom' (Blanco y Negro, 1993)
Barefoot remix EP (Blanco y Negro, 1994)

ALBUMS

Wyndham Lewis mini-LP (Les Disques Du Crépuscule, 1989)
Folk (Les Disques Du Crépuscule, 1990)
version of 'British Summertime' on *Live At The Brain II* (Brainiak, 1991)
Every Man And Woman Is A Star (Brainiak, 1991; re-released by Rough Trade in 1992 with remixed full-length versions of 'Saratoga' and 'Nova Scotia' added)
United Kingdoms (Blanco y Negro, 1993)

"For us the improvisations were the most exciting bit, because we never knew what we were going to get out of it," says Paul. "For instance, we'd get Jimmy Hastings to improvise on clarinet for five minutes over a track, maybe record a couple of takes onto the 24-track.

"This second stage was also a good period for us because we were hearing the tracks continually and we started to get some idea of how we wanted to arrange them."

The recordings completed, Ian and Paul then returned to London with several DATs containing all the sequenced parts on one track as a guide and the improvisations and replacement parts on the other track. Their next task was to listen through to the live recordings and sample the bits they wanted to use into the S1000. Sometimes they were spoilt for choice.

"'Dizzy Fox' was a bit of a nightmare for us, because Jimmy did this incredible 8-minute flute solo over the track," Ian recalls. "Once we'd picked all the bits we liked, we had 10 disks full of flute samples, and then we had to piece together another solo from his various elements which had flowed so well in the original solo."

By sampling the live acoustic playing, Ian and Paul were able to work it into the texture of the music – for instance, imparting to it an insistency more characteristic of sequenced music than of live playing.

Once the samples were in place and the arrangements worked out, Ian and Paul returned to the 24-track to do the mixdown. At this final stage they were also able to replace some additional sequenced electronic parts with real instruments, this time played directly to tape.

The duo feel that the working method they developed for *United Kingdoms* proved very successful.

"I think we get the best out of both worlds," says Ian. "We get the cheapness and the ease of the home setup, and at the same time we have an exposure to a whole new range of sounds and new possibilities which is maybe a rock way of working from the studio. And we can get what we consider to be a big, full sound with lots of instruments without the album costing hundreds of thousands of pounds."

"Also I find just the fact that you've got an engineer sitting there is good," adds Paul. "It's very easy to sit at home and feel totally happy with what you've done, but to sit there in front of somebody else who's critically listening to it is quite a good test."

"Also it's like you've gone into the studio with the tracks closed, then you add all the live stuff and suddenly everything explodes out again," says Ian. "That way we have another chance to really look at the tracks, see where they're going, where else we can take them. Certainly in the case of *United Kingdoms* each track had quite a few instruments and tunes in the first stage which we just didn't use in the end, we'd gone further than we needed to go, really. So that second stage is really useful." ●

Marine technology

Home and live

Akai: ME30P MIDI patchbay, S900 and Akai S1000 samplers
Alesis: Quadraverb Plus multiFX unit (x2)
DAC: R-4000 II hard drive
Kenton Electronics: Pro-2 MIDI-to-CV converter
Mackie: 1604 mixer
Oberheim: Matrix 1000 synth module
Roland: TB303 Bassline (x2), TR808 drum machine
Studio Electronics: MIDImoog monosynth
Waldorf: Microwave synth module

Home only

Atari: 1040ST with SM124 b/w monitor
Korg: Mono/Poly monosynth
Steinberg: Cubase v3 sequencing software
Yamaha: DX7 IID synth (used as master keyboard), DX21 synth

Live only

Alesis: Datadisk MIDI datafiler
Hammond: XB2 organ (played by Simon Kay)
Fender: Precision and Bassman 100 bass guitars (played by Paul Hammond)
Mackie: 1202 mixer (used by Simon Collins)
Marshall: 4 x 12 cab (used by Paul Hammond)
Roland: D10 synth (played by Simon Kay)
Tama: drum kit (played by Simon Collins)

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Roland JV35 Expandable Synth £975 New polyphonic synthesizer featuring: • 28 voice polyphony - expandable to 56 voice with installation of VE-JV1 / VE-GS1 Expansion Boards • 16 Part Multi Timbral • Digital Effects • 18 bit D/A Convertor • 226 Tone Memories • 256 User Memories

Roland JV50 Expandable Synthesizer £1199 New polyphonic synthesizer featuring: • 28 voice polyphony - expandable to 56 voice with installation of VE-JV1 / VE-GS1 Expansion Boards • 16 Part • Digital Effects • 18 bit D/A Convertor • 226 Tone Memories • 256 User Memories • 26 Drum Sets • In built GS compatible SMF player as per SB55

Roland JV90 Expandable Synth £1375 New polyphonic synthesizer featuring: • 28 voice polyphony - expandable to 56 voice with installation of VE-JV1 / VE-GS1 Expansion Boards • 76 note velocity keyboard • 16 Part - expandable to 24 Part with installation of VE-GS1 Expansion Board • Individual stereo output for voice expansion board

Roland MT120 Digital Sequencer & Sound Module £769 New sequencer / module featuring: • 28 voice polyphony • 16 Parts • Digital Effects • SMF, ISM, Piano Disc, ESEQ Compatible • 42,000 note, 99 song internal memory • 240,000 note, 99 song memory on 3.5" 2HD Disc • 5 Tracks (1 Rhythm) • Stereo Inputs (pair) • 999 Measures • Solo Play Facility

Roland P55 Midi Piano Module £465 New piano module featuring: • 28 voice polyphony • 3 Parts • 4 Mb of Internal piano and keyboard waveforms • 32 Instruments

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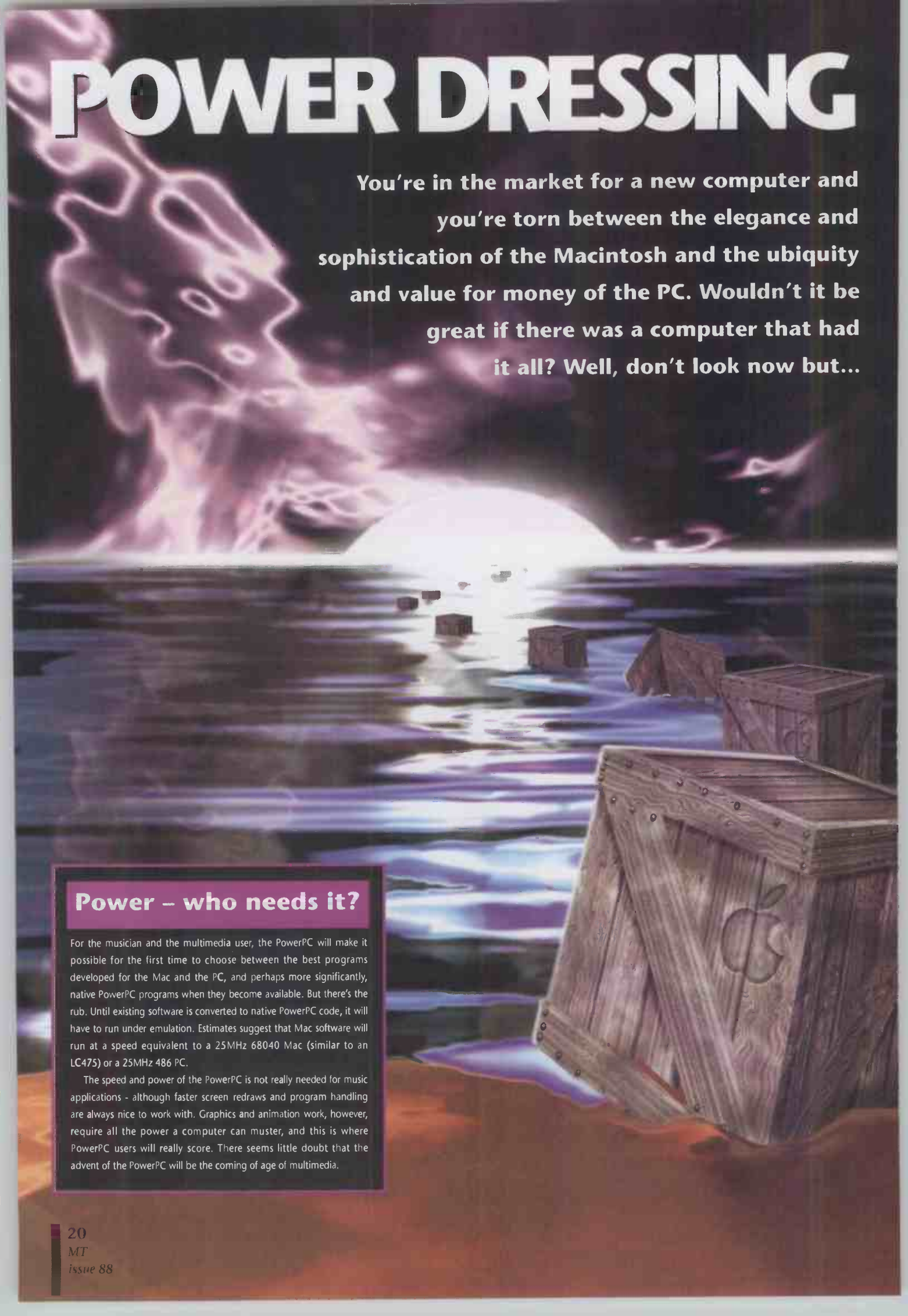
POWER DRESSING

You're in the market for a new computer and you're torn between the elegance and sophistication of the Macintosh and the ubiquity and value for money of the PC. Wouldn't it be great if there was a computer that had it all? Well, don't look now but...



Power – who needs it?

For the musician and the multimedia user, the PowerPC will make it possible for the first time to choose between the best programs developed for the Mac and the PC, and perhaps more significantly, native PowerPC programs when they become available. But there's the rub. Until existing software is converted to native PowerPC code, it will have to run under emulation. Estimates suggest that Mac software will run at a speed equivalent to a 25MHz 68040 Mac (similar to an LC475) or a 25MHz 486 PC.

The speed and power of the PowerPC is not really needed for music applications - although faster screen redraws and program handling are always nice to work with. Graphics and animation work, however, require all the power a computer can muster, and this is where PowerPC users will really score. There seems little doubt that the advent of the PowerPC will be the coming of age of multimedia.

Report by Ian Waugh

Illustration by: Stuart Catterson

Anyone reading last month's feature on buying a computer could be excused for thinking that choosing any of the current models involved a degree of compromise which one shouldn't need to make when spending upwards of £1000. Of course, it could be argued that with any of today's personal computers you are getting power and performance at a price no one would have believed possible a few years ago. Only... well, people *did* believe it would be possible a few years ago. At that time, no edition of *Tomorrow's World* would have been complete without someone telling us just how important personal computers would become in our lives and how powerful we could expect them to be. As in so many other areas, we seem to have been waiting for the technology to catch up with the speculation, convinced that better (and cheaper) machines are just around the corner.

"There seems little doubt that the advent of the PowerPC will be the coming of age of multimedia"

Certainly, anyone who buys any of the Mac or PC magazines couldn't fail to have been aware of reports of an imminent new generation of computers which would far outstrip the performance of even the best of today's models – and at a price which would have us all reaching for our cheque books. Is it true? Are the reports exaggerated? And just how imminent is *imminent*?

Well, I'm pleased to say the answers to these questions are 'yes', 'no', and 'by the time you read this (probably)'.

The PowerPC is a new RISC-based microprocessor family under development by Apple, IBM and Motorola, aimed at bringing "a new level of performance and functionality to personal computing at low prices". I think we'd all drink to that.

Besides the obvious advantages of speed and power, the PowerPC's most impressive attribute is its ability to run both Mac and PC software, giving the user the best of both worlds and eliminating the problem of which computer to buy. This is made possible by virtue of the fact that the PowerPC's RISC processor is more efficient than either the standard PC or Mac chips, and will run software more quickly.

Latest news is that the PowerPC 601 chip which lies at the heart of the machine has just been given a hike in speed from 50MHz to 60MHz, and that an 80MHz chip is expected to appear before the end of the year.

Motorola has also announced the 603, a special chip with low power consumption for use in PowerBooks, although it's unlikely that portable PowerPCs will appear before 1995.

Eager not to alienate its existing user-base (although you'd hardly think it from the almost weekly round of price cuts and obsolescence), Apple hopes to provide PowerPC upgrade options for many of its existing models; as well as the entire Quadra range, this includes the IIvx and IIvi models and the Performa 600 and LC range - though upgrades for these latter machines could take up to 12 months to appear.

Upgrade prices will vary according to model but are expected to start at under $1000 - which probably means £1000 to UK users.

The list of software developers currently signed up to produce PowerPC programs reads like a Who's Who of the computer world. Interestingly, this doesn't yet include any of the music software companies, but in computing circles these are generally considered to be 'small fry'. There are, however, already several multimedia software developers working in this field.

Should you buy a Mac or PC now or wait for the first PowerPCs to emerge? Well, if you can wait you'd certainly be advised to do so. ➤

Planned PowerPC upgrades for Macs

Quadra 950 (through DayStar Digital)
Quadra 900 (through DayStar Digital)
Quadra 840 AV
Quadra 800
Quadra 660AV
Quadra 650
Quadra 610
IIvx
IIvi
Performa 600
LC range

Quadra 610 DOS-compatible computer

The first snippets of information about the PowerPCs talk of software being run under emulation, which is bound to slow things down. However, the latest news from Apple centres around the development of a DOS-compatible version of the Quadra 610. This does not appear to be a true PowerPC machine, but Apple seems to be developing it to demonstrate the company's commitment to cross-platform computing.

Incorporating the Motorola 68LC040 and an Intel 486SX microprocessor both running at 25MHz, the Macintosh Quadra 610 DOS-compatible computer – cute name, guys – is being designed to enable users to run Macintosh, DOS and Windows applications. The machine will come pre-installed with DOS 6.2, and the dual processors will work independently allowing users to run Macintosh and DOS or Windows applications in tandem. You will be able to switch between them at the touch of two keys and even cut and paste data between the two environments.

Dual monitor support will provide users with the option of viewing the Mac and DOS environments at the same time. You'll be able to add a second display monitor without purchasing an additional video card. The computer is expected to support most VGA, SVGA and multisync monitors as well as the Apple 14" or 16" Macintosh Colour Displays. The same hard drive will support applications on all three environments, and Apple plans to offer an internal CD-ROM drive, compatible with all three formats, too. DOS and Windows applications should be able to print to any Mac-compatible printer.

The DOS-compatible Quadra 610 is expected to cost about $500 more than the Mac 610, and Apple hopes to offer an upgrade for around the same price difference.

However, although development of the PowerPC has so far broken every target set, it seems unlikely that machines will be available in any kind of quantity before the middle of the year – and it could well be autumn.

There is also the cost to consider. The much-touted price of around £2000 will be for the base system only. Expect to pay several hundred pounds more for a usable setup. If you don't like paying over the odds it could well be into 1995 before the power without the price becomes a reality. But of course, this is all relative. Serious, professional users may well decide that the advantage of having one of these machines immediately outweighs the extra cost. And certainly, anyone working in a competitive industry could well gain a real advantage from using a PowerPC.

It will also be interesting to see what happens to the price of the current range of machines. Even with the recent reductions of up to 50% on many systems, Apple will almost certainly have to drop prices further if dealers aren't to be left with machines that suddenly look underpowered and overpriced. By the end of this year there could be some incredible bargains around. If this is something that's already occurred to you and you're the kind of person who likes to hedge their bets, just make sure you opt for one of the machines which offer an upgrade path. ●

Stop Press

As we go to press, etc, etc, etc,... Apple has announced plans to offer both logic board and processor upgrades based on the PowerPC 601 chip for a wide range of macintosh systems. Both types of upgrade will provide two to fourtimes the performance of existing macintosh models when running native applications.

There will be logic board upgrades for the Quadra 840AV, 800, 660AV, 650 and 610 models, the Macintosh Centris 660AV, 650 and 610 computers, and the Macintosh IIvx, vi and Performa 600 products. Additionally, logic board upgrades will also be offered to owners of the Apple Workgroup server 60, 80 and 95. Logic board upgrades will provide full PowerPC compatibility but need to be installed by a dealer.

Apple also plan to offer a lower cost processor upgrade card for the Quadra 950, 900, 800, 700, 650 and 610 models, and the Centris 650 and 610 computers. The processor upgrade card uses the Processor Direct Slot (PDS) in the Macintosh 68040-based systems and will double the existing speed of the computer. The card will be user-installable.

Apple intends these upgrade cards to be available at the same time as the PowerPCs, early in 1994. Prices so far are only in US dollars and will range from $700 to $2,000.

Apple is continuing to work with third-party developers on upgrades for other Mac models. In particular, the company has a licensing agreement with DayStar Digital, under which DayStar plans to develop a high-performance processor upgrade card for the Quadra 650, 700, 800, 900 and 950 systems, and the Macintosh Centris 650.

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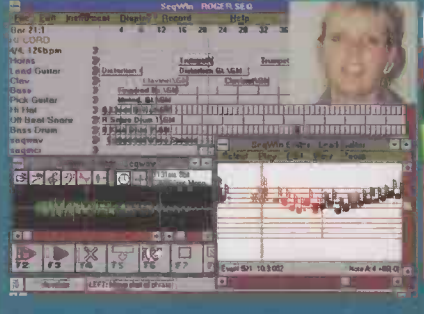

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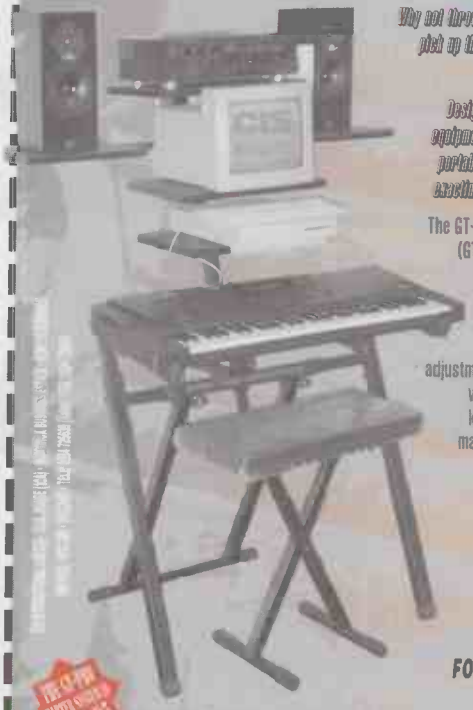

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DEEP BASS NINE

Music *Control*, Europe's leading supplier of analogue synthesizers, has formed a new company, Control *Synthesis*, to design and build high quality professional analogue audio equipment. The first product, DEEP BASS NINE, is a midi-controlled analogue bass synthesizer, based on the sounds from Roland's classic acid dance machine the TB303. A 19" rack unit, DEEP BASS NINE has all the analogue controls found on the 303: Waveform selection either square or sawtooth waveforms, tuning; cut-off frequency; resonance; envelope modulation; decay; and accent. There are additional controls for volume and midi channel. These controls give the user complete control over the sound in real time, but many of the functions can also be controlled over midi.

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A TO Z OF ANALOGUE

part 7

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

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

Compiled by Peter Forrest

Farfisa

Italian organ manufacturers (and more recently synthesiser manufacturers) who produced the classic combo organ – the Compact, rivalled only by the Vox range in its day.

● **COMPACT** – came in a variety of guises. There were four basic models, but quite a number of permutations within them.

Users include (actual model unknown): Barry Andrews, Roma Baron/Laurie Anderson ('O Superman'), Rabbit Bundrick, J-M Jarre ('Oxygene'), John Lennon (in his home studio).

- Bottom casing folds down to release legs, which are then attached to form a strong (if ugly) stand.
- Rocker switches rather than tabs or drawbars.
- Built-in spring reverb.
- Knee lever (as in old harmoniums).

■ **COMPACT** – 61-note single-manual combo organ. 1964- c.1970.
Original price: c.£195
Target price: £50 – £200

- Originally light grey/dark grey/black, then bright red.
- Bottom octave reversed colour with grey 'white' keys and white 'black' keys.
- Early models have valve pre-amp.
- Later models have a tone boost switch so that you don't have to use your knee under the keyboard to move the lever. (While guitarists were getting their leg over, Farfisa organists had to be content with a knee under.)
- Elaborate plastic music stand on all but the earliest models.
- Very early models in the States were re-badged CMI – for Chicago Musical Instrument Co (not Fairlight's Computer Musical Instrument).

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

■ **COMPACT DELUXE** – 61-note single-manual combo organ. c.1966. Basically a Compact with a few added features.
Original price: c.£235
Target price: £60 – £300

- Optional second bass octave, with reverse keys – bottom octave black, next up grey.
- Percussion and two 2/3' voices available.
- Grey with a black stripe.

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

■ **COMPACT DUO** – dual 49-note double-manual combo organ. c.1965.
Original price: £310
Target price: £100 – £500

Users include: Clint Boon (Inspiral Carpets), The Christians, Jimmy Destri (Blondie), Geoff Downes, Philip Glass, Tim Hodgkinson, Simple Minds, Mike Oldfield (*Hergest Ridge*), Grace Slick, Rick Wright (put through Binson echo).

- Vies with the Vox Continental as the classic combo organ.
- Lower keyboard has two octaves reversed colour keys – bottom black, next octave grey.
- Stereo output plus Brilliance control.
- Percussion, repeat, better quality spring reverb.
- Optional C-C 13-note pedalboard available for twenty guineas (£21).
- See-through perspex music stand.
- Conventionally, mellow chords and/or bass lines were played on lower keyboard, bright lead lines on the upper keyboard. (Clint Boon reverses this.)

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

■ **COMPACT MINOR** – 49-note single-manual combo organ. c.1965 – c.1968. "The ideal portable for the groups who have to travel a lot" – 1966 ad.
Original price: £156
Target price: £50 – £200

- Originally a very slimmed-down Compact with no bass section at all; soon replaced by the much more common version with one octave of grey reversed keys for a separate bass section.
- Only 11 rocker switches.
- Called the Mini Compact in the USA.

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

● **POLYCHROME** – 61-note multi-instrument keyboard. c.1979.
Original price: Unknown
Target price: £100

➤ • Quite rare and interesting 'layers of sound' instrument.
• Four sound sections: Percussive, Strings, Ensemble, and Vocal chorus.
• Programmable split. Separate out for Vocal chorus.
• White noise, phaser and bender.
• Touch sensitive with good control on all sections.
• Weird little switches (to sides of expression pedal) control sustain and tremelo.

● **PROFESSIONAL DUO** – Dual 61-note double-manual combo organ. c.1970.
Original price: £1000
Target price: £200

● **SOUNDMAKER** – Preset variable mono/poly 61-note keyboard. 1979 – c.1981.
Original price: £1100
Target price: £100-150
• Steeply-raked back panel with 19 sliders plus 28 selector switches.
• Monophonic presets with variable VCF, VCA, ADSR, LFO and portamento.
• Polyphonic presets (three piano-type sounds, brass and strings) with a mix of controls including vibrato, sustain and brilliance.
• Split keyboard facility: mono on top 32 notes, poly on bottom 29.
• Aftertouch brings in vibrato (with variable depth and speed).

● **SYNTORCHESTRA** – 37-note piano/brass/string keyboard. c.1976.
Original price: £389
Target price: £40 – £100
• Nicely chaotic control panel to left of the short keyboard with nine shiny sliders.
• Row of stick-out tabs under keyboard for preset selection, etc
• Very '70s styling.

● **SYNTORCHESTRA 4** – 49-note piano/brass/string keyboard. c.1979.
Original price: £506
Target price: £40 – £80
• A completely updated instrument, with Korg/Prophet-type push buttons and LEDs for presets (still under the keyboard, though).
• Nicely uncluttered set of 12 sliders to control poly and mono sections.
• Unusual feature: MAR control cancels top note of polyphonic section and lets mono section play it rather than have the note automatically doubled by poly section.
• Separate outs and combined out available.
• Available in metal or wooden finish.

Fender

One of the great names in electric instrument manufacture. The Strat, the Tele, and the Precision are etched in rock history for all time; but not far behind comes the Fender Rhodes, which just shades the Wurlitzer out as the archetypal electric piano. It was the brainchild of Harold Rhodes, who started designing it in the '40s after experimenting during the war with aluminium tubing salvaged from airplanes. He met up with Leo Fender, and by 1955 had started making electric pianos. In 1966, with backing from CBS, they set up the production line for the Suitcase 88 model. They also produced a few other keyboard instruments, which (except for the most recent products), are usually rare and highly collectable.

● **CELESTE** – 49-note electric celeste. Produced during the late '60s.
Original price: Unknown
Target price: £100 – £400
• In a way, the Rhodes piano was already an offshoot of the original celeste, invented in the late 19th Century. The Fender Rhodes Celeste simply brings the process round full circle.

MT's favourite classic-keyboard pun: The Antique Rhodes Show

• Cabinet almost identical to the styling on the Rhodes pianos of the time – except for an even steeper hump-back.
• Just two controls – volume and passive tone control.

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

● **CONTEMPO** – 61-note single-manual electric organ. c.1966.
Original price: £262
Target price: £150 – £400
• A great-looking instrument. Bright red top (in a curved pod shape), black bottom half.
• 34 rocker switches closely packed along the top.
• Beautiful tubular steel stand with swivel mechanism so that the keyboard can sit at the angle you want.
• Bottom 17 notes act as bass section with reverse-colour keys.
• Three rocker switches for each voice act together like in a binary addition system to produce seven levels – almost as many as Hammond drawbars.

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

● **RHODES** – Classic touch-sensitive electric pianos. 1955 – '86 (first fully-fledged commercial model: Suitcase 88 in 1966).
Original price: (Suitcase 88) £430
Target price: £140 – £500 plus
Users include: 808 State, Rod Argent, A Certain Ratio, Chick Corea (starting in 1968 with Miles Davis), Barbara Dickson, Thomas Dolby, Geoff Downes, Vic Emerson, The Enid, Roger Eno, Tommy Eyre, Donald Fagen (Steely Dan: 'Babylon Sisters'), Eric Drew Feldman (Captain Beefheart's Magic Band), Herbie Hancock, Paul Hardcastle, Tony Hymas, Elton John ('Daniel'), K-Creative, Kahal (Magma), Guy Khalifa, Chuck Leavell, Level 42, Earl Lindo (The Wailers), Lonnie Liston Smith, Stuart Mackillop, Nick Magnus (Steve Hackett), Manfred Mann (Earth Band: 'Blinded By The Light'), Roger Manning (Jellyfish), Patrick Moraz (73 and 88!), David Paich, Billy Preston, Andy Richards, Joe Sample, Bill Sharpe, Mick Talbot (Style Council), Tears For Fears, Richard Tee (Paul Simon: *Still Crazy After All These Years*), Vangelis, Stevie Wonder, Richard Wright (Pink Floyd), Joe Zawinul.
• Ease of use depends on the instrument being well set up.
• Although there were several different models through the years, the sound generation method of the classic Rhodes remained the same through three decades: each key causes a hammer to hit a tine – a small tuned metal strip; there is a sympathetic resonant bar for each note, which the tine's vibrations set off; and pickups amplify a mix of the sounds from the tine and the bar.
• Provided you know what you're doing, there are several ways the sound can be changed: by altering the distance between pickup and tine (the closer it gets, the more attack the note has); by altering the angle and position of the tine and bar relative to the pickup (as with close-miking, different positions emphasise different harmonics); and overtones may be eliminated or accentuated by adjusting the spring-loaded screws that connect the bars to the chassis (this is why individual Rhodes can sound so different, some very mellow, some verging on a 'ring modulator' tone).
• At some stage, the original Raymack tines, which were bright-sounding (but complicated to make and rather brittle) were replaced by Torrington tines, and for a time Fender/CBS forgot to do anything about re-positioning the pick-ups and hammer contact point to compensate for this. So there was a period when factory Rhodes pianos sounded very dull – but this was easily remedied in the workshop.
• Another factor in tone production was the hardness of the rubber tips on the hammers; early models had up to five different types of tip on different octaves, while late models seem to have stuck with the harder variety thoughout the octaves – a definite plus in the bass end, which, otherwise was rather muddy.
• Several specialist firms set up to modify the instruments – the most well-known being Dyno-my-Piano, whose handiwork was sampled for E-mu's Vintage Keys along with a standard Rhodes.
• Tuning is straightforward but fiddly: small sprung dampers at the end of the tines are moved to lengthen or shorten the effective resonant length and thus pitch.
• The other major factor in sorting the good Rhodes from the

bad (or even unplayable) is the action. Early models needed strong fingers, and made it almost impossible to play fast runs. People took to jamming cardboard under the wooden action rail; but later models feature an aluminium bottom rail which is easy to adjust for a faster action.

• Until the Mark V came out briefly in 1984–'86, only the Suitcase models had amplifiers built in; the Stage models didn't even need mains.

• The amps in the Suitcase models were 100W with four 12" speakers in the large cabinet that formed the bottom part of the keyboard. Two speakers face forward, with two more at the rear. Stereo panned vibrato is also provided – the celebrated effect which has become synonymous with Rhodes – as are active tone controls, bass and treble, and an effects send and return socket.

• Stage models until the Mark V had only passive tone and volume controls. A stereo pre-amp was an optional extra (£90 in 1977).

• Original models had the lovely but impractical curved top; this was replaced, in the Mark II, (c1979) with a flat top, so that you could stack another keyboard on it. You could even buy an add-on bit for your Mark I Rhodes which would do the same job.

• Sustain pedal comes as standard (built-in to the Suitcase, free-standing on the Stage).

• A MIDI version of the Mark V did make an appearance, but maybe never went into production. (No local off!)

• Prices are difficult to establish. An old Suitcase 88 model that plays really well and is in immaculate condition (definitely not gigged!) might well be worth a lot of money – perhaps even £1000. By contrast, a battered Stage 73 in need of a complete overhaul may not sell for £120.

• Mark Vs don't have the character, but they do play well, and are lighter and more practical. Mark IIs are a halfway house.

■ **PIANO BASS** – Bass keyboard. c.1968.
Original price: Unknown
Target price: £100 – £300
Users include: Davy Jones (The Monkees), Ray Manzarek (The Doors: 'When The Music's Over' etc).

• A curious idea that would probably have faded into total obscurity but for the Doors' not having a regular bassist and Ray Manzarek not having dancing feet. Instead of using bass pedals, Manzarek perched the Piano Bass on top of his Vox Continental or Gibson Kalamazoo organ, and plunked away on it there.

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

■ **STAGE 54** – 54-note touch-sensitive electric piano.1980 – c.1985.
Original price (1980): £735
Target price: £140 – £250

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

■ **STAGE 73** – 73-note touch-sensitive electric piano. 1968 – c.1986.
Original price (1977): £818
Target price: £150 – £450

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

■ **STAGE 88** – 88-note touch-sensitive electric piano. 1968 – c.1985.
Original price (1977): £981
Target price: £200 – £600

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

■ **SUITCASE 73** – 73-note touch-sensitive electric piano with built-in amplification. c.1966 – c.1981.
Original price (1977): £1255
Target price: £250 – £700

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

■ **SUITCASE 88** – 88-note touch-sensitive electric piano with built-in amplification. 1965 – c.1981.
Original price (1977): £1420
Target price: £300 – £800

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

The Rhodes Suitcase 88 - travelling light?

Firstman

A collection of instruments imported into Britain by Chase Musicians in the early '80s.

● **BS999** – 13-note bass pedal synth. c.1981.
Original price: £299/£199
Target price: £30 – £70
• Switchable octave, attack, hold, sustain, percussion, mute, tone controls.

● **FS4V** – 49-note polyphonic string synthesiser. c.1981.
Original price: £699/£599
Target price: £60 – £100
• Strings with controls for 2', 4', 8', 16'.
• Polysynth: seven presets with some variable controls, plus a totally variable setting.

● **SQ/01** – Mono synth and sequencer. c.1981.
Original price: £299/£199
Target price: £40 – £80
• Nine controls plus printed-on 13-note keyboard (like Wasp).
• 1024-event 16-'channel' sequencer. Bar lengths of 2, 4, 8, 12 and 16 beats.

Formant

Range of modular and semi-modular synthesiser kits based on projects published in *Elektor* magazine during late '70s.
Original price: £263 (kit)
Target price: £100 – £180 (built)
Users include: Rudiger Lorenz

Freeman

● **FREEMAN STRING SYNTHESISER** – 61-note string synthesiser originally designed by Ken Freeman, to use with his own band Second City Sound. c.1966.
Original price: Unknown
Target price: £40 – £70
• Probably the first string synthesiser ever.
• Called String Symphoniser in the USA.
• Single/multiple triggering (the first ever?).
• Reverb, vibrato, sustain length and keyboard balance controls.
• Walnut case and black leatherette.
• Amazing full-length music stand.

Fuller

● **PP2000** – 49-note simple polyphonic keyboard. c.1983.
Original price: £250
Target price: £30 – £60
• One waveform, at 2' and 4' and 8', and noise.
• Pitchbend knob, filter, switchable low and band-pass (somehow).
• VCA, LFO, ADSR.
• Gate/trigger and CV in. Bizarre.

to be continued...

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 dance/pop/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 programmers 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 Eleven Vince Clarke, Lucky Bastard

This collection features new sounds created especially by Vince using the mountain of classic analogue synths in his Amsterdam Studio. A founder member of Depeche Mode, Yazoo, The Assembley, and now Erasure who better to produce the ULTIMATE ANALOGUE SAMPLE CD? Synths featured include Roland System 100, System 700, ARP 2600, Moog, 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 [illegible] or extract single sounds for the [illegible] in user-defined creative sampling. There's a selection of multisamples along with many samples from Erasure's last 'Phantasmagorical' 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. *"...this CD is a must for anyone [illegible] for anyone [illegible] anything [illegible] electronic-sounding with a sampler. [illegible] the filtered sections, rave and acid fans will love the blippy loops, industrial bands will [illegible] heavy kicks and [illegible] basses, Kraftwerk euro-artists will use the [illegible] new age [illegible] layer the sweeps with their guitars...[illegible] 9/10"* - Future Music, Nov 93. *"...excellent rhythmic twiddl[illegible] splashes...[illegible] CD should fulfil most analogue dreams [illegible] the creme de la creme...stunning."* - Keyboards (Ge[illegible]) *"...[illegible]es...Tres pro!"* - Claviers (France), Nov 93. Demand is high, so avoid disappointment and get this CD before everyone else has it!

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

This volume sets new standards for drum sample CDs. It features a wide range of styles including Hip Hop, Funk, Jazz, Rock, Reggae, Swing Go Go, Fusion, Cyberpunk etc. After starting his career as in [illegible] 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, [illegible] State, Malcolm McClaren, Bomb The Bass, ABC and many more. He has also moved into writing, production and remixing, working with such artists as Charles & Eddie, Malcolm X, Living Color, The Cure, NIN, and many more. He also found time create the unique sound of Tackhead with Doug Wimbush and Adrian Sherwood. The superb performances featured on this CD were recorded at Orinoco and The Aquarium so, as you can imagine, the recording quality is absolutely state-of-the-art. Aside from tons of choice grooves (all bpm-ed as always), we've included a comprehensive set of matching single hits so you can create your own. Not that there's much chance of you doing that for a while, because after you hear these Kickin' Lunatic Beats you're going to be using them for years to come. [illegible] SOS, D[illegible] Killer Drummer, Killer Studios, and Killer Production. These are beats that just won't quit!

☆☆☆☆☆ - SOS

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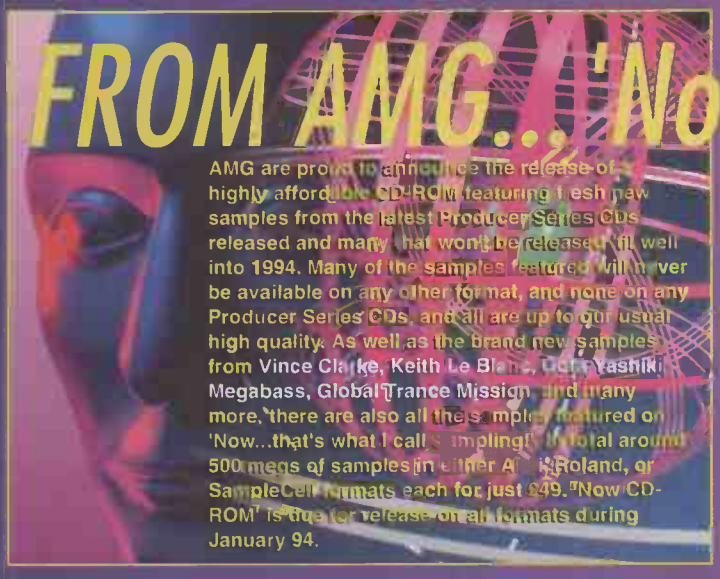

AMG are proud to announce the release of a highly affordable CD-ROM featuring fresh new samples from the latest Producer Series CDs released and many that won't be released 'til well into 1994. Many of the samples featured will never be available on any other format, and none on any Producer Series CDs, and all are up to our usual high quality. As well as the brand new samples from Vince Clarke, Keith Le Blanc, Gota Yashiki, Megabass, Global Trance Mission, and many more, there are also all the samples featured on 'Now...that's what I call Sampling!' A total around 500 megs of samples in either AKAI, Roland, or SampleCell formats each for just £49. 'Now CD-ROM' is due for release on all formats during January 94.

Now CD-ROM

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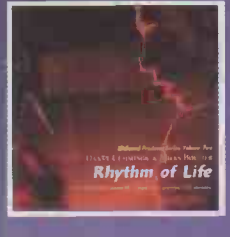
Volume 7 - Neil Conti's Funky Drums from Hell

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, Basses, 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 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...leanest 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. ☆☆☆☆ 1/2"* - 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 samplists 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 useable instruments, this CD is ideal...a refreshing change. 8/10."* - Future Music, April 93. ■ *"Nice to see serious samplists being catered for...seriously classic...classic...well atmospheric...Quirky...Slice Of Sampling History."* - SOS, March 93.

Volume 4 - Coldcut's Kleptomania!

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 definately going into my S770...this CD represents another 'must have' for any serious dance enthusiast."* - SOS, May 92 ■ The finest selection of ultra-rare loops ever compiled - over 400 unbellevable 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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FANT

Fantazia have organised some of the biggest raves

ever seen. Legally. Dave Arcari looks behind the scenes at one such

event, and finds technology playing a key role

The days of illegal rave parties in derelict warehouses and muddy fields are fast coming to an end — and it's no wonder, when all-night dancers can revel in less hostile surroundings and enjoy a professionally staged event with top flight facilities. And that's exactly what 12,000 punters found at the Scottish Exhibition and Conference Centre (SECC) when they turned up for what was probably the biggest and most ambitious legal indoor dance party to date.

Organised by Fantazia for the Terrence Higgins Trust and the Scottish Aids Monitor as part of National Aids Week, the aptly named Big Bang more than lived up to its aim of staging a truly spectacular event of mega-proportions. According to Fantazia's James Perkins, the company's solid reputation on the dance scene is based on a professional and quality-led approach.

"Ever since I was young I've felt a buzz when I've seen people happy and enjoying themselves," explains James — a sentiment shared by his Fantazia partner Barny Reason. James and Barny got fed up with going to raves and seeing people disillusioned, and worst of all, not enjoying themselves.

"So many of the party organisers were (and some still are) only interested in making a quick buck and doing as little as possible — we're not like that, but it's meant that it's taken us a couple of years to become market leaders," says James.

The Big Bang has cost upwards of £250,000 to stage, but there's more to it than money. Success also depends on skill and effort in production and planning. It has taken seven months to pull together and is the first time Fantazia has incorporated as many as eight acts into one of their high-tech events.

"The party has gone from being a rave in a muddy field to this — and I think this is about the closest we can bring it to an all-night concert. The choreography is vital. It's not something boring and psychedelic, there is a very strong visual element. Each artist has got specific footage for their slot which is exclusive to Fantazia and can only be seen at a Fantazia event," adds James.

Project design and management — from structural design to stage management — is handled by Martin Crick of London-based Project 42. Martin was involved with Fantazia's 1992 Castle Donnington event, the biggest ever legal party held outdoors in the UK with over 25,000 people.

Martin met up with James on the Martin Audio stand (designed by Project 42) at last September's PLASA show in London, and began planning for the 14,000-square metre hall at the SECC.

"Once we had designed the main stage the drawings were sent to a company for checking, who produced a report for the health and safety officer at the SECC," explains Martin. "We had to change the

AZIA

angle of the wings at each end to get the licence for 12,000 people, but we'd already decided to make them smaller anyway to cut down on the amount of equipment." In all there are six articulated lorries and numerous vans full of gear, plus a truck from France carrying the water fountains. That's right, the water fountains.

The 94-metre wide stage structure incorporates three stages (the centre stage for bands and PAs and the two side stages for DJs) and two 3-D water features, as well as three projection screens and two levels of dance platforms linked by staircases. By the end of the party, these platforms are carrying the combined weight of 150 dancers. The structure was built by Serious Stages from Somerset using a scaffolding system developed by Martin's partner, Roger Chopping. The trucking bill, by the way, came as a bit of shock to Martin, who explains: "Normally we like to source as much equipment and labour locally, but we had some problems getting what we wanted — for instance, we couldn't get black scaffolding in Scotland..."

With the main stage structure completed the night before, the day of the event is free for stage dressing. Gauze scrims are hung everywhere between the large projection screens, enabling the whole set to be backlit. For this purpose, Martin has brought in lighting designer Alan Wild from Edinburgh, to source all the equipment and operators.

Alan sees The Big Bang as the chance he's been waiting for to make the crossover from rock shows to the rave scene. His 14 years' experience, working with such technically demanding acts as Peter Gabriel, Simple Minds, David Gilmour and Erasure, make him an ideal candidate for the job.

"James had been to all the big rock shows — Tina Turner, Genesis etc — and liked the production and choreography and wanted to bring the same sort of thing into his dance parties to make everything a bit more professional and exciting," he explains.

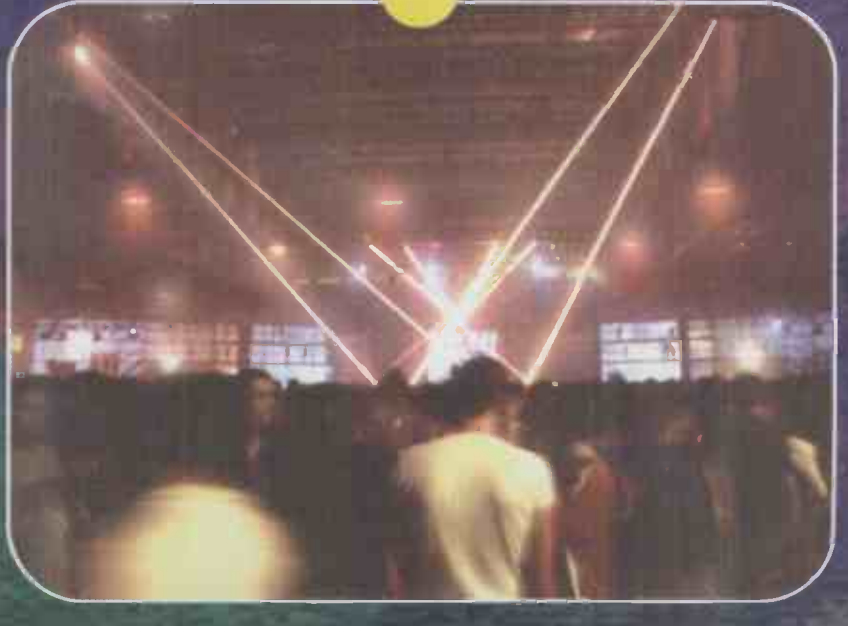
The lighting is centred around 30 Icon lights, 30 Parcans and some Lekos, plus a host of other theatrical lights, strobes, dry ice and smoke machines supplied by Light & Sound Design (LSD).

The state-of-the-art Icons are available on a hire-only basis from LSD, who have taken them from research and design through to manufacture, training their own operators in the process.

The Icon, which first went out with Madness last year, is like an upmarket Varilite, with full 360-degree panning and tilting, a powerful light source and an in-built colour/pattern changer — all of which is controlled from the highly regarded Icon desk.

The rest of the lighting is controlled via a 90-way Celcoe Gold desk and a colour mag scroller to control the rolling gel screens in front of the regular lighting.

Lasers for the party are supplied by The Definitive Laser Company, who have provided two 5-watt



Photography: Colin Jack

lasers: a large-frame Krypton and a small-frame Argon. They are used a lot in Project 42 productions and Alan was impressed by the demo they provided.

"The lasers are feeding four fibre heads via fibre optic links, which gives the effect of five separate lasers," explains operator Gareth Ainge. "The total output can be split into the seven colours of the spectrum (red, orange, yellow, green, blue, indigo, violet) and can create rotating bursts of colour and diffraction effects."

Controlled live from the front-of-house during the party, pre-programmed effects and beams are combined with scanning effects such as cones, sheets and tunnels.

Projection is handled by Halo, making use of three custom 30ft by 20ft screens built into the stage set, and lit by three projectors on scaffolding towers built into the backstage area. The projectors themselves use a combination of camera, computer and video sources. Two cameras — one static in front of the stage, and one roaming in the crowd — project massive images of stage action, as well as crowd shots, onto the screens. The computer graphics are courtesy of an Amiga 1200, including 'captions' projected onto the screens detailing the names of each band or DJ during performance. And the video sources combine seascapes, exploding planets and fast-moving flight simulation scenes.

"I also spent two days in London studios editing footage from previous Fantazia events together with library stock to produce some quite stunning footage, tailor-made for the event," reveals James.

Finally, as a unique addition to a techno event, two 3-D water fountains make a huge contribution to the visual spectacle.

All the way from France, the Aquatique system produces a staggering 180 different effects and 3-D shapes almost 40 feet high — all artistically lit and sensitive enough to be controlled in real time to music.

Amazingly, the lights, lasers, projection and fountains are all controlled and co-ordinated live for the duration of the 10-hour party. There is no central sound to light synchronisation, just an intercom linking the different operators with each other and with Alan, who cues the whole show from front-of-house. Everything is literally 'finger to button'.

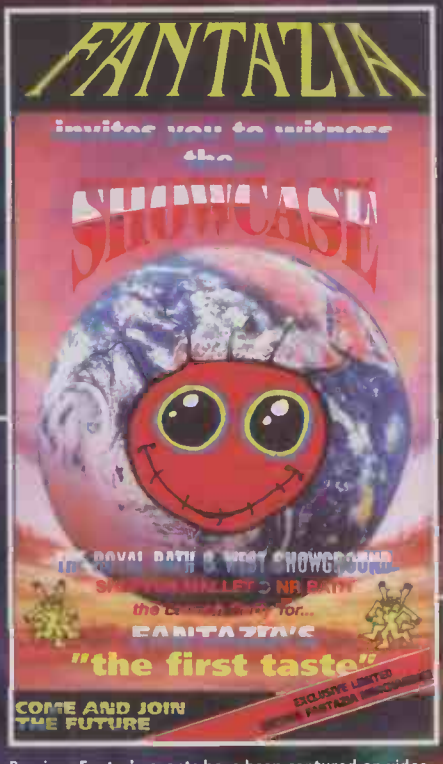
"We ran through most of the effects and looks before the party and established exactly what the bands wanted for their sets," explains Alan. "The other important thing is to make the most out of each of the visual elements and build the show up over the 10-hour period, always bringing in new effects and shifting the focus of attention."

One way Alan gets the best from the people and equipment he works with is by strictly co-ordinating and controlling the use of equipment to avoid effects clashing and to prevent a 'free for all' with visuals competing with each other for attention.

No less attention is paid to sound. Logically, after James and Martin's planning meeting on Martin Audio's stand at PLASA, a Martin sound system was chosen.

"When we were talking about The Big Bang on the Martin stand, they asked us if we were using Martin gear — we said 'can we afford it?', and once they'd convinced us, put us in touch with Capital Sound," says Martin.

Four clusters of Martin F2 cabinets are suspended above the stage using the Man flying system developed specially for the F2 cabinets by Capital. These 76 cabinets are augmented by 20 sub-bass enclosures under the stage and powered by 54 Amcron



Previous Fantasia events have been captured on video

MA2400 amps to create a whopping 120K rig — twice the size of the rig used by U2 at this very venue.

Onstage monitoring is via five LA400 bi-amped Martin wedges for the bands, and RS800s for the DJs. Sennheiser radio mics and headsets are used throughout the event.

The outboard gear further underlines the feeling that no element in the equation – audio, visual or theatrical – is being short changed. Six channels of Klark Teknik EQ is used to tweak the sub-bass into shape and iron out any sound problems due to the size of the venue. The EQ is accompanied in the racks by two Yamaha SPX900s for reverb, two Roland delays and a large collection of gates and compressors for overall dynamic control.

Also nestling beside the 40-channel Midas XL3 desk are three Sony DAT machines – two for playing any backing tapes the artists may use, and one to record the entire 10-hour performance.

The Midas desk handles four vocal and six keyboard inputs as well as two sets of DJ decks, the DAT machines and effects returns. Capital engineers David Pringle and Shaun O'Malley are familiar with the venue from various rock shows – Neil Young, Deacon Blue, Simple Minds, Status Quo – so they too are bringing the exacting standards of major rock concerts into the rave scene.

David finds that techno events are fundamentally the same as a rock show, and that the only hassle is the recording quality of some of the records played.

"Some records need a bit of tweaking at the bottom end because they haven't been that well produced. The problems usually arise with stuff that's been mixed at home on small monitors which don't have a particularly good bass response. These records usually sound a bit woolly and muffled at the bass end rather than giving a good thump..."

The audience, bands and DJs all give the sound a big thumbs up, nonetheless. Scottish opening act, Colorscheme, had their reservations about using such a huge PA – and playing to such a huge crowd. Before going on stage, lead vocalist Kid Ivory sums up the trepidation. "We're bloody nervous. 120K might be a bit on the loud side – we normally use just 10-20K!"

Colorscheme open the show with a Scottish flavour courtesy of a full Scottish drum corp with 16 drummers and eight pipers — an idea which got them a place on the bill.

"When Colorscheme got in touch, we'd already arranged the bands," explains James. "Initially I wasn't that impressed with their material, but they came with this great idea of using a pipe band alongside techno music and that swung me."

Other bands include Fantazia stalwarts Rat Pack and PSI along with Akki (the 'Archbishop of Techno'), Ultrasonic, Terrorise, Nicky Mac and Scottish favourites Q-Tex and Shades Of Rhythm. All the acts, plus the DJs, are accepted with equal enthusiasm by the enormous crowd, and the entertainment is seamless.

"The live acts were all chosen because they are very visual, which, for me, is very important," comments James. "Someone standing alone behind a keyboard miming to DAT is just taking the piss out of the punters as far as I'm concerned — I'd rather spend three quid on the 12" and stick that on."

Carl Cox, DJ Seduction, Bass Generator and Mikey B are just some of the big DJ names at The Big Bang, joined by Tom Wilson of Radio Forth, Dave Calikes and a host of other well-known DJs.

Add to this discreet security from Rock Steady (who had 150 people on duty); teams of first-aiders; a funfair with stomach churning rides and state-of-the art simulators; reasonable food and drink prices... and you have an event which combines the best – if not the better – of traditional large-scale entertainment facilities in an exciting new format. Afterwards, James sums up the mood.

"We're looking to the future. All the people that worked together on this project know this is the future, and that's what the dance party is all about."●

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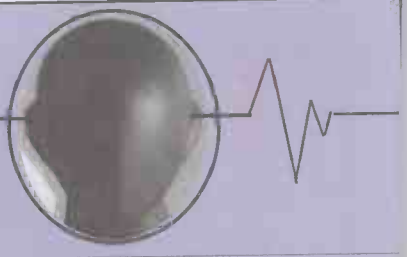

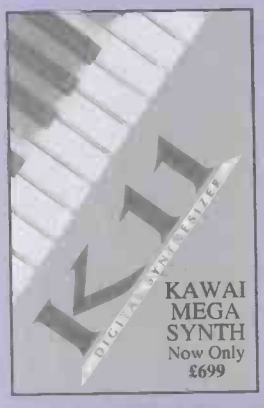

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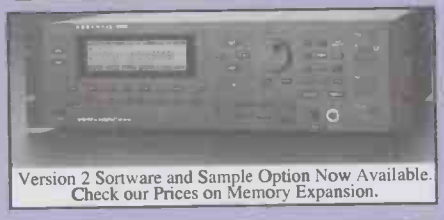

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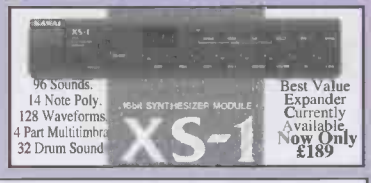

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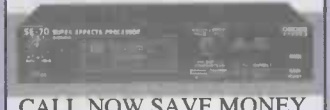

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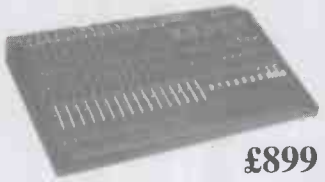

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dolby

Thomas Dolby has been getting his head round virtual reality, computer games and interactive music. Phil Ward gets blinded with science...

Headspace is the name of Thomas Dolby's very own company, based in L.A. Fine, but what sort of company is it? A record company? A publishing company? Neither. A recording studio? Well, yes, but... Really, it's a kind of research and production company. Great. To research into and produce what? Vaccines? Of course not. But... it is very scientific. What else could we expect from the man who brought us The Golden Age Of Wireless and The Flat Earth? Nope, Headspace is nothing less than Thomas Dolby's dream team dedicated to mapping out the future of interactive technology and its benefits for the musician in particular and the creative individual in general.

The company has been going for two years, and employs five or six composers and a couple of sound effects designers on a regular basis. It's a diverse bunch. For example, Iki Levy, who met Dolby during sessions for Ofra Haza, is a Middle-Eastern percussionist; Gerald O'Brien is a Canadian producer and TV composer; and Mike Kapitain used to be the keyboard player in Lost Toy People, Dolby's touring band. The 'sound designers' include Steve Dewey, once a Fairlight salesman, now a successful sound effects designer for TV commercials.

But it's Thomas Dolby's personal interest in interactive technology that provides the focal point. Playing keyboards and producing other artists are activities which have had to take a seat further back in his increasingly lengthy Buick. And one area of this emerging technology is of critical importance to him.

"I became interested in virtual reality about three years ago," he recalls. "I started looking at small companies that were running a sort of virtual reality cottage industry. I had imagined that I would just put on a helmet and be somewhere else – that's your dream of what it's going to be. And while you can see that potential, the fact of the matter was that the headmounted displays were very uncomfortable, and the graphics were very slow, and the experience was not much fun because you got motion sickness.

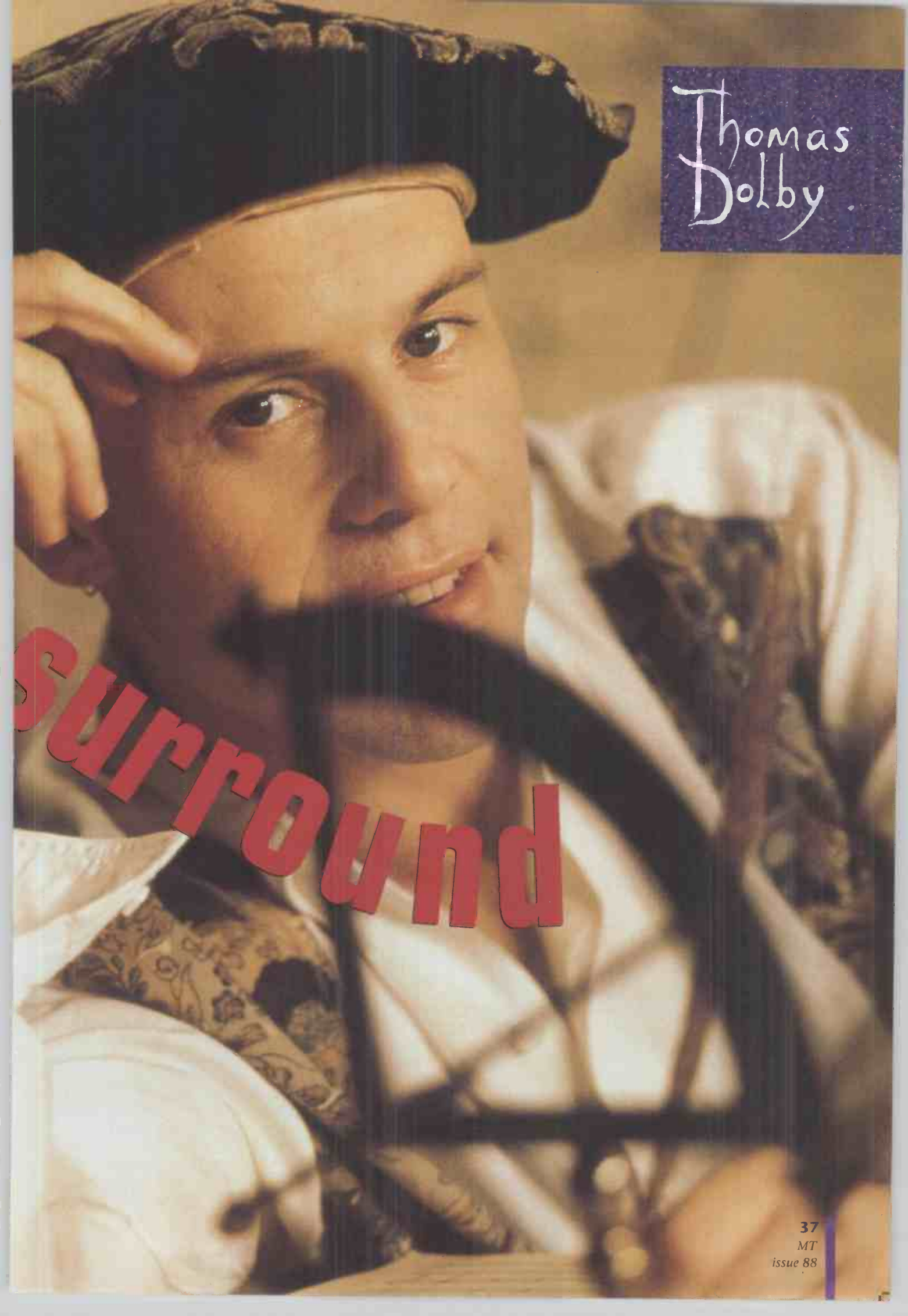
"At the same time, one of the things I noticed was that the moment there was any kind of audio attached to virtual reality, it really improved the experience – even though the audio didn't feel like a sound engineer or composer had been anywhere near it. The quality of the audio was not that great, and yet you could see right away how it could enhance the experience.

"From a technical point of view, there seemed to me to be absolutely no reason why – with the existing technology – we couldn't do very high quality audio, because whereas the boom in digital graphics is ongoing, the boom in digital audio has already happened, it's peaked already. With the right hand at the helm, you could really improve the experience right now by working on the audio.

"The other thing I felt was that the philosophical concept behind the experiences also looked like it had been designed by technicians, and not by entertainers. I felt I needed to grab hold of it and try and push the envelope as much as I possibly could right now."

'Envelope'. What a Dolby-esque word. It goes back to the days when he saw it as his task to stretch the possibilities of the synthesiser and its attendant paraphernalia.

"That's something that I've always done," he agrees, "going back to when I first started making records: take a kind of emerging technology and try and play to its strengths, thereby showing what the creative ➤


Thomas Dolby
surround

possibilities might be. 10 or 12 years ago it was samplers and drum machines and sequencers, which now have become very widespread and cheap. In a way, my role now is to shift into the next set of tools, which is virtual reality and interactivity. That, to me, is very enticing."

And in the meantime, some soundtrack work comes in very handy, thankyou. But not just TV or movies. Headspace is on a mission to ensure that computer-based entertainments and edifications come up to the same (if not higher) musical scratch that television and film have enjoyed for some time. Their commissions are more likely to include computer games and virtual reality installations than Hollywood blockbusters, so if this really is the future they're going to be a big part of it.

"Headspace is a company that has two sides," explains its boss. "One is that we do audio, ie. music and sound effects, for other people's projects – everything from computer games, like a Sega CD game, to a location-based interactive music attraction, which we have already designed for Sony. They're building this kind of 'Sonyland', a place where people can play music interactively. And there's a theme restaurant called The Dive that Steven Speilberg is involved in. It's shaped like a submarine, and during the course of your dinner you travel around the world underwater. The portholes are actually video screens, and they needed some environmental sound effects and music.

"They're all fairly hi-tech applications, and the idea is to provide the right kind of audio for any kind of product. In some cases a games designer will come and say, 'Look, this is a fairly low-aim game. We've only got a few thousand dollars to do the audio...' and I will think to myself, there's that cassette I got a few weeks ago from that amazing 19-year old kid who programmed it all himself. He has no track record at all, never done any professional work at all, and I will introduce him to them and say I think he'd be perfect. That way we work within the budget. So, an audio service company, on one level.

"The other half of it, which is funded by the audio service, is just dreaming. All of the people I'm working with are totally intrigued by the possibilities of all this stuff. And instead of just having an idea that never comes to fruition, we have the resources to try and get it to the next level."

Dolby sees plunging into, say, virtual-submarine restaurants as a natural role, one that he has the right credentials to fulfil.

"I've always been out on the periphery. If you think back to the '70s, there were these new tools, with very few people using them in pop music. There's a real parallel with that now. The hardware manufacturers, games designers, cable companies and computer companies – and, in fact, the film studios – are going to ensure that this thing marches on. They know that they are going to make an enormous amount of money from it. They're not quite sure how, but because it's become possible technologically, it's going to happen anyway – with or without our support.

"Unless artists get involved and do things imaginatively, it'll be things that are already proven – like crash'n'burn type games. We know there's a market for all of that. But people dream about what we could do, and the dreamers are not really being given the opportunity to experiment. It's sad when you consider that mega-corporations like Warner, Sony and so on have the hardware, software and the artists – yet they're not putting their toys in the hands of their artists. We're the entertainers; we know how to put bums on seats. We should be given the opportunity to mess around with it.

"There are a lot of products coming out calling themselves interactive, and a lot of them at the moment are being designed by the big companies. They're not going to their artists and asking them what they want from this kind of product. Peter Gabriel's really hit the nail on the head with Xplora 1, which is for people who want to read the lyrics and go around his studio and maybe meet some of the musicians he jams with and things like that. But for a different kind of act that might not be the case. If you're Take That, for example, you don't need to be seen in the studio. But they have their own fans, and their fans would like a way to get closer. So it's important, rather than some sort of corporation designing a Take That interactive video, that the artists get involved."

Isn't it better that artists get involved away from the corporations, so that in this experimental phase a subculture can build up without the constraints of commerciality?

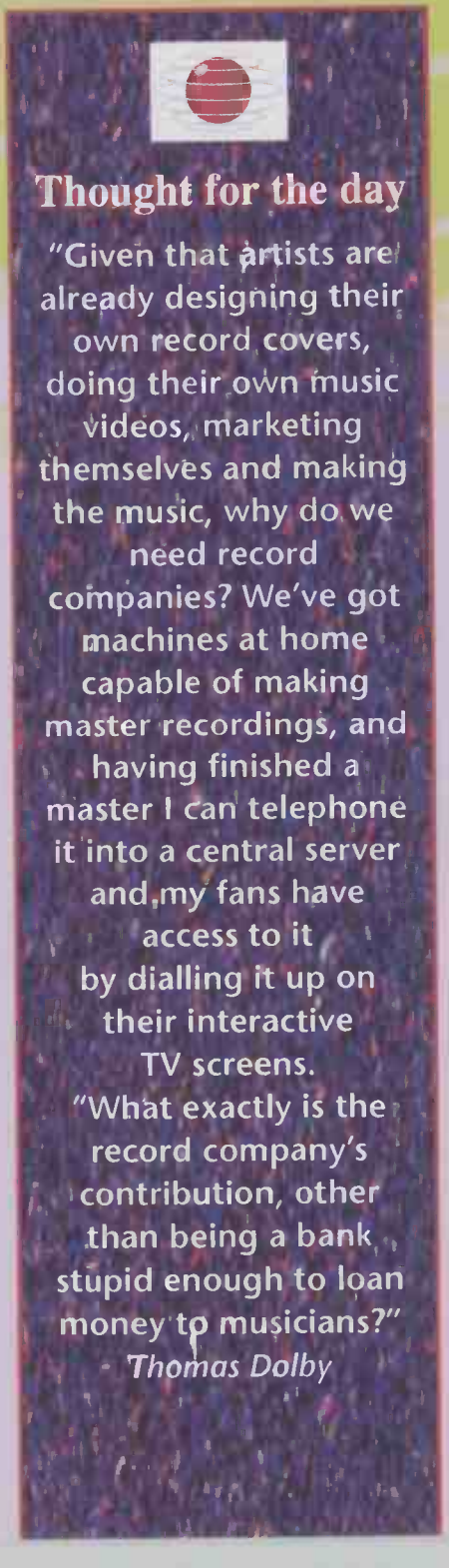
"I think there will be an underground anyway. I've seen some interactive products in this country – Hex and so on – which suggest the British games industry is slightly more clued in than the record industry. The record companies have really got their heads in the sand. As artists, we're not going to need them in 10 or 15 years' time, because the delivery system will be the same for everything, whether it will be movies on demand, your interactive soap opera, your access to the stock exchange – it's all going to come to the same terminal, down the same pipeline."

And if a new industry is coming into being, Dolby believes the artist has both an opportunity and, indeed, a duty to make a mark on it.

"The games industry is already bigger than the music industry, and it's mainly directed at teenage boys. I'm actually more interested in the other half of the world, because I wouldn't like the other half of the world to be excluded from any of this technology. And I think there could be a benefit for older people, or for women, who generally don't like slaying pterodactyls the way teenage boys do.

"Within about five years, most new homes will be built with a multimedia room, which will be blacked out and sound-proofed, with a good sound system, big video screen and a comfortable chair. And probably optical tie-ins to everything in the outside world.

"It will all be coming through the same ➤



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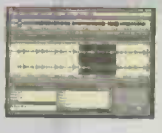

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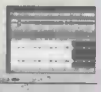

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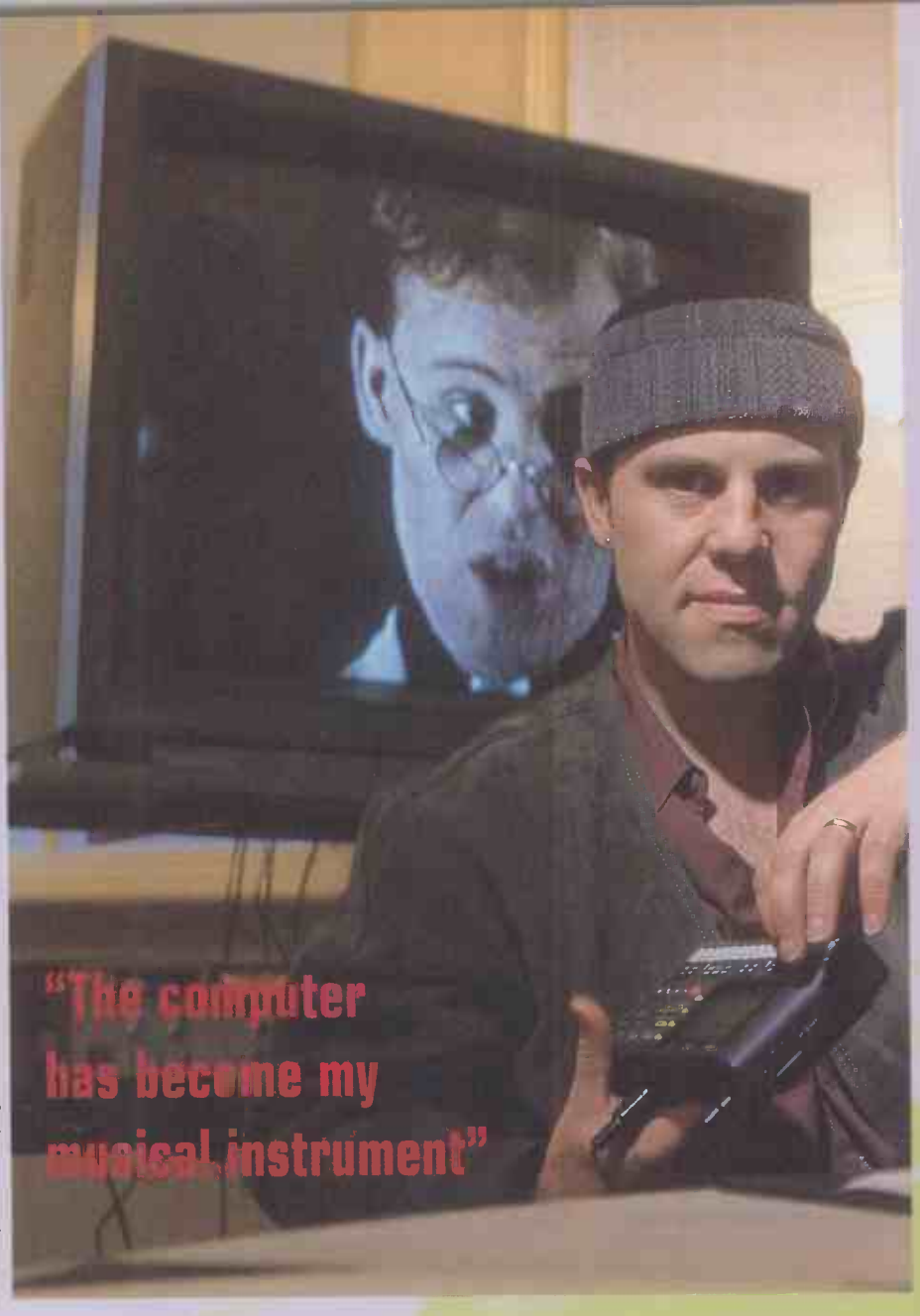

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➤ pipeline, including the music. Once those rooms are in people's houses, I think that the industry will grow out of existing markets, like movie spin-offs and video games and so on. There are plenty of other uses that we could come up with for VR – like relaxation, stimulating your endorphines rather than your adrenals. All of this in going to involve music and audio, and there's absolutely no reason why the quality shouldn't be very high. I'd hate to see it done badly. A lot of people turn off the sound on the Nintendo because it's so irritating. I think that's a shame."

It's one thing to elevate audio to the status it undoubtedly warrants in the interactive environment. It's quite another to revolutionise the way the audio is produced. Yet that's exactly what further research at Headspace is aiming at. Thomas Dolby has a dream.

"One of the things I really want to do," he enthuses, "is develop a more intuitive way for me to interact with the computer. The computer has become my musical instrument. With a piano, you can sit there and get instant gratification for what you do, and express yourself with it. Computers can do all these wonderful things, but it actually takes longer. If I invite my friends over to jam, I can't really do what I do. I'd have to record them, send them away, do what I do on the computer and then have them come back in to see what I've done. It's a very anti-social thing and has got really very little spontaneity to it.

"I don't accept that we're using the computer to its best ability as an interface. It's a machine that was designed for doing spreadsheets and databases, and we're still using the 'qwerty' keyboard and the mouse to do drum kits, orchestras and vocals. I think that's crazy."

What's wrong with a MIDI keyboard?

"The problem is that with a MIDI keyboard you still need to deal with one thing at a time. If I'm playing the keyboard, what I'm basically inputting is notes, but I still want to be thinking about sounds, channels and tracks and about the overall structure. I think of music as a complete work in big, bold strokes. It could have changes in it on an orchestral scale, almost like progressive rock, with tempo changes and key changes at the drop of a hat. Several musicians working together can pull that stuff off, but if you try doing The Yes Album on a MIDI sequencer, it's impossible. It wants to force you into its way of thinking.

"So I dream all this music up and then come in in the morning itching to make it come out of the speakers. So I think, where shall I start? Kick drum. Which module shall I use? Which channel is it coming out on? How many bpm? Should I be routing it? I had better save that file. And what folder should I save it in? Great, got the kick drum, now what shall I do? Now, because of all the features, I can massage that until it starts to sound like a record – but it bears absolutely no resemblance to the music I was thinking of last night. A pianist or a guitarist can think something and then almost instantaneously make his instrument play it.

"A lot of us accept that. But having done work in VR, where I have to design a solution from the ground up, I've started thinking maybe I'm not just at the mercy of Opcode and DigiDesign, maybe I can get this machine to operate as a better musical instrument."

And this is where VR comes in – not just a futuristic distraction, but a highly sophisticated way of sending instructions to, and receiving information from, the computer.

"Virtual reality is more than just a gimmick. It's actually a great way of interfacing with music, and one of the reasons is this: if you create 3-dimensional graphic objects, they have, in addition to a position in space (which you can see as an XYZ axis, mappable to MIDI in terms of pitch and volume and things like that), they also have physical behaviour characteristics. Say I have a ball; what's it made of? How much friction is on the surface? How heavy is it? What happens when it bounces? What is the floor made of? How hard does it rebound? What planet are we on? What happens when it collides with this cube? All of those things are physical attributes which you also can map to MIDI.

"When you're dealing with objects, you're dealing with a MIDI controller that doesn't require a specific skill. Maybe you're better at playing a keyboard, or better at playing a wind instrument, but whatever you have a skill for, you use that as an input ➤

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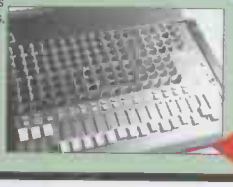

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controller. The average man in the street can take a cassette out of a box, pour water from a jug into a cup, and put flowers in a vase and things like that, and if you're dealing with objects like that, and you make them into a MIDI controller, then you're dealing with a skill that everybody can cope with.

"So you can see the connection with games: in a lot of games, and in VR, you're dealing with everyday objects. What I'm beginning to do is to make those everyday actions into a MIDI controller. Now, there's a couple of things about that..."

We're listening, Thomas, we're listening. (Anyone else remember Magnus Pyke? – Ed)

"Number one; it's great for games, because it means that music becomes fully interactive, and it means that people are generating a musical score from their own actions within a game. As a composer, by constraining that with MIDI, I can make sure they generate a score that will enhance their experience – one which suits the environment, rather than being just loops or those weird soundcard bleeps and blips and things.

"And number two; it's possible to create an environment which knows about me as a musician. If I worked with you as another musician or as an engineer, and if I say

'blue', by next week you'll know what I mean by 'blue'. Now, a computer, as it stands at the moment, will say 'blue, red, green, yellow or brown?', and it will keep giving me all those options all the time. So I actually feel that a much better way to harness the power of a computer would be to imbue it with those kinds of human attributes, where it's a much more intuitive collaborator. In a way, it gives me a narrower palette of colours, rather than a cupboard full of paints.

"It learns as you work with it. Maybe at the end of every session it could make some observations about the way you work, and ask, 'Do you want to memorise any of these?'. Or I could consciously go in there and say, 'When I say 'breakdown' I want you to remove any high-end percussion and leave the kick drum and the bass in'. So then all I have to do is say 'breakdown' – I don't have to go in and do all that editing every time, because I've done it a hundred times before. I hope, at the end of this, to have a musical instrument that is a lot easier for me to compose music with and to perform music on."

Phew. So much for slaying pterodactyls. For all this envisaging, the tools which Dolby and his team are employing for this work right now are real enough. So far, their work in VR has been on the PC, since according to Dolby "that's the entry-level VR development platform". The PC runs a development language called World Tool Kit, which is actually multiplatform. Inside the PC is a graphics accelerator card, and a couple of Advanced Gravis sound cards which will do synthesis or hard disk recording on the PC. "Using two of them," Thomas explains, "I'm able to get eight

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tracks interactively in real time, off the hard drive, in addition to the graphics.

"But eventually I want to use a Silicon Graphics machine, because it can do really magical and wonderful visuals. It was the machine used for Jurassic Park and Terminator 2, and the low-end ones actually have very good audio facilities. It'll do 4-track hard disk editing, and there are people developing musical applications for it which are very, very powerful. It uses audio rather like a MIDI sequencer which has one single list of MIDI events. Our interface divides it up into tracks, but as far as the computer is concerned it's just a list of ones and zeros. In a way, 'tracks' are obsolete.

"So it does some good things with audio, but mainly the look of its graphics is very, very sexy, so I'd like that to be the graphic engine for my musical system."

And the musical system itself is Mac-based...

"We've got them networked together. We're just about to switch to a server system where basically we have a giant Quadra with something like 10Gb of memory in it, where we have a big library of all the sounds that we have. Anybody can draw out what they need at a given point. And the nice thing about that is that we can keep all the spaces working all the time, and if someone needs to do a final mix or something they can be in the number one room, whereas if someone is just composing something he can be in one of the cheaper rooms. Everybody's locked into MIDI."

Message to MT readers

"I'd like to invite people to send tapes, if they'd like to compose music for some of the stuff I'm involved in, and I'd be very eager to listen."

Got some audio material suitable for games and VR? Send it to:
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Headspace
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It's a unique environment created by a truly pioneering artist. Many pop musicians born into a pre-Nintendo world of MTV and MIDI have had at least some grounding in how to exploit integrated systems and a highly visual image. But not many have grasped the multimedia nettle quite so firmly as Thomas Dolby, a man dedicated to getting his head round the audio-visual parts other people cannot reach.

"Well, I always did, because of music videos. I quite often thought ahead to the video and almost wrote the song as a kind of soundtrack for the video. One of the things I'd like to be able to do more and more is develop original titles in-house. The first one of those I'm working on right now is a CD-ROM game based on a Coppola movie called The Conversation [1974, starring Gene Hackman]. It's very audio orientated, and I've managed to find a collaborator – a CD-i developer funded by Philips. It might be out by the end of '94, beginning of '95." ●

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			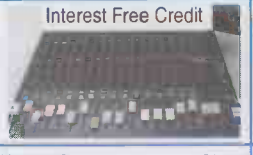	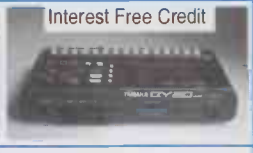
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QUALITY CONTROL

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MT issue 88

Contributors:

- Ian Waugh
- Ian Masterson
- Simon Trask
- Dave Stewart
- Bob Walder
- Peter Forrest

REVIEW

Roland

ATW-10 Audio Producer

for the PC

With a critically acclaimed new sampler to their credit, Roland have now turned their attention to PC-based sound recording and editing. Can they repeat their success? Review by Ian Waugh

One expects major electronic musical instrument companies such as Roland and Yamaha to know a thing or two about current 'growth areas' in technology. So when both companies start to gear themselves up to address the computer-based music market, it's safe to assume expansion in this area is likely to be considerable in the near future. Judging by the plethora of sound cards on the market, this is strongly linked to massive customer interest in music files and audio recording at the moment.

We're not talking commercial studios here, but your average games-playing computer user who wants to hear the cannons roar and the soundtrack playing *The Valkeries* as he or she mows down another tribe of peons from his or her gunship.

They may have once brought us antiquated 2-operator FM sound and rather iffy 8-bit audio, but sound cards have moved swiftly into the major league with high quality 16-bit stereo sound and wavetable and PCM synthesis. (A feature on sound cards coming up in *MT* very soon.)

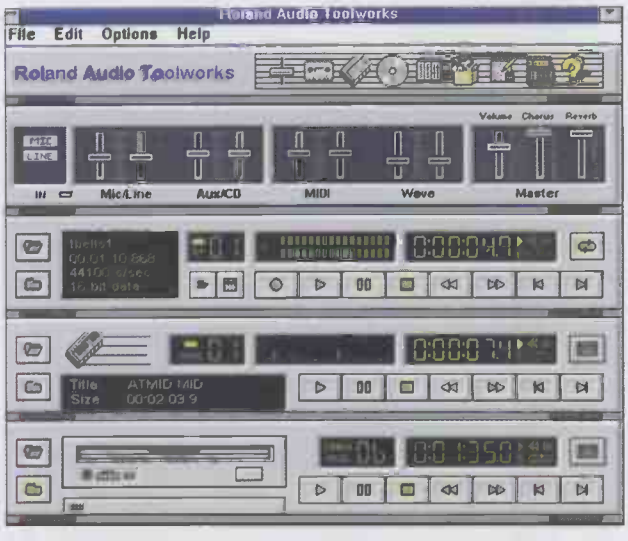
Roland's latest offering for the PC, the Audio Producer comprises the RAP-10 sound card and Audio Toolworks software – hence the ATW-10 moniker – but I think Audio Producer sounds nicer and is certainly far more informative. To run it you need a 386 machine (although the manual recommends a 486 and so would I) with a free 16-bit card slot, 4Mb of RAM (8Mb recommended), Windows 3.1, 4.3Mb of free hard disk space (another 5Mb is required for the demo songs) and enough free hard disk space to record your own material. A built-in CD-ROM drive is useful, too.

The RAP-10 card is surprisingly straightforward to install but, as with all PC cards, you need to check that the I/O, IRQ and DMA settings don't conflict with anything else you have in your PC. They did in my PC, but the manual is very clear about which jumper settings you need to alter and the Setup in the Drivers Control panel lets you do the rest. Forgive my smugness, but I have three digital audio devices currently installed in my PC. I know, it sounds like an accident waiting to happen but I've had no irreconcilable conflicts. So far...

The card has Mic and Aux audio inputs, and an output socket – all on stereo mini jacks – and there's a joystick/MIDI connector which supports the standard IBM analogue joystick. To use it for MIDI you need the optional MCB-10 MIDI connector box. There's no CD-ROM interface, but then many of those on other sound cards are specialised and won't work with all CD-ROM drives, so you could argue it's better off without one. Being able to output the audio from an internal CD-ROM, however, certainly would have been useful. As it is, you have to plug it into the card's Aux socket. It works fine but if you want to record another external audio source you'll have to swap plugs.

Installing the software is fairly painless: you end up with no less than seven integrated programs which are among the most 'graphic' software I've ever seen. Even the Help file – which is very extensive – is icon-driven!

The hub around which the Producer revolves is the Rack. It's laid out like a hi-fi system and comprises Mixing Panel, Wave File Recorder/Player, a MIDI File Player and a CD Player. These function exactly as you would expect by clicking on play, record, forward and skip buttons. You can adjust the volumes of each (and of course, play all three together), check file info about the wave and MIDI files, set up track lists for the CD and MIDI players (you can play up to 48 MIDI files in sequence),



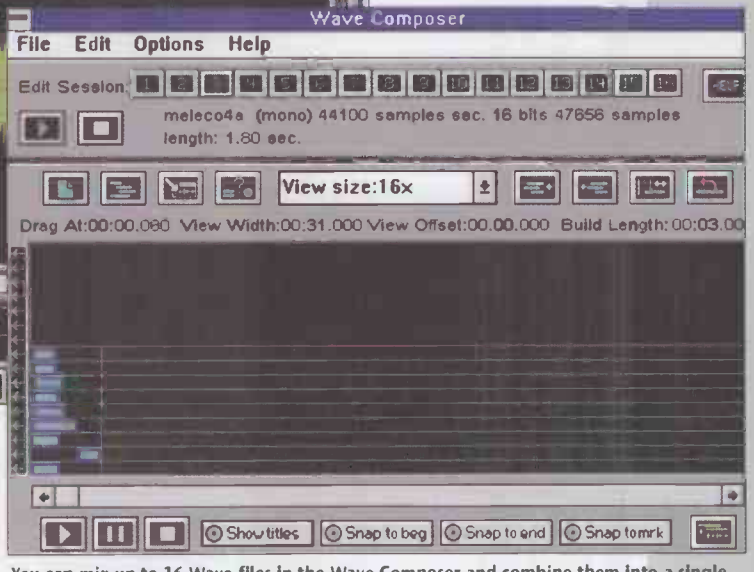
The main Audio Toolworks program consists of a Mixing Panel, Wave file player, MIDI file player and a CD player. It works just like a hi-fi system which you control with the mouse.

Wave goodbye – to your disk space

The higher the sample rate, the more disk space a digital audio recording will require. If it's in stereo, it will require double that amount. Here's a quick guide to the amount of space a 1-minute recording will use.

Sample rate	8-bit mono	8-bit stereo	16-bit mono	16-bit stereo
11kHz	662K	1.32Mb	1.32Mb	2.64Mb
22kHz	1.32Mb	2.64Mb	2.64Mb	5.28Mb
44kHz	2.64Mb	5.28Mb	5.28Mb	10.56Mb

The Waveform Editor has lots of sophisticated tools for editing WAV files.



You can mix up to 16 Wave files in the Wave Composer and combine them into a single stereo Wave file.

loop playback and so on. A version of the Mixing Panel called the Level Mixer can be opened separately for use with the other programs, too.

It all integrates superbly, but I did have a problem with the CD player which wouldn't play some of the tracks on certain CDs – despite the fact these played fine with Media Player (my default test tool for all media playback files and devices). Nothing is 100% guaranteed with PCs, of course, and this was the only problem I encountered with the software, but it was rather weird nevertheless.

From The Rack's Wave Player/Recorder you can access the Waveform Editor in which you can edit standard Windows WAV files. There are actually 16 Editors available; you can have them all open at once on your desktop – memory permitting – the Session Manager offering an easy way to access and manage them all. The Editors actually work much like standard waveform/sample editors, but have lots of features including a noise filter, a gain control (to adjust the volume of a part of the waveform), reverse, and fade in/out effects. You can add and remove silence, apply several echo effects, split a stereo file into two mono sessions, and pan and crossfade across stereo recordings. The Time Scale marker can display time in minutes, samples, music beats or SMPTE and a Music Beat definition option lets you manually tap out the beat and then calculates the average tempo.

Of course, there are the usual cut, copy and paste functions, an excellent zoom facility, the ability to scrub through the waveform and you can merge two mono recordings into one stereo recording. True, the Editor doesn't have the kind of digital effects found in some editors. There is no EQ (other than a simple filter in the Event Mixer – coming up) and no timestretch (although some sort of pitch/time facility is scheduled to be implemented in the next update), but not all the high-end pro systems have these either – and some don't have half the functions Toolwork does have.

The Waveform Composer lets you visually mix up to 16 Wave files into a single composition and works much like the Arrange page in Cubase. The files appear as oblong bars and you simply drag them to the required position in the window. What you can't do, however, is play them as you arrange them – that would be asking a bit too much. You have to arrange them, combine them then play them. But if the arrangement isn't right, you can go back and re-arrange some more.

The WaMI Mixer is where the fine tuning is done, mixing digital audio and MIDI files.

The WaMI Track sequencer lets you combine Wave files with MIDI files. It works a little like the arrange mode in sequencers where you drag patterns around the screen.

The WaMI Track Sequencer is where things start to get really interesting. Here you combine Wave and MIDI (WaMI, geddit?) files, again, in much the same way as the Waveform Composer, by dragging patterns around the screen. There are ➤

The Session Manager gives you easy access to all the Waveform Editor windows and lets you give Wave samples meaningful names (*like Tristran and Peers*).

➤ two Wave tracks in which you can place up to 32 consecutive Wave files and a MIDI track which can take 16 MIDI files. A mono Wave may be used on each Wave Track or one stereo Wave used on both tracks.

The WaMI Event Mixer gives you precise control over the playback of the files. It's modelled on a studio mixer with faders, mute and solo buttons, pan, reverb and chorus controls, plus a definable control. On the Wave channels this can control pitch, a filter or volume. On the MIDI channels you can assign it to pitch bend, modulation, expression, aftertouch or any controller number.

It's also possible to mix 'on the fly' recording changes into the file. The controls move on playback, too – I just love automation! Alternatively, you can take snapshots which move the controls instantly to a predetermined position. Different sounds can be selected for the MIDI channels from pop-up menus which list all the GM sounds in the card, and the Mixer supports MTC (MIDI Time Code) so you can also sync to an external clock source.

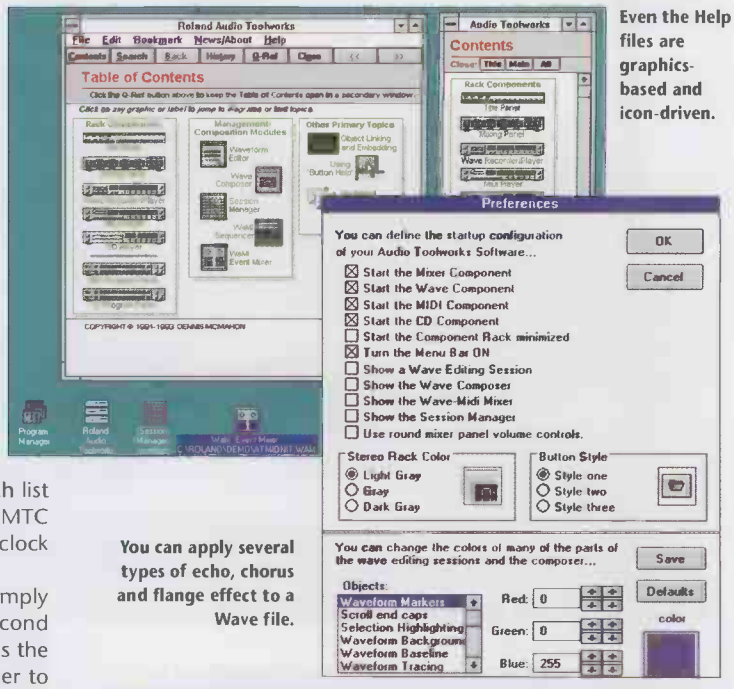
WaMI files are saved in one of two formats. The first simply points to the location of the Wave and MIDI files, the second bundles all the files together into a new file. The former is the most economical in terms of space, but the latter is easier to transfer to other machines. It's a little like Windows' OLE (Object Linking and Embedding) which the program also supports.

The button icons can be customised, and it's possible to alter the colours of various parts of the programs. You can even select slider or rotary controls for the Mixing Panel in The Rack. The manual is excellent: coupled with highly graphic nature of the program and the excellent online Help you should have no trouble using the software. But why no index, chaps? Marred for just another day's work.

Audio Producer doesn't give you the 1001 pieces of software bundled with most sound cards – heck, you don't even get a MIDI sequencer or a talking parrot. In some ways that's a shame, but by not dwelling on the peripherals, the system has been left free to concentrate on its major purpose – the integration of MIDI and digital audio files.

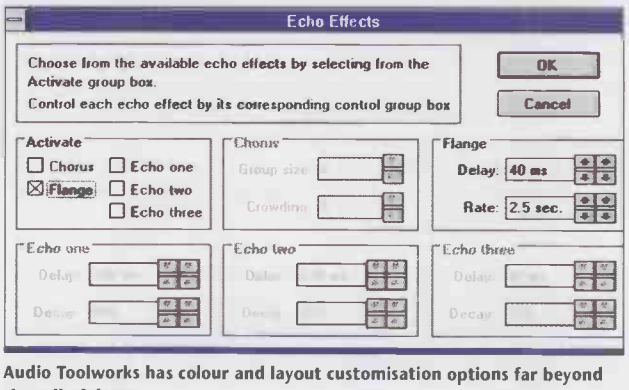
This is a tool not just for the hobbyist but for the serious musician, songwriter, demo-maker and multimedia producer, too. It's a tool to create and edit audio recordings; a tool to capture and edit CD samples; a tool to embed sound, MIDI and CD tracks into documents and presentations; and a tool to combine vocals, samples and audio tracks with a MIDI file.

If they presented Oscars for hi-tech design work the ATW-10 would collect three. At least. I'm impressed as hell. ●

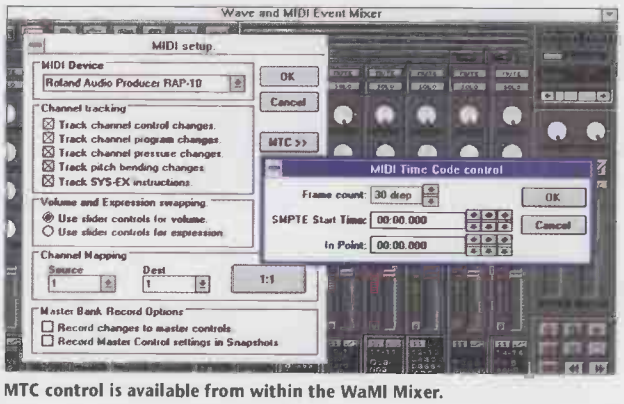


Even the Help files are graphics-based and icon-driven.

You can apply several types of echo, chorus and flange effect to a Wave file.



Audio Toolworks has colour and layout customisation options far beyond the call of duty.



MTC control is available from within the WaMI Mixer.

Virtual recording

Toolworks employs a 'virtualisation' process which lets you work with files much larger than your PC's available RAM. It effectively reads the data from disk when required – like a direct-to-disk recording system – so you can record full-length songs providing you have enough free hard disk space.

There are a few restrictions on some of the effects you can apply to a virtualised file – no reverse, add or remove silence functions, for example – but you can always 'unvirtualise' a file providing your computer has enough RAM.

On the card

The RAP-10 contains 128 sounds and six drum sets. It's not a GS chip but a GM chip – the same as the one in the SC-7. Reverb and chorus effects are included and it has a maximum polyphony of 26 voices. Sampling is 8-bit or 16-bit in mono and stereo at 11.025, 22.05 and 44.1kHz sample rates.

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8-bit COMPARISON

	MONO		STEREO	
	AZTECH SOUND GALAXY BX II	CREATIVE SOUND BLASTER VERSION 2.0	CREATIVE SOUND BLASTER PRO II	AZTECH SOUND GALAXY NX PRO EXTRA
No Of Sound Standards	2	2	3	5
AdLib	●	●	●	●
Sound Blaster Version 2	●	●	●	●
Sound Blaster Pro II		●	●	●
Covox Speech Thing			●	●
Disney Sound Source			●	●
FM Synthesiser - OPL2	●	●		
FM Synthesiser - OPL3			●	●
Manual Volume Control	●	●	●	●
Digital Software Volume Control			8 steps	16 steps
Digital Bass & Treble Control			●	
Sampling Rate, Recording Up To:	23KHz	15KHz	44.1KHz	44.1KHz
Sampling Rate, Playback Up To:	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				OPTION
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 NX PRO 16	AZTECH SOUND GALAXY BASIC 16	CREATIVE SOUND BLASTER 16 ASP	AZTECH BUSINESS AUDIO BOARD	MICROSOFT MSWSS WINDOWS SOUND SYSTEM
No Of Sound Standards	6	6	2	2	1
AdLib	●	●	●	●	
Sound Blaster Version 2	●	●	●		
Sound Blaster Pro II	●	●			
Microsoft Windows Sound System	●	●		●	●
Covox Speech Thing	●	●			
Disney Sound Source	●	●			
FM Synthesiser - OPL3	●	●	●	●	●
Digital Software Volume Control	●	●	●	●	●
Digital Bass & Treble Control	●	●	●	●	●
CD Quality 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	OPTION	OPTION		OPTION	
CD-ROM Interface (SCSI)	OPTION			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 Synthesiser	●	●	●		
Stereo Lines In And Out	●	●	●	●	●

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REVIEW

Peavey DPM Si

synthesiser

Photos: James Cumpsty

Peavey add a 76-key synth to their DPM range – but is it one synth and 15 keys too many? Simon Trask sits in judgement...

Over the years, synth manufacturers have settled on 61 keys as the standard keyboard span. Buying a 76- or 88-note synth often means forking out upwards of £2000 for the privilege, and almost invariably means you'll end up with a fully-equipped workstation synth. If you don't want to travel down this particular path, it's possible to get the keyboard span you need by paying £1000-1500 for a dedicated MIDI controller keyboard or one of the cheaper digital pianos, and get your synth sounds from a MIDI module instead.

All credit, then, to Peavey, who have added a 76-note synth to their DPM range and are charging only £1399 for it – less than the cost of many a 61-note synth. Indeed, Peavey's own 61-note DPM3 SE Plus synth (see *MT* August '91 for a review of the DPM3 SE) costs £100 more than the Si, while the forthcoming DPM4 will cost £600 more; only the budget-minded DPM2, at £999, costs less.

So where's the catch? Well, the DPM Si forgoes the onboard sample RAM capabilities and built-in disk drive of the DPM3 and DPM4, can use only two digital effects simultaneously to their four, and (like the DPM2) has one oscillator per Program to their two.

But it's not all on the debit side. For instance, Peavey have given their new synth 32-voice polyphony, which is double the number of voices on the 2 and 3 (DPM3 owners will only be able to get 32 voices by purchasing the upgrade kit to take their instrument to DPM4 spec). The Si also has a 10Mb ROM sound set; in comparison, the DPM3 has only 4Mb, but of course allows you to add your own samples via its sample RAM. Peavey will be using the Si's ROM set in the DPM4 and the DPM3-to-4 upgrade, putting the 76-key DPM on an equal footing with its more expensive relatives in this respect.

In creating the new ROM set, Peavey have worked in conjunction with third-party sample developers such as Prosonus, McGill University and Northstar, improving or replacing many of the original DPM2 and DPM3 samples as well as adding new ones. Bearing in mind that the DPM Si will be first and foremost a player's instrument, Peavey have replaced the original acoustic piano of the 2 and 3 with a superior multisampled 9' Steinway from the McGill University Master Sample Library. The expanded sample set also includes new orchestral strings, brass and woodwind. In fact, acoustic instruments are better represented on the new DPM, both in terms of quality and quantity, than they are on the 2 and 3.

Further ROM samples can be added to the Si via an internal expansion slot, though as of writing no expansion ROM sets are available. On the subject of expansion, you can add extra Programs via plug-in RAM and ROM cards – one card due from Peavey will provide a GM-compatible arrangement of Programs.

The Si's 76-note keyboard has a very well-balanced feel, sitting comfortably inbetween synth- and piano-style actions, veering slightly more towards the former but having enough resistance in the key depression to give that all-important feeling of substance. Key release is just right, too, being neither sluggish nor 'flappy'. All in all very playable – definitely one of my favourite keyboard actions.

In keeping with its gigging muso orientation, the Si's factory Programs place the emphasis on keyboards, real instruments and pads – and to very successful effect, too. Yet a listen to the ROM samples and waveforms reveals a much more diverse sonic resource, one which would allow the Si to produce sounds in a more contemporary techno/ambient/industrial vein with suitable programming. All in all, the quality of the ROM sounds is very impressive; particularly evident is the care which has gone into getting the samples of acoustic instruments just right – the Si's samples are among the best you'll find.

The overall sonic character of the Si, as with the other DPMs, is one of richness and warmth combined with clarity. This is an instrument which not only can deliver sounds which have real body and depth, but also sounds which can cut

through a mix with impressive bite and definition.

The Si's sonic versatility is well evidenced at the bass end, where the instrument is equally adept at producing full, warm or tight, punchy bass sounds. Well worth checking out – as are the electric piano sounds, which encompass warm, mellow Rhodes sounds and characteristically bright, sharp FM electric piano sonorities. I wouldn't mind betting that many players will be sold on the DPM Si purely on the strength of Program 002, 'Roads X-fade'. One of the best Rhodes recreations I've ever heard, it captures the sonic range of the real thing very effectively and is an immensely playable sound.

In fact, playability is something the Si has in bucketloads. You'll find plenty of excellent sounds across a whole range of categories – acoustic and electric guitars, pads, organs, lead sounds, strings, woodwind... Not that every Program is a winner; the brass sounds are a bit of a mixed bag, some of the ensemble strings are too bright and lacking in body, and the choral sounds tend to be on the thin side. Also, nil points go to the excruciating solo violin, which sounds like it's being tortured by a mad gypsy on acid. But such indiscretions are more than countered by the many gorgeous sounds — check out, for instance, 'Johnny's Flute' (Program 074) and 'Miles Horn' (Program 176). One feature of the DPM Si which I find annoying is its inability to sustain sounds over Program changes; select a new Program and the existing one is cut dead – which hardly makes for a smooth transition.

Programming is made as straightforward as possible by the neat, well-structured presentation of parameters via the Si's 2 x 40-character backlit LCD and by the instrument's accessible front-panel layout.

As it is, the Si's synthesis architecture springs no surprises: a single oscillator is routed through a low-pass filter (with resonance control) and a DCA with a 5-stage amplitude envelope. A 5-stage auxiliary envelope and an LFO can be freely assigned as modulators, as can the amplitude envelope, note position and velocity, Si controllers such as channel aftertouch, mod wheel, pitchbend wheel and data slider, plus any four external MIDI controllers (assigned as A, B, C and D). Modulation destinations can have two sources, and you can use one modulator to modulate another, so there's plenty of flexibility in this area.

Effects parameters can also be modulated – though in this case one parameter per effect, with a single mod source. So you could, for instance, modulate reverb (damp, time or mix), delay (feedback or mix) or chorus (mix, rate or feedback) from the Si's mod wheel or data slider or any external MIDI controller. The effects are of a satisfyingly professional quality, have been given a reasonable degree of programmability, and taken as a whole are a moderately versatile collection – aided by a flexible choice of effect configurations.

The 10 built-in Drum Kits, programmed in Global mode, each consist of up to 32 Instruments. You can assign any one of the Si's Waves to each of these Instruments (not necessarily a drum or percussion sound), and set HiKey, coarse & fine tuning, filter cutoff point, decay rate, level, output routing and pan position per Instrument. Peavey have provided several GS Format-compatible drum kits; combine these with the forthcoming GM/GS card mentioned earlier and the Si is well set up for use with MIDI songfiles.

Peavey have got round the potential sonic limitations of the Program's single-oscillator architecture by implementing a Combi program type within Program edit mode. Select Combo instead of Single and you can 'add' up to three other Programs to the main one in split/layer combinations. The Si lets you program both note and velocity splits, and set volume, volume mod source, mod-source scaling, transpose, detune and delay amounts for each Program. In this way you can fatten up sounds (using layering and detuning), assign different sounds to the left and right hands (eg, for a bass/piano split) or create velocity splits or velocity crossfades.

If you want to assign split/layered Programs to different MIDI channels, however, you have to turn to the Si's Performances; there are 100 of these onboard the synth, all of them user-programmable.

A Performance lets you create up to four overlapping keyboard Zones, each of which can be assigned a Program (Single or Combi), note range, transposition amount, volume level, output bus and pan position. Performances don't have their own effects setups – instead you can assign internal or card Program's effects setup. Zoom Edit is a particularly neat feature which allows you to edit any Zone's Program and any selected effects setup within the context of the Performance.

For MIDI purposes, each Zone can be assigned a MIDI channel, bank number, patch number and volume level; you can also set whether or not it will send pitchbend, mod wheel, aftertouch, sustain and volume data generated from the Si. To create a MIDI-only Performance setup, or a Performance which uses a combination of internal and MIDI'd sounds, you just set the Program parameter in the relevant Zone(s) to Off.

DPM Si FX

Reverb, Delay, Chorus1, Chorus2, Shelving Filter, 5-Band Graphic EQ, Gate, Distortion, Exciter, Rotating Speaker, Qverb.
Reverb can be assigned to either FX1 or FX2, while Qverb can only be used in Single mode (FX1); all other effects can be assigned to either or both FX processors.

Hard Fax

Keyboard: 76 keys, velocity and channel-aftertouch sensitive
Polyphony: 32 voices
Multitimbrality: 16 parts
Sample ROM: 10Mb; 174 16-bit PCM samples + 10 multisampled drum kits
Memory expansion: optional extra sample ROM via internal expansion slot
Programs: 200 RAM, 200 ROM, 100 card
Performances: 100 RAM
Multis (16-channel): 50 RAM
Sequencer: 16 tracks, 80,000 notes, 10 Songs, 50 Sequences
Effects: two processors (FX1 and FX2), six processor configurations, 10 effect types (+ bypass), dynamic modulation of selected effect parameters
LCD: 2 x 40 characters, backlit
Rear-panel connections: Main and Sub stereo output pairs, card slot, MIDI In, Out and Thru

The Si can be set to receive 16-part multimbrally via MIDI, and allows you to program up to 50 Multis with Program, volume, output bus and pan position set-tings for each MIDI channel. You can select Multis man-ually, or else assign a Multi to any Performance so that it will auto-matically be called up whenever you select that Perform-ance. Using the Si's Program Map to map MIDI patch numbers to Performances, you could also automate Multi selection from a MIDI sequencer.

While the absence of a built-in disk drive may dent the Si's credibility as a workstation instrument, the new DPM does nonetheless include a 16-track, 80,000-event onboard sequencer which in terms of spec and ease-of-use is up there with the best of the bunch. At the same time, if you have no use for an onboard sequencer the Si is still priced at a level where you needn't feel shortchanged.

The Si's sequencer memory is battery-backed, so you won't lose your Songs and Sequences whenever you switch the instrument off. For external storage and backup you can always bulk dump your sequence data via MIDI to a generic SysEx ➤

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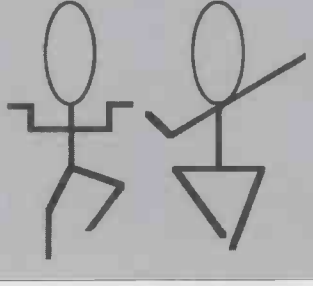

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➤storage device such as an Alesis Datadisk. Many musicians who work with a computer-based sequencer in the studio use a Datadisk for live work (see, for instance, the interview with Ultramarine elsewhere in this issue).

Operationally and conceptually the Si's sequencer will be familiar to anyone who has used Peavey's DPM3, or indeed any Ensoniq workstation synth (the two companies have very similar approaches to sequencer design). Basically, you record individual 16-track Sequences and then chain them together into a play list to create a Song. The Si lets you have up to 50 Sequences and 10 Songs in memory at once. Individual Sequences can be up to 996 bars long, and can be assigned a time signature in the range 1/4 to 32/4; record resolution can be up to 96ppqn.

Each track within a Sequence can be assigned its own Program, volume level, pan position, play setting (internal only, MIDI only, or both), output bus routing (Main, Subs, Both or Program) and MIDI channel. Recording is via a standard tape-style transport arrangement (Play, Rewind etc), and gives you a choice of replace and overdub record modes. With Sequence looping selected, you can overdub parts on successive passes – ideal for recording rhythm tracks.

The track editing functions available are copy, merge, insert section, delete section, timeslide (to single clock resolution), quantise (with record and playback-only options), erase, transpose and velocity-scale (the latter three optionally with programmable note ranges). Microscope Edit allows you to add, delete and change individual sequence events, while at the other end of the scale a feature called Q-play allows you to cue up Sequences and/or Songs 'on the fly' during playback – though disappointingly there's no way of recording your live selections directly into a Song chain.

If you appreciate sonic warmth, brilliance, grit and sheer ballsiness, you can't afford to ignore today's generation of American synths. Although relative newcomers to the synth scene, Peavey are up their with the best of 'em in many respects, though they have yet to display Kurzweil's or E-mu's propensity for sonic innovation.

If you're looking for a solid and versatile 76-key performance synth for use live on stage, you simply must check out the DPM Si – it's tailor-made for the job. At the same time, the new DPM is also well suited to occupying the central position in a studio-based MIDI setup (somewhere I'm seriously considering putting it). It's worth bearing in mind that even if you don't need the 'extra' keys for synth performance, they can come in useful for remote-controlling MIDI sequencers such as Cubase and Creator/Notator, and for triggering samples and (multimedia alert!) MIDI-controlled images, video and lighting.

I've had the DPM Si for a while now, and far from tiring of it I've grown to appreciate its sonic and other capabilities more and more. On the one hand it provides plenty of instrumental sounds which players will love, on the other hand it has the sonic versatility to satisfy many if not all the cravings of the so-called 'non-musicians'. ●

THE LAST WORD

Ease of use	Wonderfully simple/simply wonderful
Originality	Mature and well conceived rather than strikingly new
Value for money	Excellent
Star quality	A solid performer
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REVIEW

Korg

Audio Gallery AG

Multimedia Music System for PC & Macintosh

Photo: James Cumpsty

A music system for multimedia use rather than a multimedia system in its own right, does the Korg Audio Gallery amount to anything more than General MIDI for the computer user? Ian Masterson turns on and tunes in...

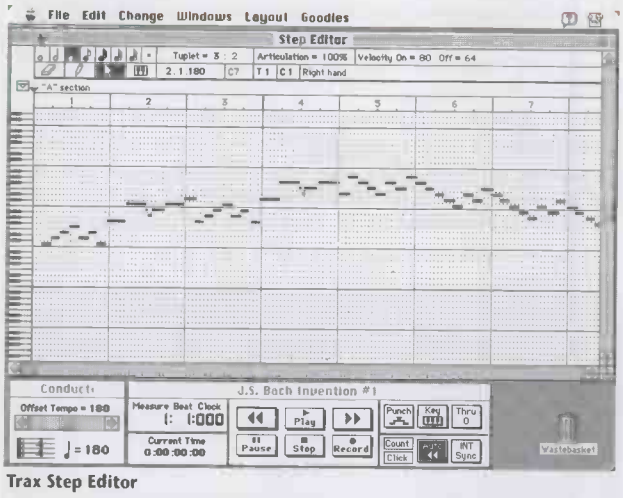
As the frontiers of multimedia technology continue to be pushed back and the computer is seen increasingly as the centre of creative activity, the major synth manufacturers have turned their attention to producing packages geared less at the dedicated musician, and more at the 'all-in-one' technophile – the consumer who wants his desktop to be the complete creative centrepiece. The role of the computer in music is no longer restricted to running dedicated sequencer or notation programs; instead, a single CPU can act as the brain behind video editing, animation, graphics, music and performance control. Yamaha recently introduced the strangely-named Hello! Music! package as its offering to the multimedia masses; one cardboard box contains a sound module, a selection of software and all the leads necessary to take care of your desktop musical wishes. The approach is not merely that of a glorified sound card; the voices, MIDI interface and editing/sequencing software all become part of a centralised music system that 'talks' to any other creative program(s) you may choose to work with.

Korg's Audio Gallery package, which is available in PC and Mac versions (AG-101 and AG-102 respectively the essential difference being the language the software is written in), is very much their answer to Yamaha's Hello! Music!. Your £399 quid buys you an external sound module – the AG10 – a bundle of interface leads to hook the module to your computer, a wad of manuals, and a disk containing Passport's Trax and MIDI Player programs alongside Korg's own voice-editing software.

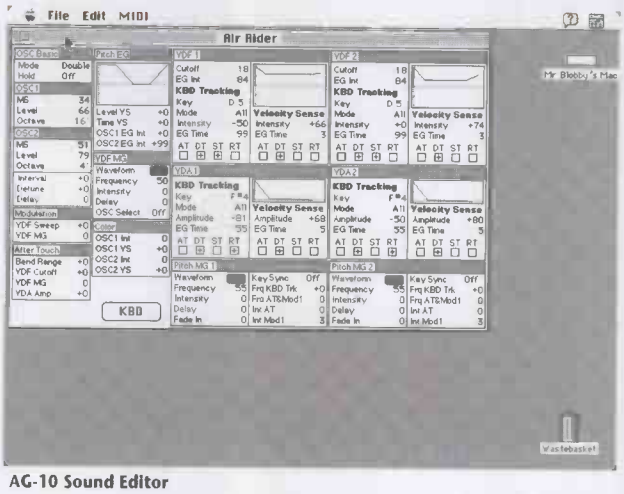
The AG-10 connects to your computer via the modem or printer socket, in standard MIDI-interface fashion (Korg supply their own MIDI driver on the accompanying disk, which configures the modem port to handle MIDI data at a clock speed of 1MHz). The design of the module is understated to say the least; I was expecting something along the lines of Korg's 05R/W unit, but the AG-10 is simply a beige metal box with a smattering of sockets and two front panel controls – the on/off switch and the volume knob. This reflects the fact that everything you do to the AG-10 must be done through software; there is absolutely no need to touch the front panel once the master volume level is set to your satisfaction. The rear panel connections are similarly sparse; apart from the MIDI and headphone sockets, you are provided with two pairs of phonos – one set handles the output of the AG-10, and the second can be used to cascade the output of another sound module or tape deck through it, should you lack an audio mixer. As ever, power is drawn from an external 9v DC transformer.

The internal workings of the AG-10 are slightly more impressive. Korg describe the unit as a 'wavetable sound module' – this refers to its employment of AI² synthesis technology in the

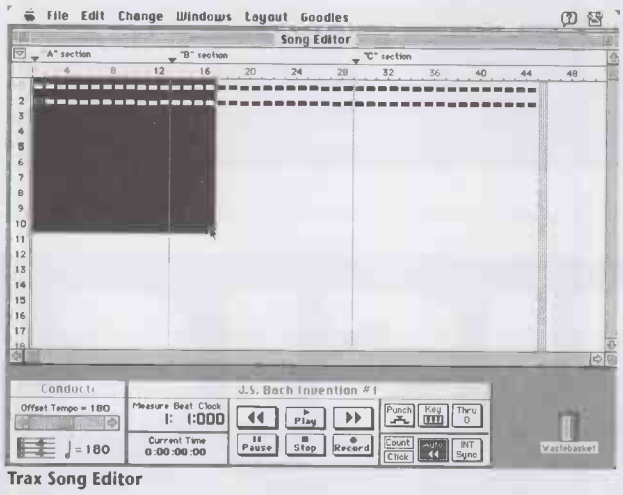
-101 & AG-102



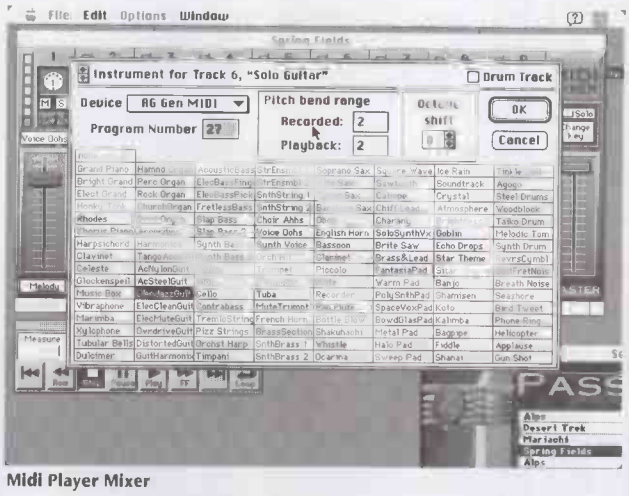
Trax Step Editor



AG-10 Sound Editor



Trax Song Editor



Midi Player Mixer

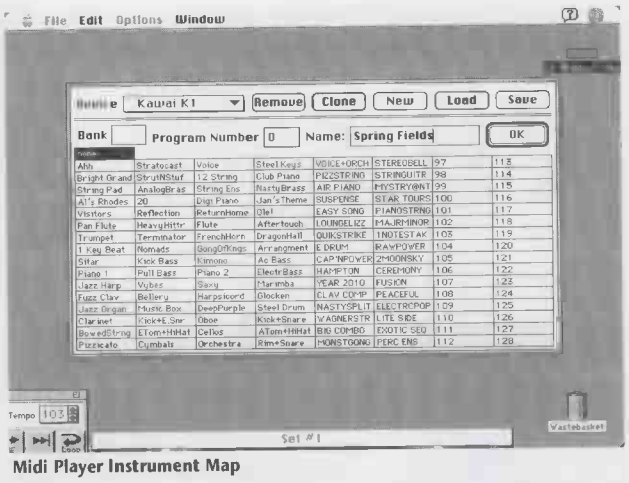
creation of its 128 internal sounds. These sounds are arranged according to the General MIDI protocol, and the unit boasts 32-note polyphony, 16-part multitimbrality and reverb and chorus effects. Plus, should you own any further MIDI-equipped modules or keyboards, you can use the MIDI sockets on the AG-10 as a dedicated MIDI interface for your Mac or PC, with the software driving the AG-10's sounds independently of the 16 'external' MIDI channels. Not bad for a small, beige box.

The sounds themselves are pretty respectable; if you're familiar with General MIDI, you will doubtless have a rough idea of what to expect here. Personally, while I acknowledge that the quality of AI² makes for a more convincing set of voices in the AG-10 than quite a bit of the competition, I can't help feeling that the sounds are just a bit too prosaic to be considered inspiring. That's not to say you can't work with them: I have no doubt that they are ideally suited to anyone tentatively experimenting with General MIDI for the first time, but it would be misleading to suggest that the AG-10 offers you an instant way of becoming the next Aphex Twin.

Installing the software onto your computer's hard disk couldn't be easier. Korg have condensed the entire package into a single installation routine, dramatically reducing the amount of file-dragging that has to be performed. Instead, the computer prompts you for all the necessary software registration information (name, rank and serial number), and then proceeds to disgorge all the data into a single neat folder. From this point on, you are pretty much free to use and abuse the software as you see fit, since all the tedious MIDI-to-program configuration is taken care of for you. All you have to do is double-click and go...

Korg have obviously taken great care to make the Audio Gallery package suitable for anyone who is unfamiliar with either music or technical terminology – or both. One feature which supports this is the inclusion of Passport's MIDI Player program, which allows you to playback and customise any MIDI songfile. Audio Gallery even includes an SMF conversion utility, which adapts MIDI songfiles in Format 0 (where all the data is on one track) to Format 1 (where the data resides on multiple tracks).

Songs are loaded into MIDI Player in a manner resembling that of a jukebox; you open your songfiles, they are arranged into a 'playlist', and you choose one to playback and edit. A small window to the bottom of the computer screen carries the necessary 'transport' controls for starting, stopping and searching to various points in the song, while a larger window can be opened to reveal the 'mixer' page. Here you are presented with a colourful array of virtual mixing controls, which allow you to alter all the playback parameters of your chosen song – you can change relative volume levels of the parts, select new instruments, mute instruments, and so on. ➤



Midi Player Instrument Map

➤ There is little doubt as to the increasing popularity of MIDI songfiles as a means of getting into music technology, and MIDI Player provides one of the easiest ways of getting into MIDI songfiles that I have seen. However, its usefulness for the more musically-and-MIDI ambitious is limited; for those who seek to create their own works, Korg have included Passport's Trax sequencer.

Trax has been examined before in the pages of this magazine, and the constraints of space prohibit a further dissection here – suffice to say that it has proved to be an extremely popular budget PC and Mac sequencing package. Here, too, things are kept deliberately simple to encourage the novice, but the program offers substantial expansion potential as well. Sequencers are very much a matter of personal taste; you may prefer to view your music in blocks of bars and beats rather than strings of numbers, or vice-versa. Whatever, Trax's user interface is ideally suited to the first-time desktop musician, offering grid, block and notation editing pages to suit all tastes. And the standardised MIDI songfile format now means that you can change at a later date to a more sophisticated package, while still being able to load and edit your existing material.

The last program of interest in the Audio Gallery package is the editing software for the AG-10 itself. It's worth pointing out that the AG-10 has no dedicated means of storing any changes you make to its preset sounds; instead, any editing performed in this program has to be saved as a data file on your computer. You can pretty much edit every aspect of an AG-10 sound, and the 'analogue synth' style window arrangement is encouraging to use. In fact, despite the storage limitations, I feel Audio Gallery has considerable creative potential.

Of course, the real value of a product like Audio Gallery lies not in the individual components but in the package as a whole. In these terms, Korg have definitely produced a user-friendly, flexible and self-contained product ideally suited for those wishing to bring the music side of their multimedia up to scratch. While the facilities and musical potential offered may not be ideal for those with higher creative aspirations, Audio Gallery will definitely throw open all sorts of doors for the desktop enthusiast – and that can only be a good thing. ●

THE LAST WORD

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Originality	How original can General MIDI get?
Value for money	Good for the novice
Star quality	None
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REVIEW

MIDIScan

OCR music software for the PC

Optical character recognition systems have been with us for some time, but now the technology has been adapted to read musical scores. Ian Waugh judges the success of the system...

This is so obviously an ideal computer application, you might wonder why no one has thought of it before. The purpose of MIDIScan is to convert printed music into a MIDI file. It does this by looking at a scanned image of a page, searching for staves and then analysing the notes it finds there.

The program runs under Windows and as well as the software, you'll need a scanner. This could be of the hand-held type which would cover a page in two runs (with the pieces spliced together), but a flat-bed scanner would provide much more reliable results. The software works with TIFF files (one per page) through a conversion process which involves a series of individual stages. The first of these is the editing of the scanned TIFF file. Although the program usually ignores non-note data, sometimes it doesn't, so you may have to remove guitar chords, lyrics and music instructions etc, in case it tries to interpret them as note data. What to take out may require a little trial and error.

The next stage is the music recognition process. The program analyses a page at a time and you can construct a complete score by selecting several TIFF files to be analysed in order. The program will analyse both ensemble scores and single, 1-stave scores, but you have to set a recognition region to determine how far above and below each stave the program looks for notes.

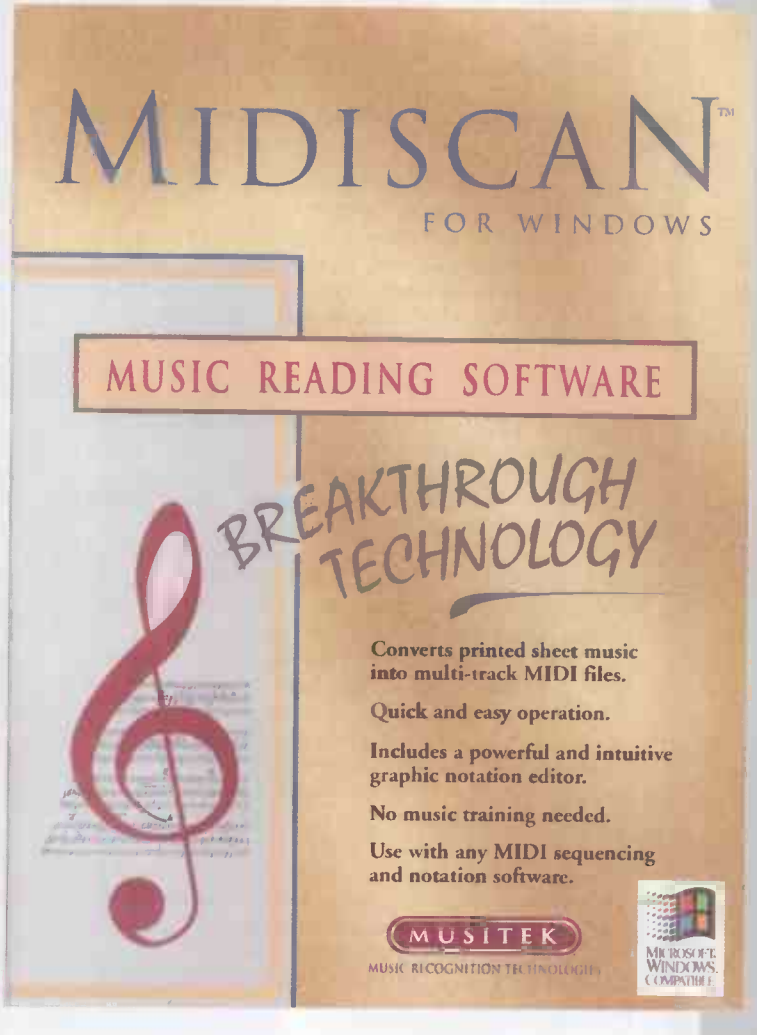
This is actually one of the weakest aspects of the program. If the notes stay within their stave boundary all will be well, but quite often a note in the bass clef (in a piano part, for example), will stray into treble clef territory and MIDIScan will, like as not, assign these to the upper stave. Similarly, in many older scores the staves are quite close together and this can result in incorrect note assignments. As it proceeds through the recognition process the program outlines the recognition area so you can see which notes it hits and which it misses. With problem scores, what is really needed is the ability to draw a line with the mouse between the upper and lower parts.

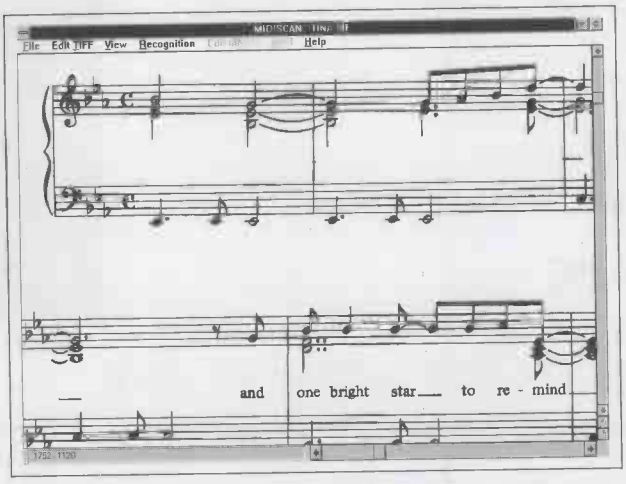
Each page is handled separately. The program reports the number of staves found and if gets it wrong, you can correct it. MIDIScan can process up to 16 staves per system and you can make it ignore certain staves if you wish.

After recognition, the program produces a half-way file called MNOD (Music Notation Object Description). The screen splits in two and you can see the scanned image in the upper half and the MNOD version in the lower half. This looks like a very neat DTP score. But – and it's a big but – it may not be exactly the same as the orginal score. Some note durations may not have been interpreted correctly, some ties may be missing and some notes may even be missing, too.

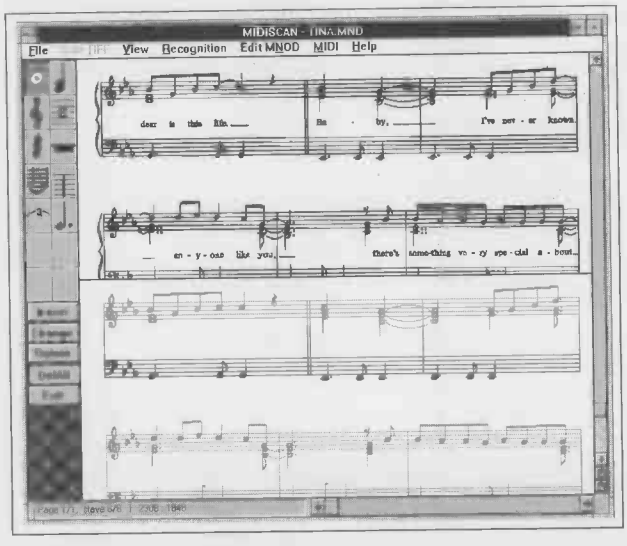
To put things right, you can edit the MNOD file using the MNOD toolbox which contains all the tools you'd expect to find in a scorewriting program. You can edit notes, insert and delete objects, change clef, insert a time signature and so on. In fact, you *must* insert a time signature otherwise the resulting MIDI file will cause a "Divide by Zero" error when you try to load it into a sequencer – something you learn the hard way or by referring to the troubleshooting guide.

After editing the MNOD file you begin MIDI conversion. You can assign patch numbers and MIDI ➤

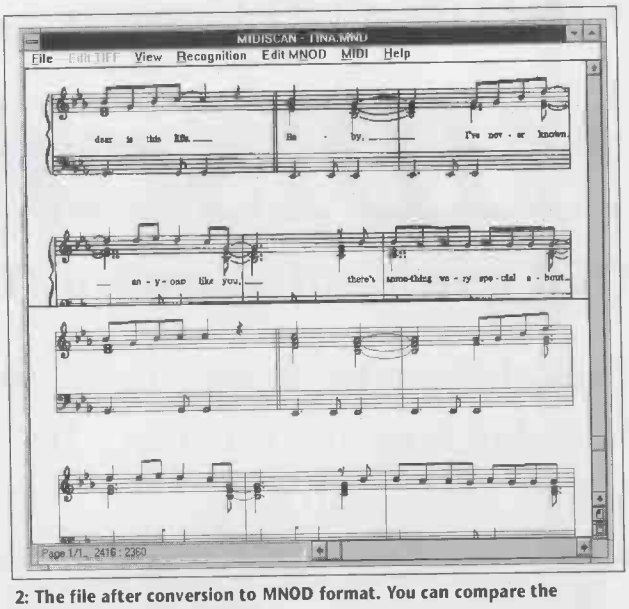




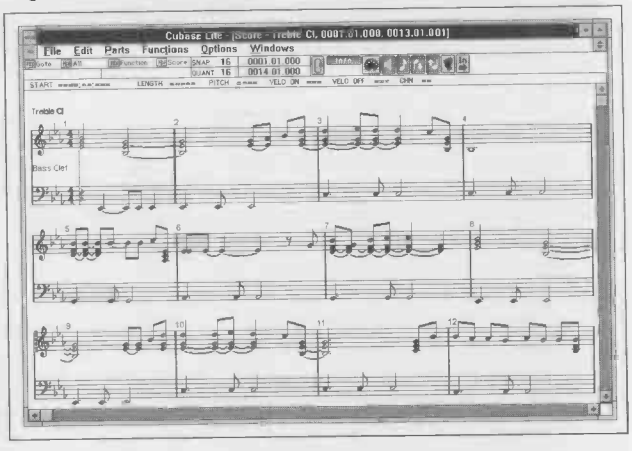
1. An original TIFF scan of a song by our Tina.



3: The MNOD toolbox contains scorewriting edit tools for correcting the score.



2: The file after conversion to MNOD format. You can compare the original scan to the MNOD file.



4: And this is how the score appears in Cubase Lite without any editing. It's pretty close.

➤ channels to each of the tracks (parts) and set a tempo. Then the program saves its work as a MIDI file.

The information in the manual is comprehensive enough, but it's not very well ordered. Having said that, once you understand the basic conversion processes – and don't forget to set a time signature – the program is fairly straightforward to use.

So how well does MIDIScan work? This depends entirely on the complexity and the layout of the score. It doesn't appear to like the pyrotechnical displays of Liszt, generally preferring scores which are proportionally spaced out. Give it a nice clean score and it will do a creditable job.

OCR (Optical Character Recognition) for text is usually said to have an accuracy of so-many percent – the best comes close to 99%. It's difficult to say how accurate MIDIScan is because the results depend so much on the original score. With standard piano/vocal sheet music, however, I'd suggest it has an accuracy of around 90%. With more complex scores this reduces dramatically.

If you have a degree of playing ability it could well be quicker to record a score in a standard sequencer. If, however, you're skills aren't up to scratch, MIDIScan could save you a significant amount of time. It does help if you can read music, if only to check and correct the MNOD score.

Who would use MIDIScan? That intrepid band of people who convert your favourite songs into MIDI files seem the most likely target, although quite a few of them actually create their files from the record without referring to a score at all. Giggers could use it to create their own backing tracks, though arrangements would be somewhat minimal unless they work from scores (these are available in books called *Rock Scores* by Music Sales who, interestingly, are already busy creating MIDI file versions of their books). The program could well appeal to the non-pro, too, although the price may be a sticking point for them.

MIDIScan is quite clever in what it does – it can even read staves which have been scanned at a slight angle – but it needs a little refinement before it becomes a serious production tool. This, however, is the first commercial incarnation of the program and updates shouldn't be too difficult to implement. It's at the same stage of development that text OCR systems were a few years ago. If its development follows a similar pattern, the future for music OCR looks good. ●

THE LAST WORD

Ease of use	Not difficult, but a little involved and can be time-consuming
Originality	Never seen anything like it in me life, guv
Value for money	A bit pricey – but then so were the first text OCR programs
Star quality	In the making
Price	£334.87 inc. VAT
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REVIEW

Analogue Systems

FB3

filter bank

Ask anyone who knows anything about classic analogue synths what gave them such a special sound and they'll tell you it was the filters. Can that quality ever be recaptured in a contemporary design? Ask Peter Forrest...

In case you didn't know, there's more to Cornwall than ice cream and pixies. Not far from the Aphex Twin's old haunts lives a man with a mission – to keep the flame of analogue burning strong into the next century. Bob Williams, featured in *MT* May '93, has turned from collector/dealer into manufacturer. His company, Analogue Systems, have set out their stall as producers of modern classic analogue devices. In the pipeline are a sequencer and a synthesiser module, but available now, as the first of the line, is the FB3 voltage-controlled filter. I must come clean and declare my interest in the unit – it's fallen to me to write the manual for it – however, with the best interests of *MT* readers at heart, I can promise you an honest review – warts and all.

OK, so first of all, what exactly is it? The name 'filter bank' conjures up images of simple multi-band EQ device – the sort of thing that EMS (another Cornish legend) are associated with. In reality, the FB3 turns out to be a 1U rackmount module containing three voltage-controlled filters connected in parallel, and capable of treating any audio input. Each filter has individual controls for cutoff frequency and resonance, and there's a master frequency control as well.

If you whack up the resonance, each filter will break into oscillation and produce a sine wave of its own, whose pitch depends on the frequency setting. As you might imagine, this is great if you want it but potentially embarrassing if you don't: the switching system only routes the input to the filters – it doesn't stop the filter's output from proceeding to your amplifier.

There's a quaint little switch for choosing one, two, or all three of the filters, and as with the three oscillators on the Minimoog, there are times when less is more; when adding in the third filter actually detracts from the sound the first two are making. The way the switch is set up means you can't go from filter 2 to 3 without passing through 1, which means that the change isn't seamless; but in practise this doesn't prove to be any real problem.

The filters themselves, incidentally, aren't simply off-the shelf chips, but have been custom designed for the FB3, offering a choice of four outputs from which signals may be derived. Two (the highpass and lowpass filter outs) give a 24dB/octave slope (like early Moogs), the other two (notch and band-pass) offer 12dB/octave (like the 2-pole filters on early Oberheims). The great thing is that you can use any or all of these outputs simultaneously, opening up an excellent range of possibilities. For instance, you could connect up 'opposite' outputs (like high and lowpass) to left and right of a stereo amp, or put all four into a mixer and use the faders for subtle timbral variations.

A built-in LFO is included for those wicked periodic filter sweeps, featuring variable speed and depth controls, an LED indicator and also its own output so that it may be used either to control a second FB3, or an external synth. All inputs and outputs, incidentally, are on the front panel for easy access; the only thing on the back is the on/off switch. To round things off, there's an external CV (control voltage) knob on the front panel, and this can go from full-on positive to full-on inverted, so that incoming voltages can control the filters in a variety of ways. Having just one CV input does seem rather limiting, but any more would presumably have had considerable cost implications.

A good number of old monosynths (the SH101 and the ARP Axxe, for example) have a keyboard CV output socket and by using this you could make the frequency of the FB3's filters track the notes you're playing. However, the FB3 really comes into its own when used alongside a modular or semi-modular synth. This needn't be anything rare and expensive like a Moog, Serge or E-mu. A much more modest instrument like a Korg MS20 or, better still, an old Digisound, will also do the job – which is to feed

control voltages to the FB3.

Obvious connection points would be the outputs from the envelope or sample-and-hold circuits. It would be best to add together several control voltages in your modular system, so that you had, say, an envelope controlling the filter cut-off, but also include a keyboard tracking CV to keep the filter response equal across the whole keyboard. One of the beauties of the old CV/gate system is the ability to add any number of control voltages together, from any number of sources, without having to worry about the addition of the analogue equivalent of a MIDI merge box.

Given that the classic, dramatic filter effects always employ a degree of envelope control, one has to ask if the FB3 would still be worthwhile for someone who doesn't have a synth system with this kind of output facility. On first acquaintance with the unit my answer would have been a definite 'no'. But as I became more familiar with it I have to say I began to change my mind. Even without any control voltage input, the FB3, with all three filters set to similar (but not identical) frequencies, produces some delicious timbres, thickening up an MS20, humanising JX10 strings, and even doing the impossible – warming up further a Minimoog sound! This, of course, can only happen because of the introduction of small variations in pitch response and phase correlation, and in that sense it may not suit the purist. But as far as I'm concerned if it sounds good, use it. And the FB3 sounds very good indeed. ●

THE LAST WORD

Ease of use	Totally straightforward
Originality	A new variation on an old theme
Value for money	Good, for someone who already has lots of analogue gear
Star quality	What will Vince Clarke and Daniel Miller do with theirs?
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Mark Of The Unicorn

Midi Express

interface for the Macintosh

REVIEW

Photos: James Cumpsty

In his search for the ultimate MIDI interface for the Mac, Ian Masterson gets onboard the MIDI Express...

MIDI interfaces for the Apple Mac are many and varied. You can buy almost any configuration of socketry to suit your needs – from the humble one-in, one-out affair, through multiple-ins-and-outs, to the all-singing, all-dancing intelligent MIDI processor that acts as a brain for all your studio gear. MIDI Express from US company Mark Of The Unicorn is decidedly one of the latter. Packaged in a 19" 1U rackmounting box, and finished in MOTU's distinctive orange house graphics, this unit is designed to offer you the ultimate in MIDI control. The majority of software sequencing packages now cater for MIDI setups with multiple channel configurations; with 16-part multitimbrality a feature of even the cheapest sound modules these days, the average computer-based musician finds his basic 16 lines sorely stretched. And with effects processors, tape machines and all manner of MIDI-controlled gadgetry boosting the demand still further, extra MIDI Ins and Outs become essential.

The MIDI Express offers no less than four MIDI Ins and six Outs, along with sockets for SMPTE In/Out, Footswitch and Macintosh In and Thru. A single mini-DIN cable is supplied to hook the interface up to the modem socket of your Mac; the Thru socket allows you to connect your modem (should you have one) to the MIDI Express, instead of having to re-patch the whole setup every time you send or receive data. The SMPTE sockets, as you might expect, can be linked to your multitrack tape machine, eliminating the need for an extra interface.

The package includes a software driver program – Console – which effectively allows you to edit all the internal functions of the interface from your computer. Using this program is actually optional; if you simply wish to use the interface as a means of equipping your sequencing software with 96 MIDI channels, then no further tweaking is necessary. You simply press 'Sequencer 96Ch' on the front panel of the Express, and the sequencer takes control of everything else. MOTU naturally recommend Performer as the ideal sequencing package, but I tested Express with Steinberg's Cubase and it worked perfectly.

If, however, if you want to delve deeper into the MIDI patchbay, SMPTE and click generation functions of the Express, then Console comes into its own. The patchbay side of things is taken care of by a window labelled 'Cable Routing', which literally shows all the MIDI input cables connected to the Express on one side of the screen, and all the output cables on the other. You can label the inputs and outputs according to your setup – eg, 'Korg ➤

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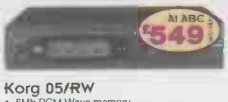

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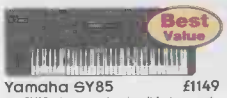

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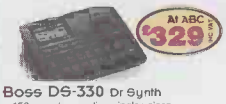

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➤M1 In' and 'Akai S3000 Out' – and proceed to hook them together by drawing lines between the cables and the computer interface icon. All extremely practical and very simple to use.

Beyond this lies a window charged with 'Event Muting'. This is similiar to the MIDI Definitions and Filtering pages found on most sequencers; simply put, you can tell the Express to filter out certain MIDI events on certain channels in your system. If you want to disable patch change data on channel 12 from your MIDI source, then this is the window to use. Associated with it is the Channel Remapping function; here you can take the MIDI data entering the Express on one channel and route it to any of the others instead.

The SMPTE functions of the MIDI Express are similar to those found on nearly every SMPTE-equipped sequencer. The unit can read incoming SMPTE at any frame rate and translate it into MIDI Time Code, which is dispatched to the Macintosh (and your sequencer) via the modem cable. Striping a fresh reel of tape is also possible from the SMPTE Controls window, and you can even slave a second Mac to timecode via the Computer B port on the rear of the interface – making it possible to control a graphics or animation-handling machine and your sequencer simultaneously.

MIDI Express offers several other ancillary functions designed to make your MIDI jungle that bit easier to live with – these are mostly the sort of things you only use once in a blue moon, but which are valuable simply because they *are* there should you need them. One of these is the facility to generate MIDI Time Code from a click track input. The scenario might be something like this: you have a multitrack with no SMPTE code, but which does have a drummer's click or kick drum track. To lock your sequencer to the multitrack, all you have to do is hook the click track into the footswitch socket on the rear of the Express and set the Click-To-MIDI parameter to On on the Footswitch page of Console. Express will decode tempo information from the click and translate it into MTC, driving your sequencer directly. Nifty or what

There is little doubt that MIDI Express is one of those products whose true benefits to your studio system only become obvious over time. It incorporates the demand for extra MIDI channels and SMPTE facilities into an intelligent interface which really does sort out those irritating cable headaches associated with contemporary music production. I found it faultless in operation – the unit simply refused to jam, even under a barrage of MIDI information – and the software is cleverly, yet simply, designed. It is true that the Express costs substantially more than your average MIDI interface – but then, it *isn't* your average MIDI interface. If you're serious about solving your MIDI headaches, then this is the black box for you. ●

THE LAST WORD

Ease of use	The software needs some exploring
Originality	A new perspective on an age-old problem
Value for money	Not bad, but could be better
Star quality	Deep Space Nine
Price	£399 RRP inc. VAT
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REVIEW

Big Noise

MIDI MaxPak

sequencing librarian, MIDI mixing and live control software for the PC

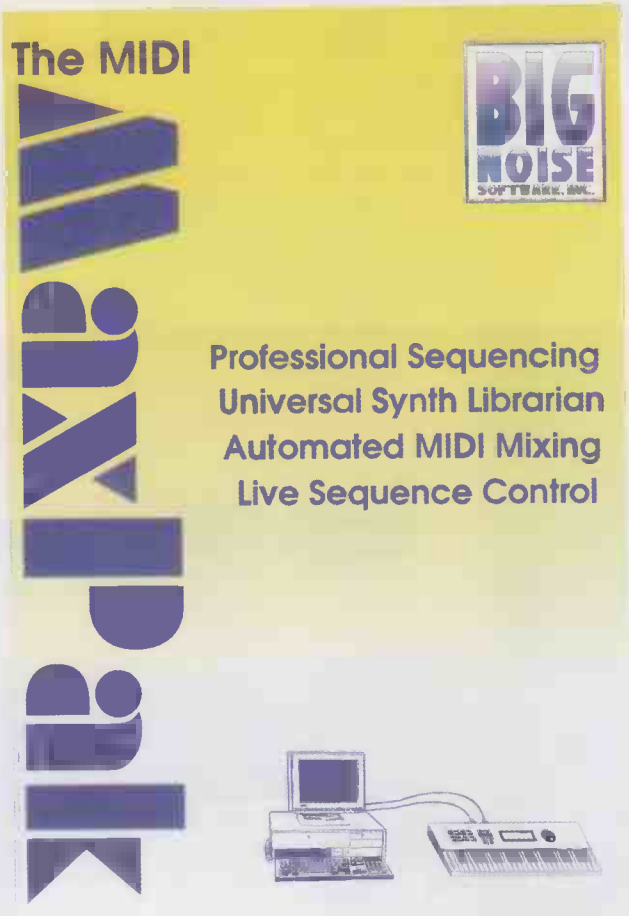
You thought MaxPak was a BR coffee cup. Wrong. It provides all-in MIDI control. Bob Walder spills the beans...

MIDI MaxPak is one of those software packages that appears to be excellent value for money – simply because there is so much of it. MaxPak actually consists of five (count 'em...) pieces of Windows-based software for IBM PC-compatible machines. Anyone familiar with the standard Windows interface will feel immediately at home with these programs, and anyone who has used Big Noise's professional sequencer program – Cadenza For Windows – will notice more than a few similarities.

On first firing up any of the programs you are briefly presented with a screen announcing the MIDI Director before the program itself is loaded. The Director is a MIDI management system for Windows which allows up to 16 MIDI programs to multitask and share multiple MIDI ports (installed in the ADDPORTS control panel or the Windows DRIVERS control panel) without any unhealthy competition. Unlike the approach taken by some other manufacturers where all the timing functions are built into the sequencer, the MIDI Director provides a consistent way of synchronising several MIDI programs using internal sync, MIDI Time Code, or Song Position Pointer-based methods. This would allow you to run, for instance, all five programs alongside each other and ensure that they are all kept perfectly in sync.

You can also run Cadenza For Windows under the same director. This would allow you to have your main song arrangements in Cadenza, for instance, but experiment with your drum tracks under SeqMax (the sequencer part of MaxPak), and have both synchronised together with no effort on your part.

Whilst on the subject of timing, it is worth noting that the manufacturers recommend you run Windows in standard mode when using MIDI programs (*any* MIDI programs, not just MaxPak). Having experienced the odd problem with SeqMax in enhanced mode I can only concur.



SeqMax is a 64-track jobbie and has the distinction of being the only pattern-based Windows sequencer currently available. It has all the features you would expect in a professional software sequencer, including support for multiple MIDI ports, standard MIDI files, tape sync facilities, variable quantising, humanising, swing – and more.

Each track can be used in Linear, Loop, Pattern, Setup or Link modes. In Linear mode, a track plays from start to end and then stops; this is in contrast to Loop mode where tracks play over and over again until all other tracks are finished. Loop mode can also be used when recording, with each subsequent loop being added to the previous effort on the same track (overdubbed) or saved as a separate track. As you might imagine, this is an ideal way of rehearsing a part as it allows you to pick the best effort at a later time.

In Pattern mode, shorter passages of music are connected together to form an entire song. Patterns are stored separately from track data, so you still have all tracks available, and you can store individual patterns to disk – allowing you to build up a library of drum beats or other useful ideas. You can play any of 255 patterns together in any order, and no matter how many times you use each pattern in a song, the pattern data is held only once – thus conserving memory.

Unlike most other sequencers, which are either pattern-based or linear, SeqWin is quite happy for both pattern and linear tracks to coexist in the same song.

Finally, tracks in Setup mode store data to be sent to your MIDI devices before playback begins, while Link tracks are used in a similar way to Pattern tracks, and are provided only for compatibility with Cadenza For Windows.

SeqMax has a variety of features which make it easy to use, such as context-sensitive tool boxes – invoked with the right mouse button – for most edit functions. The Graphic Edit window consists of two 'panes' – one for a piano-roll-type note editor and the other for controller data. Each pane can be sized

individually, and it is possible to open as many edit windows as needed, thus allowing you to edit several different types of controller data for the same track.

Other windows include the usual event list editor and song editor (giving an overview of all the tracks in a song); the conductor (from where you can specify the meter, key and tempo of a song measure by measure); track mixer (where you can alter volume, pan, etc. of each track in both record and playback modes); and the score window. The latter allows full note-by-note editing on the staff, as well as a score printing facility (with the ability to add lyrics, marking and symbols). Space prevents me from going into too much detail about the score editor – suffice to say it's actually better than some stand-alone packages I have seen.

SeqMax works well, and is a worthy successor to Cadenza. My only criticism is in the area of screen updating. Some windows (ie. the track mixer) need to be painfully re-drawn if they are temporarily overlaid with another window, and the timer display refuses to update itself when recording patterns, even though the recording process is working fine – this latter problem can be particularly unnerving.

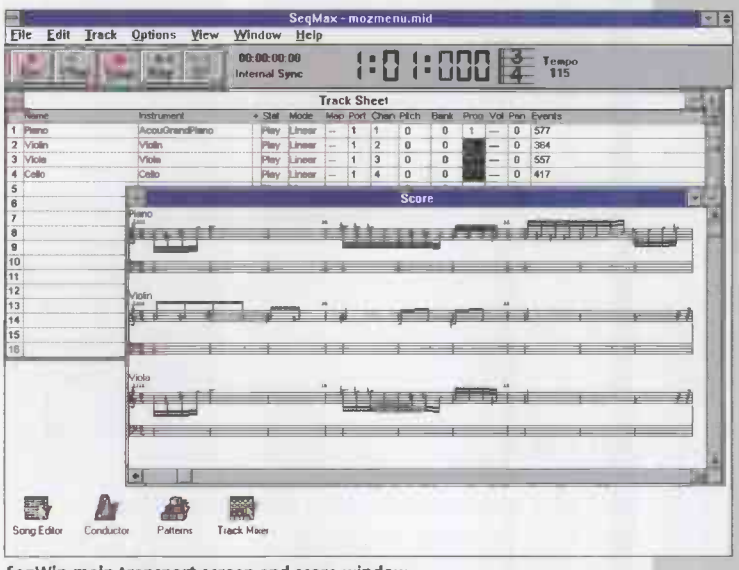
With version 2 of MaxPak, the MixMax program is the one which has undergone the most radical metamorphosis – the FadeMax program of previous versions has now been removed, since all its functionality is now contained within MixMax. MixMax is a totally configurable simulation of an automated mixer. It will record and play back movements of its on-screen controls, as well as record and play back control changes from external MIDI devices. As I said, MixMax is configurable, and it is possible to set up and save various mixer layouts to disk. It can be set up with faders, potentiometers, buttons and LED simulations, and all controls are user-assignable with respect to the MIDI message, colour, channel number and range of values.

The most obvious uses of MixMax are to automate a mix using MIDI instruments or an external MIDI controllable mixer such as the Mackie 1604 with Otto, or even MIDI controlled lighting consoles. With the Snapshot feature, you can set up scenes for instant mix changes, lighting cues, etc. My Studiomaster Mixdown Gold has MIDI Controlled Muting fitted, and it was a simple matter to create a custom mixer layout with all the appropriate muting buttons. I could then record the mute settings at various parts of the song, and this would be replayed in perfect sync (under the MIDI director) with the SeqMax sequence. By assigning MIDI volume control to the MixMax faders (or the SeqMax track mixer window) you can almost do away with your mixer – almost! Unfortunately, MixMax suffers from the same painfully slow window redrawing problem as SeqMax's track mixer window. If this problem can be overcome, MixMax is a brilliant concept.

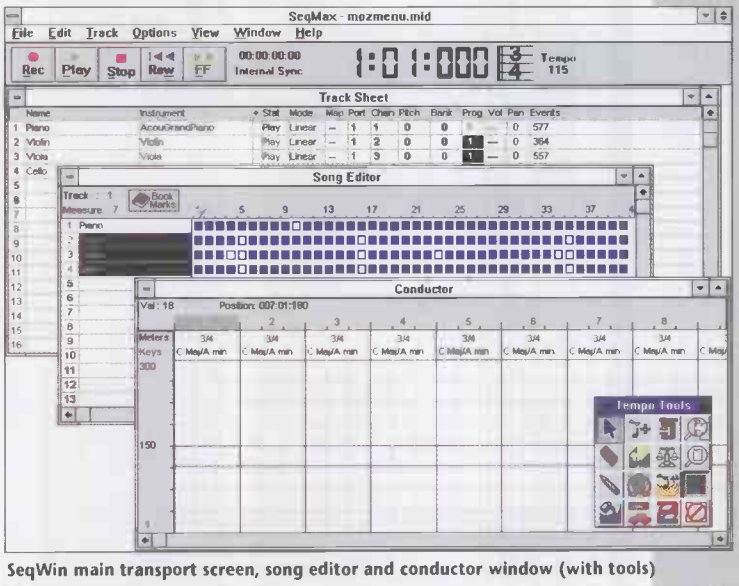
LibMax, the third member of the MaxPak quintet, is a very basic, very straightforward patch librarian which can be made to work with most keyboards and other MIDI devices currently available. Individual patches or entire banks can be retrieved from your instrument, stored to disk, and sent back to the instrument at a later date. LibMax knows how to communicate with instruments through special instructions stored in Instrument Profile files.

Many profiles are supplied as standard, but you would be wise to check that they work with your instrument before you buy. I tried LibMax with my Korg 01/W and found that the Get Patch option would not work, and that I was only able to get and save bank A, and not banks B or C – the problem still resides with Arbiter technical support as this goes to press. If you have the know-how (and the patience) to tackle your instrument's SysEx messages, it is possible to create your own profile files. If not, make sure your instrument is represented amongst the profiles supplied.

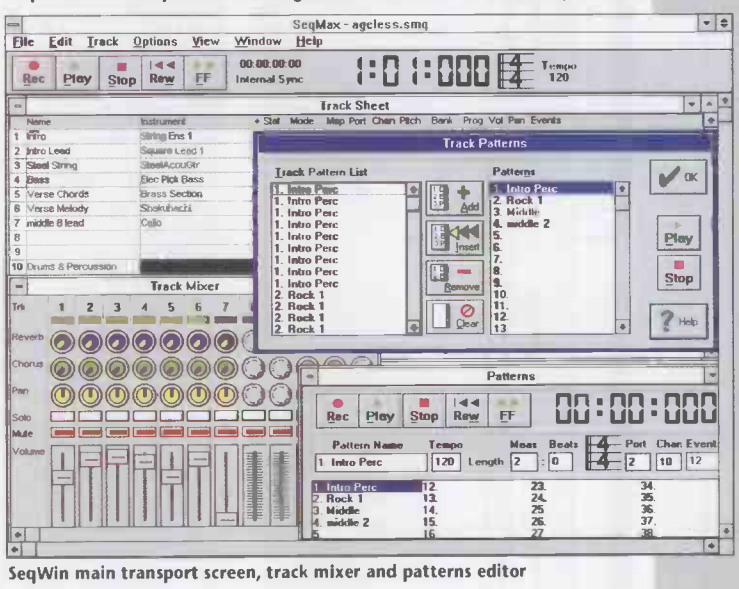
JukeMax is a 256-track live performance sequence player that is optimised for playing back songs on stage. It allows you to assemble lists of JukeMax/Cadenza format songs (SeqWin can save JukeMax files) or Standard MIDI Files of type 1 or 0 and



SeqWin main transport screen and score window



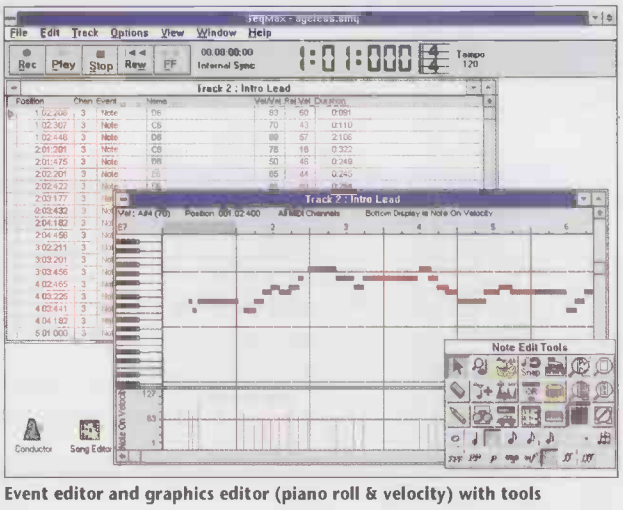
SeqWin main transport screen, song editor and conductor window (with tools)



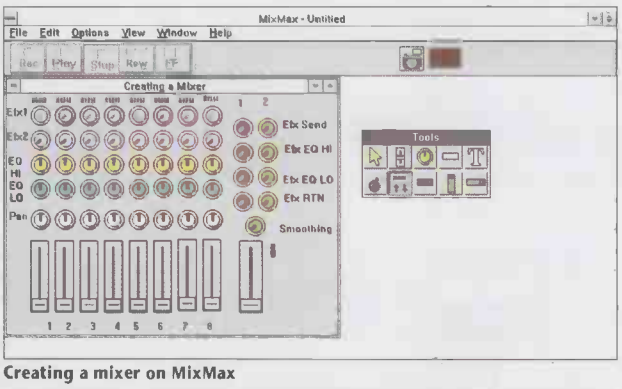
SeqWin main transport screen, track mixer and patterns editor

includes a load-ahead feature which ensures that there is always a song available to play, and you can assign a MIDI controller for advancing songs.

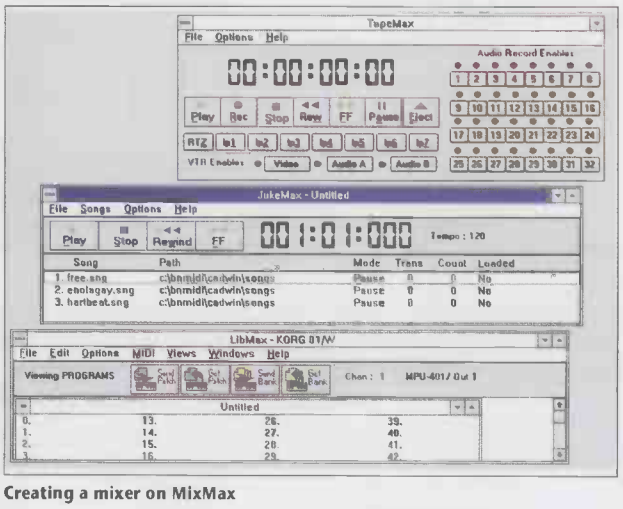
Oriented mainly towards playing songs back, JukeMax has very limited editing facilities. There are settings for looping songs, doing smooth segues between songs, transposing songs to new keys and even displaying lyrics whilst a song is playing – ➤



Event editor and graphics editor (piano roll & velocity) with tools



Creating a mixer on MixMax



Creating a mixer on MixMax

karaoke night will never be the same again!

The final member of the MaxPak team is a new recruit for version 2 called TapeMax. This is a program designed to control a tape recorder from your computing environment. One of the big problems with using computer-based sequencers and analogue tape recorders is that you end up using two sets of transport controls, when what you really want is to control the whole thing from your sequencer. TapeMax allows you to do this. It is organised as an onscreen tape transport control panel with all the usual transport controls, record enable buttons (for up to 32 tracks) and eight auto-locate buttons. TapeMax acts as a complete replacement for your tape deck controls, and if SeqMax is put into MTC sync mode (which can be done from within TapeMax) then both sequencer and tape deck can be controlled from the single TapeMax control panel.

All this sounds wonderful, but there was an initial problem. Although I have a Fostex R8 with an MTC-1 controller (one of the supported options, supposedly) I could not get it to work. As it turned out, the problem was at the Fostex end – early MTC-1 units were not able to recognise the MIDI Machine Control messages issued by TapeMax. Fostex agreed to upgrade my MTC-1 firmware free of charge (for which I am very grateful), and the resulting combination worked perfectly. Once again we are reminded of the old saying – *caveat emptor* (*er...just run that past me again – Ed*). If the TapeMax feature is important to you, make absolutely certain that it will work with your chosen hardware before you splash out on the software – you may not be as lucky as I was.

So, in the final analysis, how does MaxPak compare with other Windows-based sequencers reviewed previously in this august journal? Compared with its predecessor – Cadenza For Windows – MaxPak's SeqMax is superior in most respects. Since Big Noise obviously expect MaxPak and SeqMax to take over where Cadenza left off, there is little point in pursuing the comparison any further – suffice it to say that Cadenza users could well be tempted to upgrade.

A more difficult choice would be MaxPak versus Cakewalk Professional For Windows (though, this is at least £50 more – see review *MT* March '93). Although MaxPak is more than just a sequencer, Cakewalk does offers a SysEx Librarian (which *did* work with my 01/W), a play list feature (comparable to JukeMax) and a graphical fader window which is similar to MixMax, though not quite as sophisticated. Cakewalk also offers CAL, the built-in programming language which allows you to define your own custom commands, and has similar graphic editing facilities to SeqMax, including staff editing and printing.

Where Cakewalk really scores is in its polish as a Windows application. Screen re-draws are done very quickly and without disturbing any music which may currently be playing – SeqMax had an annoying habit of interrupting play for an instant when particularly complex screen updates were required (when following the score as a song is playing, for example) and even had the additional burden of a moving cursor following the score note by note as each was being played. This points to poor programming techniques, since Cakewalk suffered from neither of these problems. Big Noise may well try to imply that a more powerful machine is required, but it must be remembered that both packages were reviewed on the same 386 PC with 8Mb of RAM – the only conclusion that can be drawn, therefore, is that the screen updating in MaxPak requires some attention. In addition to this, I had the odd 'General Protection' fault with SeqMax, something which has never happened with Cakewalk since I started using it.

This apart, the choice between Cakewalk and MaxPak really comes down to personal preference. The one or two niggles I encountered with MaxPak were, I accept, peculiar to my system, and one was, as I've mentioned, rectified by an upgrade to my tape hardware. At present, MaxPak has a couple of advantages over Cakewalk in so far as the TapeMax feature and the more sophisticated fader window are concerned. Cakewalk, on the other hand, has a rather more polished feel to it. Try them both, if you can, before you buy. ●

THE LAST WORD

Ease of use	logical, if a little slow
Originality	interesting approach to packaging software
Value for money	Compares favourably to other PC programs
Star quality	Not (yet) quite up to maximum potential
Price	MaxPak £233.83; upgrade from version 1 to version 2: £58.75; upgrade from Cadenza to MaxPak version 2: £175.08
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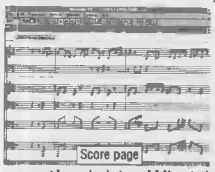

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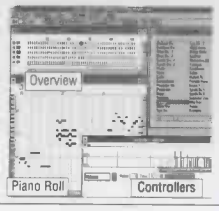

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MIROSLAV VITOUS
Symphonic Orchestra
Sample CD-ROMS

Miroslav Vitous first came to our attention as a member of the jazz-rock group Weather Report back in the '70s, astonishing the musos of the day with his virtuoso double bass performances. If memory serves, his experiments with fuzz boxes and wah-wah pedals produced a particularly fine racket.

Now Miroslav is back with a fine new racket – a magnificent collection of orchestral samples which set new standards in realism and expression. It seems the Czech musician has spent two years digitally recording the members of an (unnamed) Eastern European orchestra and the resulting samples are available for Akai and SampleCell users on four CD-ROM discs, titled *String Ensembles*, *Woodwind & Brass Ensembles*, *Solo Instruments 1* and *Solo Instruments 2*. A fifth disc, *Violin Ensembles*, duplicates the violin sections of *String Ensembles*.

When I first heard these sounds on a demo CD last year, I found it hard to believe I was hearing samples and not a unified orchestral performance. A deep, panoramic wash of strings filled the room, followed by the majestic sound of three bassoons sobbing out the plaintive opening melody. The sonic perfection was marred only by the dull thud of my jaw hitting the floor. After a frustrating 9-month wait, I finally got my hands on the CD-ROMs and spent an enjoyable few days playing with the most inspirational set of samples I have heard in a long while.

The *String Ensembles* disc was the first to be thrust into the CD-ROM drive. This contains unison note multisamples from groups of 11 violins, four violas, 10 cellos and nine double basses. The families of instruments are kept separate so there are no bass/cello octaves or violin/viola combination samples – and no chords or melodies. Hoorah, say I – far better to preserve the characteristics of the instruments in this pure single note form and allow the user to create his or her own combinations and performances.

The instruments play long notes lasting for five or six seconds (need 'em longer and you'll have to loop) and also shorter 'detaché notes, plus staccato, pizzicato and tremelo performances. For fast moving passages, the detaché samples can be used alone while for sustained notes with initial bow articulation, the long notes and the detaché programs can be layered. The latter combination sounds great, but gobbles up polyphony and memory: a 4-note chord uses 16 voices, while the combined stereo 'long note' and detaché violin programs use some 14Mb of memory!

For this reason, alternative 'light' and 'mono' programs using less samples are provided. These sound fine, but to hear the strings playing together in true stereo glory you really need 32Mb and/or a multitrack recorder. If that sounds rather OTT, be assured that the quality of these string ensembles fully merits the consideration of such an outlay. The samples are beautifully recorded with a controlled but emotional vibrato on the long notes, a warm but clear tone, a lush, wide stereo image and just the right amount of concert hall ambience. Play a humble C major triad on layered violins and violas and the sound of 45 impassioned Slavic string players comes pouring out of your speakers.

The *Woodwind & Brass Ensembles* disc is of the same, exceptionally high quality. The ensembles comprise three bassons, three clarinets, three oboes and three flutes in the woodwind section, and four French horns, three trombones and three trumpets in the brass. Again, if you want really long notes you'll have to resort to looping, those 5- or 6- second notes which are included represent a pretty healthy lungful of air. Staccato notes are also included: I was able to successfully layer these with longer trumpet notes to produce sustained notes with articulation, which was encouraging. The three bassoons I loved to death, and used them to compose many strange and wonderful melodies; the clarinets and oboes are so accurately played as to occasionally sound rather synth-like; the flutes are pretty, but contain one or two rather 'wispy' samples; and the brass sounded rich and bright.

The Solo Instruments discs are unlikely to prove as popular as the ensembles (when did you last use a solo viola?) but are no less impressive. Anyone composing film music on a tight budget will appreciate the excellent solo flute and oboe, but will perhaps be less happy to discover the other two members of the woodwind families are not included on the same disc. A similar problem faces the would-be string quartet composer who'll have to splash out on two discs to get the full family of instruments. I have to say this does smack of commercial opportunism, given the price of this collection. At the very least one might have expected some kind of discount when buying both CD-ROMs that make up the pair.

Anyway... the other instruments included in the solo collection are bass clarinet, contrabasson, piccolo, alto flute, cor anglais, trumpet, trombone,

bass trombone, French horn and tuba.

Despite Miroslav's promise on his demo CD that the solo instruments would be looped, they are not. And some might see this as a major omission: there would certainly have been space to include both looped and unlooped samples. I also noticed some quite bad tuning problems with some of the samples (solo violin in particular) caused, presumably, by over-zealous tweaking. And it also proved necessary to globally detune samples (15 cents sounded about right) to overcome the fact that Miroslav has adopted the A=442Hz standard in favour of the A=440Hz standard used here. These problems are easily overcome, but of course, you can't save edited programs back to CD-ROM. If you don't want to have to loop or retune samples every time you load, you'll have to save to hard or floppy disk.

Now the really bad news. These CD-ROMs cost an arm and leg – and a couple of other essential parts of the body thrown in. The String Ensembles disc alone costs £1,145 inc VAT. No, you're not seeing things. The others are about half this price, but that still puts them way out of reach of most prospective buyers. Sorry I didn't mention it before but I didn't want you to start hating me too early on. In his defence, Miroslav argues that the discs are very good value because the sounds are "all great". He has a point; this is, without doubt, the definitve collection of orchestral samples. And, given that many people still think nothing of spending a couple of grand on a synth and using it purely as a preset machine, one could view this collection (for those with samplers) in a somewhat similar light.

But I suspect the only takers will be professional musicians for whom buying CD-ROMs (even at this price) is a more economical alternative to hiring orchestral session musicians, and studio owners who will no doubt use the collection as means of enticing potential customers. And of course, there will always be those people who just have to have the best, no matter what it costs. For the first time someone has put all the instruments of the orchestra (percussion excepted) at our fingertips in their full sonic splendour, opening the door for a new wave of creativity and composition. One can only congratulate Miroslav for capturing and releasing these beautiful sounds. *Dave Stewart*

Price:
Disc 1: *String Ensembles* £1,145
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PRIMA PUBLISHING

QuickTime: Making Movies With Your Macintosh

by Robert Hone

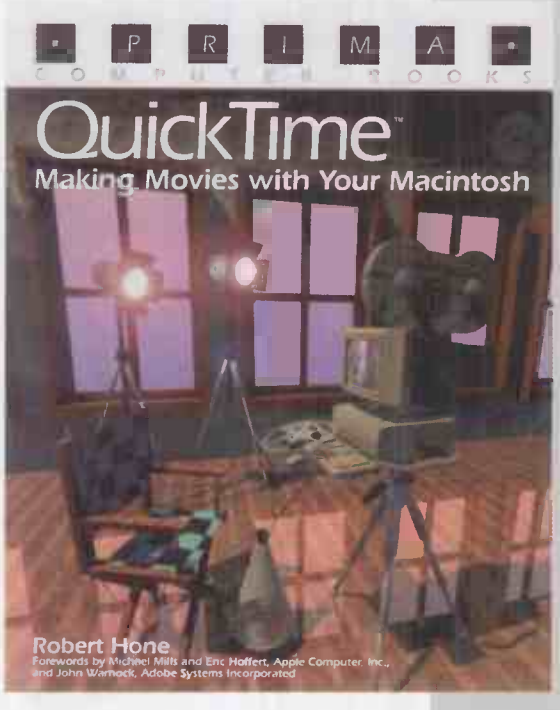
You don't have to own a video edit suite to create your own movies. OK, it helps, but if you have a (fairly recent) Mac running, say, a 68020 processor, preferably higher, then you can make DIY movies with QuickTime.

QuickTime is a System Extension which handles the nitty gritty of running video on the Mac's screen – albeit through a rather small window. The nice thing is it's free and available from PD (public domain) sources and Bulletin Boards. Included with it is a Movie Player program which lets you cut and paste the movie frames just as you would a wordprocessor document. This is great fun and makes it easy to mess around and experiment with the dozens of movies which are also available in the public domain and on Bulletin Boards.

There's really not much more to it than that – unless you decide to use it as a springboard to create and edit your own movies. For this you need additional hardware such as a video card, available from around £500 (unless you have one of the new AV Macs), and a video input device such as a VCR or camcorder. And this is really where this book begins – the point at which basic editing facilities leave off. It covers virtually every aspect of QuickTime movie making such as lining up the shots, camera angle, tracking, panning – all the basic skills the aspirant desktop video director is likely to need.

There are sections on editing your shots into an 'interesting' video production. (Ever wondered why people's home movies are boring? It's because they haven't been edited in a way that gives them the 'pace' of professional productions.) And there's plenty of information on sound and synchronisation – very much a line-it-up-by-hand-and-eye job when working in QuickTime.

Also included are chapters on creating montages and special effects, and advanced techniques such as voice-overs, background sounds and selecting the right music. There's a section on getting your creation down onto video tape and the book covers interactive multimedia, too. It has to be said, however, that these advanced editing techniques require something rather more powerful than the QuickTime Movie Player; indeed, the bulk of the book is about editing movies using commercial programs, such as Adobe's Premier and DiVA's VideoShop. The author refers to these as 'budget', but with Premier currently costing over £400 I can only conclude we have different thesauruses in our machines. That said, with upmarket programs such as MacroMind Director priced at around a grand, I suppose it might be argued that anything under £500 effectively falls into the budget category.



Essentially, this book is as much about planning and creating movies as it is about using the software. Follow the advice and you'll be well on your way to being a (QuickTime) movie director. Just make sure you budget for some serious editing software. Once hooked, you'll stay hooked. *Ian Waugh*

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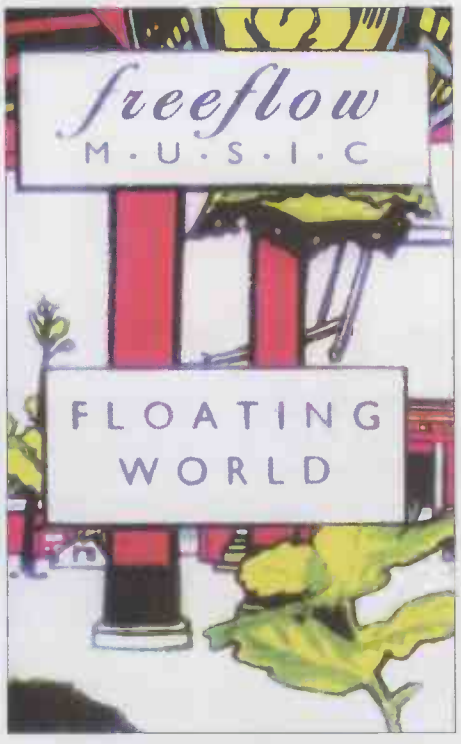
Demos reviewed by Phil Ward



Freeflow Music

Equipment list not supplied

I'm not sure whether this is a demo or a finished album. Then again, when can you ever be sure, nowadays? This comes in a home-made cassette sleeve with the track names typed on the inside, and not a label or logo in sight. But Freeflow Music is the brainchild of composer Brian Wilshere who, it says here, has studied percussion with James Blades, drums with Bill Bruford and composition with David Bedford, and who calls this music an "album", which will be "released". When? Where? And can I have a copy on CD, please?

A professional studio recording (I think), *Floating World* (for this is what it's called) is a timely reminder of how much latterday 20th Century composition – that is, stuff by people who might well be spotted wielding a baton occasionally, and writing parts for (gasp) *violins* – has influenced the ambient scene. Brian's pieces undulate gracefully, with looped sequences interlocking with live percussion and violin in a big Riley and Glass way. The keyboard textures are quite beautiful, like a carpet of pine needles; the percussion describes a wood and metal labyrinth of staccato arpeggios. Only the slightly overstated reverb spoils the view, perhaps an overly zealous and somewhat literal attempt to evoke a 'floating world'. But, the point is, you could play almost the whole of this album (or demo) in a chill out room and absolutely no one would jump to their feet, pointing, and say "ugh, classical."

Contact: Brian Wilshere, 109 Marlow Road, Anerley, London SE20 7XW

Terminus

Atari 1040 running C-Lab Notator v3.15; Alesis MMT8, SR16, Midiverb III, 3630 compressor/limiter; Fostex R8 multitrack; Seck 18:8:2 mixer, 12:2 mixer; E-mu Proteus MPS; Korg M3R; Roland U220, S10, TR626, TR77, Jupiter 4; OSCar synth; Casio CZ101; Yamaha RX21, RX21L, NS10Ms; Boss RSD10, RRV10, RCL10; AKG C1000 mic; Teac DAP20 DAT

ONE II WATCH

Terminus are a duo comprising DJ Nik 'C' and a character who likes to be known as Random. Random has "nine years of bedroom experimentation behind him", and no doubt brings all of this to bear in his musical activities as well. At any rate, something fires Terminus' estimable loins in the making of these jumping and pumping dance tracks, which make full use of a pretty huge pile of kit without ever sounding as though the kitchen sink has at any stage stood the remotest chance of being roped in as well.

'Dreamachine' is my favourite cut, with rather a spiffing drum program lolloping along (110bpm) inna hip hop stylee, even though all around most of the sounds suggest the much more acidic aesthetics of rave. Now *that's* original. Coming in a close second is 'Through The Sound Barrier' – solid, clean and pulsating techno whose natural habitat is a 12" slab of vinyl. Furthermore, the grainy, gravelly little sound bite which gives the track its title is actually the air traffic controller at the top of London Airport's futuristic tower in that episode of *Thunderbirds* which has the supersonic airliner Fireflash cocking up on its maiden flight. Brilliant!

I know I said the controversial word 'vinyl' back there, but Terminus are in fact striving to "explore different areas of dance" and provide "a more melodic alternative to juvenile jungle and nosebleed techno" – sounds like the start of an inexorable journey towards CD to me. Having said that, the guys are available for remix work, and Nik used to work in a happening

THE FUTURE OF DARE!

Keep the cassettes and CDs coming in – the more hi-tech the better. But from now on, Dare! also welcomes other formats. We've already begun to receive videos of computer-generated graphics with soundtracks – all produced on a home desktop system. The soundtrack is sometimes 'borrowed' from another source – such as a sequence of cascading colours set to a favourite album – but we prefer an entirely original production. Of course, both the audio and visual material can (and should!) be crammed with samples. As anyone with an Akai S1000 knows, it's how you piece them together that counts.

But it doesn't stop there. Send us your disks, too. Whatever the format – Mac, PC, Amiga, Atari – we'll review your desktop productions. Forget polite business presentations. Forget documentaries. Abuse the technology! Steal clips of *Blind Date* and set them to hardcore industrial grunge! Create completely abstract landscapes for your ambient epic! Invent a game!

And, one day, we will review the first CD-ROM demo. Steve Nelson made one for Peter Gabriel, and got the job. Imagine what you could do...

dance record shop, so vinyl must be in their blood. Any one of these tracks would make a strong single, and to fully expand on the currency of dance I suspect Terminus will have to be a little more adventurous with form and style. The sounds are excellent; the engineering displays buckets of natural abililty (queue here for remixes); but only 'Dreamachine' hints at genuine musical innovation. F.A.B.
Contact: Nik, 0273 601648/Rod, 0273 602371 (Brighton)

Cherry Atom

Casio FZ1; Cheetah MS6; Akai XE8; Kawai K1r; Simmons SPM 8:2 ("fantastic", say Cherry Atom); Yamaha SPX90, MT44D

Cherry Atom are infuriating. Having hatched some great ideas – building a track around Alison Moyet's exposed vocal snatches on the first Yazoo album, or New Order's "love

technique" grab – and having cooked up some great sounds, they all too often blow it in the mix. Consequently, you hear some very attractive sequences in the very throes of being asphyxiated by a rogue synth line or a crumbling bass. 'Liquid Nation', meanwhile, is a splendid construction in aural glass and steel, ruined by one gross error of judgement: it's a 12-bar. If there's one thing that rave and ambient music have established, it's that one chord is better than two. Or three.

Minimalism is the key to successful electronic music. Cherry Atom's second track, 'Dub Aqua Machine', proves this conclusively, with a simple, squelchy beat and 2-note bassline trundling along quite happily with only a few weird squeaks and a piano for company. Even 'Love Technique', although a bit silly at times with its syndrum and trumpet interlude, is beefy yet sparse. So why go and spoil it all at the end with the techno equivalent of Status Quo? Pah!
Contact: Trevor Hollingworth, 0283 517578 (Staffordshire)

DEMOcracy

Xturnal

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Contact: Gary Louca, 0705 872128 (Portsmouth)

The Spirit

Three ravers in search of a decent mixer: good samples, warm analogue bits, loads of energy and a horrid, middly mix. Hopefully by now they have acquired the Studiomaster Diamond 12:2 promised in the letter – if so, send more music, please.
Contact: Tony Lynsdale, 0634 402665 (Kent)

Key

Bold and positive pop songs from a synth duo in the classic tradition. Since they do everything in a preset kind of a way, the weaknesses in the demo reflect the weaknesses of budget technology: dodgy brass stabs, blunt EQ, fraying reverb. None of this will matter, of course, when that one great song which is in everybody turns up.
Contact: 'Q', 11 Pyenot Drive, Cleckheaton, West Yorkshire BD19 5AX

x/fg4

Engaging instrumental sketches with plenty of space, a dash of The Orb's sample sensibility, a touch of Ultramarine's approach to arrangement, but an uncomfortable drum sound on Side 1 – boxy, awkward programming not unlike early learners with RX15s in 1984. On Side 2, things look up with greater use of the rim shot. Look forward to hearing more...
Contact: Frank Fisher, 0482 52050 (Hull)

UXL

Impressively bright recording, giving maximum sparkle to three housey pop songs. Soulful vocals, elements of techno, and highly capable mixing all gang together to do a persuasive selling job on a potentially very commercial product. Some conservative elements, like the house piano, irritate – but hell, that doesn't stop Haddaway.
Contact: Dave, 0274 620004/Michael, 0274 541183

Planet Woob

Hi, Paul. Yes, this is the winner of the second Demo Forum at the London Music Show last November. And just in case you think he's had enough column inches already, this is a completely different tape and it's just as impressive as the last one. Less abstract, and featuring stronger grooves, the two epics here compete on almost every level with the best of Enigma – so there. You read it here first.
Contact: Paul Frankland, 0252 733256 (Surrey)

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Outsells the other 8 tracks 10 to 1. Dolby C first choice for narrow gauge multi-track. Used with ground breaking MTC interface you control tape transport from MIDI sequencer. We've pioneered this interface and are experts in the field. 812 console is modular, MIDI mute ready, has full bar-graph metering and UK designed EQ

ALESIS ADAT (BRC here!

WHICH DIGITAL 8 TRACK?

or **TASCAM DA88**

CRAZY ADAT PACKAGES THIS MONTH ONLY

ADAT + SPIRIT 16 All new	£479
ADAT + MACKIE CR1604 All new	£399
ADAT + A & H GS3 All new	£499

DA88 Demo Day - 16th Feb, call for DETAILS

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DEMO ADATS available		Tascam 238S	£1399
Alesis BRC	£1279	Tascam 2500	POA
adat / Spirit 16	£4799	Fostex G16S	£3999
adat / CR1604	£3999	Fostex 812 new	£749
Fostex R8	£999	Soundcraft 1" 8 tr.	£799

PRO DAT

Tascam DA30	Call
Panasonic SV3700	Call
Aiwa XD-S1100	£779
HHB Pro 1	£929
Casio DA7 new	£699
Kenwood DX7	£389

JVC XD-Z1010TN £699 NEW BOXED

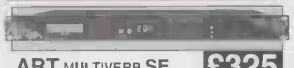
The DAT scoop of the year - we have acquired a strictly limited quantity of these excellent machines with an amazing £500 off. (£11 RRP). Features include : 8 x 18 bit DACs, bitstrea 64x oversampling on inputs, high quality mic input digital optical and co-axial ins and outs, 48, 44. 32kHz, digital fade + mixing, high stability lo resonance transport, intro scan, auto tracking. In red remote, LCD display, UK guaranteed for pro us

EFFECTS

EX DEMO • CASH REBATES • SECOND HAND & EX DEMO END OF LINE CLEARANCE • CASH REBATES • UP TO 50% OFF • INSTANT CREDIT • SAE

ART FXR	£169	dbx boom box new	£225
AlesiQuad'verb GT	£359	dbx 363x gate new	£249
Alesis 3630 new	£239	dbx 163xcomp new	£159
Alesis MEQ230	£199	Digitech VHM5II	£699
Alesis microverb3	£158	Drawmer LX20	£199
Alesis MIDIverb3	£219	Ensoniq DP/4 new	£999
Aphex Type C II	£259	LA 4x4 new	£299
BEHRINGER ALL NEW		Lexicon LXP1 & 5	£399
Behringer Composer	£299	Lexicon LXP15	£799
Behringer Ultrafex	£222	Lexicon ALex	£359
Behringer Dualfex	£125	Sony DP range	lowest UK
Behringer Denoiser	£185	Yamaha SPX990	£599
Boss SE50	£275	Zoom 9001	£179
Boss SE70	lowest UK	Zoom 9120	£299

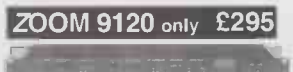
QUADRAVERB+ £299



ART MULTIVERB SE £325 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. £499

ZOOM 9120 only £295



BBE 362 / 462 BEST UK POA

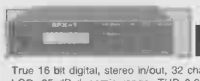
To insure the frequency components of any audio signal reach the listener in the proper relationship, the BBE process uses phase correction for the 3 frequency bands. It does not add artificially created harmonics of any kind. Both units are stereo and offer Definition and Lo-contour adjustment, while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

VISCOUNT STUDIO MULTI-EFFECT

turnkey FACTORY DIRECT exclusive

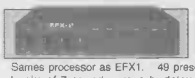
When our product specialists fir heard the prices on this new range multi-effects, they were sceptical. brief listen, however, quick revealed the strength of Viscount custom VLSI technology. In ke departments like dynamic range, and signal to nois they out-perform units at twice the price. But mo Impressive are the algorithms themselves Developed in Europe by a team of leading musicia to suit current up-front mixing techniques, they a characteristically smooth and free from the hars grainy overtones associated with many of today budget units. Reverbs for example are clean, natur and spacious. And we're confident enough to s that if you are not fullly satisfied return the unit to within 5 days for a prompt and courteous refund.

AS REVIEWED IN SOUND-ON-SOUND NOV 1993



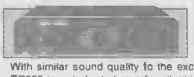
EFX1 £239

True 16 bit digital, stereo in/out, 32 character back-li LCD, 95 dB dynamic range, THD 0.02% Full MID control (in/out) Excellent sound quality, shimmering reverbs, full editability, up to 6 simultaneous effects reverbs, chorus, phasing, flange, delays, echo distortion, pitch-shift ±2octaves, compression, nois suppressor, 128 presets (105 user spares) spac saving half rack design (rack mount kit available)



EFX £139

Same processor as EFX1. 49 presets made from banks of 7 sounds : reverb, delay, chorus/flang phase/pitch-shift, multi, guitar1, guitar2. All t convenience of a preset machine with the advantage editing the most useful parameters e.g. reverb time, de time, chorus depth, etc... Footswitch control, -20/+4 operation. 95 dB dynamic range, 0.02% THD, Peak LED. Ideal for project studio users. Up to 6 effects once, half rack size (rack mount kit available)



ER25 £149

With similar sound quality to the excellent EFX2, ER256 is a dedicated reverb unit which offers a wi selection of refined reverbs and delays. As the nar implies, there are 256 different presets.

DJ producer

TECHNICS SL1210 industry standard record deck inc cart. POA

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Gemini PMX15	£210	Vestax PMC-10-II	£299
Gemini PMX2000	£340	Vestax PMC-15	£443
Gemini PMX2500	£370	Vestax PMC-20SL	£948
Gemini PMX3000	£399	Citronic MasterMix	£485
Gemini PMX3500	£420	Citronic SM150	£199
Gemini PDM 1008	£350	Citronic SM250	£299

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KAI S950EX PACK £1099 NEW BOXED

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ime & Space CD with 1000 samples
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stry standard machines and the best selling
ler ever. 11 outputs • Timestretch • Exchange with S1000 • 48 kHz sampling rate • Huge library able • 1.5 Meg RAM • SCSI & SP/DIF option cards synthesis features. No other sampler gives all features at anywhere near this price. Turnkey ic exclusive. Hurry while stocks last !!!
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Unbeatable prices

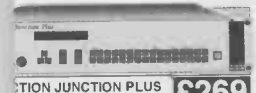
MU MORPHEUS £POA NEW BOXED

most exciting new synthesizer for years ! In ion to the superb 16-bit sound quality and ntforward user-interface that Emu are famous for, heus' Z-plane technology offers new sounds and ssive control that you've never experienced.
Review : *This instrument is the fifth absolute te winner I have encountered in my lifetime - Sell mily heirlooms, prepare your credit card and bank unt, pick up the telephone, get your order in now! thesis is your game, Morpheus is THE instrument - Martin Russ, Sound on Sound, Dec 1993*

LUTION EVS1 rack synth £199

TAR STUDIO ASTER KEYBOARDS

& 61 synth-action keyboards offer full-size sensitive keys (128 levels) with a firm but light Keys are designed for minimum flex and seating. FATAR's flagship models feature a eighted and counter-balanced action keyboard piano depth keys. Both models have a split ity, and the PLUS also has pitch & mod wheels, trate outs, adjustable key-response curves, and able footswitches and pedals.
If that these keyboards are the best we have played. disagree, we will give you your money back.

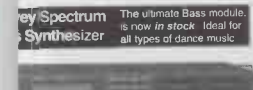


CTION JUNCTION PLUS £269 NEW BOXED
Programmable MIDI Patchbay

CTION JUNCTION £169 NEW BOXED
Programmable MIDI Patchbay

ese patchbays have a unique 8-way merge Additional features include : Zoning, MIDI transposition & delay, velocity offsets, scaling, ession, expansion, switch and cross-fade, ler remapping, MIDI "panic" button provides e system reset. 64 user-patches can be recalled IDI. This unbelievable offer will end soon !!!

ey Spectrum Synthesizer
The ultimate Bass module. is now *in stock*. Ideal for all types of dance music



MAHA RM50 drums £399 NEW BOXED

mate drum module - over 1000 sounds, 16 part timbral, spread a single sound across the ird. Full synthesis including resonant filters 5 ntrollers per channel assignable to pan, filter, e, decay, pitch etc... velocity cross-fading, 8 6 trigger inputs, MIDI sample dump option, 4 s (Huge range of up-to-date sounds available). vable spec, mind-blowing sound quality s price ! Hurry Hurry Hurry !

VINTAGE

nthology~ at Turnkey. We buy, sell, service, and provide full back-up for Analog sizers. We carry the largest inventory of analog ng ARP, Moog, Roland Buchla, Serge, Oberheim, Sequential - modular synths, polyphonics and honics. We can locate all rare synths and rare parts. al machines include 1920's RCA Theremin, The oog, the last brand new Xpanders and Matrix12s in nd, Moog string filter.

Super Jupiter with programmer	£1999
Sequential Circuits Prophet VS rack	£2299
ARP 2600 Modular System	£1795
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Boss DS330E new	£299	YamahaTG100	£299
Ensoniq SQ1	£799	Yamaha QY20	£349
Ensoniq SQ2 new	£899	SAMPLERS/PLAYERS	
Ensoniq SQR	£449	Akai S1000	£1899
Ensoniq KS32	£1399	Akai S01	£635
Evolution EVS1	£139	Akai S950	
GEM S2	£1399	Cheetah SX16	£39y
Roland A30 76 note GS master kybd			£349
Kawai K-11 new	£699	Ensoniq EPS16+	£999
Kawai G-Mega new	£449	Ensoniq ASR10	£1799
Kawai Spectra	£299	Roland SP700	£1499
Kawai XS1	£149	Roland S750	DEAL
Korg M1	£799	S950 750k card	£89
Korg WavestnA/D	£1099	S1000 2M cards	£129
Korg WavestnSR	lowest	ProteusMPS +	£899
Korg O1WproX	£2250	Proteus/1	£499
Roland S750 24 bit stereo sampler			£2
Korg O1Wpro	£2449	Proteus/1 orch	£645
KorgO1WFD	£1350	Proteus/2	£599
Korg O1R/W	£799	Proteus/2XP	£795
Korg O3R/W	£599	Proteus/3	£479
Korg O5R/W	in stock	Proteus/3 XR	£645
Korg X3	MEGADEAL	Vintage Keys	£749
KurzweilK2000	£1979	Proformance	£249
Roland SC55 Mk2 Sound Canvas			£449
Oberheim M1000	£399	Proformance+	£295
Peavey DPM3	£1090	MOTHER KBDS	
Roland MKS80prg	£1999	Roland A30	£299
Roland JD800	£949	Roland PC200Mk2	£189
Roland JD800 new	£1099	Roland FP8	POA
Roland JD990	£999	DRUM MACHINES	
Roland JV1000	£1699	Alesis SR16	£199
Roland DJ70 sampler - great for MCs			£117
Roland JV80	POA	Alesis D4 new	£299
Roland JV30	POA	Boss DR660	BEST
Roland JV880	POA	Emu Procussion	£449
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Yamaha SY85	DEAL	Yamaha RY30	£349
Yamaha SY35	£599	Yamaha RY10	£199
YamahaTG500	£899	SEQUENCERS	

£239 NEW BOXED

VISCOUNT RD70 data filer

Records straight from your sequencer or plays back type 0 and 1 MIDI files from Double Density MS-DOS disks (from 1040STE, PC and Mac) Programmable playback abilities similar to top CD players. Uses direct to disk storage for very large note capacity. Stores SysEx dumps. Competitive units costing 50% more don't do most of this.

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while stocks last	RRP	DEAL
G-MEGA 32 part Synth Module	£649	£449
K-11 great sounding fully editable 32 part synth with resonant filters, vel & A.touch keybd	£949	£699
MDK61 5 oct Master Kybd with aftertouch, pitch and mod wheels	£309	£239
Q-55 MIDI sequencer 3.5" disk drive	£409	£299
QB0EX 32 track MIDI sequencer, huge memory, excellent editing facilities	£549	£399
RV4 multi-fx unit with 4 stereo ins and outs plus digi I/O fantastic quality, unbelievable value	£809	£599

DREAM GMX-1 General MIDI sound module £159 NEW BOXED

The perfect module to include in your first computer music setup. 128 General MIDI sounds including full range of natural and synthetic sounds and drums. Includes built-in MIDI interface for PC windows 3.1, Macintosh and Amiga serial port. 16 part multi-timbral, 20 note poly, responds to MIDI volume and pan for computer controlled automated mixes. Must be heard to be believed.

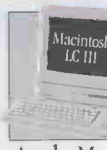
GMX1 / PC200-II	£315
GMX1 / Kawai MDK61	£369
KORG WAVESTATION SR !!!	£750

YAMAHA QY10 £149 NEW BOXED

Almost half price! 8 part multi-timbral, 28 note poly sample player (TG100 sounds), with 8 track sequencer + full MIDI spec - built-in keyboard, wide range of drum sounds, selection of preset patterns if required. Ideal as writing tool / sound module / backing machine. Smaller than a video tape - sounds on the move ! Ideal stocking filler. Runs from batteries or AC adapter (optional). These are the last units available anywhere - order now, don't be disappointed - these will fly.

QY10 / PC200-II	£319
QY10 / Novation MM10	£299
QY10 / Kawai MIDIkey	£379
ROLAND JD800 MEGADEAL	£Call

COMPUTER



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NotatorLogic Cubase Score Vision 2.0

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Masterfracks Pro 4.9 (Easy to use sequencer)	£199
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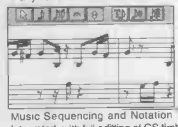
ROLAND ATW-10 PACKAGE
in stock ! with MIDI kit
New!
Call!

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

MIDI QUEST version 4.0
Universal Editor and Librarian packages
£219*

THE WIDEST MIDI DEVICE SUPPORT AROUND
For Atari, Macintosh, DOS, Windows and Amiga. Now supports 185 MIDI devices, including Vintage Keys, Kawai K11 & G-Mega, Wavestation SR, X3, i2 and i3, Waldorf Microwave, SY85, TG500 and TG100, and many more. *235 for the windows version.



MUSICATOR FOR WINDOWS £295

Music Sequencing and Notation Printing Seamlessly Integrated, with full editting of GS timbres and effects
You used to have to buy 3 separate packages to do all this! Ideal with DS330, SC01, SC7, SC55, etc...

FREE ACCESSORIES • SECOND HAND & DEMO • FREE

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Cubase Mac	£375	Emagic Notator Logic	
Cubase Score	£425	new copy at	£289
Cubase Audio	£699	Emagic Creator	£169
Cubase windows	£179	Emagic Notator	£219
Steinberg Midex+	£399	Emagic Unitor2	POA

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FATAR Computer Music Station

£299

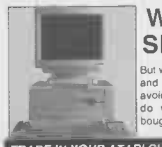
The CMS61 comes with mouse mat and has recesses for it and a standard PC QWERTY keyboard (not included). Pitch and assignable control wheel, send patch and bank change, octave and semi-tone transpose, sustain and control pedal inputs, 2 MIDI outs, unusually responsive keyboard action. The ultimate in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

BOSS DS330 "Sound Canvas" £299

IBM® PC COMPATIBLE

MAXPAK FOR WINDOWS version 2.1 £235

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



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CUBASE FOR WINDOWS
4 PC versions available

FACT : PC Cubase for windows is already the best selling version of Cubase worldwide. WHY? The PC is the only true industry standard (ie all of industry). Reliability is total, the PC is not a domestic home computer. Because of ferocious PC competition, you can now buy a 486 PC for a pittance. It is many times faster than an 8 MHz 1040. - 32 bit chip, up to 66 MHz clock, IDE hard-disk. Industry Standard expansion slots etc... There is no doubt that the PC has the largest range of serious business software too!

OFFERS INCLUDE A *FREE* PC MIDI INTERFACE

Cubase Lite (score only)	£149
Cubase 1.02 (key, grid & drum only)	£249
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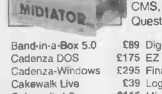


PC MIDI interfaces
CMS, KEY, MIDIMan, Music Quest, Voyetra, MOTU...

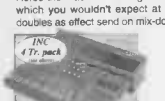
Band-in-a-Box 5.0	£89	Digital Soup	£99
Cadenza DOS	£175	EZ MIDI Pro sequcr	£69
Cadenza-Windows	£295	Finale Academic	£345
Cakewalk Live	£39	Logitech Sndman 16	£189
Cakewalk 4.0	£115	MicroLogic	£POA
Cakewalk Prof.	£189	PC Drummer	£45
Cakewalk win 2.0	£295	QuickScore Deluxe	£115
Coda Finale 2.2	£699	Wave for Windows	£115

The UK 4 TRACK Centre

It is fair to say that Turnkey 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

FOSTEX X18 £279 NEW BOXED

Heres the machine offering bounce-down and sync jacks which you wouldn't expect at this price. Mommix bus doubles as effect send on mix-down. Dolby R.R.P. £289



FOSTEX 280 £599 NEW BOXED

The 280 is the ultimate 4 track for use with computer sequencers such as cubase.As well as Dolby C, 8 inputs, 3 band sweepable EQ and 2 auxiliaries, 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 autolocation memories, autoplay and

TASCAM Porta 07 £349 NEW BOXED

A fantastic new machine from the makers of the Portastudio. Double speed, EQ on each channel, built-in dbx, 4 channel metering system

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Tascam 488 new	£1099	Tascam 464	£POA
Tascam 688 8 trk	£1899	Fostex X18	£249
Tascam Porta 03	POA	Fostex X28	£325
Tascam Porta07	stock	Fostex X28H	£349
Tascam 424	£449		

YAMAHA MT120 £369 NEW BOXED

Yamaha's new double speed four-track features 4 mic inputs, a stereo graphic eq

THE turnkey 4-TRACK PACK

Our famous 4 track pack includes everything you need to start making music. Sennheiser headphones, microphone with cable, 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.

NEW Fostex X28H + 4 track pack	£395
NEW Fostex 380S + 4 track pack	£POA
NEW Tascam 424 + 4 track pack	£459
NEW Tascam 488 + 4 track pack	£1099
NEW Yamaha MT8X + 4 track pack	£POA

STUDIO hard ware

STUDIO RESEARCH MIDI SYNCHRONISERS

SmartSync	Excellent value sync box	£99
SyncMan +	SMPTE box with merge	£149
MacSyncMan	as above with Mac I / F	£249

UP TO 40% OFF • CASH REBATES • SECOND HAND & EX DEMO • OFF • INSTANT CREDIT • END OF LINE CLEARANCE • UP TO 40% OFF

Alesis RA100	£259	JBL Control 10	£949
XRi XR300	£199	JBL 4206 new	£275
ReVox B77 mint	£999	JBL 4208 new	£325
JLCooper PPS2	POA	Shure SM57	lowest
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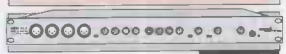

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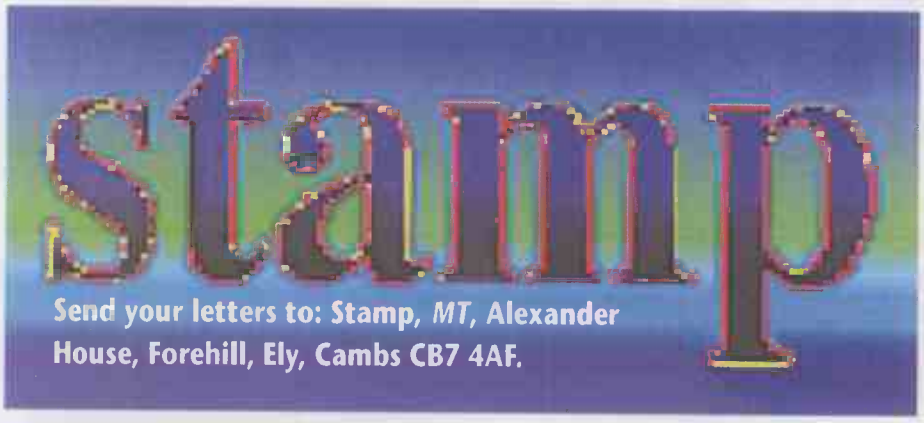

Medium is the message – 1

● *Unlike some of your readers, I need no convincing as to the potential of multimedia and I certainly welcome the space devoted to it each month in* MT. *The only thing I find galling is the fact that I've been involved (to a greater or lesser degree of success) with the combining of sound and visuals for more than 15 years now, having taken my lead from many of the '70s bands (dinosaurs you'd call 'em) who were experimenting with 'multimedia' events long before the term was coined and long before the current generation of artists had even begun to consider the possibilities.*

Don't get me wrong, this isn't one of those 'it was all different in my day' letters, or me claiming there's nothing new under the sun (even if there isn't). I'd just like for things to be put into their proper perspective and for credit to be given to those artists who have been struggling in the field for years.

The impact of music has always been enhanced when accompanied by the right images – you only have to go to a club to be aware of that. Peter Gabriel was aware of it years ago, and so were many other artists. Unfortunately, the kind of cliché-ridden pop promos we were subjected to throughout the '80s did little to advance the cause and for the most part seemed to be an excuse for movie directors with a few spare days in their schedules to indulge in the kind of excesses they would never have been allowed to get away with in a proper movie.

The future does involve the combining of different (but complementary) media, but then so did much of the past. We must get things in perspective.

Donald Cox
Leeds

➤ Indeed we must, Donald. And yes, I have to say I shared many of your reservations when I first became aware of the term 'multimedia' having witnessed many performances during the '70s and '80s which were multimedia in all but name (Thomas Dolby's *Live Wireless* tour to name but one).

However, there is one subtle, but crucial distinction: multimedia productions can now be put together by a single person using a single tool – the computer. The music might be assembled using many different instruments, and the video images might come from a variety of sources, but only now can these elements – together with animation clips, text, graphics and still pictures – be combined on the same computer by the same person.

The nature of the system allows the component parts to mesh together perfectly, and, more importantly, for a multimedia production to be conceived as a composite whole right from the start. You're absolutely right to point out that many bands in the '70s experimented with multimedia, but what tended to happen then was that visual imagery was usually brought in to complement a musical performance after it had been written. Rarely did artists think in terms of multimedia performance from the outset.

This is why I believe *MT* is right to include multimedia as an integral part of the magazine. Other mags may cover computing, video, sound and graphics (the component parts of multimedia), but no other magazine yet deals with them collectively – which is how multimedia has to be approached if it is to work successfully. NL

Control points

● *Did anybody else see the C4 documentary about the Theramin?*

While I was watching it, I was struck by the sheer musicality of the instrument. OK, it's monophonic, it must be a bugger to play (no keyboard, the pitch depends on the height of your right hand) and it has limited tonal variety, but

Letter of the month

Medium is the message – 2

● *Like everyone else I am fed up with the 'my computer is better than your computer' arguments which have flourished in 'Stamp' recently, and for this reason, I was loathe to participate myself – however constructive my arguments might be. This letter isn't meant to promote the wonderfulness of the ST (I accept it has the processing speed of a tortoise), merely to introduce people to the idea that you really don't have to have a huge great computer with a monstrous operating system and zillions of megabytes of RAM to get creative.*

The recent introduction of multimedia into MT *has made me very interested in producing my own audio-visual work, stopped only by the hardware I own. My ST simply wasn't, or so I thought, capable of creating wonderful pictures with CD-quality audio. I even looked into buying a new computer, like a Mac or a PC, both of which have a wealth of multimedia software and hardware, but was dumbfounded by the cost and choices available to me.*

What I discovered was that after upgrading my ST to 4Mb (which is easily accomplished with SIMMs), with the programs I had, and external devices like my keyboard and sampler, I could create short AV sequences, rendered in two and three dimensions, with audio. The visuals were created using the Cyber series of design packages that cost me between £5 and £25, and I used the Replay 16 sampler for audio, which you could probably get for around £60 secondhand. It has a sequencer and MIDI playback function on it as well as a lot of editing facilities which I used alongside my external sampler.

OK, so it wasn't as good quality as using a dedicated multimedia application on a PC or Mac, and it still ran as slow as a Lada, but the point was that I was able to do it with what I had. So many people buy huge, expensive computers and for beginners it just isn't necessary. All you need is a little patience and determination (and a few unorthodox connections to external devices) to create something on your existing system.

I couldn't really say which computer is best, although I know mine certainly isn't. Like so many of the people entering this argument, I have only ever really used one.

Jon Birch
Stevenage

➤ Like a veritable blast of fresh air, your letter has cut through much of the hyperbole that has characterised this whole debate, Jon.

As many people have discovered, there's still plenty of mileage left in the ST, and at the prices I've seen them currently advertised they really do represent quite a bargain if you're just starting out.

Incidentally, why not send in your completed desktop movie for consideration in 'Dare!'? I know Phil is particulary keen on seeing how readers are addressing themselves to the challenge of multimedia, especially where this involves relatively modest equipment of the kind you're using. NL

what a sound and, more importantly, what CONTROL! Raise your left hand for an increase in volume, lower it to sink into silence. Vibrato? Waggle your right hand like a string player – none of that fixed rate modulation that we've got used to. What could be more direct?

After the programme I looked at my master keyboard with its 'performance' wheels and realised what a still-born thing it was.

So here's the manifesto. What I want is parity with non-electronic musicians. I don't want our instruments to sound like other instruments (they deserve better than that) but I do want them to 'sing' like other instruments. Sadly, they don't and until someone comes up with a method of control as expressive as the Theramin, they won't.

The Theramin is over 70 years old. It's time to burn our Chad Valley Bendy-Wheels.

Gary Caulfield
London

P.S. About the new magazine design. Have you decided to exclude the partially-sighted?

➤ No Gary, only the smart-arsed. And just as I was finding myself agreeing with your comments about the Theramin. Anyway... you might be interested in some of the things Thomas Dolby has to say about control of instruments through body movement. Check out the interview on page 36. NL

Very good!

● *It seems that to have the accolade of appearing in MT nowadays, you need to have done something rather spectacular or revolutionary. But I suppose it's not such a bad thing really, at least it keeps up the quality of interviews you feature.*

In this case, I am referring to the Pet Shop Boys article in the December issue, which featured, amongst several hundred orange blobs, an interview with Pete Gleadall and Bob Krushaar talking about the production of Very. The explanation of how, and with what, tracks were created was certainly very inspiring. The Pet Shop Boys have such innovative methods of production I found it a very interesting read and a useful source of ideas. It certainly proved how much the Pet Shop Boys are still a major influence – not only in the pop field but also as an act that still goes down well in the clubs (Very was listed as one of the best albums of '93 by Mixmag).

Thanks MT for a most incisive interview – even if I am still seeing orange spots in front of my eyes...

Thomas Newton
Norwich

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

MTease

The burning questions of the hour, faced with fortitude – this month by Richard Barbieri.

1 What was the first synthesiser you ever played?
"Micro Moog."

2 Who is your favourite musical pioneer?
"Eno, of recent times, and before that Karlheinz Stockhausen."

3 What's the difference between Take That and Stravinsky?
"Similar to the difference between tiddlywinks and chess. Seriously though, I don't think people will be listening to Take That in a hundred years' time."

4 What's the difference between a drum kit and a drum machine?
"Obviously the drum kit has more interesting possibilities sonically and dynamically. However, a drum machine in the hands of a gifted musician can contribute greatly to a piece of music."

5 Playing live: why bother?
"Well, it gets the adrenalin flowing, which is good for the body and the mind. Also, it's the most direct way of communicating your ideas to an audience. I guess instant reaction is what it's all about."

6 Which record says most to you about music technology?
"'Kontakte' by Karlheinz Stockhausen, recorded around 1958/59 – a very big influence on me."

7 What does the phrase 'multi-media' mean to you?
"I guess it means we will be experiencing music in a number of different ways very soon. When virtual reality becomes more sophisticated, there could be some interesting interactions with music."

8 How do you react to hearing a sample of your music on someone else's record?
"If it's used tastefully to embellish a piece – and it's credited – that's fine. If it's used as the basis for a piece, then it's time for the lawyers to get involved."

9 What is the next piece of equipment you would like to buy?
"Indian harmonium/organ, plus a few additional modules for the System 700."

10 Will technology become invisible?
"When I listen to what I would call an inspired piece of music, the whole process of how it was created is not the first thing that occurs to me. The 'idea' and spirit of the music is what comes through. In this case, the technology becomes invisible. Most of the music around at the moment is pretty vacuous, however, so the technology used to make it is quite evident – especially as there's nothing happening musically to take your mind away from it."

Japanese boy

Richard Barbieri played keyboards in early '80s pop pioneers Japan, but you knew that already. What you may not know is that Richard has formed a production company and record label called Medium, with Japan colleagues Steve Jansen and Mick Karn. Designed to afford complete artistic control, Medium has already released the Jansen-Barbieri-Karn CD *Beginning To Melt*, available by mail order from Medium Productions, 74 St Lawrence Road, Upminster, Essex RM14 2UW (UK price £12.00). More will follow.

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GRIEF

Need any advice? Trying to settle an argument? Write to Grief, MT, Alexander House, Forehill, Ely, Cambs CB7 4AF.

Q *Having recently purchased a Groove Electronics Wasp Stinger, I have endeavoured to route the two separate 'Wasps' contained within the rack to separate MIDI channels. However, many laborious attempts have proved futile.*

I would be grateful if you could explain the procedure for running Wasps A and B on two separate MIDI channels and why, at present, they only play on channel 1. Also, some insight into the MIDI edit section would be greatly appreciated.

At present I am recording onto DAT and during the copying process onto audio cassette the digital sound is deteriorating. Could you please explain this and suggest any way in which it may be rectified?

Greg Watts
Coventry

☆ *With regard to Chris da Silva's letter in November's MT, Studio Electronics equipment is available in the UK through TSC in London.*

Also, Groove Electronics did indeed produce a 4U rack unit called the Stinger. Externally it was yellow and brown and very knobbly. Internally it contained the guts from two EDP Wasps with MIDI.

Sean Coppinger
Acton, London

The original Wasp

A Ah, the good ol' Wasp rears its stripey head again. Well, further to various letters and comments which have appeared in *MT* over the past months, I have now unearthed some more info about this gear and the company which produced the Stinger, Groove Electronics.

Groove, as most people will know, went into liquidation when the recession hit (three cheers for Mr Major – hip, hip er...). Neil Nash, who ran the company, did not scarper to the Costa del Dosh, but is now actively unemployed, receiving the requisite unemployment benefit and doing, I believe, some sort of biology degree.

One of the chaps who had a hand in designing Groove equipment, Patrick Shipsey, (and who, we are at pains to point out, had nothing to do with Groove's misfortunes) is now running a company called dBm which specialises in MIDI-to-CV converters. Patrick is the one Chris da Silva referred to when he said he believed someone from Groove was still producing the Wasp/Stinger units. Well, he isn't, but he does know quite a bit about them.

You need the manual to understand how to program the Stinger as all the program guidance you get is a set of LEDs. Patrick was kind enough to offer to put a copy of said manual in the post to Geoff Watts so hopefully Geoff is now programming his Stinger like a pro. Many thanks for that, Patrick.

If anyone is interesting in getting an analogue synth to work with MIDI, dBm can be contacted on 0256 53953 or by post at PO Box 335, Basingstoke, Hampshire, RG21 3RB. But if there are any Waspies out there, please don't take advantage of Patrick's good nature. He's not officially involved with the Wasp or Groove.

Studio Electronics' SE-1 is, indeed, available from TSC (071 258 3454) although in the interests of accuracy, it was not at the time of Chris da Silva's enquiry. Also, TSC is only handling the SE-1 and not the complete Studio Electronics' range. However, if sales go well – and they have been so far – TSC may increase this. The SE-1 is a true MIDI-compatible analogue synth and costs £1295.

As for the deteriorating quality of the DAT, there are several possibilities. The first thing is to check is the recording process itself. DAT is not as forgiving as analogue tape and if you overload the input the sound will distort. It is also possible for a well-used tape to cause problems or even, I suppose, a new one which slipped through quality control.

Another possibility is that the DAT recorder itself is faulty. I had intermittent problems with a Casio DA-7 which started to distort playback after it had been running for an hour or so. It was fixed. But then started to distort *until* it had been running for an hour or so. Another repair job seems to have cured the problem. IW

Q *I am very much into progressive music and as much as I enjoy listening to it, I would also like to generate such thumping sounds myself.*

I only possess an Amiga 1500 and the Audio Engineer +2 sampling package. Could you please tell me what equipment I would require and where it could be purchased to enable me to sample a sound – a piano, for example – create a piano track, loop it and then store it to disk? I'd like to create several tracks, say piano, bass, whooshes, voice, ethnic flute and so on, co-ordinate each track and mix them together.

B. Cubson
Brigg, South Humberside

PS: Could you reply by post as I do not always manage to purchase MT.

A To answer your PS first – no, I'm afraid we can't answer queries by post for the reasons you see in the box at the end. You would, of course, be guaranteed a regular supply of *MT* if you took out a subscription – and currently that would include a free Time + Space sample CD, which could be right up your street.

The sort of music you want to make is the sort of music Amiga users have been making for ages. Well, technically, if not musically. ➤

➤ Indeed the world of Amiga demo disks is renowned the length and breadth of the Manchester Ship Canal.

Amy uses sampled sounds and there are several 'tracker' programs which let you use samples to build up music tracks, much in the way you describe. I'd suggest you start with a program called Octamed which is generally regarded as being the best tracker program available. What's more, there's a version in the public domain. I got mine from Valley PD (091 5871195). Give Brian there a call and he'll suggest a few other disks containing various sample-type programs. There are also lots of PD samples around so you don't even have to make your own. Now isn't that the height of technology?

Hope you have a thumping great time. IW

State of the art harmonising: the Eventide H3000

Q *As a police officer and a musician, I was interested to read a recent article in* Police Review *on changing the tonal characteristics of the human voice for use in court when a person's identity must be protected. The system recommended was the Eventide H3000, at a not insubstantial price.*

My question is, can you recommend a cheaper system than the Eventide, one capable of coping with pitch shifting, tone editing, etc, without turning the speaker into a Dalek?

Steve Payne
Havant

A I always knew there must be a practical use for all those harmoniser devices!

Yep, £2,800 may seem expensive but you tend to get what you pay for. I suspect the Eventide is several degrees over-specified for your application. But then, if the forces of law and order can't afford a few quid to protect witnesses then it's a bit of a bad do.

Scouring the small ads in a certain monthly satirical paper, revealed a company advertising an Electronic Telephone Voice Changer for the very insubstantial price of £12.99. (If that's still stretching the budget we'll organise a whip round here in the office.) I haven't seen or heard the thing so I don't know if it would turn you into a Dalek (*do they have policemen on Skaro? – Ed*) nor have I contacted the company, but I pass on the information for you to follow up if you wish – Power-Full Ltd., PO Box 1, Ashby-de-la-Zouch, Leicestershire, LE65. Tel: 0530 412445.

Alternatively, the musically talented and technically proficient company, Oscar Music, said they could build you a voice changing device for you to order, probably costing under £100. Give them a call on 071 377 6294. Other than that, why not pop into your local friendly music shop (plain clothes optional) and try a few harmoniser devices – the Digitech Vocalist II is particularly well regarded and costs well under a grand. IW

Q *I would appreciate your advice on the following problem – I want to use my Roland D5 keyboard on stage controlled entirely by a sequencer. Can you recommend one which is suitable, reliable, can hold about eight or nine songs in memory and can load a further eight for the second set quickly?*

I have seen the Kawai Q80 and Q55 advertised locally. What about the Roland MC50? I would require a step-time sequencer because my keyboard playing is not what it should be.

Steve Bates
Royton, Oldham

A The Roland MC50 Mk II will do what you want. It can store up to eight songs under normal conditions – the actual storage capacity is about 40,000 events – and the new Super MRP Performance software loads a bank of songs and will play them in whatever order you specify. It was, in fact, designed specifically for performance.

The Mk II has a RRP of £799 but you may pick up a second-hand one. Older MC50s (that is, not the Mk IIs) may not have the Performance software, so check if you're thinking of buying second hand. However, I suspect Roland will be able to upgrade you for a nominal cost.

The Kawais are a few years old now but were excellent value for money when they were launched, although they can be a bit fiddly to operate. You'll certainly be able to pick up a 80 or 55 cheaper than a MC50.

Kawai has since left the UK and is distributing from Germany (the number is 010 49 2151 37 300 if you want to contact the company) although the old UK phone number (0202 296629) is currently attached to the service centre. As of writing, no one is quite sure exactly what Kawai is going to do regarding instrument production and distribution. An alternative you might like to consider is to use a computer-based sequencer for composition and a MIDI File Player for playback on stage. Computer-based sequencers are far more powerful and better at note manipulation than hardware sequencers and you might find this very useful if your playing skills aren't what you would like them to be. Of course, it's a more expensive option but you could use the computer for other things, too. This would certainly be my preferred option. Next on my list would be the MC50 II. IW

Roland MC50 MkII
the best onstage sequencer?

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

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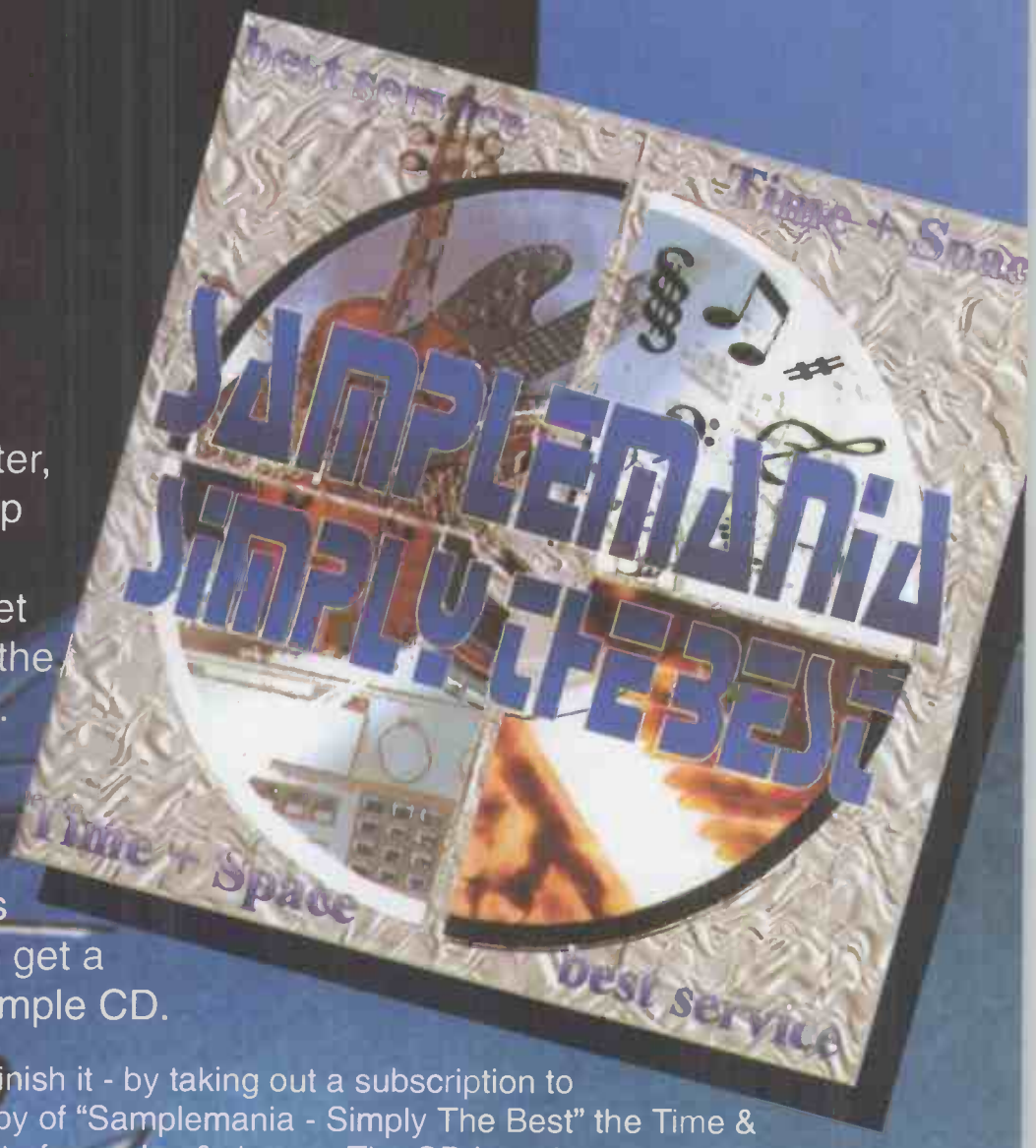

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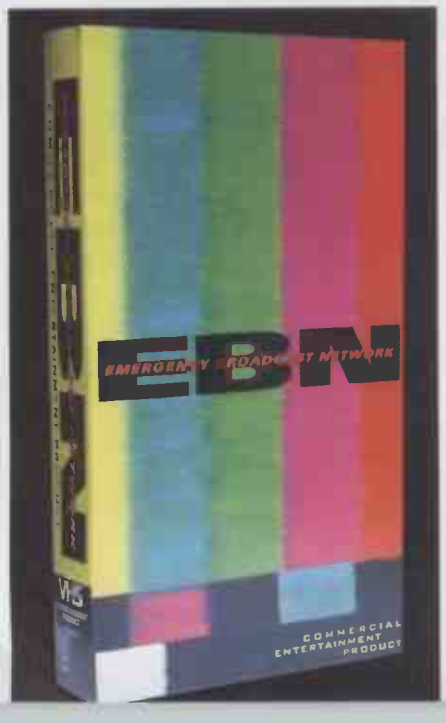
Emergency Broadcast Network
EBN (TVT Records)

It may be manufactured and distributed by New York-based TVT Records, but this is a video. A normal, VHS video. Except that its content is truly exceptional. As a debut 'album' for a trio of US sampling fiends who call themselves Emergency Broadcast Network, *EBN* needs to be on video – because this is a band who happen to sample TV clips as much as they sample sound bites. What's more, they synchronise them perfectly to form a unique audio-visual encounter.

EBN is the video equivalent of house and hip hop's sonic montages, in which samples are linked together by steady grooves for maximum ironic, satirical and anarchic effect. As a natural progression of these techniques, it brings them to sparkling life. Suddenly, instead of just hearing snippets of George Bush or President Clinton transplanted onto a pop soundtrack, you can see them, lifted wholesale from newsreels or documentaries and juxtaposed into a series of kaleidoscopic blipverts set to music. The surreal effects of audio sampling are thereby catapulted onto the same scale as TV itself, and a powerful artistic weapon is forged.



The effect can be hilarious, exhilarating and terrifying. 'Psychoactive Drugs' presents a cluster of sanctimonious speeches and rehabilitation lectures on the subject of drug use, subversively edited to apparently encourage abuse. 'I Am A Man' opens with Richard Harris shouting that line from some macho movie, and proceeds with a tumult of gun adverts and military clips against a searing bass drum and snare beat fashioned from real explosions. Elsewhere, Harrison Ford is found yelling 'get down', stolen from another action film, and dropped into the track as a sarcastic take on the vocal cliché from countless James Brown records. And Elsa Lanchester, the original Bride Of Frankenstein, flashes onto the screen in full monochrome glory with an electrifying scream throughout 'Lawrence Welk Is Dead'.

The quality of the pictures varies, but often matches the graininess of early audio samples. This, of course, is perfect for creating the desired degradation of image. Acidic video effects are also applied to many of the most familiar images, which are often repeated to the point where all original meaning is lost. Some of the techniques have been used before, in the opening titles for some of Channel 4 or BBC 2's 'whackier' youth programmes. But many significant innovations – particularly in animation – begin life as gimmicks. The material pouring out of TV screens around the world deserves this kind of attention and manipulation, which creates a medium which is both funny and serious, expressing the full range of emotions. In other words, EBN goes beyond a joke. PW

Babble
The Stone (WEA)

Once the bubble had burst on The Thompson Twins, the way was clear for Tom Bailey and Alannah Currie to revert to a similar existence to the one that preceded their success: a nomadic, idealistic life on the fringes of the music industry. Only now, of course, the small matter of accrued royalties makes that life even more idealistic than before. And in the studio that Bailey has assembled over the years, full reign can be given to technical innovations as they occur.

Bailey has been moving with the times when it comes to musical style, too. In 1992, he was part of the Feedback Max project which produced two club-friendly 12" singles – 'Come Inside' and 'The Saint' – revealing his natural sympathy with the dance movement. One of that team – engineer/producer Keith Fernley – now forms one third of Babble with Bailey and Currie, and *The Stone* is this trio's participation in the same dance movement's evolution into what has become known as trance or ambient.

A long sojourn in India before the album was started prompted a sampling frenzy. And even that particular trot has been out-globed by wholesale relocation to New Zealand now that the album's finished. I told you they were nomadic. And there's nothing like relocating to New Zealand on the eve of your album's

release to keep you on the fringes of the music industry. Nonetheless, the ethnic samples decorate, rather than dominate, this collection of songs. They display more of Bailey's assured melodic touches than anything I've heard since *Into The Gap*. Mellow, tuneful and sonically sumptuous, *The Stone* does not deserve to sink without trace. PW

D:ream
D:ream On Vol.1 (East West)

Although DJ Al Mackenzie departed following completion of the album, singer and songwriter Peter Cunnah has steered D:ream's course undaunted towards the arrival, as we go to press, of the single 'Things Can Only Get Better' at the exalted position of UK No.1. His anthemic, cheerful tunes are chiefly responsible for this success bolstered by chattering, bouyant rhythms and, possibly, an altered image of singer and band as opposed to singer, DJ and DAT.

Sharing the same label as The Beloved, Cunnah has a similar calling to use the programmed beats and basslines of house music as the natural habitat of the pop song. M People are having a crack at it, too, but Cunnah's feel for the really big chorus is likely to pay repeated dividends. One thing that both this album and M People's *Elegant Slumming* share, however, is a tendency to turn to an annoyingly trite latin feel whenever the need for a variation on the party mood presents itself. That sort of thing is best left to Jellybean. But in the main, it's Cunnah's voice which raises this machine-driven thing to a cut above. PW

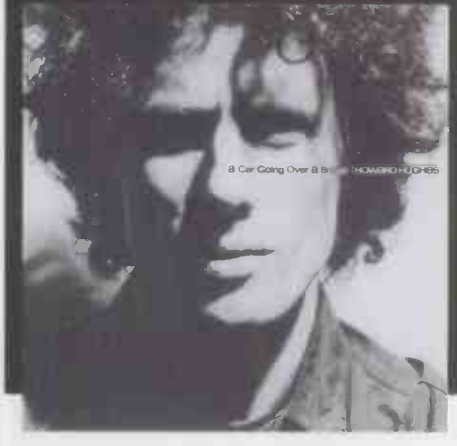
THE MT INDEX

Attrition
The Hidden Agenda (Hyperium)

Amid vocal whelps and bursts of sampled guitar, Attrition's growling, thumping epics roll along with something of Sheep On Drugs' dark menace. In a career, starting in the early '80s, shadowing that of bands such as Cabaret Voltaire, Attrition mainman Martin Bowes has guided his project through many changes to arrive at this fertile union with German industrial label Hyperium. With technology utterly to the fore, the machines are finally catching up with the ideas hatched by pioneers like Bowes.

Howard Hughes
A Car Going Over A Bridge (Ultrasonic)

Distancing itself from the ambient bandwagon, this assembly of highly musical samples declares rigid, architectural structures – utilising the human voice, sudden fanfares and dislocated instruments – as opposed to "gentle layerings". Hughes has done his fair share of session work – touring with The Associates and Tears For Fears, among others – and seems to have decided upon a somewhat avant garde American course with a computer standing in for an orchestra or choir. Loves the sound of breaking Glass, you could say.



Various artists
Feed Your Head (Planet Dog/Ultimate)

Rounding up the finest ambient dub and trance artists within the Planet Dog orbit – they of the club, label and, indeed, Megadog MIDI Circus – this compilation provides "optimum listening between the hours of 3 and 8 A.M." Analogue washes and burbles cascade with tropical samples and gently pulsating beats, as The Drum Club, Eat Static, Banco De Gaia, System 7 and others of similar bent chill out with taste. Electronic glistening music, indeed. You know, one of these days, someone's going to do a remix of Yes's 'Close To The Edge' – and it might be quite good.

Oracle
Tree (Swim)

As the joint effort of Colin Newman, Malka Spigel and Samy Birnbach – prime movers behind 'desktop' independent label Swim – this is pretty much the culmination of Swim's protracted genesis, recorded between 1988 and 1993 and drawing together all of the influences – dance, Hebrew, psychedelic, ambient – inherent in the trio. Echoes of Saint Etienne are to be found in the poppier moments; elsewhere the vocals become tangled in the ethnic undergrowth. Strangely parallel with the Babble project – see opposite.

Various artists
Secret Life Of Trance 2 (Rising High)

Tops! Another impressive compilation from the leading edge. This is Rising High's showcase, released at the end of some solid campaigning by the label – home of Mixmaster Morris, Pete Namlook et al – on the ambient trail. Black Dog are included, too. Available as a quadruple album or double CD, it's a more liquid blend than Planet Dog's tribal grooves, often melting into completely amorphous globules of sound. The two collections together total more than five hours of music – and if you haven't chilled out by the end of that you've probably passed away.

KEYBOARDS

ANALOGUE BARGAINS: JEN SX100 mono, £120. Roland MC202, £200. RS-09, £100. TR707 drums, £150. JX-8P, £295. Sequential Pro 1, £300. Korg KMS30 sync, £150. Selko MR1000 sequencer, £25. Mark. Tel: 0226 206767.

CASIO AZ1 portable MIDI controller keyboard. Full functions with 3 1/2 octaves. Excellent condition. £185. Twin lock Combo/Monitor stand. £20. Robert. Tel: 071 2811918.

CASIO CZ1000 with case, PSu and manual and 2 RAM cartridges filled with 128 excellent sounds. £100 or offers. Graham. Tel: 0736 755195.

CASIO CZ5000, manuals, good condition, £200. Yamaha CX5M Mk II, all music software, cassette recorder, no keyboard, £60. Simon. Tel: 0908 223248 (evenings).

CHEETAH 7P weighted master keyboard. 7 octaves. Beautiful condition with dust cover. £400 o.n.o. E-mu Pro-formance £200 o.n.o. Roland DEP5 effects unit £175. Ian. Tel: 061 442 6039.

CRUMAR DP30 6-octave electric piano. They call it a piano, but it's more like 4 Clavi voices. With tone control and chorus. Complete with carry-bag and stand. A substantial piece of wood and metal. Excellent condition, only £50. Tel: 0223 414518 (evenings).

ELECTRONIC ORGAN Alka Artist 606 with drawbars and real leslie. Offers invited. Tel: 0223 234850 (Cambridge).

ENSONIQ EPS 2x memory, £599. D50, £399. Juno 1, £175. Korg Poly 800 II, £130. DX27, £130. Korg 707, £199. Soundtracs MRX 24:8:16, immaculate condition, £1,999. Dave. Tel: 0274 620004.

ENSONIQ ESQ1 fully expanded with case. Reasonable offers. Robin. Tel: 0847 62517.

ENSONIQ VFX SD1 with 2-tier stand. Atari STFM upgraded to 1Mb with monitor and Cubase. 6-channel stereo mixer with EQ. £1,500 the lot ono. Andy. Tel: 0903 722023.

ENSONIQ VFX with latest version of software. Boxed, with manual, sounds etc. and custom flightcase. Nick. Tel: 0273 553020.

FRONTAL LOBE and PCM channel. Sequencer and librarian expansion units for Korg M1, £99. Tel: 0638 720090.

HAMMOND C3 plus leslie. Good condition. Best offer secures. Part-exchange possible. Jonathan Slater. Tel: 0924 864673.

HOHNER PMFT in very good condition. Bernard. Tel: 0407 810742.

KAWAI K1 MkII, boxed with manuals, immaculate condition - home use only, £200 ono. Sean. Tel: 0782 625513.

KAWAI K4 synth, mint condition, boxed, manuals, £420. Boss DR550 MkII, brand new, boxed, £180. Korg Poly 6 analogue synth, £170. Tel: 0602 444618. Derbyshire.

KORG 01/W with RAM card and case, £950. Roland TB303 and TR606 cased together with adaptors and all documentation, mint condition, £350. Andy. Tel: 081 390 8512.

KORG 01/W workstation, 4 months old, 1,000 sounds on disks and ROM card, excellent condition, boxed as new, finances force sale, hence price £899. Will deliver anywhere London South East. Mark. Tel: 0375 641526.

KORG DP80 digital piano, £150. Yamaha TX81Z sound module, £150. Korg SQD8 8-track MIDI recorder plus box of disks, £80. Alex. Tel: 0483 480562.

KORG EX800 sound module. £100. Roland TR505 drum machine. £110. Yamaha QX21 sequencer. £90. Kawai K4 synthesiser plus Atari Editor. £425. All boxed with manuals. Adam. Tel: 021 355 2685. (evenings and weekends). Birmingham Area.

KORG M1 plus PCM sound cards and case. £700. Ensoniq EPS16+ sampler with large library and case. £950. E-mu Pro-formance piano module. £180. Mike. Tel: 0792 897426.

KORG M1 ROM cards, Orchestra 1 PCM and Program cards (MSC04 and MPC04). Also 1 RAM card. All three for £55 including post. Will split. Stewart. Tel: 0709 853394.

KORG M1R music workstation plus synthworks editing software and thousands of pro sounds, PCM orchestral RAM cards. Complete package only £650. Andy. Tel: 0532 430177.

KORG M1R music workstation, plus editing software with thousands of pro-sounds. PCM orchestral RAM cards, boxed, mint. £600. Delivery possible. Andy. Tel: 0532 430177.

KORG M1R, mint condition. Boxed plus cards and Atari editor with thousands of pro sounds, £650. Wanted M1R case. Cash waiting. Andy. Tel: 0532 430177.

KORG M3REX, excellent condition. Multitimbral, programmable sounds and effects with separate outputs, £375 ono. Tel: 0260 280131.

KORG MS10 one-oscillator analogue synth. Excellent condition with manual. Gary. Tel: 0702 349 554. Southend.

KORG O1/WFD workstation. Reluctant sale £1,150. Steinar. Tel: 0962 868955.

KORG T3 EX keyboard workstation, excellent condition, on-board disk drive with large library, including hard carrying case and manuals, £1,150. Tel: 081 561 4772 or 071 436 5692.

KORG T3 music workstation. 100 combination voices, 200 program voices. 50,000 event 8 track sequencer with 3.5" floppy disk drive. Excellent condition. Cost £2,200 new, selling for £1,000 o.n.o. Mr G. Dabrew. Tel: 0532 526672 (Leeds).

KORG WAVESTATION A/D rack with sound cards. £850. Atari 1040ST with monitor and Notator 3.1 £300. Martin. Tel: 0371 870516.

MINIMOOG MOOG source, Korg MS20. Tel: 0744 35567.

MOOG ROGUE with built-in power supply, £50. Tel: 0709 876354 after 6pm. Rotherham.

MOOG SOURCE £300. Yamaha CS5, £80. Wanted: PolyMoog. Tel: 0744 35567. Merseyside.

MULTIMOOG, not working. Very good condition. Lack of electronics knowledge forces sale. £50. Andy. Tel: 0709 876354 (anytime).

ROLAND D-110, home use only. Plus Doctor T's editor with thousands of pro-sounds on Atari disk £325. Tel: 0533 811422.

ROLAND D-series ROM cards for D5, D10, D20, and D110: D10-01, D10-02, D10-03. As new, £30 each. Tel: 0638 720090.

ROLAND D10, £350 ono. Ensoniq EPS16+ sampler with SCSI Interface, £950. Tel: 0744 35567. Merseyside.

ROLAND D20 work station, with built-in 8-tack sequencer, and effects, boxed with manuals, cost £1,100, accept £450. Bill. Tel: 0727 838770.

ROLAND D5 LA synthesiser. Good condition, £250 ono. Ensoniq Mirage sampling keyboard. Good condition, with software, £300 (no offers). Buyer collects. Robin. Tel: 0373 453647 after 5pm.

ROLAND D50 with 2 cards, £400. Colin. Tel: 0462 440546.

ROLAND D50 with TG1000 programmer in perfect condition, £500 ono. Roland SC155 Sound Canvas, £350. David. Tel: 0606 77823 after 6pm.

ROLAND D50, £450, Oberheim Matrix 6R, £350, Roland MKS20 piano module, £350, Akai MX73 master keyboard, £195, A-frame stand, £60. All vgc. Tel: 071 704 9219.

ROLAND D550 module, £450 ono, Roland Juno 1, £250 ono; Yamaha DX21, £170 ono; EMU Vintage Keys, £540 ono; Oberheim Drummer, £45 ono. Contact Mr W A Walsh at 4 Purcell Road, St Mark Estate, Leicester LE4 6BD.

ROLAND JD800, £900. E-mu Vintage Keys as new, £650. Juno 106 £300. Robin. Tel: 0705 553842.

ROLAND JUNO 2 £300. Juno 60 £250. MSJ700 £150. SH-101 £140. DR606 £80. Luke. Tel: 061 3039585.

ROLAND JUNO 106 £325. Roland SH-101 £125. Moog rogue £125. Akai XE8 £110. Or the lot for £550. Trevor. Tel: 0283 517578.

ROLAND JV30, £585, Roland U220, £295. Cubase V3, £250. Philips CM8833 colour monitor, £140. All ono, mint and home use only. Jason. Tel: 0235 533552. Oxford.

ROLAND JV80 £780 o.n.o., with 'Pop' expansion £870. Tel: 0734 882079 (Reading).

ROLAND SH2 classic rare analogue mono synthesiser, dual oscillator. Cased with original manual and in immaculate condition, £200. Ian. Tel: 0703 268817. Southampton area.

ROLAND SUPER Juno 60. Unique hybrid synth. Powerful programming incorporated with upgraded filtering, release key attack. DCB/to dual-transmittable MIDI. Disk with sequencer, chrome surround and much more. Flightcased, software and manual. Serious offers, or exchange for Roland D50 and PG1000 or Jupiter 8 in mint condition. Clive. Tel: 0752 674205.

ROLAND U-20. 7 part multitimbral keyboard as used by Bizarre Inc. and The Prodigy. Great dance sounds. Only 18 months old and in excellent condition. Boxed, with manual. £500. Colin. Tel: 0926 407045 (Warwickshire).

ROLAND U-220 plus FX percussion card. £350. Roland SH-101 plus grip. £120. Boss SE-50 multi-fx £240. Sansui MX12 mixer £150. Adrian. Tel: 021 4586934 (after 6pm).

SEQUENTIAL PROPHET VS keyboard in excellent condition. I don't want to sell it but would like to swap it for a rackmount version. If anybody is interested, then give Dave a ring on 0274 620004.

STUDIO CLEAROUT Roland JX8P, rare Mk 2 version £450. Sequential Prophet 600 with case and pocket filter, £500. Kawai K4R £250. Boss rack 16-bit reverb £80. Moog Rogue with MIDI £200. 8-track mixer £50. Phonic DJ mixer £60. Jason. Tel: 0525 872287 or 0525 717557.

TECHNICS EX7P organ. Best offers around £1,295. Tel: 0226 287733.

YAMAHA CS5 £90. Will swap for MC202. Tel: 0744 355657.

THE WAREHOUSE

The Warehouse contains *MT*'s readers' ads – the largest repository of high-tech bargains in the Northern Hemisphere. Some of the ads are free to place; others are 'priority' ads for which you pay to jump the queue – next issue guaranteed. Priority ads appear in bold.

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Merseyside.

YAMAHA CS50. Leave those boring old Moogs behind with this bizarre 1978 specimen. £200 will secure you the sweet sounding lovechild of the CS80. Richard. Tel: 0902 343081.

YAMAHA DX21 boxed. Home use only, with manuals, sustain pedal, leads and breath controller. £165. Stewart. Tel: 0382 69932.

YAMAHA DX7 MkII, immaculate, £499 ono. Rob. Tel: 0206 769176.

YAMAHA EMT10 piano module in excellent condition, boxed with manual, £100 ono. Hamish. Tel: 0482 633875.

YAMAHA PF100 Clavinova electric piano. Ideal for stage and studio. List price now £1,799, sell for £1,000. Tel: 091 285 4177 or 091 281 1172.

YAMAHA PSR5700 portatone 61-note keyboard with latest in digital circuitry. Complete with double handbook, sustain pedal and floppy disk. Hardly used. In excellent condition. £800. Tel: 031 552 3685.

YAMAHA SY35 12 months old, unmarked. £425 o.n.o. Dr Synth's, 4 months old and in immaculate condition £225. Tel: 05395 58087 (Northwest Area).

YAMAHA SY85 synthesiser. Excellent sounds and sequencer. Can load MIDI Sample Dump. Home use only, with extra samples and General MIDI sounds, £975 ono, can deliver. Tel: 0373 859497. Wiltshire.

YAMAHA SY85 with X-stand, manuals, boxed, excellent condition, £800 ono. Kuljivan. Tel: 0533 625816.

YAMAHA TX802 in perfect condition. Hardly used. Includes 3 cartridges £480. Boss ME5 multiple effects floor unit. Little use. £180. Soundtracs CM4400 32:12:24 with patchbay and VCA automation on 32 channels and MIDI muting. £5,500. Chris. Tel: 081 7484631.

SAMPLING

500+ SAMPLES ON CD! Killer drums, basses, analogue synths, ambient/atmospheric effects, vocals! £9.95 postal order to Incognito, Box 34016M, Halifax, NS, Canada, B3J 1S1.

AKAI S1000PB Play Back sampler, £1,000. Roland D50, £450. Atari 1040, with high res black and white monitor, £120. Tel: 081 318 2429.

AKAI S1100 sampler, 20Mb, version 4 OS, direct-to-hard-disk recording, IB104 digital input/output, SCSI, SMPTE, FX, Atari software, can now replay S3000 series samples, £3700 ono. Tel: 0860 482822 or 081 883 4324.

AKAI S3000, hardly used, £2,700; Mackie 1604, £625; 24U rack, £125. Kevin. Tel: 0270 872558.

AKAI S3000 8Mb memory boards. £300 each. Mackie 1604. £625. Kevin. Tel: 0270 872558.

AKAI S900, £650 ono. Kawai K1 keyboard, £250 ono. Alesis MIDIverb 2, £120 ono. Jamie. Tel: 0628 526562. Maidenhead.

AKAI S950 with upgraded memory. £900. Korg M1 with video and Steinberg Editor librarian. £750. Atari 1040ST, with monitor, mouse and Cubase software. £500. 3 teir A-frame. £70. Tel: 0785 812126.

AKAI S950, fully expanded, home use only, perfect condition, £850. Martin. Tel: 071 241 4322.

AKAI SO1 SAMPLER, mint, unused, £500. Akai ME35T audio MIDI trigger, mint, £150. Tel: 0847 85692.

AKAI X7000 multi-timbral sampler plus software for dumping samples to 3.5" disk on any Atari ST. £375 o.n.o. Yamaha TG33 16 part multitimbral sound module. £245 o.n.o. Tel: 0752 268650.

CASIO FZ-1 16 Bit sampler (2Mb). Huge disk library, including Offshore software, Avalon sampling editing software, Owners Club newsletters and Alternative manual. Complete package £699. Delivery possible. Andy. Tel: 0532 430177.

CASIO FZ-1 home use only. Plus Avalon editing software and full library £700. Tel: 0533 811422.

CASIO FZ1 sampler expanded to 2Mb and eight outputs complete with library. Excellent condition. Boxed with manual. £800. Mr Arhay. Tel: 0462 484924.

CASIO FZ1 sampler, 2Mb with disks £700. Alan. Tel: 0592 267312.

CASIO FZ1 SHAREWARE SOUNDS, hundreds of superb sounds from the UK, USA, and Sweden, only £2 per disk (including DD disk, postage and packaging UK). Send SAE for free printed list or blank formatted Atari disk to: Brian Tunnard, 45 Carnoustie, Worksop, Notts, S81 0DB. Tel: 0909 486971.

CASIO FZ1, 2 Mb, massive disk library, Avalon V2, Cubase V2.1, indepensible tutorials, owners' club newsletters, manuals etc. Bargain - £699! Korg M1R synthworks editor, thousands of pro sounds, PCM card (orchestral), mint condition, complete package! £650. Delivery possible. Andy. Tel: 0532 430177.

CASIO FZ1 16-bit sampler with 2Mb memory upgrade, all manuals and leads, Avalon sample editing software, huge disk library, tutorials, etc. Complete package only £699. Also Korg M1R (rack mounts), mint, boxed, with Synthworks editing software and thousands of pro sounds on disk, plus orchestral RAM card, complete package only £650. Also M1 hard case wanted, cash waiting. Andy. Tel: 0532 430177.

CHEETAH SX16 sampler, with Roland PC200 controller keyboard. £550 for both, or swap with difference for an Emax II keyboard. Unused Laney 3200P monitor. £200. Wanted: Emax II Keyboard, and Mackie1604 mixer. James. Tel: 0484 865137.

ENSONIQ ASR10 keyboard sampler. £1,100 o.n.o. Fully expanded to 2Mb plus sound library. Tel: 061 2265756.

ENSONIQ EPS SHAREWARE SOUNDS, fabulous sounds from the UK and USA, only £2 per disk (including DD disk, postage and packaging UK). Send SAE for free printed list or blank formatted Atari disk with SAE to: Brian Tunnard, 45 Carnoustie, Worksop, Notts, S81 0DB. Tel: 0909 486971.

ENSONIQ EPS16+ rack and library. £950. Adrian. Tel: 021 458 6934 (after 6pm).

ENSONIQ EPS16+ rack with 2Mb. Home use only, £950. Tel: 0744 35567. Merseyside.

ENSONIQ EPS16+ with 1.2 Gigabyte library. £930. Yamaha mega monosynth CS30. £230. CS01 with breath controller £70. TX81Z £150. Casio VZ1 £250. All boxed, as new. Martin. Tel: 0453 833245.

ENSONIQ MIRAGE with editing software, manuals and flightcase. Also EVS-1 synth, Fostex X26 portastudio and Atari 1040STFM with SM144 monitor and Cubase. All items in good condition and nearest offers accepted. £750 the lot, will split. Nick. Tel: 0532 746752 any time.

EPS 'CLASSIC', 4x expansion and SCSI interface, fully serviced by Sound Technology. Never gigged, £675 ono. David. Tel: 0379 870984 (answerphone).

FREE CASIO CZ230S synth with Akai S01 sampler. Memory upgraded to 30 secs sampling time. Manuals, boxed, immaculate condition, X-static Goldmine sample CD included, £850. Jamie. Tel: 0434 321727.

KORG DSS1mega sampler, over 200 quality sample disks, manual. £500. Casio CZ1000, 100s patches, boxed with manual. £150. Or swap/part exchange for an Akai S950. John. Tel: 0782 810611.

REPLAY 16 sampling software cartridge, £75. Gerald Patient. Tel: 081 509 3471 any time.

ROLAND D110 LIBRARY DISK, instant access to over 2600 of the very best sounds, in a program which runs with your favourite Atari sequencer. £27 including manual sheet. Tel: 0909 486971.

ROLAND DJ70 sampling workstation with fully expanded 4Mb memory and library. Superb quality sampling and filtering, boxed with manual, absolute bargain, only £975. Paul. Tel: 0438 746101. Herts.

ROLAND S10 sampler, in very good condition. Complete with 35 disks. Disk drive fully serviced. All boxed. Quick sale, hence £295. Kevin. Tel: 0494 536757.

ROLAND S50 digital sampling keyboard with 50 disks dance library, flightcase and manual £600. Nick. Tel:0844 354351.

ROLAND S550 SCSI interface, £100. Tel: 0638 720090.

ROLAND S550 with mouse and monitor and library of 250 disks. Latest software. Immaculate condition. £850 ovno. Mike. Tel: 081 332 6421.

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ROLAND W30 sampler with 3-tier keyboard stand, vgc £750 ono. Adrian. Tel: 0273 674275 evenings, 0273 674421 daytimes.

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ROLAND W30 workstation sampler/sequencer, £900 ono. Jupiter 8, £800 ono, manuals, home use only. Both in excellent condition. Will deliver if required. Chris. Tel: 0789 204675

SAMPLE CDS: Sonic Images volumes 1, 2, and 3. Untouched. Also *Now! That's what I call sampling* Hitsound Producer Series CD and Imapact-2 Japanese Audio Society sample CD. £25 each. Tel: 0638 720090.

RECORDING

12 CHANNEL 2 group Audix stereo sound desk with echo and components for sophistlcated communications system. Submixer and pair 400W audio amps. Desk needs attention. Letters only – 'Marchwood', Bounder Treath, Coverack, Helston, Cornwall, TR12 6TQ.

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AIWA ADF910 cassettte deck, dual capstan, three head. One year old, little use. £150. Fostex 280 Multitrack, high speed, Dolby C, tape counter needs attention, £150. Phone Steve 0752 224410, evenings.

ALESIS ADAT £2,495. Allen & Heath GS24 £2,795. Alesis 8RC £1,150. Fostex R8 £995. Sony DTC1000 £750. Roland R70 £375. E-mu Proteus 2 XR £575. E-mu Proteus 3 World £425. Tel: 06898 54979.

ALESIS COMPRESSOR, £200. ART Multiverb Alpha £250. Robin. Tel: 0705 553842.

COMPLETE STUDIO, Tascam MSR16, DVX Studio Master Mix Down Gold, 168, 162, Tascam 22, Sony DTC55, plus much more. Tel: 0633 880875 for full list.

FOSTEX A4 open reel four-track plus Seck 104 mixer, £250. TEAC 32:2 2-track master recorder with flightcase, £250. Ten-unit trolley rack, £25. Tel: 0384 237563.

FOSTEX E16 + Auto Locater, £2,000 ono. Allen & Heath 24-channel F2 desk, £2,750. Akai Digital Patch Bay, plus 2 x DP 3200, £2,500. AKG 414, new, £550. Roland B50 + PG1000, £550. Roland Juno 106, £350. Yamaha DX7, £300. Akai MX73, £300. Tel: 0883 722104.

FOSTEX G16 Dolby C with sync card and Allen & Heath Saber 24/16 MIDI mute console – both little use over two years only. £4,750 for quick sale. Tel: 0252 794253.

FOSTEX M80, vgc, recently serviced, home light use, plus tapes, £655. Tel: 0606 76697.

FOSTEX R8 plus MTC1 MIDI Machine Control Box, £999. Casio DA2 DAT, £250. Tel: 0850 847690 or 0222 383997.

FOSTEX R8, nearly new, £850. Paul or Andy. Tel: 081 941 9761.

FOSTEX R8 reel-to-reel tape machine with MTC1 sync unit. Perfect condition, less than 2 hours' recording from new, £900 ono. Studiomaster series 5 16:4:2 mixing desk, £750 ono. Atari 1040ST with monitor and 30Mb hard disk drive, £295 ono. Steinberg Cubase 3.0, £275 ono. Roland S50 sampler/keyboard + samples + monitor, £650 ono. Roland D110 synth module, £275 ono. Steinberg D110 synth editor (large sound library), £45 ono. Boss DR660 Drum Machine, £250 ono. Roland MKS50 analogue synth module (Juno 2 in rack) + programmer, £300 ono. Alesis Quadraverb with '+' chip, £275 ono. Alesis Midiverb II, £150 ono. Aluminium keyboard stand, £60 ono. All home use only. Total system price, with cabling, MIDI through, merge boxes etc, £3,500. Andrew Jocelyn. Tel: 0223 303388 (day); 0223 571986 (evening).

FOSTEX R8 with remote extension cable, home use only, excellent condition, £900. Also Fostex 812 mixer, A1 condition, £750. Also Fostex 4030 synchroniser, 4010 and 4011 timecode inserter and reader. Tel: 071 820 1580.

FOSTEX R8, with MTC1, just back from full service at Fostex, very good condition, £800. Matt. Tel: 0242 580599.

MACKIE 1604 mixer, £625. DBX 16EXT Compressor, £275. 24U Studio Rack with flightcase exterior, £125. Kevin. Tel: 0270 872558.

NEIVE SUITCASE mixing desk £2,000. Atari 2Mb with 16-bit sampler £200. Fiona. Tel: 0480 473702.

ROLAND RE-301 chorus/echo. Great sound, vgc, £175. Phil. Tel: 0252 546189. Hants.

ROLAND SRV330 dimensional space reverb £470. Tascam 238 £595. LX20 Compressor £165. XRI 300 SMPTE unit £120. All items boxed with manuals and in excellent condition. Alan. Tel: 051 339 1167.

SECK 1282, boxed as new, £450. Master Tracks Pro 4 software for

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➤ Windows, excellent MIDI sequencing, new, £130. Phil. Tel: 0932 227597.
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SECK 24:2 mixer. £550. MIDIverb 2 £100. Roland U-110 £180. Yamaha TG55 £200. Boss SE70 £350. Notator V 3.16 software £120. Tel: 021 4229605.
SENNHEISER MK30 AND MKH40 with MS clip, etc. Bargain, £995 the pair. Neil. Tel: 0422 823361.
SENNHEISER MKH30, MKH40 microphones including MS clip, £995. Neil. Tel: 0422 823361.
SHURE SM81 microphone, brand new and boxed. Superb quality condenser, phantom power only. Bass roll-off selector. -10dB attenuator. Pop shield. Bargain at £200. Phil. Tel: 021 449 7669.
SIMMONS SPM 8:2, £120. Wanted Boss DR330 or Yamaha TG100, £220. Write to: Mr B Clarke, 53 Ravenswood Road, Redhouse, Sunderland, Tyne and Wear, SR5 5JG.
SONY MINIDISK Digital recorder MZ1P. Brand new with blank disks, only £370 o.n.o. Andy. Tel: 0443 217883.
SOUNDCRAFT SCM381-8 1" 8-track with 15 tapes and BEL NR, superb quality, £1,400 ono, Soundtracks 16:8:16, £1,000 ono. Both recently overhauled/serviced and in excellent condition. Steve or Andy. Tel: 0728 685731.
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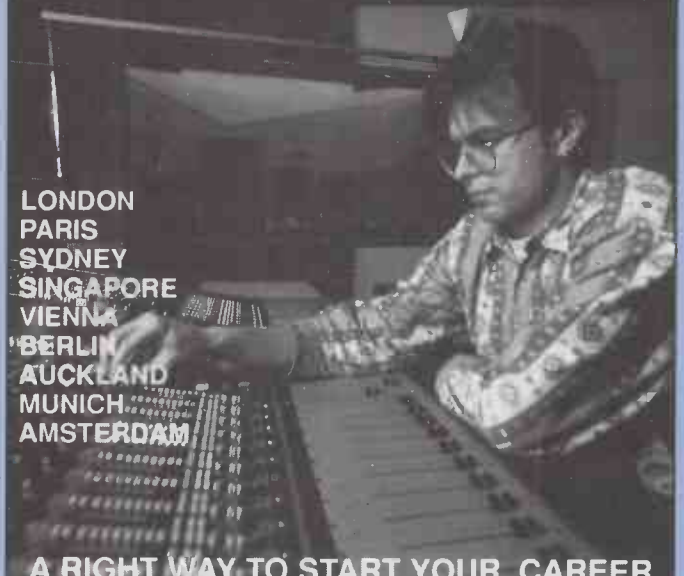

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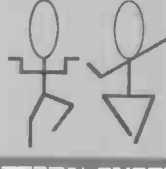

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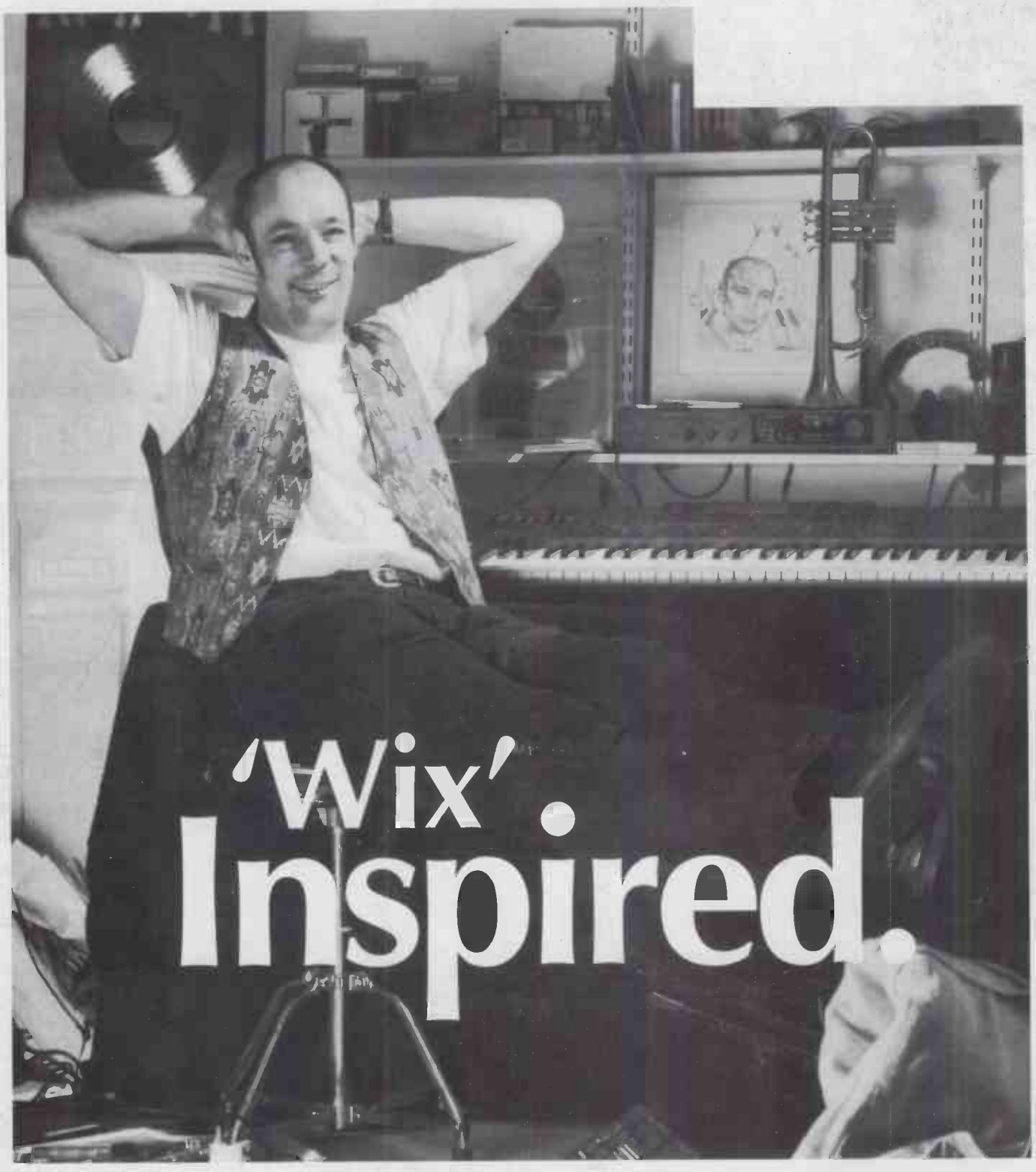

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