Issue 91

May 1994

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#### A MESSAGE FROM US

MT ISSUE

The response to our Readership Survey in January was an inspiration. Your invaluable feedback has enabled all of us here at *MT* to formulate a radical game plan to try, at least, the impossible: keeping absolutely everybody happy. It's clear from the Survey that you believe *Music Technology* to be the indisputed voice of authority in its field. It's also clear that there simply isn't enough room in the magazine as it currently appears to cover the ever-increasing range of related technologies which you need, which you use, and which you enjoy. For this reason, we have decided to pool resources with our sister publication *Home & Studio Recording* and create something bigger, better and stronger than the sum of its parts – titled, appropriately. *The Mix*.

than the sum of its parts – titled, appropriately, *The Mix.* From June 23rd, the first issue of *The Mix* (dated July) will be available to lead us into a very promising future: a future in which every aspect of music production is reflected in one definitive magazine. Having listened to what you have to say, this, we are sure, is the evolution from which you, the reader, will most benefit. See you there.

### 40 Tony Thorpe

... aka The Moody Boys, Voyager and Urban Jungle, and remixer by appointment to KLF, System 7 and many others. Phil Ward uncovers the real Tony Thorpe.

### **16 Virtual World**

Technology is the touchstone at this key event. Phil Ward talks to Mike Godfrey, designer of the Audio Visual Live

### EDITORIAL EDITOR

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### **36 Shared** Interests

There ain't no such thing as a free lunch, but there are a few free software sequencers around. Ian Waugh digs 'em out.

### 27 The Mix

The future of MT unveiled...

### the fir

Ask any Editor. There's something peculiarly awkward about writing editorials: enough words to make it a task you have to sit down and think about; too few to really get stuck into those issues that need to be addressed. Writing this particular editorial, however, comes with its own unique set of problems, what to

withing this particular editional, however, comes with its own unique set of problems – what to say in the last issue of MT as you know it | could, I suppose, rummage through the previous 90 issues of the magazine and highlight the mile-stones of almost a decade of continuous publica-tion. I could offer warm thanks to all those

Better perhaps, to leave the last word to a man who I like to count amongst my closest friends, and the person whose vision was the original inspiration behind *Music Technology* – Dan Golds ein

Nigel Lord, Editor.

like only yesterday that the phrase 'Music Technology' came buzzing into my head – and, Technology' came buzzing into my head – and, like the perfect pop record, obstinately refused to go away. Actually, it was a decade ago. But the events surrounding the development of that title and the creation of the magazine whose market it described are still startlingly vivid. The mid-1980s were a time of great change – musically, technologically, and in lots of other was , too. In 1984, I had just become editor of a m gazine called *Electronics & Music Maker*. The magazine itself was lively, influential, and pros-

magazine itself was lively, influential, and pros-perous. We were sailing on the crest of a wave stirred up by a new breed of digital synthesisers, affordable multitrack recording, Frankie Goes To Hollywood, and a curious thing called MIDI which nobody seemed to have quite mastered yet. But while the magazine was successful, its title – conceived, I assume by committee, in an earlier era of veroboard fuzzboxes and studio thermometer kits – was holding it back. Hence Music Technology – a name which would surely endure in the face of any new developments the music industry could throw at . If it was new and you could make music with

### **Quality Control**

### **46 Wave For Windows**

PC-based direct-to-disk recording is getting better ... and cheaper. Ian Waugh looks at one of the latest systems to emerge.

### **53 Roland Vintage Sounds**

Ancient and modern: classic analogue synths for your JV-series synth. Andrew Jones

System.

### st place

it, Music Technology would cover magazine may bend with the wind, but the un-would not. Well, so I thought, anyway for a while I was right. Electronic drum y und guitar synths, affordable samplers, the steady evolution of the recording studio driven by MIDI (we've all mastered it now, haven't we?) – all have things were embraced by Music Technology whose lifeblood and onstantly chifting in abaracter.

materials, soe minimized Prople materials, soe minimized and buy of leat impressed by a dimotoly for dimotol set. A whole generation has social us in the belief that digital syntheticers are making the kind of comeback industry is still down indie to dispel). In the studio, valves are making the kind of comeback into would make Lulu weep. And in the clubs, the DJ kinds spinning his vinyl even when the rest of the world is CD'd, DCC'd, and MiniDisc'd up to its credit limit. A title which seemed bold, essential, are exciting a decade ago new sounds clumsy, cliquey, crass when the million but which, equally

rain circumstances, a low-tech, mid-tech, or even no-tech append ch may be the one that has

even no-tech append it. So it's farewell *Music Technology*. Hello *The Mix* – a magazine which picks up where the old one left off. A magazine that upholds the *MT* tra-ditions of speaking its mind, of searching out new ways of expression both musical and tech-nological, and of laughing in the face of hype. A magazine written by real people with real opin ions, designed with flair and imagination, and the theory expression both

edited by...er, yours truly. You'll find details of *The Mix* on page 27 of this issue. But there'll be no substitute for the real thing. As someone who already derives great satisfaction from *Music Technology*, you owe it to yourself to reserve a copy of *The Mix* at your

newsagent every month. Yes, you're right. This is the end of an era. But, as with that perfect pop record, just when you think it's all over, 'the best bit comes and hits you right between the eyes.

Music Technology

#### **58 NID Lights**

Proving that rigs don't need to be big, these lights follow you around the room. Ian Masterson

Double vour Mac's RAM without doubling your overdraft. Ian Waugh **60 Short Cuts:** 

Que Computer Hardware Buvers Guide AMG Global Trance Mission sample CDs Microsoft Music Multimedia CD-ROMs



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The month - this month

### **Diskoverey 21**

Taking the hard option ... everything you need to know about hard disks and then some. Ian Waugh is your guide.

### A-Z of Analogue 31



MT (ISSN 0957-6606)

This month: Hohner

### **Dare!** 66

You play 'em... we flay 'em

### End Product 72

Get 'em while they're hot. Thismonth: Erasure, The Future Sound Of London, Renegade Soundwave and so much more...

### Grief 69

A problem shared is a problem solved

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### Multimedia JQ/

By its own admission, the Multimedia '94 show, which is to be held at Earls Court

2, London, between the 7th and 9th of June, is going to be "a showcase for companies selling multimedia to businesses". The event seemingly therefore is going to require a stiff upper lip and some form of business apparel, and if this seems bearable then perhaps the Innovation Gallery, a feature devoted to demonstrating new and developing products, will be worth seeing. For more information call Paul Shelley on 081 742 2828.

\_\_\_\_\_

### Expanding the boundaries of Time and Space

While AMG are off concentrating on the production of new CD-ROMs and audio CDs, including libraries from the likes of Gota

Yashiki of Simply Red and Tim Farriss of INXS, Time+Space have become the UK distributor for all of their existing range, and if this isn't enough, the German-produced 'Best Service' range of audio CDs

At the head of a stampede of new Roland products, maximum of five), like rotation

which include a new dimensional expander, are more JVs than Jim Davidson could shake a stick at. The new generation of synths – the JV-35, JV-50 and JV-90 – have each been designed to be upgradeable via expansion boards, to increase the polyphony, multitimbrality and the total number of sounds available. The JV-35, which retails at £1,099, comes in the physical form of a 61-note velocitysensitive keyboard and with the aid of a pre-installed VE-JV1 expansion board offers 56-note polyphony and 16-part multitimbrality. The JV-50 has all the functions of the JV-35 but with the addition of a SMF player, all for the retail price of £1,350.

The JV-90, a better-endowed 76-note keyboard, has been designed by Roland to be both a live keyboard, with its comprehensive controller sliders and a velocity- and aftertouch- sensitive keyboard, and a synth for studio/sequencing applications. £1,499 will buy you 56-note polyphony and 24-part multitimbrality with a wealth of sounds and expansion capabilities.

The SDX-330 is Roland's latest step in their ventures into 3-dimensional sound. Utilising the RSS technology first implemented by Roland in 1990, the SDX-330 is able to move audio signals around a 3-dimensional sound field using conventional stereo speakers. Effects offered include 3-dimensional chorus, panning, flange, phasing and a 3-band parametric EQ, of which certain parameters (up to a

maximum of five), like rotation speed or panning, can be controlled via MIDI. The SDX-330 will retail for £745 including VAT.

The MT-120S sound module represents another poke at General MIDI for Roland, but this time incorporating a more 'all-in-one' music source. Not to be confused with another MT-120S, this one features (amongst familiar GM/GS facilities) a builtin 14W powered speaker system, and a 3.5" disk drive that loads SMF and MIDI ISM data formats. The MT-120S can store up to 40,000 events per song in its 5-track sequencer, and has additional audio inputs so that other instruments can be mixed. The MT-120S will retail for £825. For more information contact: Roland UK, Rye Close, Ancells Business Park, Fleet, Hampshire, GU13 8UY. Tel: 0252 816181. and CD-ROMs as well. The latest sample CDs and CD-ROMs they have to offer include Hallelujah!, a collection of assorted vocal samples ranging from classical and ecclesiastical choirs to ragga and rap, and XX-Large, a CD full of loops for the dance, house and techno orientated. For full details on these products, or any others, contact Time+Space, PO Box 306, Berkhampsted,

Hertfordshire, HP4 3EP, for a free colour catalogue. Tel: 0442 870681. Fax 0442 877266.



### **Metra Sounds**

Answering the pleas of many old synthesiser owners for new, professional sounds, Sounds OK, the UK distributors of the Metra Sound cards and disks, are now distributing a range of disks, cards and even cassettes, by the American company 'Kid Nepro'. Keyboards and modules such as the Casio CZ and VZ series, Roland's Juno keyboards and the Korg Poly800 are now being catered for, in addition to Sounds OK's usual service to more recent models. Prices for cassettes are £24.30 each, disks are £32.45 each, and Korg/Roland RAM cards are £68.87 each. For a full list of prices and sounds available, contact: Sounds OK, 10 Frimley Grove Gardens, Frimley, Camberley, Surrey, GU16 5JX. Tel: 0276 22946.

### recording tips

If you ve ever inclose of those DAT to CP-R sessions when noting seems to work, HHB have the "easential fix all device for you! The Bit Box CD-R Optimiser in able to translate index points gonvirt semile rates and, by "manipulating statue sits", make the transferrat of dat. from both on fessional and consumer DAT recorders to CL R devices an apparently simple pfoc. The Bit Broc will be available from June. For uniter for mation on what bits are manipulated contact Steve Angel at HHB Communications Limited, 73 5 Scribs Inc. Dordon NW10 60U Tel: 081 960 2144. Fax 081 p601160

### Yamaha MT120S

Yamaha's MT120 4track has undergone an identity change, and

with it a host of improved features have been added. Recently discharged from the clinic under the new title of the MT120S, it now boasts, in addition to all the facilities that the original model had to offer, a 'stereo-sub' input, that allows a line level input from an external source to be routed into the stereo master mix. Also, the new MT120S offers the function of auditioning foot-controlled punchins and overdubs, thus avoiding any tape degradation caused by continuous re-recording. The footswitch operation itself features a 3-stage control sequence; once to start the tape, twice to punch in and a third time to punch out. For further information contact Karl Christmas at Yamaha Kemble UK Ltd., Sherbourne Drive, Tilbrook, Milton Keynes, MK7 8BL. Tel: 0908 366700. Fax: 0908 368872.

### Piece of Cakewalk

Cakewalk Home Studio is a software-based entry level sequencing package for the PC, featuring many of the facilities found in professional kits like score, event, piano roll and MIDI controller mixer edit pages. Priced very reasonably at £139 (inc VAT), for £299 (inc VAT) the same package comes complete with the Turtle Beach Maui wavetable synth and Samplestore card. Cakewalk Home Studio works on any IBMcompatible PC running Windows 3.1 or higher, and supports up to 16 MIDI ports with Windows drivers, including the Roland MPU401 and Soundblaster compatibles. More information can be sought from Et Cetera on 0706 228039. Fax: 0706 222989.

### **Islington Music Workshops**

As for so many aspiring music technicians, the prospect of ever getting that dream job in a major recording studio is as unlikely as the Channel Tunnel opening on time, so knowing that the Islington Music Workshop is running diploma courses in



In the right track

24-track recording, MIDI and the like, has to be a good thing. In addition to the 8-week diploma course, IMW are running a series of shorter courses in Sampling/Sequencing/MIDI basics, 24-track engineering and backing vocal training. There is also a course in sampling and MIDI specifically for women. All courses are priced at a reduced rate for the unemployed and residents of Islington. For a free brochure and prospectus call 071 608 0231, or write to: Islington Music Workshop, 44 Pear Street, London, EC1V 3SB.

Steinberg now have an alternative to having to give up a track of your ADAT to SMPTE timecode when syncing to a MIDI sequencer. The ACI is a device that can translate the ADAT's proprietary timing information into MTC for any MIDI Machine Control (MMC)-compatible sequencer to follow. This means that, aside from having eight tracks of audio, far more intuitive editing is available by using the transport functions actually on the sequencer. The ACI also has a 2-way interface that allows the connection and control of more than one ADAT. More from: Harman Audio, Borehamwood Ind Park, Rowley Lane, Borehamwood, Herts

WD6 5PZ. Tel: 081 207 5050. Fax: 081 207 4572

Easy

Harman Audio, the UK distributor for Steinberg, has announced the implementation of a Cubase upgrade system whereby version upgrades. and even computer platform crossgrades, are possible. Prices for converting to a better life are available by contacting Harman Audio at the address below, or by

contacting your local dealer. In addition, Steinberg now have the Synthworks' Editors available for the Atari Falcon, which are also upgradeable from the ST version by sending your original program disk to Robin Pearce at Harman Audio, Unit 2, Borehamwood Industrial Park, Rowley Lane, Borehamwood, Hertfordshire, WD6 5PZ. Tel: 081 207 5050. Fax: 081 207 4572.

### **Sound Galaxy** upgrade



PC users with a 16-bit Sound Galaxy sound card can plug in and go with Wavepower. The board supplies a 16-

channel, 32-note polyphonic synth, complete with 4Mb of onboard waveforms and hundreds of digital sounds. Plus the Midisoft Studio For Windows sequencing software, GM compatibility and a price of only £104.58 (inc VAT). More from Mark Blackham at Silica, Tel: 081 309 1111. Fax: 081 308 1230.



### The complete audio picture

Professional audio in its many guises will be displayed for all to see and query at the 1994 APRS exhibition, taking place from the 22nd - 24th June at Olympia 2, London. The APRS show aims to provide a series of workshops and 'briefing sessions' for all visitors, encompassing some of the latest and most critical subjects including multimedia, theatre sound, broadcasting, post-production and automation. Amongst the exhibitors already confirmed to appear at the APRS are AMEK/TAC, Otari, Harman Audio, Sony and Turbosound. For further information, contact Philip Vaughan at APRS, 2 Windsor Square, Silver Street, Reading, RG1 2TH. Tel: 0734 756218. Fax: 0734 756216.



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### making waves in PC audio

Logitech's latest sound card, called SoundMan Wave, employs wavetable technology to stowaway samples inside your PC. It's a 16-bit stereo card running at 44kHz, and uses a Yamaha OPL-4 chip to store 128 original

sounds. There's a SCSI-II interface for CD-ROM drives, and the card is compatible with either Windows 3.1 or DOS without any installation adjustments. In addition, FM synthesis is supported, so both the old and the new standards in PC audio are covered.

Aiming the card at the multimedia and games markets, Logitech hope that the quality of the audio will increase the seriousness with which audio is taken in these fields; at the same time, of course,



progress of this nature continues to increase the status of the computer as an integrated musical instrument. At a recent demo, the card was pitched against four others in a test not unlike Blind Date for PC journalists, and SoundMan Wave was unanimously voted top in sound quality. So you never know; this could be the start of a beautiful friendchip. More from: Martin Pickering at Logitech, Tel: 0344 891313.

programmer



cites both 2 Unlimited and The Orb as style templates, it would seem it most certainly does. More from: Profile Midi-Music, 143-145 Mansfield Road, Papplewick, Notts NG15 8FJ. Tel: 0602 633117. Fax: 0602 633908.

Dance to the MIDI music



### **Backing musicians without attitude**

OK, you've got piles of superb songs just waiting to be heard. Trouble is, you don't play drums or bass, your keyboard and guitar skills are open to critical analysis and, whoops-adaisy, you don't run a professional recording studio with session musicians wandering in and out at all times of day and night. Well, MusicStation For Windows could be just the nudge you need to get you out of this hole and into a rewarding computer-based groove. This program, from Cubase moguls Steinberg, is aimed at the seriously ambitious when it comes to songwriting, and the absolute beginner when it comes to computer sequencing.

MusicStation has 15 GM/GS-compatible style templates, with 64 variations within each emplate. Further styles can be loaded from disk, or generated by your own adaptations. These styles are arranged into eight instrumental parts, which can be edited to taste. In other words, if you've got the melody and the chords, MusicStation has the rest.

A wavetable program incorporates some digital audio; score printing is included; and plenty of MIDI help is thrown in along with some MIDI song files. What's that? The computer? Oh... a 386/25MHz PC running Windows 3.1 or higher with 2Mb of free RAM. Your choice of MIDI keyboard is your own affair.

Given that you can upgrade to any Cubase package on any platform (after the first three Top Ten singles, presumably), MusicStation would seem to get you off to a very reasonable start at £149.00. More from Jane Pendry at:



Harman Audio, Borehamwood Industrial Park, Rowley Lane, Borehamwood, Herts. WD6 5PZ. Tel: 081 207 5050. Fax: 081 207 4572

10 MT issue 91 ALESIS .

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ТМ



### desktop EFFECTS Mac musos can look forward to a range of

If

through your local record store and coming

across a 12" with a sticky white label on it

bearing the name of you or your band, I dare

say you're not alone. It's for this reason that

the HomeTech Music Club has formed. The

club is designed to help hi-tech home musicians unite with their potential

audiences via a periodic promotional

newsletter. Initially a quarterly publication

(until such time as circumstances allow

a monthly), the newsletter (priced £3.00,

or £2.50 to members) will provide the

the thought appeals of rifling

signal processors

available as software add-ons - sort of on-line FX as opposed to inline FX. The first of these is Hyperprism from Arboretum Systems, which offers real-time, non-destructive effects application and editing to sound files of any length. Two effects can be applied simultaneously, and all the likely types of effect are available subdivided into filters, modulations, delays, followers, spatialisation and 'special' (ring modulation etc). Obviously, parameters can be set up and stored ad infinitum.

It's all click'n'drag stuff, and one more step in the direction of the allin-one professional desktop studio. NB - you will need a NuBus or LC slot, plus SoundTools 1 or 2, Audiomedia 1 or 2, or ProTools hardware. Price: £411.25 (inc VAT). More from: TSC, 9 Hatton Street, London NW8 8PR. Tel: 071 258 3454. Fax: 071 262 8215.

### **HomeTech Music Club**

work

much sought after link between buyer

and musician with a mail order facility and an accompanying demo tape of members'

The service is essentially free, though

presumably there is a charge for membership

(which is for life), and as an incentive to apply, HomeTech are currently offering

complimentary copies of their preview issue

and tape to all enquiries they receive. Those

interested in finding out more should contact

Keith Nelson-Tomsen at: HomeTech Music

Club, 2a White Conduit Street, Islington, N1

9EL. Tel: 071 354 8870.

## Scenes from the Frankfurt Music Messe...

An ebullient presentation for Emagic's Logic Audio software, showcasing The Digital Factory editing tools. During the launch of this DTD recording package, Sting's 'We'll Be Together Again' was groove-quantised into a reggae track in (almost) real time. All of the functions of MIDI sequencing (as in Notator Logic) are available to the digital audio, integrating MIDI and acoustic parts with unprecedented control.



EWI3020 wind-controller and

EWI3020m sound module.

upgrades to the almost

forgotten EWI3000.



Akai DA8 DTD recorder, 8-track plus 16-channel onboard mixing...

The Waldorf

Wave - a

synth with

designer

knobs for the '90s.,

bia, bia



collective experimentation As an alternative to Virtual World, the Cornish dance and cyberfun extravaganza announced in last month's Scanners, the 3rd Annual Festival Of Experimental Music is for those who prefer their headspace to be bombarded in less hedonistic ways. On exactly the same dates -May 27th-30th - this festival will showcase a more cerebral underground scene, where jazz meets electronics and musique concrete meets rock. Artists confirmed so far include Thurston Moore of Sonic Youth, Fred Frith (ex-Henry Cow), and "electro-scrambling improv pranksters" Stock,



New 'virtual acoustic' synthesis from Yamaha: the VL-1.

...Plus: The Manager CD Printer from German company TechnoLab, a hard disk recording system which prints the final mix directly onto a recordable CD... Akai MPC3000 MIDI Production Centre, 32-voice/16-bit sampler/sequencer, 2Mb expandable to 16Mb... The Mac version of Emagic's Logic 2.0 supports QuickTime Video, so soundtracks can be prepared on the desktop... and strong DJ gear presence from Kam, Gemini and others.

This is the WaveRider, a brainwaveto-MIDI converter. Scanned transcranial electronic impulses trigger MIDI notes and are recorded sequencer-style as you, er, go along. At this stage, little happens at the other end apart from random

a healthy interest in mixed media ideas. As part of the London Jazz Festival, they're putting on three nights of new works for music, video and film at Creative Block, 49 East Road, London N1 6AH, at 9pm on 12th, 13th and 14th May. These events feature experiments in sampling, audio-visual co-ordination, tape looping and electronics by acknowledged pioneers in the field. Anyone remember Fluxus? More from: the LMC, 60 Farringdon Road, London EC1R 3BP. Tel: 071 490 2118. Fax: 071 490 2119.

contemporary

The LMC is also showing

by the London Musicians' Collective. One of their stated aims is "to focus attention on the new aesthetics being forged by the application of technologies", and when jazzers say things like this you can be sure something big is brewing. Check it out, if you don't like dancing.

Hausen & Walkman, Look

out, also, for Jon Rose's

'virtual violin'. Few, if any, prisoners will be taken.

tinklings of General MIDI sounds. In time, pulse, gestures and other biodynamic states could be mapped to pre-ordained sequences, or different sound modules. Place of origin? California...

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The whole thing takes place at Conway Hall, Red Lion Square, Holborn, London WC1, each night at 7pm, and is organised

### **COVER ALL YOUR BASSES**





d some color to your low end with the Peavey DPM<sup>®</sup> Spectrum<sup>™</sup> Bass. The name says it all. This rack-mount bass module covers the whole spectrum of bass voices. From finger-picked and slap electric bass, fretless electric bass and pizzicato upright bass to tons of analog and digital synth basses, the Peavey Spectrum is chock full of all the hot new sounds along with the standard classics.

The Spectrum features 8-voice polyphony and 4-channel multi-timbral response, allowing four presets to be layered or accessed on individual MIDI channels.

Front panel controls include basic preset selection, transposition, pitch bend range, fine tuning, and MIDI reception mode (complete preset selection available via MIDI).

Other features include stereo audio outputs, MIDI in/out/thru connectors and MIDI overflow for daisy-chaining modules.

The Peavey DPM Spectrum bass covers all the basses. And as usual, the price is right. See your local Peavey dealer for a demonstration.

- 8-voice polyphonic
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- 1 Mb of 16-bit samples
- 200 presets
- Layered presets for even fatter sounds
- Interface to keyboards or Peavey Cyberbase<sup>™</sup>
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- Fine tune and transpose





### Slammin' For those with

sample CDs and

disks, and a completely inept filing system to match, perhaps it's about time you woke up to a database system. On the other hand you could always buy one, already prepared with many templates of popular sample CDs, from Intrinsic Technology. Slam CD is a card-based database accessory (so it's possible to run it alongside your sequencer) for the Atari ST/Falcon that helps you catalogue your sample library. It provides the usual search criteria expected of databases, but with the addition of a BPM/delay and Score calculator, which is particularly useful for loops. Slam CD is available for £10 from Intrinsic Technology Ltd., PO Box 907, London, SE27 9NZ. Tel/Fax: 081 7610178.

### Stand and deliver



Whenever we talk about desktop this and desktop that in MT, what sort of desk are we talking about? Something scrawled with compass striations and stained with ink blots? I don't think so. It's probably something more like the GT-CDESK1 portable studio desk from Cambridge Innovation Systems. Designed to accommodate such kit as master keyboard, small mixer, computer, rackmounted modules and monitors, it's undoubtedly a piece of bedroom furniture. Of the three work surfaces, the middle shelf is the largest at 1450mm wide and 700mm deep. The top shelf measures 1450mm by 350mm, and the lower shelf 1400mm by 700 - a surface which is retractable in the manner of your average computer stand. Price? £249.95 (inc VAT). Contact: CIS Sales, Tel: 0284 725639.

### **Radio silence**

Following Radio 3's decision to broadcast ambient sounds during the wee small hours between closedown and startup, comes news of a campaign to start an 'ambient' radio station. The hope is that the franchise for the FM spectrum between 105MHz and 108MHz will be used for a continuous program of ambient music.

Unlike Radio 3's concept - which literally transmits natural sound recordings such as running water or birdsong - The Light Program (as it would be known) would carry all sorts of music from "classic rock" to "pure waves of ambient sound", but, crucially, would avoid DJs, jingles, news reports and adverts. Sounds idyllic ... and also sounds a lot like any other proposed subscription-based systems for aural wallpaper using cable technology. Our guess is that, while the continued promotion of Brian Eno's concept of ambient music is laudable, only when greater interaction between the listener and the programming is allowed will broadcasting of this kind truly mature.

To join the campaign, send an SAE to: USS, The Sound House, PO Box 37B, Hampton Court, Surrey KT8 9JB. More information from USS on 0792 360742.



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Future Music April '94

The multimedia event is here: Virtual World descends upon Cornwall on May 26th. Phil Ward uncovers the people responsible. and encounters The Children Of Technology...

> Mike Godfrey's sketches for Virtual World reveal a beach transformed into a multi-zoned techno-park

ore than anything else, Virtual World (previewed in last month's 'Scanners') is designed to be a multimedia experience. Not merely a dance music festival, nor a hi-tech fairground, the intention is to integrate a whole range of aesthetic stimuli in one environment.

In doing so, organisers Obsession are bringing together

several threads in popular culture. From dance music comes the blend of DJs and chart acts such as D:ream and The Prodigy, whose newfound status, despite the anti-star system propagated by dance music in its purest forms, lends some glamour to the occasion. From the club scene comes a concern for visual impact and an immersive space, represented by lights, lasers and 3D sound. And from the world of computer games come simulators, video graphics and other interactive attractions without which no self-respecting youth program would be complete.

The primary unifying factor in all this is technology and, more specifically, a positive attitude towards it. Almost as leitmotifs for the whole concept, two pieces of technology in particular are proudly on display. Making its debut in the UK, the LVP (Laser Video Projector) projects full colour video and 3D graphics onto a 60ft screen, using two 30W Coherant tubes and 225Kv of power. It's accompanied by the AVLS (Audio Visual Live System), which promises "the full immersion of

audiences within

a projected interactive

TERMO HURDICA

environment". This environment actually consists of screens and speakers, but there's more to it than that.

The audio-visual program can be manipulated in real time. Combining virtual reality, games simulation and video lighting technology, the system is a deliberate attempt to go beyond small, individual computer screens and headsets for two reasons: firstly, these are not considered to be natural, ergonomic interfaces for gregarious human beings; and secondly, they destroy the whole concept of 'an audience'.

-DHE

AVLS is the brainchild of Archiv Productions, whose Mike Godfrey has been engaged in the pursuit of virtual environments for the best part of a decade. The company has its roots in the kind of computer-based 3D

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festival preview

modelling used in such specialised fields as architecture, but Mike's natural bent towards music led not to considerations of only the entertainment potential in the software, but also to pioneering work in the PA sphere namely, improving the frequency responsiveness of rigs supplied by market leaders Electro-Voice.

Exposed to live musical events in this way, Mike founded a breakaway team resplen-dent in the group title Children Of Technology, and quickly discovered that he had captured a mood shared by an emerging dance and festival culture. "Not only did we

wish to create music and visuals as artistic goals," he recalls, "but also develop technologies to inco-rporate our wider

understanding of the potential we had identified and needed to research".

As a result, 1992's Glastonbury Festival heralded the arrival of the AVLS in the guise of a 60ft screen showing a live mix of computer graphics and video footage in sync with electronic music by One Love Foundation and Harvey Bainbridge. The graphics element, generated by Dave Japp and Jeff Minter, became known as a separate entity, and was enough of a hit to prompt the formation of yet another specialist team under the banner of the Virtual Light Company. Meanwhile, the same occasion drew Annie McGann into Mike's team, supplementing the multimedia brainstorming with experience in avant-garde music and theatre.

Following several successful productions, including Against Nature in Liverpool and some special effects for The Tempest at Bristol's Old Vic, The Children Of Technology were approached by dance-party organisers Obsession in a move to integrate large-scale video projections and lighting effects into their rave-inspired events. The first of these, The Third Dimension in Exeter, extended the scale of operations. 450 square metres of screen surfaces surrounded the audience, as synchronised laser projections transformed the dance experience into something new. Other events followed, and a relationship was cemented between club culture and computer graphics. Increasingly, live electronic performances and experimental theatre productions also benefited from the team's expertise. When Virtual World was first conceived, Archiv and the Children Of Technology were a natural choice.

"The Virtual World concept grew out of rave/dance culture," says Mike, "and was prepared by Archiv in its entirety, sketch by sketch, after discussions with Obsession's Gideon Dawson in Spring 1993. A full production for 20,000 people was envisaged, to happen within striking distance ofLondon

> "But it was not to be. The proposals were thwarted in mld-1993, with resistance from local authorities. At Archiv's suggestion, Obsession continued its program of live dance parties in regional venues,"

> > Now that's a familiar story. The same fate has befallen Experience, also announced in last month's 'Scanners'. According to the organisers of the Lydd Airport extravaganza, a licence became impossible to secure in the face of all the old authoritarian excuses. It seems that the business of trailblazing hi-tech events demands equal portions of vision and administrative caution.

However, the venue for Virtual World - a mile and a half of Cornish beach near St Austell - became available without hiccups after two Obsession events in the same region passed without incident. To seize the opportunity, Archiv were given all the encouragement they needed to push back the boundaries in a "futuristic" brief from Obsession. It was decided, explains Mike, to develop two separate AVLS's.

"The main arena will feature strongly as the night draws on. Spectacular lighting effects are planned, with the use of lighting towers and an LCI laser projector for video graphics. The screen format and its position are unusual, based on AVLS experiments. Live visuals will be mixed into the system by Children Of Technology, Hex

and Siricom. It's unlikely that any of the latest interactive developments ID

 will be inputting into the AVLS 1 prior to an evaluation of the screen and projector performance.

"The second AVLS stageshow will feature workshop visuals mixes, with visuals developers invited to experiment. The system will use Barco 5000 and Sony CRT projectors to create an immersive wide screen array. In addition to pre-prepared stock footage, inputs will include data from graphics computers, digital video platforms and live camerawork, all manipulated in real time to either follow the music or inspire the musicians."

It's clear that this is a technology only at the beginning of its potential. Experiments are ongoing, and the will to achieve an integrated whole to some extent still outweighs the practical realities. Meanwhile, centralised



audio-visual control is appended by 3D sound and Optikinetics lighting systems in an approximation of true multimedia. Equally important for the future is the technology's ability to handle responsively and interactively, which is why Archiv are currently rubbing shoulders with games and graphics developers. Mike Godfrey is optimistic.

"Our intentions to develop a live visuals manipulation system, as a robust tool for bands, musicians and multimedia developers, enabling the transfer of studio product into the real world, have progressed significantly with further collab-orations," he says. And if all goes well at *Virtual World*, progress is assured.



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Once a luxury of only professional computer users, hard disk drives are now included with every machine sold. But how much disk space do you need? How fast does your data need to flow? How much need you spend? Answering all these questions – and more – Ian Waugh...

t's true. Personal computers are *really* powerful these days; compact and expandable, even a relatively inexpensive machine can provide you with a computing power approaching that of Harlow in Essex. A computer of equivalent power 15 years ago would have taken a large warehouseman to hold it... Really.

н.

Given that computers are getting more and more powerful, you might think that speed is not the problem it used to be. But modern applications are growing in size, too, becoming more sophisticated and graphics-orientated and demanding a fast machine in order to work at a reasonable pace. Speed is also essential for any process based on the rapid transfer of data such as direct-to-disk recording and video playback.

All of which puts an added burden on your computer's hard disk drive. Simply put, if you don't have the disk space to install that new multimedia program or the drive speed to transfer data at the required rate for that direct-to-disk recording system – you're stuffed. In fact, hard disks are probably one of the most underrated items in your computer setup. This feature will tell you a little bit about them and help you select a suitable disk when buying a new computer or if you're looking to upgrade your old one.

In the early days of hard disks, 10Mb was a lot of space, more than enough to install several applications and store their data. The minimum size disk you're likely to find for a PC or Mac now is 40Mb although in reality this is far too small for a modern computer system. Many suppliers are currently suggesting a minimum of 80Mb or 100Mb and some even recommend 250Mb drives. OK, the smaller disks are not going to be too small for everyone. If you only want to run one application such as a wordprocessor fine, but if you're involved in direct-to-disk recording, sequencing, multimedia, CD-ROMs, DTP; if you're likely to add even two or three new applications to your computer over the next few months; if you install the odd game, enjoy Shareware and the programs given away on the covers of magazines – then that 'massive' 100Mb of disk space will vanish in no time at all.

Large capacity hard disks are particularly important for direct-to-disk recording and multimedia. They are useful, too, for storing and organising samples although a removable hard disk is generally a better option here.

To give you an example of how much disk space a computer can gobble up, the System folder on my Mac contains 30Mb of data and the Windows directory on my PC contains over 25Mb of files. My PC's 230Mb hard disk has been full for three months and I've only had it for a year. Time for me to upgrade. I was wise with my Mac and have a total of 1Gb of hard disk space divided between the internal and an external drive. Currently half of this is free. I have a 30Mb drive on my ST which has been far too small for at least three years, but such is the current ST market that I'm not inclined to upgrade it. ST applications don't need as much disk space as those for the Mac and PC and ST drives are horrendously expensive.

The first thing you must do is budget for a hard disk which will see you through, hopefully, a couple of years at least. Always overestimate – it'll be cheaper in the long term. The good news is the cost of hard disks is falling. More good news is that the bigger the disk you buy, the faster it's likely to be and the cheaper each megabyte of storage space will be. For example, a 40Mb disk for the Mac or PC is likely to cost around £2 per megabyte whereas a 1Gb drive could work out 75p or 80p per megabyte. Opt for a 2Gb drive and prices can be as low as 60p per megabyte. A typical 40-52Mb drive for the ST will cost between £150 and £200. When you start looking at 500Mb and 1Gb drives the prices get better but still cost over £1 per megabyte.

A 52Mb SCSI 2 drive for the Falcon could cost £250 although why anyone ►

### The case for compression

If you're running short of disk space you may be wondering whether to buy another disk or save some money and invest in a compression utility. Programs such as DOS 6's DoubleSpace and Novell's Stacker for the PC. and Disk Doubler for the Mac will compress both applications and data files on the fly, effectively increasing your disk's storage capacity. They often claim to double your disk space but in practice the savings are somewhat less, although still significant. The advantage of these programs is that they are easy to install and they work in the background. However, there are two potential dangers you should be aware of. Although the programs compress and decompress fairly quickly, you will undoubtedly experience a noticeable delay, pecially on slower machines. The second problem involves data security. It's just possible for disaster to visit your computer while the program is in the middle of doing its stuff. If this happens you could lose data and find it hard to recover because of the way it has been compressed. You should of course, always back up your data regularly, but if you use a compressor this is especially good advice.

There are probably thousands of people using compressors quite happily but on a purely personal note I'd rather invest in a second or larger hard disk than slow down my computers and run the risk of losing data. would want such a small drive for the Falcon is anyone's guess – unless they bought the hard disk-less Falcon which l can only suggest borders on folly. A 540Mb drive would be much more sensible and at around £600, more reasonable, too.

consideration is speed. Before buying any hard disk drive, you need to know its access time (sometimes called the seek time) which is the time it takes the drive to reach a certain part of the disk, and the data transfer rate (DTR) which is how much data the drive can shift in a given time. Access time is quoted in milliseconds (ms) and while 30ms was once considered fast, most modern PC and Mac drives have an access time of 19ms or less and some large drives are as fast as 10ms. 19ms is the minimum speed required by most direct-to-disk recording software but if you are working with graphics data you need the fastest you can get. And then some.

The data transfer rate, DTR, is measured in Kb/sec or Mb/sec and is a measure of how quickly the drive can deliver the data to the computer. Manufacturers usually quote a maximum theoretical rate, though in practise the computer is likely to produce a bottleneck or two which can slow down the transfer rate dramatically. A typical DTR for a PC system may be around 1-1.5Mb/sec although this can be improved considerably using more efficient data buses such as Intel's new PCI bus, Vesa or SCSI 2. A good caching system will also boost throughput. For most applications the DTR isn't critical, but if you are trying to read and play audio or video from disk, it is. In fact, both these applications really need specialised hardware - especially video work.

o having decided on the size and speed of disk you need, how easy is it D to buy a new one and connect it? We'll tackle ST and Falcon hard disks first as these are fairly easy to install. Most drives come ready to plug in and go. The ST cannot be connected directly to a hard disk so make sure you get all the necessary cables. You'll also need a formatting utility which should come with the drive. If you're not considering upgrading your ST to another computer and think you'll still be using it for the next couple of years, a hard disk is an excellent investment. It will speed up your work enormously and you'll wonder how on earth you managed without one.

Mac are also easy computers to add ►

### Caching the bus

All computer systems use buses and virtually all hard disk systems employ some form of caching but the PC excels in making a relatively simple concept more complex than the Maastricht Treaty. Here's a very brief summary of the situation. Stick with it and don't let the acrofyms throw you...

Simply put, a bus, is a set of wires which carries data from one part of the computer system to another, say between the computer's main processor and the disk drive or the monitor. The traditional PC bus is the ISA (Industry Standard Architecture) bus with a DTR of around 1-1.SMb/sec but faster got there first, 'it's relatively cheap and currently has more support than PCI, but it's not as tight a standard lit's possible that a VL-Bus from one manufacturer may not work with a VL-Bus device from another.

Current VL-Bus systems can struggle at 40MHz clock speed and simply don't work at 50MHz. A small word of warning to anyone attempting to buy a 50MHz VL-Bus system – don'tl Especially from Reeves Computers which had the temerity to sell a 50MHz VL-Bus PC which quite simply wouldn't run at 50MHz! Steer well clear, folks.

	N	1emory
	Disk Cache Always On	Cache Size
	Virtual Memory O On Off	Select Hard Disk: MACMAIN Available on disk: 283M Available built-in memory: 20M
32	32-Bit Addressing On Off	
	RAM Disk O On O Off	Percent of available memory to use for a RAM disk : 0% 50% 100% RAM Disk Size OK
v7.1a6		Use Defaults

The Mac's Memory Control Panel has a disk cache option.

computer systems demand a bus which can carry more data more quickly in order to avoid a bottlenetk – so other buses appeared such as EISA (Extended ISA) and IBM's MCA (Micro Channel Architecture) which can be up to five times faster.

In order to speed up data transfer even.more, systems employ a cache or buffer. In a hard disk, for example, his would 'anticipate' the data the computer is going to request next and store it in special area of memory – the cache. The computer can read data far more quickly from memory than it can from the physical disk so data throughput is increased. PC systems have a built-in cache in the form of Smart Drive although disk caches are usually far more efficient.

Then along came the local but, designed to offer greatly increased data throughput by communicating more directly with the computer's processor. There are two prevalent standards – the Vesa (Video Electronics Standard Association) VL-Bus (also knows as the Vesa Local Bus) and Intel's PCI (Peripheral Component Interconnect). The Vesa bus The PCI bus can match the VL-Bus speed and before too long it is expected to double it. It's a never standard so it doesn't have as much thirdparty support – aithough this will undoubtedly come. It's also amore gobust and technically superior standard than Vesa which is geared towards improving video output. PCI'has an eye towards multimedia and is designed with video and fullmotion video applications in mind.

PCI and Vesa will be able to coexist in the same

An interesting twist in the plot is that Apple has expressed an interest in using PCI in new Macs and PowerPCs. Another PCI benefit – which will probably take a year to make much of an impact – is its plug in and play ability.

Asystem will automatically recognise a PCI card and configure itself automatically which saves messing around with IRQ settings and the like.

To sum up – Vesa is cheaper, PCI is technically superior but costs more and it will be a while before it fully catches on.

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MS-DOS has a built-in cache called Smart Drive which will increase data throughput.

hard disks too. They use SCSI drives and, like all things Mac, you can usually buy one, plug it in, format it and go. One of the benefits of SCSI is that you can add several drives and get them to work together fairly painlessly.

PC hard disks, as you might expect, are several degrees more complex. Most PCs use an IDE drive (see Jargon buster). The maximum IDE drive size is about 500Mb so if you want to increase your storage capacity you'll have to install a SCSI drive or add another IDE drive. Unlike SCSI, IDE only supports a maximum of two drives and they must be configured as Master and Slave. However, wouldn't you know it, some drives just won't work together. The only way to discover if they will is to read the documentation thoroughly and/or contact the supplier/manufacturer and ask them.

IDE drives are supported by the PC's BIOS (see Jargon buster) and you have to run the Setup program to tell your system it has a new drive. If you have an old BIOS it may not support a large hard disk. Something else to check. If you plumb for a SCSI drive you'll need a SCSI interface which can cost around £100 although it will support up to seven devices. SCSI devices are driven from software and you'll have to copy some files onto your system to take care of this.

If you're in any way unsure about upgrading your PC drive, ask a specialist or arrange for the dealer to install the drive for you: And make sure you back up all your data first. If you haven't yet bought a computer it makes sense to spend a bit more to get a hard disk which will last you for a few years and which is fast enough for any audio or video work you want to do. And once you've got a suitable hard disk, you need to look after it so check out the Hard Disk Problems – Prevention and Cure section of this feature. ●

### Jargon Huste

Gb: Gigabyte or 1,024 Megabytes. IDE Integrated Drive Electronics. A drive with most of the controlling hardware built-in, reducing the cost of the PC controller card. SCSI: Small Computer Systems Interface. A connection protocol used by PCs, Macs, STs and most other computer systems. SCSI devices can be daisy-chained and a SCSI interface can control up to seven devices including hard disks, CD-ROMs, scanners and so on.

SCSI 2: An enhancement to SCSI which can transfer data more quickly. BIOS: Basic Input/Output System, a program usually stored in a PC's ROM which tests the system when it's switched on and loads the perating system, usually DOS, from disk, and generally-helps the software and hardware work togeth

### Moving Pictures

The ruason why the data transfer rate is so important in multimedia applications is because of the massive amounts of data which need to be shifted in order to display moving images on a computer screen. If you're working in true colour 24-bit graphics with only a quarter size viewing area of 320 x 240 pixels, the system would have to move about 6Mb data per second. This is beyond the limits of an ISA bus but quite possible using one of the newer bus systems. However, a hard disk with a data throughput of 300Kb/sec certainly isn't up to the job.

If you want to produce 24-bit, fullscreen, 640 x 480 videos you're looking at shifting 22-26Mb of data per second. No drive can handle that and even if it could, how much disk space would you need for even a 5-minute short? Save your alculator's batteries – it's about 5b!

So, you need specialist video compression hardware (which we'll leave for another article). Interestingly, Micropolis have developed some very fast drives for the digital video market which we hope to be looking at soon (see fast month's Scanners). Incidentally, in case you were wondering, you can dramatically reduce the amount of data the system has to move by using 16-bit colour instead of 24-bit 'But it doesn't look as nice

**24** MT issue 9. Not all sequencers are the same

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After five years of supplying classic analogue synthesizers, Music Control has formed Control Synthesis to design and build high quality, professional analogue audio equipment. The first product, DEEP BASS NINE, is a midicontrolled analogue bass synthesizer based on the classic sound of Roland's acid dance machine: the TB303. In addition to the following analogue controls, waveform selection; tuning; cut-off frequency; resonance, envelope modulation; decay and accent, the DEEP BASS NINE will work as a single channel MIDI to CV convertor. There is also an external audio input directly feeding the filter - so the DEEP BASS NINE can be used to treat any external sound source: drum loops, poly synths or even vocals!

Control Synthesis 0270-883779 First Floor, Chapel Mews, 68 Crewe Road, Alsager, Stoke-on-Trent, Staffs., ST7 2HA.

# OF ANALOGUE part 10

**M T** '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**



A German firm of considerable antiquity who have produced a series of average-to-good instruments over the last three or four decades. In addition to the harmonicas and guitars for which they are better known, this has included a range of reliable, well-made keyboards which in one case – the Clavinet – must figure in the top 20 classic keyboards ever produced.

BASSET - 24-note, stand-mounted bass keyboard. 1967 - c.1969
Original price: Unknown
Target price: £20 - £40
Came complete with adjustable stand (like cymbal stand). Packed away into two zip-up cases.
Standard size keys.
Variable percussion to give bass drum-like effect. Also tuba voice.
BASS 2 - 25-note stand-mounted bass keyboard

c.1970- c1975. Original price: £135 (1975) Target price: £20 -£40 • Revised version of Basset, with extra bottom E, and

controls above instead of to left of keyboard.

• BASS 3 – 25-note stand-mounted bass keyboard c.1975- c.1979

#### Original price: £228 (1979) Target price: £20 -£40

• CLAVINET – Velocity-sensitive electric clavichord. A succession of models were produced from 1964 onwards. All had the same basic action, with real strings (about the thickness of guitar strings) being hit by small hammers - so good tonal range and volume changes were possible simply from key velocity. Because the hammer stays in contact with the string, the player can also 'wobble' notes with judicious finger movements. The earliest Clavinets had an optional built-in amp and speaker, but all later models had an output socket for connection to an external amplifier - and thus could run on a PP3 battery, without the need for any mains supply. Users (actual model unknown) include: Don Airey, A Certain Ratio, John 'Rabbit' Bundrick (John Martyn: Solid Air), Chick Churchill (Ten Years After), Rick Davies (Supertramp), Geoff Downes, Tyrone Downie (Wailers), George Duke, Electric Lady Studio, Anders Eljas (Abba), Vic Emerson, Mitchell Froom, Michel Graillier (Magma), Herbie Hancock, Bernard Touter Harvey (Bob Marley), Heatwave ('Boogie Nights'), Heavy Metal Kids, Rupert Hine, Jools Holland, Chuck Leavell, John Lennon (aka Winston O'Boogie: 'Mind Games'), Patrick Leonard, Lonnie Liston Smith, Jon Lord, Robin Lumley, Bobby Lyle (Love), Stuart Mackillop, Nick Magnus (Steve Hackett), Joni Mitchell (Court and Spark), Francis Monkman, Billy Preston, Prince ('Electric Chair'), Phil Ramocon (King Sunny Ade: 'Aura'), Tomita, Wix Wickens, Pete Wingfield, Bernie Worrell, XTC.

• CLAVINET I/II – 60-note clavinets with optional built-in amp and speakers. 1964 – c.1968. Advertising blurb at the time: "it is hoped they will prove popular with many small groups". Original price: £115 (£125 with speaker) Target price: £50 – 150

• Amp and speaker positioned to left of the instrument, above keyboard.

• Included wire music stand.

• Deeper than later models; oblong wooden casing, with bolt-on wooden legs which fix to the outside of the case and make it look like a '60s school desk.

• Shown in Aug '66 at the British Musical Instrument Trade Fair.

Lettering on front, 'CLAVINET 1' not on earliest models.
Two models were available by the late '60s – I and II, but there is some confusion as to what the differences between models actually were. Possibly, model I came with the speaker and the model II didn't. Rocker switches for tone selection didn't appear on early models, but were included on at least some model I versions.

### • CLAVINET C – 60-note clavinet. 1968 – 1971 Original price: Unknown

Target price: £80 – £160

Users include: 808 State, Brian Auger, Stevie Wonder. • The Clavinet was re-styled in Autumn'68, with a thinner red and white case.

The earliest of the classic Clavinets, the very first one was delivered to Brian Auger, and one of the next few to Stevie Wonder who's funky, biting two-handed chops were to be taken up by every funk band in the world.
Such a classic sound that almost every synth since produced has had a Clavi sound in its patchbook or as a factory preset.

 Quite a heavy instrument to carry around, despite being slimmer than its predecessors.

• Built-in legs were stored in a compartment under the hinged top – which is also where you had to delve to change batteries.

• Front plate under keyboard gave access for tuning.

 Flightcase style top gave good protection to the working bits, but was difficult-to take on and off – and also made for a very heavy instrument.

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

CLAVINET D6 – 60-note clavinet. 1971 – '78.
 Original price: £350 (1975); £540 (1978); £399 (1979)

#### Target price: £120 - £200

Users include: 808 State, Patrick Moraz, Stevie Wonder. *MT* retrospective: March '93.

 Basically, the same design as the model C (no built-in speaker; no mains power), but with good-quality veneerfinished plywood on top, and black leatherette-covered plywood underneath.

• Featured slider on right-hand-side of keyboard to

dampen strings; more effective (naturally) at top of range than on bass notes.

• Four rocker switches for tone – Brilliant, Treble, Medium >

and Soft (selectable in any combination) – and two for pick-up selection.

 The pick-up selectors are labelled A/B and C/D, and seem to route the signal in different ways from the two pickups, including reversing polarity. The result can be a fairly straight signal, or something with a good deal of phasing.

- Rotary volume knob doubles as on/off switch.
- Socket for mains adaptor.

• Several companies designed mods for the D6 – to provide the equivalent of a sustain pedal, for instance.

VFM: ★★★
Character: ★★★
Collectability: ★★★★
Ease of use: ***



• CLAVINET E7 – 60-note clavinet c.1979 – c.1982

Original price: £399

Target price: £90 – £150

• Fundamentally the same design as the D6, except for slider instead of knob for volume, and change of position (and terminology?) of tone rocker switches. Also, separate on/off switch.

• Black leatherette covering on all of casing. End-cheeks fitted to protect instrument.

• Mains adaptor input recessed; battery holder easily accessible through small hatch on top cover.

• Noise suppression filter (to cut interference from stage dimmers, etc.). Some people say this interfered itself with the original classic sound, but difference ls marginal.

• Some early models were actually labelled 'D6'.

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

**32** MT issue 91 CLAVINET L - 60-note clavinet with built-in amp and speaker. c.1968.
 Original Price: Unknown
 Target price: £60 - £100
 Users include: Trlona Ni Dhomhnaill
 Bizarre 3-legged instrument (two legs to right, one on left) with speaker positioned in top left of plain, tapering

left) with speaker positioned in top left of plain, taperin case.

Reverse colour keys

Very much a classical-type instrument with no rocker switches for change of tone or even a volume control (on the main panel at least) for the built-in amp.
Highly usable for world/folk music.

• CYMBLET – 61-note electric piano.1958 -1971 Original Price: Unknown Target Price: £75

Users include: Dave Greenfield

• Optional built-in combo amp slung under keyboard towards the back.

• Neat and effective stand, plus foot pedal.

• Used amplified accordion reeds: the action hit the reed,

the reed vibrated, the pick-ups amplified it.

• 'N' model had wood finish and a cover which folded and formed a full-length music stand.

• DUO – 60-note combined pianet and clavinet. 1978 – c.1981.

Original price: £723 (1978) Target price: £70 – £120

Users include: Andy Bown, Camel, Brian Chatton, Chick Corea, Duncan Mackay (10cc).

• A Clavinet E7 and Pianet T in one box.

• Similar design to Clavinet – same arrangement of six rocker switches for pickup selection/tone; damper in roughly the same position but works in reverse direction from D6 Clavinet – and not as effectively, either.

 The different positions of sound-generation mechanism on pianet and clavinet mean that both can fit in easily. Main compromise is on damper mechanism, which suffers accordingly.

• Keyboard action isn't as good as Clavinet.

• Pianet and clavinet have separate and combined outputs.

• Footswitch for instant change from clavinet to pianet: two rocker switches (labelled 1/2 and 1/3) control what happens when you press the footswitch.

· Supplied by 9V battery or mains adaptor.

• Separate sliders for planet and clavinet volume and separate power on/off switch.

One of first keyboards to offer spllts and layering.
Choice of four positions on rotary switch, to select between layered sound, clavi bass and pianet treble, pianet bass and clavi treble, or pianet bass and both treble.
Split point is fixed, twenty notes on bass, forty on treble.
Sounds pretty good, particularly when layered to produce unique mix of clavinet's bite and pianet's warmth.

• Pianet seems to be tuned fractionally higher than clavinet, for chorusing effect.

• Extra filter to protect against hum from stage light faders etc. is thought by some people to take edge off sound, but the difference is minute in a straight A/B comparison through the same amplification system. (You do get some faint but unwanted atonal harmonics from the pianet, though, even with it's turned right off.) • One of the first keyboards ever to feature a 5-pin DIN socket. Unfortunately, this wasn't for MIDI, it was just an alternative audio output.

 Solid (slightly shock-absorbent) end cheeks jut out to protect the keys.

• Murderously difficult hinges and clasps fitted to flight cases which, though not much heavier, were much more roadworthy than the D6's.

• Aimed at taking some of the sales from Fender Rhodes – nearly every clavinet player needed a piano as well.

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

• ELECTRA PIANO T – 73-note electric piano c.1968 – c.'75

Original price: £499 (1975)

Target price: £60 – £120

 Different tone generation system than Pianet: one tuning fork for each note.

 Much deeper than typical Hohner products, with a steeply sloping back panel – like an exaggerated version of a Fender Rhodes.

• Fitted only with a volume control on the left of the keyboard.

HI-STRING – String synthesiser. c.1975
 Original price: Unknown
 Target price: £25 – £50

arger price. 525 - 550

One of the earliest string machines.
Featured cello and string sounds (presumably violin),

volume and decay sliders for each, and a foot swell pedal.

• K2 – 49-note piano/string synth. c.1975 – c.'82. Original price: £789 (1979) Target price: £50 – £100

• Split keyboard with separate volume controls.

· Bass, piano, harpsichord, cello and strings.

• K4 STRING THING – 49-note string synthesiser. c.1975 – c.'82.

Original price: £425

Target price: £25 - £50

Users include: John Entwistle, Patrick Moraz (Yes)

Four faders control volume and decay of cello and
strings sounds. Two push-buttons switch these tones in

and out, and a third brings in the ensemble effect.

 Power supply, swell pedal and footswitch came as standard.

• Re-designed in 1979, with power supply built into keyboard.

• ORCHESTRAL STRING PERFORMER – 60-note multi-instrument keyboard. c. 1978 – c.1982. Original price: £790 Target price: £70 – £140

Users include: Massive Attack

The second second

 Tones include polyphonic clavichord, piano, cello, violin, viola, and monophonic brass, strings, clarinet and pianet.

>

• Split keyboard with separate controls for each side of the split. Variable sustain on strings, variable percussion on bass sounds.

• Separate outputs for strings, bass, and your choice of plano/clavichord/solo voice.

- · Sustain footswitch for piano; swell pedal for strings.
- Large, chunky and not cheap.

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

• PIANET - A series of pianos using reeds set in vibration by sticky or suction pads. Slightly touchsensitive - you can get a little bite to the attack of the note, and a marginal increase in volume, by playing hard.

Users (actual model unknown) include: Rod Argent (Zombies: 'She's not There'), Beatles ('Help'), Geoff Downes, Johnny Fingers, Al Kooper, Led Zeppelin ('Stairway To Heaven'), Manfred Mann, Roxy Music, Mel Wesson (TV Smith's Explorers).

PIANET L – 61-note electric piano. c.1962 Original price: Unknown

Target price: £20 - £40

• The 'living room' model, with dangerously spindly legs and right-angled corners.

• May eventually become collectable as a '60s German piece of furniture!

● PIANET N – 61-note electric piano. c.1962 Original price: £239 (1975) Target price: £40 - £80

Users include: Ian McLagan (Small Faces - including first LP Small Faces).

• The successor to the Cymblet, with an improved (but still rather Heath Robinson) action: pads made of leather and sticky foam pull the reeds and set them vibrating. It's a mystery how they didn't lose their stickiness.

· Very difficult to find replacements pads now

(something to look out for when buying older Pianets) • Tremelo on/off, mains power supply

· Wooden case with folding top which doubled as music stand.

Optional 15-watt amp slung underneath keyboard.

• COMBO PIANET – 60-note electric piano. 1972 - 1977

Original price: £188(1975) ; £345(1978) Target price: £40 - £80 • No mains supply, so no optional amplifier and no

tremelo circuit.

• A no-frills simple piano, with its own, quite decent, sound

PIANET T – 60-note electric piano. 1977 – 1979.

#### Original price: £240 (1978) Target price: £50 - £100

· An update of the Combo Pianet, again with no mains.

- etc; not even a battery-driven pre-amp.
- No controls at all.

• Black leatherette slimed-down case, more portable than earlier models.

• Re-incarnated a couple of years later as half of the Duo. • Redesigned pads and reeds - rubber suction pads

required smooth steel reeds, instead of the rough accordion reeds of earlier models. Consequently a slightly different (more metallic) sound.

Interface:	VFM: ±
Sounds: 🛨	Character: 🛨
Controls:	Collectability:
Memeories:	Ease of use: ****

• SYMPHONIC - 48-note organ. c1965 Original price; Unknown Target price: £10 - £60

- 12 rocker switches.
- Might be collectable in USA.

Stop panicking now! 'A-Z of Analogue' will reappear in The Mix. The series will also run from the beginning in Keyboard Review, and plans are in place to produce 'A-Z' in book form.









In the next stage in his exhaustive mission to seek out all that's best in Shareware and Public Domain software, Ian Waugh takes a look at sequencing...

e'll start with the basics of any music set-up just in case you've got a computer but haven't yet got into sequencing. There are several shareware sequencers for the ST, PC and Mac. None quite match commercial software, but they're worth looking at if you really don't have any money...

Score Perfect (Ad Lib BBS) for the ST runs in mono and requires 1Mb RAM. It's a rather cute score editor and printer. You can create music by clicking notes onto the stave or by playing them in from a keyboard in step-time. The docs are in German and the program looks like an advert for a larger-scale version. It doesn't support Standard MIDI Files – shame – but it works.

Final Score (Ad Lib BBS) is another ST program which runs in mono. It's a WYSIWYG score-writing system, almost totally mouse-controlled, with a good range of music symbols (plus the ability to design your own) and it can save files in Degas format for loading into DTP programs.

Scores are entered from a symbol menu. It does not play via MIDI and

you have to space all the symbols yourself. However, the on-disk documentation is extensive. The program was actually written in STOS BASIC – it uses STOS' horrible mouse arrow and it's a tad slow – but it's a very creditable testimony to both STOS and the programmers' skill. So, if anyone asks you what's the Final Score – now you can tell them...

The Waddington or Canadian Sequencer doesn't seem to have a proper name and is usually called after the guy who wrote it or his country of origin (I'll let you guess which is which). It was one of the first


#### Shareware & Public Domain software Part 3

iterests III

Shareware sequencers for the ST and should be available from any BBS or Shareware library. Running in mono or colour, it includes minimal on-disk documentation, but is claimed to work "as you'd expect". I have to say it didn't work the way I expected, though that may have more to do with my personal expectations than anything else.

The Cosh Accompanist is another ST sequencer named after its programmer

- one way to achieve immortality, I suppose. It's also the best of the Shareware bunch. Running in mono, it's not, perhaps, the most elegant program, but it has lots of features, extensive on-line help and supports Standard MIDI Files (you need version 2.5 for this). Registration is £10 (the programmer resides in the UK) and this will secure you the latest version (currently 8.4) plus tons of music files, a music conversion utility and a jukebox (I presume it's a software jukebox, not a gigantic Wurlitzer to fill your spare alcove). Recommended to anyone who can't afford a commercial program.

Alchimie Junior for the ST has also been around for a while and should be available from most Shareware sources. It runs in mono and it looks rather more sophisticated than the Cosh Accompanist, but it doesn't, alas, support SMFs. It sounds >





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Minimal sequencing on the Waddington.



With FinalScore you too can produce scores like this - if time weighs heavy on your hands.



Cosh: the best Shareware sequencer for the ST. Probably.

like the precursor to a more extensive program but if it is, I'm not aware that this has yet made an appearance in the UK.

The program comes with a mammoth on-disk manual plus a useful Quick Doc file. Operation is based around a series of windows and icons. It's not completely intuitive so you will need to refer to the docs. Although registration is requested in US\$ (25 of them), the programmers dwell in Switzerland. You can pay straight into their bank account by special arrangement. Check it out if you want an alternative sequencer.

And so to the PC. Winjammer (available from everyone) is the most fully-functioning Windows-based Shareware sequencer currently available. It has 64 tracks,

#### CONTACTWARE

**Shareware libraries** 

#### PC

Red Dragon Shareware • 3 Oaklea Court • Rhyl • Clwyd LL 18 4NP • Tel: 0745 338094

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

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

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#### **Bulletin Boards**

Electronic Courier • Mac. BSS: 0232 705452 & 0232 401737. Ad-Lib • ST. BBS: 091 3702659. Sonic Boom • PC. BBS: 081 994 911 piano roll editing and a very acceptable range of edit functions. It can import Ad Lib ROL files and it supports Standard MIDI Files. If you get version 2.24 or later you can select the MIDI In and Out drivers from within the program. Operation is fairly straightforward and there's a good Help file.

The only niggle is that the track name is overwritten in Winjammer files until you register and get the magic code which prevents this. However, if you only get one Windows Shareware sequencer, this is it.

Even though modern sequencers have more editing features than the Mail On Sunday, very few actually have a drum editor to help you construct drum patterns. It's all very well playing the drum track in real-time from a keyboard but unless you've a good grounding in drum patterns it's not the easiest thing to do.

The Drums (from Red Dragon) for Windows offers a traditional drum grid onto which you click hits. You can create up to eight patterns and chain them into up to 32 steps to create a Song. You can't edit the grid while it's playing and it's a bit low on features, but there is an Instrument Table you can edit and also an Auto generator for those times when inspiration is lying in the bottom of the bin along with last night's curry.

The program works much as you would expect it to and there's a short but useful Help file. However, if you want to generate Standard MIDI Files to load into your sequencer proper – and whyever else would you want to create drum patterns? – you'll have to register. It's an overseas jobbie and it'll cost you \$20. Well, even Shareware authors gotta make a living. ●

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It may sound like the pseudoscientific process of chemical transmutation but Alchimie is actually a Swiss sequencer.



WinJammer: the best PC Windows sequencer you'll get for nowt.



The Drums reaches the parts other sequencers ignore.

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Roland D50	SC-01	H. Maass		1
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### Phil Ward meets Tony Thorps, prime mover seens for over a decade and meeter of the 303.

ony Thorpe has been around. Rummage through the 'electronic /ambient/avant sparde' section of your average vinyl junkie second hand.record store, and chances are you'll come across all sorts of items bearing the name Anthony Thorpe, dated around 1982-85 and called things like 400 Blows or Urban Jungle.

Many such items loom large in the litany of UK electronic music uttered in reverence by those unswayed by a record's relative commercial failure. More recently, Tony has enjoyed similar esoteric regard on CD – as The Moody Boys and Voyager. The shift from vinyl to CD has done nothing to alter the symbiotic relationship between the mainstream and the underground.

The release of Tony's latest album – Product Of The Environment, by Moody Boys – is a culmination. Moving through jungly, percussive landscapes, whooshes of ambience and thumping acid, it's a work considered by its creator to pretty much sum things up. In the past, Tony has used the various pseudonyms to allow for experimentation in a deliberate variety of styles, usually on 12" EPs. Now, he wants to concentrate on more consistent product – namely, Moody Boys albums. The day of the single, says Tony, is over.

Gigs, however, are a different matter. Playing live is worthy of many considerations, especially for someone who's got used to the conveniences of technology. When Tony gets round to some dates, we can expect something a little unexpected.

"I'm not into the idea of trying to recreate what's been done mechanically," he reveals. "I'll probably do a Moody Boys gig and not play a single track from the album. I also think it's quite boring having just one person on stage with all his gear. I've seen too much of that. I think there's another angle to it. I'd rather try to go out there and develop my idea than simply talk about it. But at the same time, you know what it's like at gigs. It's always so expensive, and you're always worried about someone spilling beer on your equipment. It's a bit of a nightmare."

So how do you get round it?

"I would do more of a show; it would be more

#### through the underground techno

hear piece, rather than just omebody on stage with their keyboards, twiddling a few knobs. To bring the whole studio onto the stage is laborious. I think it's essential to look at the stage and see some kind of movement and improvisation."

But, Ton'y, surely... y-y-you don't mmean... a band?!?!

"Well, there's no way you can get away with not using electronics. At the same time, though, the idea of rehearsing with a 6-piece band and no electronics whatsoever appeals to me as well. I'm quite openminded about that. I think what's happening today is a collision of the two. Once it was all 'keep music live', and you either had that sticker or you wouldn't be seen dead with one. Now it's all moulding together. It's like, 'wow, isn't it weird, this guy's playing guitar...', but it's accepted. It's new to a lot of people. Some 16-year old kid who goes to Megadog and sees a drummer, a bass player and a guitarist, is going to think 'hey, what's going on?'."

T he last thing that appeals to Tony is technology for its own sake. Whether it's using weird things like electric bass guitars on stage, or constructing unwieldy devices in the studio in pursuit of new sounds, he ain't precious.

"I like to just leave a DAT running and catch things. It doesn't really matter what it is. When I first started making records, the technological resources didn't exist. I remember, before samplers, I was using tape loops – a massive, 20-foot tape loop going round a broom stick. My first recording, 'Declaration Of Intent' by 400 Blows, involved a bass player and a drummer, and a load of tape loops, and we came up with this mess – this noise. I've learned to make music with whatever means I can. Obviously technology has made things easier, but in some ways it's made me lazier. I don't have to think that much or work that hard to get what I want.

**MUS7**C

much or work that hard to get what I want. "You can push the boundaries, to an extent – I mean, it's still about how you use technology, how you express it. That's up to the individual. But at the same time I think it's made a lot of people really lazy. I like the idea of going back to the way I used to make music – which was anyhow I could. I got my hands on any piece of gear – anything – just to create noise, or sound, or music. That's more of a refreshing approach, for me. Some of the best tracks are total cock-ups. Malfunction. Spur of the moment. I think that's wonderful. Thrash it to death."

It's striking how interchangeable are the concepts of noise, sound and music – and how in Tony's open mind 'noise' comes first. The new album concludes with some excellent noise, entitled 'A Funny Thing Happened To Me On Wednesday'. Perhaps not surprisingly, analogue synths dominate the aural landscape, being so responsive to the human touch.

"It's down to people being individual with technology. It's not about reading the manual, having everything working correctly, going with any preset sound that's going, and making a record. To me, that's boring. Listen to the Aphex Twin, The Orb or Black Dog, They're all individual entities; they don't sound alike, even though they're using a lot of the same equipment. They have a different approach. With this album, it's the way I want to take it. I'm saying, OK, you've got all that stuff out there – listen to this..."

T ony identifies his early musical interests as reggae, jazz, funk, and "a James Brown/disco kind of period". But the band who most inspired an innovative approach to recording and technology turns >

#### > out to be A Certain Ratio.

"At the time I was listening to things like Brass Construction and Roy Ayers," says Tony, "and somebody played me this ACR record and it really made me think, 'what's going on?' It was funk, but really warped out, with all these strange noises going on. I couldn't make out how it was made, how they did it. That got me really interested; it got me going."

Following this line of curiosity, some familiar names began to crop up in Tony's record collection: Sun Ra, Throbbing Gristle, Cabaret Voltaire, Derrick May, Kraftwerk...

"I was always curious about sound. Like, how did they get that sound? And more than individual instruments and so on, I was interested in noise. It was alien to me. You can imagine, coming from my background, the impact of these alien sounds. So I really wanted to know how it was done."

Tony joined 400 Blows in 1984, an avant-garde band – noisy, but still a band. Today, his re-emergent attraction to live instruments completes a kind of cycle. It puts him back into an ambivalent

#### relationship with technology.

"I'm in the middle. I'm almost in this wilderness, on my own, where I'm neither black nor white. I'm colourless. I tend not to be accepted on the Soul II Soul scene, nor on the rock scene. When I did 'Journeys Into Dubland' with Jimmy Cauty on XL, people were saying, 'wow, what is this mess?' We mixed reggae, dub, acid... It's only now that audiences are beginning to accept this kind of combination."

Tony puts it down to the CD revolution. "When people buy stuff they want to hear quality sounds," he says, agreeing that this encourages both sonic and musical awareness. And it's the blend of sound and music that counts, in fact.

"I love it when sounds bring out an

emotion, like the sound of an ARP Odyssey. There's more to sound than just having some ambient track going for 20 or 30 minutes. There's more to explore, and there's still more to be discovered."





#### On:record

#### **400 Blows**:

Declaration Of Intent' (Illuminated, 1984) 12" If I Kissed Her I'd Have To Kill Her First (Illuminated, 1984) album 'Pressure' (Illuminated, 1985) 12" 'Jive 69' (Illuminated, 1985) 12" 'Groove Jumping' (Illuminated, 1985) 12" 'Movin'' (Illuminated, 1985) 12" The Good Clean English Fist (Dojo, 1985) compilation album Look (Illuminated, 1986) album (Piete Over Landon' Otr. 1986) ID"

#### The Moody Boys

(sometimes Moody Boyz): Boogie Woogie Music' (BPM, 1988) 12" Acid Heuven' (City Beat, 1988) 12" First National Rapper' (City Beat, 1989) 12" amming For Survival (Housefactor, 1989) ompilation album Evolution album

> Journeys Into Dubland (with Jimmy Cauty) (XL, 1990) EP 'Lion Dance' (4th Floor, 1991) 12" 'What Is Dub?' (Love, 1991) 12" 'Centre Of The World' (Love, 1992) 12" 'Phaying With Spears' (Uritted We Conque 1992) 12" 'Shango' (Prime/Gnerilla, 1994) 12" Product Of The Emvironment

Prime/Guerilla, 1994) album

#### Voyager:

Transmission (Underworld, 1993) EP

Urban Jungle: 'Badman'

#### KLF remixes/productions:

'SAM Eternal' (KLF Communications, 1990) 'What Time Is Love' (KL Communications, 1990) 'Kylie Said To Jason' (KLF Communications, 1990) 'Last Train To Trancentral' (KLF Communications, 1991)

The White Room (KLF Communications 1991)

#### remixes:

Electrotète: 'I Love You' Supereal: 'Blue Beyond Belief Fun Da Mental: 'Sista India' Bocca Juniors: 'Substance' The Residents: 'Kawlinga' System 7: 77 Expansions System 7: 'Quest' System 7: 'Altitude'



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#### **Turtle Beach**



### Wave for Windows

#### **Direct-to-disk recording system**

For anyone serious about direct-to-disk recording using a PC and a sound card, this new system from Turtle Beach has plenty to offer – as Ian Waugh discovers...



Wave is a program for recording and editing digital audio files. You need a PC sound card, too, and Wave will work with most cards including Sound Blaster and Media Vision and their clones as well as Turtle Beach's more upmarket cards such as MultiSound. In fact it should work with any MPC (Multimedia PC) card.

If you want to sample at 16bit and 44.1kHz the card must support this of course, and the program will only present you with options supported by the card you're using. I ran the system with the Sound Blaster 16 ASP card. You also need a PC running Windows 3.1. The docs recommend a 386SX, but if you haven't already bought a PC it's worth spending a bit extra for a 486 (several PC manufacturers have already stopped making 386s). Installation is as automatic as a PC installation can be.

The program works a little like a sampler. In fact, if you've ever used one of the Replay family of samplers for the Atari ST or Commodore Amiga you'll already be half way there. One of Wave's main differences is that it records direct-to-disk so the amount of RAM in your PC doesn't limit the length of the recording you can make. Though as with all digital recording systems, the higher the quality of the recording, the more storage space it will use. A stereo

f the PC has done anything for musicians, it's to make an increasing number of powerful music and recording tools available at cheaper prices. We've been rabbiting on about PC sound cards and direct-to-disk (DTD) recording in MT for the past few months so you probably know by now that you can buy a PC sound card which can handle 16-bit stereo recording at 44.1kHz for less than £200.

Most of these cards come with some form of DTD software which is fine for messing about with, for creating Email voice messages and the like. However, for more serious musical creativity you will probably want something a bit more sophisticated. Something like Wave for Windows, for example. 16-bit recording sampled at 44.1kHz will consume 10Mb of space per minute. However, hard disks are far cheaper than RAM chips so DTD is very cost effective.

Wave is a highly graphic program. It has one main window but that belies the wealth of features within. The window is actually the waveform display area; you can actually work with four of these windows – each a sample file – making it easy to cut, copy and paste data between them. Editing, however, is destructive. That is, it alters the actual



Wave's main window area currently editing a high quality stereo file.

data file on the disk. The program can create a backup file for you but this is optional because, of course, the backup file itself requires disk space which you may not have or wish to devote to a backup. In any case, the program has a useful Undo feature so if you're sensible, the dangers of editing without a backup are minimised.

To record, you simply open a file for the data – this is known as a soundfile – and select the sample rate and



Wave can work with up to four soundfiles at once which makes cutting and pasting between files very easy.



Before recording you can set the sample rate, the resolution, specify whether it's in mono or stereo, and check the incoming volume levels.

resolution. There are no level adjustment controls although there are level meters so you must set the volume on the sound source itself or via a mixer program which usually comes with most sound cards. I must admit I never had any problem with volume levels.

Because you may be working with a file which is 40 or 50Mb in size, Wave has an overview display above the waveform which shows which part of the file is currently displayed. The manual recommends you limit the size of the edit window to around 10 seconds in order to minimise the time it takes to draw the waveform. In fact, waveform redraws are pretty fast.

A couple of sliders are used to zoom in and out in both



horizontal and vertical directions and alter the scale, so it's easy to home in on a specific area for editing. You can view the waveform in units of time, samples, beats or SMPTE. It's quite easy, therefore, to see exactly where you are in the file. Wave also lets you name and place up to 256 markers to assist when finding your way around long files – although the marker positions are not saved to disk (an update promises to remedy this).

Things start to get interesting when you look at the edit options. As well as the usual cut, copy and paste operations which you can perform on any sample-based program worthy of the name, Wave has a wealth of other processing tools. These can be applied to the entire file or just a selected area. One tool, the pencil, is used to draw in waveform data. As everyone who has every tried to draw an original waveform knows – this is impossible! However, the pencil is useful for removing spikes in the waveform which otherwise cause clicks – though this can still sometimes be a tricky operation.

Six of Wave's tools have several parameters – Equaliser, Auto Stutter, Cyborg voice, Distortion, Flange, Digital Delay, Reverb. The EQ tool, for example, has four sets of gain, centre frequency and bandwidth controls. The delay has delay time, feedback and output mix controls. You can,



Rather than directly change the data in a sound file, some DTD programs let you select with markers sections of the file you want to play. These are known as cues. You can assemble several cues into a list in the order you want the sections to play. The software then reads the various bits of data from the disk in the required order. This requires a certain amount of processing power, but ensures that the original recording remains intact as any changes you require are simply made to the marker and pointer positions.

The system of cues and markers means that there is no need for the original recording to be physically changed. Some DTD systems even add effects in real-time (a further drain on processor power) which, again, ensures the original data remains intact. This, naturally enough, is called non-destructive editing.

Other DTD systems – Wave included – *do* alter the recorded data so any changes you make are permanent changes to the file. This destructive editing requires considerably less processing power. Wave, however, has an Undo function which can save you from your worst excesses and it will also make a backup file.



There are two main parameters which determine the quality of a sample – the sampling rate or frequency and the resolution.

When an ADC (Analogue-to-Digital Converter) is at work, it reads the incoming signal and measures it – or takes a 'sample' of it – every so often. The number of times it performs a measurement is referred to as the sampling frequency or sampling rate and this is normally expressed in kHz or 'samples per second'. The higher the sampling rate, the more samples will be taken and therefore the more accurate the digital representation of the sound will be.

The sampling resolution is the accuracy or fineness of the measuring scale. This is quoted in bits and the more bits you store the data in, the more accurate the result. CDs use a sampling rate of 44.1KHz with 16-bit resolution and this is the standard most DTD systems use (sound card permitting) and most users will want to use.

therefore create a large number of different, quite precise, effects. However, it would be rather time consuming to have to adjust all the settings each time you want a particular effect, so Wave uses a system of Presets which are just that – a particular set of parameters applied to a tool. You can create and save up to 50 presets for each tool and the program comes with well over 100 presets already assembled.

Some of the tools can take quite a long time to process a file and you could be left twiddling your thumbs for several minutes, especially if the file is of any length. You also need to be careful how much effect you apply. The algorithms are good but over-processing can introduce noise or distortion to a file.

Wave has several customisation options. You can alter the cursor blink speed and change the colours of the various areas of the program, although I personally think the default colours have a nice hi-tech feel to them and they are certainly good to work with. Finally, it's worth mentioning that Wave comes with a useful little CD Player utility which can be made to sit on top of your current window. You can flip from track to track but you can't move to a position halfway through a track as you may well want to do if you are recording from a CD (having paid any due MCPS rights, of course).

n use, Wave works extremely well. It makes it easy to chop up and put back together an audio track, insert samples, process areas of the waveform and generally play fast and >



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... and these are the Reverb parameters.



Collections of settings can be saved as Presets and Wave comes with over 100.



You can customise a large number of Wave's colour settings.

channels is pointless but inverting one can result in an interesting stereo enhancement

DC Offset: adds a DC offset (zero frequency component) to the soundfile, effectively shifting the central horizontal line in the waveform display up or down in relation to the sample. Used primarily to fix an improperly calibrated DAC (Digital-Audio-Converter)

Time Compress/Expand: A powerful function which will stretch or compress a sample, effectively altering its length without changing its pitch

Auto Stutter: a weird one – chops the area into a user-defined number of regions and inserts blank space between them

Distort: applies digital distortion – usually after you've just done your best to avoid it!

Flange: creates a whooshing effect

Digital Delay: creates delays ranging from 1 to 2000 milliseconds

Reverb: you do know what this is, don't you?

Speed Up/Slow Down: alters the speed (and the pitch) of the selected area

Normalize: scales the gain or volume level to make the sample as loud as possible



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Wave can produce the famous FFT mountains display.

Ioose with whatever audio signals you can get onto your hard disk. However, although data is recorded digitally, Wave is very much a linear recording device like a traditional tape recorder. For example, it has no looping points and there is no system of cues which are used by some other DTD systems. Cues, of course, demand a degree of processing power from the computer and a certain level of hard disk performance as the program may have to read and play quickly in succession, data situated in several different places on the disk. On top of that, some DTD programs apply effects in real time which is a further drain upon the system. For serious digital recording, cues are certainly the most flexible editing method and they also preserve the integrity of the file as editing is non-destructive. But Wave will work with a fairly low-end system and it doesn't cost an arm and a leg so you have to take that into account.

Another area which may concern potential users is synchronisation. Although Wave can display time in SMPTE format or beats, it has no direct MIDI or SMPTE synchronisation facility. You cannot, therefore, create a MIDI backing track, play it back and use Wave to record the vocals. Well you could, but after the recording there is no simple way to synchronise the two programs.

To get these sort of facilities you'll need a more heavyweight program such as SAW which we'll be looking at in *MT* very soon. Look upon Wave as a stereo audio tape machine with vastly superior editing facilities and you won't



Wave can export a file in different sample formats and with different sample rates and resolutions.

go far wrong. Of course, it's rather more than a tape recorder substitute; certainly, its editing facilities make it a good choice for the creation of soundtracks for multimedia work, for example, or the production of specialised sound effects.

The manual is very friendly with a sprinkling of humour,

Sample file formats

Wave uses Windows' standard WAV file format as a default, but the program can load and save several other sample formats:

Microsoft WAV SoundStage SFI Creative Labs VOC SampleVision SMP Raw PCM 8-bit mono Raw PCM 8-bit stereo Raw PCM 16-bit mono Raw PCM 16-bit stereo Microsoft ADPCM WAV

The last format is a compressed data format, although the manual makes no further reference to it. The program doesn't directly support popular sample formats on other computers such as AIFF, although for most users this won't be a major consideration.



You can zoom in on individual samples and edit them with the pencil tool.

although apart from a few introductory sections, it's more a reference guide than a tutorial. It includes an introduction to sampling, a section of recording hints and it has a reasonable index. The program also has an excellent on-line Help system.

There are one or two 't's to cross and 'i's to dot – but nothing major. The manual is aware of shortcomings in some areas and promises a few enhancements in future updates. I've been using Wave for testing sound cards (see feature in our April issue). It's flexible, it works extremely well and it's infinitely better than Windows' recording devices. For pure digital recording it's an excellent program. ●

THE	LAST WORD
Ease of use	Very graphic, highly mouse-orlentated.
Originality	Hardly original but a nice implementation.
Value for money	A great linear DTD edit program at the price.
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Roland

### Vintage Sounds board

for the JV series





A wealth of classic analogue synth sounds on a small expansion card? That'll do nicely. Review by Andrew Jones

hese days, many synthesiser users, when questioned about the relative merits of today's digital technology, will fall to the floor weeping with nostalgia. They'll remember the good old days when men were men, when you could have a good night out for less than a shilling, the population lived on bread and dripping and synths were *analogue* synths.

You too may yearn for that classic warm sound and real time control found on early keyboards, or you may be quite happy with your digital synth and its modern spec and vast array of presets. Whatever your stance there's no doubt that analogue sounds have again become an integral part of contemporary music, and prices for secondhand classic synths are soaring.

Part of the reason for this is that modern digital synths are considered by many as 'thin'-sounding, rather bland and compared to analogue synths, difficult to use. This may well be true, but one can't ignore the 'good old days' factor which also comes into play in this as in so many other fields. Nostalgia and rarity value make for a powerful combination in a world of mass production and ready availability. Certainly, manufacturers have begun, belatedly perhaps, to realise the value of including a few classic sounds from their back catalogues on the latest machines: Not least amongst these are Roland whose Jupiter, Juno and 808 sounds have been used extensively in recent years. Now however, they've taken things quite a bit further and released an expansion board filled with vintage synth sounds for their popular JV series (80, 880, 90 and 1000) and the JD990 synthesisers.

I tested the Vintage Sounds board using a JV90 and found the fitting procedure a perfectly straightforward task. You simply remove a small panel and then slot it into a socket supplied, rotating some special screws which click into place when positioned correctly. Auditioning the sounds is simply a matter of going to the card bank on the keyboard and stepping through each one using the bank and number buttons. There are an impressive 255 sounds for the JV series and a further 255 for the JD990 (510 in all). Included are sounds from classic Roland synths like the Juno 6, D50 and SH101 as well as from other manufacturers' keyboards like the ARP 2600, Moog and Rhodes.

Don't expect any acoustic sounds like piano or guitar; what you get here are the sounds of synthesiser yesteryear and some weird and downright wonderful noises thrown in.

Bank A contains some shimmering examples of the latter and I found it quite hard to plod through them all without reaching for the sequencer to record some compositions. Quirky and offthe-wall are just two of the words that come to mind. In many cases, you don't get the original 'raw' analogue sound but combinations of up to four which produce programs with delays, pans or simply non descript effects that rise and fall as long as the note is pressed. Swooping, massive pads stand alongside unusual brass stabs and bells and the first half of Bank B continues in the same vein.

It's actually very difficult to generalise with a soundcard like this and say you'll find this kind of sound here and that kind of sound there. Roland seem to have thrown in every kind of sound in every area. But it can be said that the latter half of Bank B concentrates on pads, strings and choirs while the first half of C is where you'll find the rawer analogue lead sounds with examples from the Minimoog and Jupiter 8 among others. The second half of Bank C is where the bass sounds are to be found. These cover all areas: punchy technos, fat Moogs, acidy squeals and subsonic booms.

Frankly, I find myself hesitating to recommend the Vintage Sounds card from Roland. Many of the sounds are so good

I wouldn't want everyone else to start using them. But professional integrity forces the truth out and I can only conclude that there are few criticisms that can be made of the card. It will appeal mainly to those after odd-ball and classic sounds and the dance/trance fraternity who may find that actually owning those classic old analogue synths is no longer the necessity it once was.

Lovers of that classic synthesiser sound may well have already been tempted by the E-mu Vintage Keys expander. If you are in this category and already own a JV series synth, the Vintage Sounds card – at around  $\pounds 600$  less than the E-mu module – is quite simply a must.

If you are in the market for a classic synth, then you could well fork out a fortune, even for just one model. For the cost of a JV synth plus Vintage sounds, you get the best of a bunch on one card, easy access to all and no fiddling with knobs to program each sound. Analogue anoraks take note, digital can sound good after all. ●

	LAST WORD
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#### Connectix



## **RAM Doubler**

Twice the effective RAM at a fraction of the cost – that's the promise of this new utility for the Mac. Does it deliver? Ian Waugh plays double or quits.

ven the name 'RAM Doubler' has got to make it one of the most tempting purchases ever. Double your RAM, Mister? You bet!

Of course there's a catch – or at least a few caveats – but the program does actually have the effect of doing what it says it will. I have chosen my words carefully – read on...

You can't physically double your RAM without adding more RAM chips. You can make your Mac think it has more RAM by switching on Virtual Memory which uses the hard disk as a storage area. RAM Doubler does neither of these. It basically uses your RAM more efficiently. When you load a few applications, each one reserves a portion of memory for itself – even though it may not all be used. Your word processor, for example, may reserve 2Mb when it loads, but if you're only typing a short note, most of the reserved RAM will be unused.

Constant loading and quitting of applications can result in fragmented memory, much like a hard disk becomes fragmented by constant saving and deletion of files. RAM Doubler optimises the RAM which is not being used so you can load additional applications. It may also occasionally use your hard disk – although this is most common if you have less than 8Mb of RAM.

RAM Doubler will not work with the Mac's Virtual Memory, although it is fully 32-bit compatible. Some older programs may not be 32-bit clean which could give rise to system errors or crashes. If you rely on one which causes a problem you can probably get an upgrade from the supplier. The Shareware program Check 32 will test programs for 32-bit compatibility.

The Mac's RAM Disk is allocated by the computer and so is not available for doubling. There are a few hardware devices



Before RAM Double, About This Macintosh tells it like it is...

which Doubler is not compatible with, too, such as some accelerators and special hard drive configurations. If you've got something weird contact your supplier or Computers



#### After installing RAM Doubler, the amount of 'free' memory has... doubled!

Unlimited before buying the program. RAM Doubler works with all Macs which use a 68030 or 68040 chip. You must have at least 4Mb of RAM to start with and if you have less than 8Mb then you also need a hard disk (though there can't be many Mac owners without a hard disk these days!).

Because RAM Doubler is, obviously, doing a few calculations behind the scenes you may notice a very slight drop in performance on slower Macs. I must confess I didn't have any speed problems, but then I was using a Quadra. Generally, however, I'd suggest that the benefits outweigh the occasional time lag.

Because of the way that RAM Doubler works, if you only ever run one program at a time it may not give you much of an advantage. If you want to edit single, large sample files, you'll still get an Out Of Memory error. RAM Doubler is most useful for people who want to have several applications open at once. If you would like use your sequencer while still having instant access to three, four or more other applications but don't have enough RAM to load them all, Doubler is for you. ●

тне	LAST WORD
Ease of use	Completely automatic and transparent.
Originality	A new one on me.
Value for money	Good value for multi-application users.
Star quality	Another innovation pioneered on the Mac.
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#### NJD

# REVLEW

### IQ-MX80 intelligent lighting controller & IQ-250 robo-lights

Intelligent controllers, robot lights – isn't it time you had a little help on stage? Ian Masterson shows you how...



ack in the August '93 issue of MT, we looked at NJD's IQ-250*ff* intelligent lighting system, together with the IQ-MX40 controller. While there was little doubt about the literally dazzling effects these particular 'robot lights' could throw on your live performance, the simple control structure of the IQ-MX40 unit may have seemed a tad limiting for the musician/DJ/multimedia experimenter demanding a more 'detailed' level of control over their lighting rig. NJD were all too aware of the non-programmable limitations imposed by the IQ-MX40, and have responded by producing a vastly more sophisticated box of tricks. Along the way they also saw

fit to substantially overhaul the IQ-250s (see box out), bringing this already brilliant lighting system into new territory altogether – while retaining their extremely competitive pricing.

The IQ-MX80 comes packaged as a rack-mounting, flat black box with a front panel composed mainly of touchsensitive switches. This is already good news for those demanding instant access to their lighting; touch pads like these are by far the most instantaneous method of controlling any performance technology. A rather cunning joystick is provided for programming and real-time control of the pan



Time may stand still for no man, but it positively races forward in the lighting industry. Since we first looked at the IQ-250 intelligent lanterns, NJD have had the unit on their workbenches and given it a substantial work over.

For a start, the new IQs are built around a lamp effectively three times as bright as the original units; the rated brilliance is now quoted as 1.5 million candela, compared to the previous 0.5 million candela. This makes all the colours significantly better defined – and the pure white beam becomes much sharper. The MkIIs can also be 'blacked out', which is a real plus point – previously the only way of shutting off the beams was to pull the mains plug. Focusing is now externally adjustable via a moveable lens; a heat-absorbing filter has been included to protect the dichroic colours and gobos; a new switch allows you extend lamp life by up to four times as much by reducing the input voltage slightly and motor protection circuitry has also been added.

and tilt of the lamps, and an LED readout displays which memory program you are currently running, recalling or editing.

Connections to the unit are kept to the bare minimum; a captive mains lead provides power, a 1/4" mono jack provides audio input for sound-to-light operation (either 0dBm from a mixer, or speaker level from an amp), and another 1/4" stereo jack carries the DMX control signals which allow the IQ-MX80 to communicate with either the IQ-250 lights, or the larger IQ-500s. Each unit connected to the DMX buss is given an individual address, allowing the lights to be controlled independently. Up to 16 separate channels of intelligent lighting may be controlled on a single IQ desk.

When power is first applied to the IQ-MX80, it enters Manual mode, in which the user has direct control over any number of the lanterns connected. It's worth pointing out at this stage that although the IQ-MX80 has separate touch pads for selecting the colour and gobo of a lantern independently, these in fact only work correctly with the large IQ-500 lanterns. The smaller IQ-250s do not allow independent colour and gobo selection; when you select a star shaped filter, it always appears in yellow, as the colours are fixed to each gobo. (Considering the low price of these scans, this doesn't seem unreasonable - you'd have to fork out several hundred more notes per lantern to have the luxury of assigning any colour to any gobo.) So, when using IQ-250s, the function of the gobo selection pads on the IQ-MX80 is merely to switch between 'lantern on' and 'blackout' - the actual colour/gobo selection is performed using only the colour touch pads.

Once you've chosen your colour and pretty shape, the next step is to select the lanterns you wish this setup to be assigned to. This is accomplished by simply punching the required lantern number touch pad – from 1-16. Once a lantern, or group of lanterns, are selected in this way, their pan and tilt (the direction of the beam) can be controlled via the joystick. This means that you can select completely different colours/gobos for each lantern, and leave certain lanterns static while 'followspotting' with others. A strobe-like effect can even be achieved by holding the 'blackout' and '•' keys down together. Clever stuff.

However, before you get carried away spinning colours and shapes across your audience and blinding various members of your band with over-enthusiastic followspotting, it's worth investigating the comprehensive programming facilities offered by this desk. 20 program memories are provided on the IQ-MX80; the first ten contain factory preset programs, which cannot be overwritten, while 11-20 are available for your own creations. Programs consist of up to 250 separate steps, or events, and can be run either in soundto-light mode (switching through steps on a bass beat), in free-run mode according to the speed set on a dedicated rotary, or in single-step mode, where the user manually switches between steps. Programs can also be run sequentially by activating run mode; you can even go directly to a chosen program by holding down the 'Prog' key and pressing lantern number pad that corresponds to your desired program. This may seem rather complex when explained on the page, but in practise things couldn't be simpler. The key component in the IQ-MX80's design appears to be logic...

Although the factory presets are extremely good, the dedicated lighting designer will undoubtedly wish to discover how to write and store their own programs. Once again, this revolves around accessing and creating individual steps, which compose complete programs. All you have to do, after entering write mode, is set up the position and colour/gobo for each lantern using the same technique as in manual mode. Then, simply press 'Enter' and the setup is stored in the selected step number. Move up to the next step, and repeat as required, changing your setup as you progress. Programs can be as involved, or as simple, as you wish. And should the idea of entering individual steps seem too laborious, set the required program running in free time and simply twiddle the joystick or change colours as and when the whim takes you.

Of course, as with any lighting product, the acid test only comes when the units in question are 'field tested'. Cue a sweaty, buzzing dancefloor of some 700 writhing bodies, a pounding house beat and a blackout. Cue the first program I had written into the IQ-MX80 – four IQ-250's spin round to produce a blinding white light that swoops down from the four corners of the ceiling into the centre of the floor. The beams then switch to blue, red and back to white, before sweeping sideways to a thundering kick drum.

I said before that the IQ-250 system is one of the most stunning, versatile, cost-effective intelligent lighting systems on the market, and the IQ-MX80 only serves to enhance this further. True, there are certain limitations imposed by the budget nature of the gear – such as the interdependent colours and gobos – but NJD still manage to cram a hell of a lot of features into these units. Similarly, MIDI control is not available (yet!) on the MX80, but if you like what you see here, you could always opt for the larger 'Merlin' console, which carries full MIDI implementation.

I would recommend that the minimum configuration needed to get a real idea of the effect that an IQ system can have on your performance is four lantern heads and a single controller; having said that, eight units would really blow your crowd away. Or how abour twelve? The beauty of the IQ system is that the cost-effective pricing makes truly creative lighting affordable to anyone who is serious about their live work. It also means future expansion is more than attainable. NJD are continuously refining and upgrading their designs, but it's hard to see how this system has any room for improvement.

тне	LAST WORD
Ease of use	One glance at the manual and you're away.
Originality	Neat repackaging of existing technology.
Value for money	Superb.
Star quality	Massive potential for the live artist.
Price	IQ-MX80 £292.58 • IQ-250 MkII £374.83 (both inc. VAT)
More from	NJD Electronics • Ascot Industrial Estate • Lenton Street • Sandiacre • Nottingham NG10 SDJ • Tel: 0602 394122 • Fax: 0602 490453

### SHORT CUTS

#### MICROSOFT

#### Music Multimedia

#### software

While Peter Gabriel, Todd Rundgren, et al have been busy doing their thing on multimedia CD-ROM for the rock and pop industry – and jolly interesting it is, too – Microsoft have already released several multimedia CDs of classical music. There are three titles to play with – Musical Instruments, Multimedia Beethoven: The Ninth Symphony which includes the 'Ode To Joy' popularised in A Clockwork Orange, and Multimedia Mozart: The Dissonant Quartet.

The Musical Instruments CD contains information on over 200 instruments from all around the world arranged into four areas of access. Families of



Instruments tells you about the five basic instrument groups – brass, strings, woodwind, keyboards and percussion. The A-Z of Instruments lets you access the instruments alphabetically – there's even a section on synthesisers and guitars. In Instruments of the World you can pick an area of the globe and see which instruments are used there.

Musical Ensembles contains seven families of instruments which are often used together – orchestras, wind bands, jazz bands, steel bands, gamelans, chamber groups and rock bands. The latter is divided into four sub-groups – rock 'n' roll, heavy metal, soft rock and pop.

The program describes the different parts of the instruments and there are over 1500 samples so you can hear what they sound like. There are also over 500 high quality photos – a fascinating collection which you could easily spend hours looking through.

The Beethoven CD has five sections. The Pocket Guide lists major sections in each of the four movements and you click on a particular section to play it. Beethoven's World describes the times in which Beethoven lived and details the influences which shaped his music. The Art of Listening explains basic musical concepts and is illustrated with extracts from the Ninth Symphony.

A Close Reading plays the entire symphony allowing you to start and stop whenever you like. As the music plays, the text on the page changes to describe what you are hearing. You can click on it to see examples of phrases and motifs in notation format and play them from the CD or through a sound card. The Ninth Game is a question-and-answer game about Beethoven's life and his Ninth Symphony. The Mozart title works in a similar way but has more chapters and subheadings. It includes a section on the instruments of the quartet and a Mozart Bibliology.

These CD-ROMs are an excellent example of how an interactive medium can not only entertain but inform and educate. I can't think of any way in which a listener could acquire the same amount of information and the same kind of detailed explanation (whilst the music is playing!) other than by personal tutor. The CD format means you can quickly go back to a passage, see the notation, take a broader look at the musical form and so on.



Microsoft's Musical Instruments CD divides rock bands into five categories.



The Musical Instruments CD even includes synthesisers and samplers.



Multimedia Beethoven has five sections easily accessed by a click of the mouse.



Multimedia Mozart gives you a step-by step account of the musical development of The Dissonant Quartet.

Ludwig's Ninth, for example, is not my favourite Beethoven work, but the CD certainly let me get more from it than I thought possible, and with the understanding came a great deal of additional enjoyment. Yes, it's a different format to *Xplora 1* – it may not let you interact with the music, but it does give you a much deeper insight into it. That said, I do feel an opportunity has been missed by not including score for the two music CDs. This would have been an incredible opportunity to marry the notation with



the music. Real shame, that.

It would be interesting to see the same methodology applied to the likes of rock and pop, although part of the reason for the success of these titles is that classical music is more involved and complex and follows a more detailed process of development. But perhaps modern music would be a greater challenge and more ephemeral. Just a thought.

If you're at all interested in any of the music on these CDs and would like to get more out of listening to them, I can't recommend them too highly. *Ian Waugh* 

Price: Musical Instruments \$50 • Multimedia Beethoven \$50 • Multimedia Mozart \$50

More from: Microsoft • Microsoft Place • Winnersh Triangle • Wokingham • Berskshire RG11 5TP • Tel: 0734 270001 • Fax: 0734 270002

#### QUE

#### 1994 Computer Hardware Buyer's Guide

#### by Bud Smith

We regularly receive Grief letters from readers wanting to buy a computer. The trouble is, the comments we pass on are often out of date before they get into print. OK, perhaps not, but computer technology changes so fast... well, you get the idea. It's also such a vast subject that a few paragraphs can do no more than scratch the surface.

Que's 1994 Computer Hardware Buyer's Guide is an attempt to bridge the knowledge gap. It concentrates on PCs and Macs – though more on PCs than Macs – and assumes virtually no prior computing experience.

It presents chapters outlining the benefits of using a computer, how to choose a system to suit you, selecting a manufacturer, putting a system together and so on. There are sections on monitors, printers, CD-ROM drives and modems, plus several pages of tables listing scores of computers and peripherals.

The list of Macs is hopelessly out of date, thanks to Apple's "it's Tuesday let's rehash our range" policy, and the book is American, so the prices are in dollars. In any case, you could only use these as comparative guide anyway, as computer prices do, literally, change every month. With that in mind you



must make allowances for some of the author's comments such as buying a cheap PC to run DOS if you're on a budget. In today's market, if you're looking at PCs I would honestly find it difficult to recommend anything less than a 486. If you can't afford that then you need to rethink you needs, your budget or perhaps look at a different type of computer.

For a book, the Guide is reasonably up-to-date. It even mentions the PowerPC, the Pentium and the PCI buss, although not in any detail, and it touches on multimedia. You'll still need to buy a few dedicated computer magazines to top up and update your knowledge but it's an excellent source of information and advice.

Yes, we know it's a minefield out there. The Computer Hardware Buyer's Guide is the best hard hat and steeltipped boots you'll find. Ian Waugh

Price: £15.45

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#### AMG

#### Global Trance Mission

#### sample CDs

Nick Fisher and Garry Hughes are on a Mission. In fact, they're on a Global Mission to, er... trance. Thankfully, somewhere along the way, they've decided to jettison a vast proportion of their personal sample libraries into the waiting hands of AMG. The result, Global Trance Mission Capsules 1 and 2 form one of the most desirable sample collections of its type – certainly one of the best I've ever heard.

By 'best' I'm not referring simply to quantity – although the collection had to be split across two CDs, such was it size – or indeed, variety (the sounds are overwhelmingly analogue). No, I'm referring to the sheer *usefulness* of the samples included here, which when not acting as inspiration for new tracks, should slot into existing ones effortlessly.

The two volumes – or 'Capsules' as AMG prefer to call them – can be bought individually for the usual fifty quid each, or together for a reduced price of of £80. Should you decide to buy one volume and then add a second at a later date, the additional CD will cost you only £35. The samples themselves are split equally across the two CDs; for example, rather than Capsule 1 featuring all the synth loops and Capsule 2 all the drum loops, a cross-section of both is included on each volume.

As I hinted above, Global Trance Mission takes the bulk of its inspiration from analogue synths and effects processing. Catagories on each CD include analogue sound effects, synth sequences (similar to those found on Vince Clark's sample CD collection), old beatbox loops and hits, basses, ambient pads, strange dialogue and a smattering of ethnic loops and chants. The data sections at the end >





of each disk (compatible with Akai \$1000 format on Capsule 1 and \$3000 on Capsule 2) contain a host of additional delights, not presented in audio format, such as choirs, Hammond organs, pianos and more pads. Now is the time to buy that digital interface, methinks...

Reading through the above list, you may be inclined to think that Global Trance Mission's selection of sounds are similar to those present on a host of other current CD collections. Not so. Ingenuity, quality and length are just three of the criteria that sets GTM well apart from the competition. For instance, rather than presenting a couple of tracks of the 'usual' drum loops, Fisher and Hughes have put their beats through an eclectic assortment of effects processors, including a Roland Space Echo, Korg Vocoder and Eventide Ultra Harmoniser. The result? Some of the strangest, funkiest and most refreshingly different rhythms ever to grace a sample CD.

Of the non-rhythmic sounds – quite a few have been treated with reverb, and those that haven't would almost certainly benefit from a touch of processing. More importantly, its pleasing to see samples recorded over a decent length of time, allowing synth phrases to evolve and ambient effects to swirl properly between speakers before being cut off.

I particularly liked the extended dialogue sections, too; rather than tedious banks of "Oohs", "Wows!" and "Yeahs!", you are given entire phrases from which to chose the words you need. Sure, it can eat up sample memory, but properly spliced together, you should be able to produce something more engaging than the usual sample CD speech breaks. Also worth mentioning are the percussion sections: despite being familiar with a least thirty current sample CD collections, I can honestly say there are virtually no sounds here I recognised. This must be something to do with Fisher and Hughes' mysterious 'modification' of their instruments.

As you might imagine, the samples are primarily intended for the dance floor, but given that the word 'dance' has become a catch-all terms for styles as disparate as techno, ragga, house, ambient etc, this isn't the restriction it once might have been. The two demo songs give you an idea of how the swirling pads (Snake Breath 2), chugging basses (Crossmodgrunge), arabic chants and thundering sequence riffs (Hypnotherapy) can gel together - but your own experiments should yield equally fruitful results. A lot of care has been put into the programming of this CD - and it shows. The sounds here are destined to end up in some of the most crucial cuts of the next twelve months get them while they're hot. Mark Harrison G

Price: Single Capsule £49.95; both Capsules £80; additional Capule £35. All prices include VAT.

More From: AMG • PO Box 67 • Farnham • Surrey 6U9 8YR • Tel: 0252 717333



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Facing fax this month: Mickey Mann, technical support to Orbital, Meat Beat Manifesto and Aphex Twin, and founder member of tech trio Pressure Of Speech.

**1** What was the first synthesiser you ever played? "A Sequential Six Trak I got in San Francisco for \$100. It has a transparent/industrial quality I've yet to find on another synth. You can have it overwhelmingly loud in a track, but it won't cloud even subtle background washes."

**2** Who is your favourite musical pioneer? "Brian Eno. Some of the places he takes you will never be reached again, I don't think – Ambient 4 On Land particularly."

**3** What's the difference between Doop and Brian Eno? "They are at opposite extremes of the entire artistic/musical spectrum."

**4** What's the difference between

analogue and digital? "Analogue has a life of its own – digital has always seemed like programmed life/existence."

**5** Playing live: why bother? "A different experience, and we need as much as we can get before we are not allowed, or prevented in some way."

**6** Which record says most to you about music technology? "There are two: Dimensional Holofonic Sound's House Of God EP; and Orbital's Mutations EP. Both took a seriously professional and creative look at new technology, <u>and sound like someone had a good time. Aural curtains.</u>"

**7** What does the phrase 'multimedia' mean to you?

#### Pressure gauge

Pressure Of Speech – a trio consisting of Mickey Mann, lighting man Luke Losey and DJ Stika – have grown out of the bouyant post-*Synergy* techno-dance scene and exploit the rougher side of trancey electronics to evoke a darker, more threatening vision of society. You can dance to it, but in the world of POS 'getting out of your head' is more likely to mean going insane than happy escapism.

A debut album Art Of The State is out now on North/South Records.

"Hear/See/Speak – just like those brass monkeys everyone's grandmothers had."

**8** How do you react to hearing a sample of your music on someone else's record? "Yet to happen. Maybe I'm only listening to the overall effect."

**9** What is the next piece of equipment you would like to buy?

"A Roland S760. My S1000 don't cut it on several fronts. Or maybe one of the EMS synths – they're lovely."

**10** Will technology become invisible? "They will, hopefully, come up with an answer to the selfknot-tying jack-to-jack lead sometime before I die. If technology does become invisible, I'm sure Laurie Anderson will be there or thereabouts."





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Demos reviewed by Phil Ward

#### DARE IS MOVING TO THE MIX

IMPORTANT ANNOUNCEMENT: As you should know by now, MT is evolving into a bigger, better title - The Mix. If you have sent a tape to Dare, or if you intend to send a tape to Dare, it will be thrown, literally, into The Mix. In other words, the concise and authoritative demo reviews you have grown to love and respect on these pages will continue unabated in our new-look mag. Same address - just keep them coming. And remember: tapes already submitted will be first in the queue.



#### Journeyman

sounds: Gem S2; Akai S950 (expanded); sequencing: Atari 1040STE running Breakthru; recording: Seck 24:2; Aiwa DAT; Kenwood cassette; Alesis Microverb II; Boss delay; "cheap" flanger

#### Teknik

sounds: Roland D-50; E-mu Vintage Keys; Boss DR-660; sequencing: Atari 1040STE running Cubase V3.0; recording: RAM Pico 16:2; Sony DTC-690 DAT

Well, two to watch, actually. I've lumped them together because, in the time that I've been reviewing demos in MT, they've come to represent the best, in my view, of what this kind of practical home electronics is all about. Journeyman is in fact Woob (aka Paul Frankland) in partnership with Colin Waterton; whilst Teknik's Jonathan Russell should be a household name among MT readers by now. By coincidence, they both have new tapes in this month's mailbag; and by no coincidence at all, they both continue to raise their own high standards.

Consider the equipment lists: two or three sound sources; Atari sequencing; no multitracking; good sturdy mixers directing the traffic of noise onto DAT. It's become a classic modus operandi for most readers, as familiar in its own way as the old guitar, bass and drums format of our forefathers. And the styles of music created both with and by these techniques are living and breathing among us right now. Journeyman, as Woob followers will understand, is without doubt ambient - supple and lithe; Teknik is, without doubt, techno finely honed electronic sketches. The generation of synthetic sounds and their manipulation through the sieve of the mixer en route from sequencer to DAT has become the new musical art form of recent years, and I've got stacks of tapes in the MT office to prove it. 3001 by Journeyman and City by Teknik are simply two of the best.

Contact (Journeyman): Paul Frankland, 0252 733256 (Surrey)

Contact (Teknik): Jonathan Russell, 0273 464142 (West Sussex)

dasein

fragments

#### Dasein

sounds: Korg Wavestation EX, S3; Waldorf Microwave; Oberheim Matrix 1000; E-mu Vintage Keys, Procussion; Ensonig DP4; sequencing: one of the keyboards?; recording: Tascam 238 8-



What's missing? Yep, a sampler. That's because Dasein defiantly believe in "creative songwriting, lyrical content and sound creation", cited somewhat dubiously as a reason for not having one. Instead, the impressive bank of synths is used to fire up some tough, industrial sounds. A throaty bass underpins some steamrolling polemic about screaming, shouting and bondage (what fun they have in these pop groups), throughout a clear and powerful recording. But why not sample? Sampling doesn't stop Die Krupps from coming up with 'creative' songs and sounds, and there's more than a hint of Metal Machine Music about Dasein.

All the same, there's a seemingly endless supply of industrial acts from Canada, from a mould impeccably cast by Front Line Assembly. Over here, there's some dispute about the health of the industrial scene. The Empty Quarter (purveyors of a quarterly booklet and regular compilation CDs covering the genre) have already pronounced it dead; but FLA's label Third Mind Records continue to monitor at least the Canadian output with an eye for the UK market. Keep an eye on Dasein ...

Contact: Dasein Information Service, 859 Dundas St.W, Box 16007, Toronto ON, M6J 3W2, Canada

BOJECT

FUTURE

#### **Project Future**

sounds: Korg Poly 800 MkI, Poly 800 MkII; Kawai K4r, K1, R50; Akai S950, VX90; Roland SH101 (x 2), TR707, TR606, Juno 106, R8M:

sequencing: Atari 1040STFM running Cubase V2.0; recording: Sony DAT; Yamaha R100; ART multiverb LT; Shure SM24 microphone; unspecified mixer

A 2-stage recording, starting off in one home studio and progressing to another, where Project Future's Al Ferrier pooled resources with a former band colleague Alan Platten. Having Alan produce and engineer the tracks enabled Al to concentrate on modifying the sounds and sequences he had generated at home in the light of a fresh environment - another pair of ears, and all that. If you're lucky enough to be

able to do this with someone you trust, it nearly always helps.

In this instance, the vintage Roland drum machines form the basis of some tidy ambience, with an acknowledged debt to Ultramarine. Three instrumental tracks are followed somewhat disappointingly by a song, 'Dangerous Game', which contrasts tellingly with Robert Wyatt's vocal augmentations to Ultramarine's last album United Kingdoms. Recalling more of Marc Almond's frail crooning, 'Dangerous Game' upsets the equilibrium of the Project Future sound - which is otherwise minimal and precise, as most enjoyably on 'Santa Alucia'. I hope this latter track represents the direction for the future, in whoever's studio.

Contact: Al Ferrier c/o MT.

#### Squish

sounds: Yamaha TG33; sequencing: Yamaha QY10; recording: straight to Aiwa cassette from the TG33's phono outs

20-year old Darren Cleare has the simplest of setups. Without a mixer, he is unable even to utilise his Korg MS20. Nevertheless, he shows a propensity for Vince Clarke's curly, analogue details, and the separate parts are well thought out. Trouble is, the tracks quickly break down into vague junketings. There are some awkward jumps from one section to the next, like the antithesis of good DJ remixing. This is no doubt a result of having no mixer: Darren has to think serially about each phase of a composition, and has no way of blending parts from different sound sources in

a way that allows measured segues.

The technique of mixing multiple MIDI tracks to stereo invites a multilinear awareness of interlocking parts, and Darren's ideas deserve more space. An analogue multitrack is no use to him at all; committing to tape is noisy and closes down the options. Capturing the mix 'performance' is paramount, so a DAT machine is a more sensible investment. You can then push the bottom end with less

fear of distortion and a healthy signal-to-noise ratio. As for Squish's stylistic merits – 9.9 for artistic impression.

Contact: Darren Cleare, 34 Millwrights, Tiptree, Essex CO5 0LQ

#### DEMOcracy

#### **Big Fun**

Ethnic and electronic sequences from Down Under, and a former rock and jazz drummer who has

discovered the joys of technology. "Having the K2000 and Creator has allowed me the freedom to write the things I hear easily and almost instantly," says Peter Dehlsen – and when did you last hear a drummer say that? Contact: Peter Dehlsen, (03) 066 802443 (Australia)



Procession It's easy to say 'early New Order' when presented with these doomy songs. It's much harder to pinpoint what's missing, even though Procession's apparent local reputation is thoroughly deserved. Spacious textures grafted onto a brooding band. Contact: Andy, APR Recordings, 0429 278362 (Cleveland)

#### 08

Superb, trancey dub and loops a-go-go. Plus, crucially, the right weight in all the right places. Dammit, yes, one to watch as well. MT readers are great! More! Contact: Os, 0734 773844 (day)/0734 782466 (night) (Berkshire)

#### Mentufacturer

Other than possessing a torturous name, this lot carry a nice line in Nailsy technogrunge. "Technology is not necessarily your friend," warns Philip Jones, meaning unscrupulous corporate exploitation thereof. No Luddite, our Phil... but some marvellous paranoia all the same.

MENTUFACTURER

TECHNOLOGY

HURTS

esu

Contact: not supplied

#### Colour Bolorac

Where do people get these dreadful names? Still, I admire the laziness in the sequencing here - 8- or 16-bar loops punched in and out during the mix (see comments under Journeyman ). By the way, guys, no one at MT is into mountain biking. Try Ralf Hütter, c/o Kling Klang Studios, Düsseldorf... Contact: Colour Bolorac, 0225 469871 (Bath)

#### **Jesus** Wept

Look, it's not all sequencers and MIDI, you know. Here's some big, dark guitars and plaintive vocals mixed in with the drum machine for a change – well, mixed all over the drum machine, really. An excellent recording, in which a battle seems to be underway between the progressive attitude of Seefeel and the comforting swirl of Hawkwind. Who will win? Contact: Adam Hodgson, 0727 865202 (St Albans)

#### Stephan Jawes

A slightly academic approach to ambient dub styles, generated in a 486 PC-based studio. Exhibiting flawless taste, both in his own music and others', Stephan paints a broad canvas, if a few risks short of a masterpiece. Lacking rhythmic weight, the mix is top heavy – even though individual sounds appeal.

Contact: Stephan, 081 974 9561 (Surrey)

#### Earthworw Sound Unit

An ebullient if cheap ravey splat, resplendent in samples from Nick Parks' *The Wrong Trousers* animation. I hadn't noticed, but Wallace goes on about his "techno trousers" from NASA. In a way, we're all wearing those, these days. Nice one, Julian. Contact: Julian B, 0602 421946



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I've recently started using a Yamaha TG300 sound module with Emagic's Notator Logic sequencing software for the Mac. The problem I have is that I can select sounds in different banks from the TG300's front panel but not over MIDI from the sequencer. I know how to send bank selects and program changes from Notator Logic, and I can call up different programs without any problem – but not different banks.

This is really annoying, because I want to use some of the TG300's Preset sounds multitimbrally, but I can't call up the right bank (bank 80) from Notator Logic. Help me out on this one and I'll buy MT forever! Matthew Jackson Coventry

Hope you can afford a lifelong subscription Matthew, because the answer is coming up! Basically, there are two things you need to do: ensure that Notator Logic transmits Bank Select commands in the right format, and find a way to get it to send Bank Select numbers beyond its default range of 0-62.

To get at bank 80 you need to be in GM-B mode on the TG300; if you haven't already done so, select 'Multi/Single' in the 300's Util menu and

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Figure 1: Transformer settings

highlight 'GM-B'. Now, although Yamaha don't say as much, GM-B is effectively Roland's GS Format - which it just so happens uses a different way of specifying the Bank Select command from that defined in the MIDI spec! GS Format uses a single MIDI controller code, controller 0, specifying a bank select range of 0-127, while the MIDI spec

uses two controllers, 0 and 32, for an over-the-top total of 16,384 banks, with controller 32 covering the 0-127 range!

Notator Logic can transmit Bank Select commands in both formats, but defaults to that specified by the MIDI spec. To select the GS way you must call up Logic's Environment window, create a Multi Instrument, doubleclick on its icon, and then select 'Control 0' for the Bank Message parameter in the resulting window.

To get around the problem of how to transmit Bank Select numbers higher than 62, you'll need to create a Transformer Object in the Environment window. Double-click on this Object and a window will pop up giving you the Transformer parameters. Set them as indicated in *Figure* 1. These settings tell Notator Logic to Transform controller 0 commands received on any MIDI channel by adding 65 to their data value. But why



#### Figure 2: Configuring the Environment

65? Well, if you wanted to select bank 127 (which is specified by GS Format as an MT32-compatible bank) you would need to add 65 to 62 (Logic's maximum Bank Select number). You can also limit Logic's Transform operation to a specific MIDI channel or a range of channels by setting the Cha Condition parameter accordingly.

So, with your Transform in place and the appropriate type of bank message selected, the next thing you need to do is configure your

Environment properly. Figure 2 shows you the proper arrangement: the Multi Instrument's output is routed to the Transformer, and the Transformer's output is then routed to the Modem Port (presuming that this is the port your MIDI interface is connected to). For the sake of clarity it's worth setting up a dedicated Environment Layer for these Objects, with the Modem Port defined as a Global Object so that it appears in all Layers.



You'll need to assign the Multi Instrument (or a Sub Instrument of the Figure 3: The Instrument window

Multi) to any sequencer tracks which are intended for playback on the TG300 – and, of course, make sure that you've ticked the Program box to enable patch- and bank-number transmission! *Figure 3* gives an example of how the Instrument box should look: here, the selected TG300 patch is number 4 in bank 80 (15 + 65), which is Rock Org. If the TG300 still isn't responding, make sure that its Receive Bank Select parameter is set to 'on' (often it's the most obvious things that can trip you up!).

Incidentally, the GM-A and GM-B Voice Lists in the TG300's Sound List & MIDI Data booklet are incomplete: both miss out bank 64, which contains RAM versions of the module's 32 Preset sounds. To use Presets which you've edited yourself you'll need to call up this bank; bank 80, on the other hand, contains the ROM (ie. unedited) versions of the Presets. Finally, to call up bank 64 you'll need to set the Transformer Object's Add value to 64 rather than 65, and select a bank number of 0 in the Instrument window. **ST** 

I've recently been playing with a Yamaha SY35 and I have the impression that it only differs from the SY22 in terms of polyphony (32 notes vs 16) and multitimbrality (16 parts vs 8). Do both instruments share the same AWM and FM element banks and if so, is it possible to exchange voices via SysEx? In other words, can I load a SY35 presets into the SY22 internal memory and have the same result as in the SY35? Henri Sizaret

Schwelbeck, Germany

PS: Can we have an 'A-Z of Digital', too?

To an extent, yes. The AWM samples in the two instruments are similar but not exactly the same. The SY35 has more and, according to Yamaha, they have been tweaked and upgraded. The drums are among the most noticeably different.

You can transfer voices via SysEx, but you must make sure that the samples are the same in both instruments. In other words, if you transfer a voice from the SY35 which uses a sample the SY22 does not have then obviously the resulting voice is going to be different. The SY35 also has a superior DSP chip which can have a marked difference on the sound.

There is no difference in polyphony- or multitimbrality. The instruments are both 16-note polyphonic and 8-part multitimbral. The polyphony is split between the AWM and FM voices so it's more a case of 8 AWM voices plus 8 FM voices (if you see what I mean). I'm sure you do. IW

As for the 'A-Z of Digital', leave it a few years 'til people are waxing lyrical about the joys of menu-driven programming and those classic FM panpipe sounds and we'll see what we can do... NL

Much as I appreciate your excellent A-Z of Analogue series and feel sure my query would be answered by the time you get to the Yamaha section, it does mean I'd have to wait an awful long time, so perhaps you could answer it for me now.

Basically, a friend of mine has an old Yamaha monosynth called a CS30 which has a really neat 8-step analogue sequencer built in. I'd like to buy one too, but am a bit confused by the model numbers. I believe there were two versions – the CS30 and the CS30L. Was the CS30L the one with the sequencer? Also, how much could I expect to pay for one of these machines?

At a conservative estimate, it'll be sometime next year before your reach 'Y' in the 'A-Z of Analogue' (there's Moog, Korg, Roland and Sequential Circuits to get through yet!) and I'm desparate to get hold of one. Jason Hughes Brighton

If no one minds, I'll answer this one – if only because the Yamaha CS30 was, in fact, the first synth I ever owned (if you don't count the home-made jobbies I cobbled together out of *Practical Electronics* circuits).

The CS30 was a great little machine, introduced at a time when synths were becoming much more playable as instruments (like the Arp Quadra), but still capable of generating all manor of sound effects (like the VSC3). It straddled both these areas well.

As I recall, the CS30 was the model with the onboard sequencer, the CS30L was the one without. Mine was a CS30 and 1 well remember some of the excellent effects I could produce with the sequencer. As regards cost; well they do seem to be rather thin on the ground, but I've spoken to a couple of dealers who have sold models in the last twelve months (both with sequencers) and they seem to be changing hands for around £150-£180 depending on condition. Your best bet would be to place a wanted ad in our readers ads section and see if that turns up anything, or contact the vintage synths dealers such as Music Control (0270 883779), Analogue Systems (0726 67836) or The Keyboard Corporation (051 707 0321).

Alternatively, if anyone out there has a CS30 with sequencer, drop us a line at the editorial address or call us (0353 665577) an we'll pass the message on. But this is strictly a one-off, for old time sake. Anyone else looking for gear will have to use 'Warehouse', I'm afraid. NL

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Erasure I Say I Say I Say (Mute)



Following naturally from 1991's Chorus and the subsequent Phantasmagorical world tour, episode three of Vince's adventures in analogue caps four years of revivalism and shows no sign of letting up. Here's an album that refines that approach with a capital 'R' – synths as pure as the driven white noise, songs even simpler and prettier than before. Only an angelic choir and the occasional flirting with a kind of switchedon baroque ('So The Story Goes') provides evidence of any new ingredients.

The secret of Erasure's success, if I may be so bold, lies in the happy collision of Vince Clarke's mastery of analogue sequences and his ability to write chord progressions that suit them. In this new collection of songs, every hook, line and tinker in the process of writing and arranging gels perfectly, such that synth lovers can appreciate the sounds without being irritated by the melodies, and everyone one else can enjoy the pop without being distracted by the twiddly bits. What we have here is an instant classic. PW

#### The Future Sound Of London Lifeforms (Virgin)

There's an air of compromise about this album. Sequences come and go in quick succession, as if there is insufficient room for all the ideas. Abstract and tantalisingly delicious phrases spin in and out of a complex weave, compressed into 19 different titles. Much of the image conveyed by Virgin in the promotion of their wilfully anonymous protogées is full of vague notions of new formats and new media, but in the meantime we have the same old machinery in place and a chart full of labelmates Enigma.

The truth is, this shouldn't be an album at all. It should be a CD-ROM. OK, people still need CDs for their cars, and cassettes for their Walkmans. But artists like FSOL, having been given the budget to follow their natural instincts into audio-visual R&D, should be given the groundbreaking marke-ting initiatives to go with it right now. Some sort of interactive film is promised, but to launch well researched. Both Toop and Eastley have artistic and literary credentials to get them past the most cerebral of bouncers, into the world created almost single-handedly by the personality of Brian Eno. This is a more tangible world, in which Mixmaster Morris and the Paris Bienalle co-exist, and in which every detail is captured by a documentary film crew from Channel 4.

As listening material, the ambience of *Buried Dreams* falls short of the extremes of John Cage or *musique concrete*, but some of the found sounds could still cause consternation in a crowded chill-out room after a few pints of cyber-tonic. Most appealing is the sheer range of sources, a mesh of tropical rainforest, handmade instruments, accidental electronics and the very mechanics of recording itself, recalling Jon



the soundtrack first is half-hearted. Unlike a movie soundtrack, each of the titles on *Lifeforms* is designed to be given its own folder in an interactive program and allowed to evolve at its own pace. Without that flexibility, you have an incomplete product, like *Tubular Bells* in mono or *Fantasia* in black and white. The dusty bunker that is FSOL's studio has spent wisely, but is being short-changed. PW

#### David Toop & Max Eastley Buried Dreams (Beyond)

A digital cut'n'paste soundtrack to an imaginary world – imaginary, but extremely

Hassell's Fourth World Music technopaganism. Best approached with caution, or at least an encyclopedia. PW


# on video

## William Latham

#### Organic Television

Billed as "a multi-screen video installation", Organic Television has been brightening up a corner of The Royal Festival Hall in London for the best part of April. A bank of 34 TV screens displays Latham's 'virtual sculptures' – 3D computer graphics to you and me – mutating into various organic forms to an ambient soundtrack composed by Michel Redolfi. Much as Wendy Carlos experiments with the computer's ability to extrapolate imaginary instruments from information about the structure of real ones, so Latham uses data pertaining to evolutionary change and molecular growth to prompt new forms.

But far from being rather dry biological speculations, the forms are deliberately manipulated by Latham to become the most exotic and aesthetic that he and the computer can produce. He even quotes the biomorphic set of Alien as an inspiration. In other words, it's art – not science. In fact, it's art which comments on the interaction between science and nature; Latham wilfully exaggerates human intervention in genetics by utilising the most contentious mutation and inbreeding techniques to generate more interesting results. And while the effect is a surreal collision of the organic and the hi-tech, Latham's choice of medium is a message in itself. As he puts it: "There are no morals in computer space". PW





#### Elektronische Musik Aus Köln

**Aus Köln** Best Of EMAK Vol. 1-3 (Originalton West)



#### Claudius Brüse Arctic Circle (Originalton West)

Solid, dependable German kling-klang from EMAK, in the footsteps of Conny Plank, plus glacial renderings on a theme of polar voyaging from Brüse. Both available by mail order from Vintage Synths producer Matthias Becker, Lindenthalgürtel 34, 50935 Köln, Germany.

#### MLO Productions Io (Rising High)



Air Liquide Nephology (Rising High) A pair of belters from the spiritual HQ of contemporary ambience. Io (the 7th moon of Jupiter, Sky At Night fans) offers long, slow chords and deep, lush timbres, while Nephology is more beaty, meaty and bouncy. Ignore at your peril.

#### Various artists

All Saint's Calling (All Saints) Thoroughly respectable compilation of *nouveau* chamber music from All Saints Records' curious

clan, Including Roger Eno, Laraaji and Harold Budd. Notable for 808 State's thumping treatment of Jon Hassell's template on 'Voiceprint'.

#### Locust

Weathered Well (Apollo) On the ambient subsidiary of Belgium's R&S Records, some excellent UK electronica featuring the kind of measured



distortion and detuning we've come to associate with Autechre and the Aphex Twin.



Another volume of chunky choons and sampling cheek from Mute's half-pop group, half-DJs. There's something of UFO's urban chic in their sophisticated reconstructions (see Brownswood Workshop).

#### New Decade Narrow Minds (Out Of Romford)

Home-grown CD from homegrown talent. Paul Smailes has taken elements of analogue ambient and Essex rave to create a bold and hard-edged sound on his own label. Much deserving of support.

#### **Cosmic Baby** Thinking About

Myself (Logic) Sumptuous but slightly pompous blend of big chords, classical posturings and techno dance beats from East German equivalent of Moby with impeccable credentials. Shame, then, that his UK debut should fail to fully reflect his seminal position in relation to the European trance scene emerging from Berlin when the wall came down. Too introspective, as the title might suggest.

#### Brownswood Workshop Multidirection (Talkin Loud) Technology can preserve

tradition as readily as it can challenge it. Brownswood is the label formed by Japanese/ French production team United Future Organisation, and what they've done here is take the best in contemporary Japanese jazz and invisibly edit their recordings into new forms – just as a hip hop MC would do with funk. Jazz remixing, no less.















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XTRUM DELUXE with 1Mb for Atari STFM memory upgrade, £30. Gadjits 4D companion ST ED/Lib for Roland D20/10/110/5 synths, £25. Brian. Tel: 0752 550199.

#### DRUMS

ALESIS HR16D drum machine, good condition, fully MIDI'able, with psu and manual and drum chip. Price £150. Paul Marshall. Tel: Glasgow 774 5659. ALESIS SR16 drum machine plus Groove Factory data cassette, all boxed, as new, £180 ono. Chris. Tel: 081 533 6273

BOSS DR660 drum machine 255 excellent editable PCM sounds and FX. Immaculate condition, boxed with manual. home use only. Offers? £265. Ross. Tel: 0903 770376. FREE DRUM patterns and fills on MIDI file. Not GM but easy to re-map. 2 first class stamps and blank disk to: John Harrison, 29 Squirrel Close, Hounslow West, Middx TW4 7NU. MPC KIT and MPC clap: old analogue collectables, having a clearout so very cheap. Kevin. Tel: 061 620 0058. ROLAND CR8000 drum machine, £300 in good working order. Mike Rogers. Tel: 0703 225823.

ROLAND R5 boxed, complete vgc, £220 ono. Wanted Alesis 3630 compressor or Quadraverb

**76** MT issue 91 Plus. Mick. Tel: 0622 790915 Maidstone.

ROLAND R8 drum machine, excellent condition, manuals, MIDI leads etc. R8 ROM card still boxed as new. Roland Cube 60 amp. All for £395. Steve. Tel: 091 258 3852.

SIMMONS PORTAKIT for sale. Good condition, 12 Octapads onboard. Also with built-in sequencer and FX. Fully MID'able also with external inputs, manuals and stand. Price new was £500, sell price £350. Paul. Tel: 041 774 5659. ZILDJIAN ZMP1 cymbal miking system with 6 mics and leads – £400, Max. Tel: 0689 857283 (SE).

#### WANTED

EARN YOURSELF £300 OSC Oscar MIDI'd version. Cash waiting. Also wanted a Simmons ClapTrap. Mark. Tel: 0222 755740.

5U RACKBAGS for \$1100 and SyQuest drive. Also case gig bag for M1. Cash waiting. Andy. Tel: 0532 430133.

ANYONE WHO shares my interest in MIDI Type II files ie. lyrics included, please contact Kevin on 061 620 0058. ART OMNI II swap for my Ensoniq ESQ1 wavestation fully expanded with cartridge and flightcase. Tel: 0964 622068. ATARI 1040FM and mouse, also 4-track recorder or small mixer. Both must be in good condition and full working order. Paul. Tel: 0424 218711.

BOSS DR55 circuit diagram. Will pay for photocopy and postage. Graham. Tel: 0736 755199. BOSS SE50, Fostex B16, Kurzweil K2000. Tel: 0344 891110.

CONTROLLER BOSE 802 professional speakers. Contact Halifax 246775 ask for Chad. COPY OF the owner manual for a ZyKlus sequencer. All informations to Theirry (int +33) 74 65 10 32 (Tel and Fax) in France. Some bottles of famous french wine for the help.

E-MU EMAX II keyboard, Mackie 1604 mixer. For sale Casio PT80 keyboard with ROM pack, £15. James. Tel: 0484 865137 E-MU EMAX II keyboard sampler, Alesis 1622 or Mackie CR1604 mixer. For sale Immaculate Casio PT80 keyboard with ROM cartridge, £15. Unused Laney Theatre 2300P powered stage monitor. James. Tel: 0484 865137. E-MU EPS Plus keyboard in perfect condition, cash waiting lan. Tel: 061 442 6039. EMS VCS3/Synthi A/AKS required immediately - cash waiting. Graham. Tel: 071 636 6764 or 071 434 3097. ENSONIQ ASR10 keyboard sampler, must be in good nick, will pay good cash. Martell. Tel: 061 226 5756. ENSONIQ EPS16+ in good condition, cash waiting. Call Tim on 0602 532421. KENTON PRO 11 MIDI-to-CV convertor. Cash waiting, can collect within reason. Call Ian. Tel: 0703 268817. KORG DSM1 sampler, vgc only - will pay approx £500-700. Please ring Jason. Tel: 0525 717557 (please persevere).

KORG KMS30 MIDI synchroniser. Tel: Diss 0379 650959 ask for Herman after 7pm.

ROLAND JUPITER 8, serial number 171700 or above. Must be in excellent condition and in full-working order, as new. £500 cash waiting. Also wanted E-mu Emax II keyboard sampler. James. Tel: 0484 865137. ROLAND SH09 immaculate condition and Atari monitors (high res'). Tel: 0926 407045 (Warwickshire).

ROLAND TB303 bassline, cash waiting for the right price, can collect within reason. Call Ian. Tel: 0703 268817. SWAPS OF styles, sequences and sample of the Gen WX2.

Contact Kevin on 061 620 0058 TASCAM 644 – make me an offer. Tel: 0748 825481 or 0748 824765. YAMAHA DX7 2FD in as new

condition, including original box, manual. Tel: 0865 60222 (Oxford) before 8pm, ask for Mike.

YAMAHA ELECTRIC piano model PF-P100 or possibly PF-85 wanted. Maybe part-ex or swap or cash adjust my CLP550 Clavinova? Cash waiting, will collect. Tel: 0633 450623 Newport. YAMAHA MG3X. Contact: Mr BB Clarke, 53 Ravenwood Road, Red House, Sunderland, Tyne and Wear SR5 5JG.

## MISC

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2-TIER rack lightweight aluminium pipe synth stand for sale. Good condition, price: £150. Paul Marshall. Tel: 041 774 5659. BACK ISSUES; 130 issues, H&SR 108 issues. Offers for complete

sets only. Tel: 0707 267439 (Herts). BOSS ME5 guitar multiple effects floor unit, little used, £180. Soundtracs CM4400 32:12:24 with patchbay, VCA automation on 32-channels and MIDI muting, £5500. Chris. Tel:

BOSS REVERB FX unit RV10000.

£120. Mike Rogers. Tel: 0703 225823.

CHANDLER FLANGER and Overdrive rack units, £55 for pair, Mick. Tel: 0203 301193. COMPLETE HOME STUDIO Atari 2Mb STE with s/w. Roland MT32 TR505. Kawai K1R Cheetah MS6. Casio CZ101 Korg DP80. Yamaha QX7, CX5, KM802 mixer, amps, stands and cables. £1200 ono. Terry. Tel: 051 606 9583. DEMOS WANTED by Senior Records house deep dub techno ambient major and worldwide distribution. Masterable tapes only to A&R dance dept Senor Records, 23 Market Street, Aberdeen AB1 2PY Scotland. **DIGITECH VHM5 vocal** harmony processor with psu and manual, quick sale £500. Paul.Tel: 091 2671 339 after

6pm. ENSONIQ VFX/SD1 RAMs, ROMs for sale. All originals in boxes by Valhalla, Voice Crystal, Ensoniq etc. Richard. Tel: 0736 67531.

EPSON LQ1500 printer, £50. Various IBM-PC software (original disks only) under £25 each package . 3.5" blank disks (Amiga compatible) for example, 720K 10pcs, £3.50 plus postage. Tel: 0494 716694 (Bucks).

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