SOUND ON SOUND™

EUROPE'S NO.1 HI-TECH MUSIC RECORDING MAGAZINE

Roland VS1680

Best 16-track Digital Studio... Ever?

PLUS

Spirit 328 Digital Mixer

Optimising *Cubase VST* Timing

Fostex FD4 Digital 4-track

20 Mixing Tips

Focusrite Platinum Tone Factory

Recording Goldie

Neumann TLM103 Mic

& much, much more...

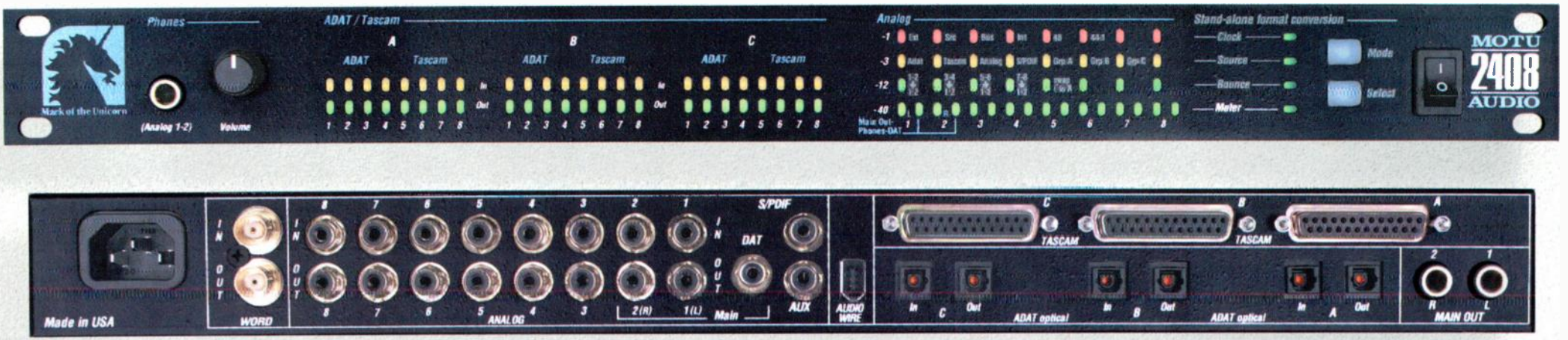
WIN ZOOM & TECH 21 GEAR WORTH £2000

VOLUME 13
ISSUE 8
JUNE 1998
£3.60

MIKE HEDGES • ACOUSTIC TREATMENTS FOR PROJECT STUDIOS
TC FIREWORX MULTI-EFFECTS • STEINBERG *WAVELAB* v2.0
RETROZONE: MOOG POLYMOOG • DIGITAL BASICS PART 2
LINE 6 FLEXTONE DSP GUITAR AMP • PC • APPLE • ATARI NEWS

WRH

Introducing the 2408.



The next breakthrough in hard disk recording.

The 2408 is a computer-based hard disk recording system that gives you 24 independent inputs and outputs • 8 analog inputs (with 20–bit 64x oversampling converters) • 8 analog outputs (with 20-bit 128x oversampling converters) • 24 channels of Alesis ADAT optical in and out • 24 channels of Tascam DA-88 in and out • 2 channels of S/PDIF in and out • 16-bit and 24-bit recording at 44.1 or 48 KHz • • digital dubbing between ADAT and DA-88 • digital dubbing between S/PDIF and ADAT or DA-88 • ADAT sync input • Word clock in and out • MOTU Control track input for sample-accurate Digital Timepiece synchronisation • includes the cross-platform PCI-324 card to connect the 2408 to your Mac or Windows computer • the PCI-324 will let you add additional 2408's for up to 72 input/output connections and as many channels as your computer allows • includes full-featured sample-accurate workstation software for Macintosh with recording, editing, mixing, and real-time 32-bit effects processing • • includes standard Windows audio (Wave) driver •

£995.00 INC VAT

Mark of the Unicorn, Inc http://www.motu.com

19a HIGH STREET
SHEFFORD
BEDFORDSHIRE
SG17 5DD

TEL: 01462 812010
FAX: 01462 814010
Email: musictrack@compuserve.com

musictrack

hard disk recording
digital video . digital audio . dv camera
audio solutions

Authorised Reseller
Authorised Reseller

5 AWARDS IN 4 YEARS

CAW

computer audio warehouse

http://www.compuw.com

digital audio . digital video . midi sequencing
multimedia, video & audio post production solutions

PRO TOOLS 24 BUYING A PRO TOOLS SYSTEM?

PHONE US ON 0181 400 9400 NOW AND WE'LL SHOW YOU WHY YOU SHOULD BUY IT FROM CAW

LOS ANGELES

WITH UP TO 24 TRACK DIGITAL RECORDING!

emagic

BUY NOW PAY 6 MONTHS LATER

Based around the highly-specified Emagic Audiowerk 8 card and acclaimed Logic Audio software, this system boasts a whole lot of power. Audiowerk8 delivers the flexibility to use an external mixer with it's 8 analogue outputs while Logic Audio delivers one of the most sophisticated MIDI / Audio sequencing engines around.

CAW SPEC CHECK

- 233MHz G3 Pro Audio Macintosh System
- 64MB RAM (expandable 384MB)
- 4.0 GB System Drive
- 3.2 (AV) GB Drive for HD recording + SCSI accellerator
- 24x CD-ROM drive
- 3 PCI expansion slots
- All you need for pro Audio!

Package Includes:

- Emagic Audiowerk8 Digital Audio PCI card - 24 track digital recording (8 analogue outs)
- Emagic Logic Audio version 3 MIDI/Audio sequencing software
- MOTU Fastlane MIDI interface
- Keyboard & Mouse

CAW £2199 (£2344 inc)

los angeles audio solution

NASHVILLE G3

KORG Steinberg

CAW'S BEST SELLING DIGITAL AUDIO / SEQUENCING BUNDLE

BUY NOW PAY 6 MONTHS LATER

With the Korg 12 12 card installed, Nashville offers 12 inputs and 12 outputs configured as 2 analog I/Os, an S/P-DIF I/O and an 8 channel ADAT optical I/O with all I/Os available simultaneously. This makes it ideal for connection to a digital mixer & for editing complete 8 track ADAT sessions. In addition, the brilliant Cubase offers all the audio and sequencing facilities you could ever need.!

CAW SPEC CHECK

- Power Macintosh 233Mhz G3 Computer
- 512k Backside Cache, 64MB RAM
- 4.0GB EIDE Drive, 24x CD-ROM drive
- 3.2GB SCSI Hard Drive + SCSI accelerator
- 2MB Video SGRAM
- 3 PCI expansion slots

Package Includes:

- Korg 1212 PCI card offering 8 tracks of digital audio recording/ playback
- Steinberg Cubase VST 3.52 audio
- Digital I/O Cables, Extended Keyboard & Mouse
- MOTU Fast Lane MIDI Interface
- FREE Roland SC-7 Sound Module

ROLAND SC-7 SOUND MODULE NOW INCLUDED!

CAW £2399 (£2819 inc)

nashville g3 audio solution

Steinberg

Dance Pack

The Ultimate tool for Electronic Music Production. Dance Pack contains all the tools you need including ReBirth 338 which gives you two 303 synths plus integrated 808 drum machine, ReCycle loop and sample editor, plus Cubase VST - the ultimate MIDI sequencer!

KORG

1212 Digital Audio Card

Digital multi-tracking audio card with stereo analog out (10 +4), 20bit A/D converters, ADAT optical I/O, S/P-DIF I/O and ADAT 9-pin sync connector.

DETROIT G3

INCLUDES MIDI INTERFACE!

THE ULTIMATE DANCE PACKAGE

The CAW Techno Freak Special! Ideal for DJ's, Re-mixers, Producers, Programmers and Song Writers this package is the complete all-in-one solution offering the essential dance mix tools. The bundled Steinberg Dance Pack includes ReCycle sample editor and the ultra-cool ReBirth virtual synthesizer which includes 303 & 808 emulations! Add that to the superb Cubase VST and Korg 1212 digital audio card and you've got it all!!

CAW SPEC CHECK

- Superb Power Macintosh G3 233Mhz Desktop
- 64MB RAM (expandable up to 390MB
- 4.0 GB internal Hard Drive
- 24x CD-ROM drive
- 3 PCI expansion slots
- Adaptec 2940 SCSI accelerator card + Quantum 3.2G AV Hard Drive

Package Includes:

- Steinberg Dance Pack including Cubase VST, ReBirth RB338 & ReCycle
- Korg 1212 Digital Audio PCI card
- MOTU Fast Lane MIDI interface
- Extended Keyboard & Mouse

BUY NOW PAY 6 MONTHS LATER

CAW £2499 (£2936 inc)

detroit g3 audio solution

PHONE TODAY!

Call 0181 400 9400 and ask about CAW's NEW Rackmounted Power Macintosh G3 solutions!

STORAGE SOLUTIONS

Don't trust your audio with anything else! These quality storage solutions are expertly manufactured and offer the best value around!

ATLANTIC SB4/4xCD-R 6.4GB Drive, 4x write CD-R, Toast Diskworks, Label Kit, 10x CD's	£599
ATLANTIC SB4/2xCD-R 6.4GB Drive, 2x write CD-R, Toast Diskworks, Label Kit, 10x CD's	£549
ATLANTIC 4xCD-R 4x write Teac CD-R drive. Includes Toast, label kit, 10x CD's	£369
PACIFIC TB4 Twin 8.4GB SCSI hard Drives + Diskworks RAID software	£699
PACIFIC SB4 6.4GB SCSI hard Drive + Diskworks software	£299

NEW

PLUG-IN BUNDLE!

Terrific NEW plug-in bundle - SAVE £££'s off the individual prices! - You get ALL 3!

- HYPERPRISM PACK 2.0
- CD STUDIO
- HYPERPRISM RAY GUN

Total individual retail prices over £480

£351 INC £299

BUY NOW PAY 6 MONTHS LATER

JUST THINK - BUY FROM CAW UNDER OUR 'BUY NOW - PAY LATER' SCHEME AND THE EQUIPMENT COULD PAY FOR ITSELF BEFORE YOU HAVE TO PAY!

BUY NOW PAY 6 MONTHS LATER

BUY NOW PAY LATER EXAMPLE: MINIMUM 10% deposit with nothing to pay for 6 months, then settle in full and pay no interest (APR 0%) eg £2,744inc (lower purchase prices £2850.00 inc. vat). Deposit of £296.00 and pay balance of £1184 inc vat or before due payment date. Interest free or commence minimum monthly payments of £78 at an interest rate of 2.2% per month (APR 29.8%)

All products and offers subject to availability. Prices exclude VAT unless otherwise stated. E&OE. All trademarks respected. NOTE: Photographs shown for illustration purposes only (variations in designs, colors, specifications and models etc may occur). Bundled software boxes shown for illustration purposes only. In most cases software is either pre-installed or comes on CD with minimal packaging & electronic documentation. Please check with salesperson when ordering. CAW reserves the right to change specifications/models/deals at any time and to discontinue offers.

fax: 0181 400 1240

COMPUTER AUDIO WAREHOUSE
NO.1 AMALGAMATED DRIVE, WEST CROSS CENTRE, GREAT WEST ROAD, BRENTFORD TW8 9EZ

call direct 0181 400 9400

leader

Recording and MIDI equipment must be exciting (after all, we collect so much of it), but does more gear make for a better studio? That's a question I've been asking myself of late, because over the years my studio has evolved into a rats' nest of mammoth proportions. So much so, in fact, that I tend to put off using it because I know I'm going to have to do battle with various bits of gear, not to mention cleaning patchbay contacts, before I can get on with any serious music-making. Time permitting, I still tend to do a little commercial work, so obviously I need to keep my ADATs as they're one of the few standards in this otherwise diversifying world of ours. I also do a fair bit of editing, so Sound Designer II running on a Mac is a must, but the remaining gear I want to simplify as much as possible.

We pride ourselves on the quality of modern recording equipment, but the simple truth is that the more pieces of gear you have connected together, the worse the noise and hum problems are likely to be. Even discounting things like ground loops, it's a fact of physics that the more mixer channels you have running, or the more tracks of tape/hard disk you have playing, the more noise will be generated. What's more, every jack plug and socket is a potential source of distortion if oxide or dirt is allowed to build up on the contacts. So, what am I going to do about it?

Few people use an in-line mixer as such (me included), so the first thing I'm going to do is replace my aircraft carrier of a console with something small, cute and digital, so that I can have the benefit of mix automation as well as room to install some decent monitors. Wherever equipment can be pre-patched rather than running through a patchbay, it will be — it stands to reason that if you own a Lexicon PCM90 it will be used on every mix you do, so why run it via a patchbay? Of course you can't dispense with patching entirely, nor would you want to, and even though one of the great advantages of digital tape machines and digital mixers is that you can keep everything in the digital domain, I'm not going to. You see, digital mixers tend to have very few insert points, whereas I like to be able to patch in my own gates and compressors, so running the analogue tape outs to the mixer via a patchbay provides you with a full set of line level insert points. The mixer will only be connected to the tape outs — all recording will be done via dedicated DI boxes and separate mic preamps or voice channels, but what do you do when you want to record a mixed group of drum mics? Simple, just use a basic 12:2 mixer and route the outputs and pre-fade sends to the tape ins.

In theory, the result will be a much simpler, cleaner studio setup, and for the MIDI side, I'll sell off all my oldest gear, buy a single new module with monstrous polyphony, and use that alongside my sampler and my trusty Wavestation. All that's needed is a simple line level keyboard mixer to handle this little lot, and that can feed into the digital desk's spare stereo input. It all sounds so wonderful that I can hardly wait to get it all finished. I'll finally have the studio I've always wanted and I will never need to change anything ever again! (Hark, do I hear the gentle whisper of air over the wings of circling pigs?)

Paul White *Editor*

SOUND ON SOUND

Media House, Trafalgar Way,
Bar Hill, Cambridge CB3 8SQ, UK.
Telephone: +44 (0)1954 789888
Fax: +44 (0)1954 789895
Email: sos.feedback@sospubs.co.uk
Web site: www.sospubs.co.uk

Editor Paul White
Assistant Editor Matt Bell
Technical Editor Hugh Robjohns
Editorial Assistant Tom Flint
Editorial Director Dave Lockwood
Publisher Ian Gilby

Advertisement Manager Robert Cottee
Classified Sales Manager Patrick Shelley

Production Manager Shaun Barrett
Ad Production & Design Andy Brookes
Senior Designer Clare Holland
Classified Production Andy Baldwin

Managing Director Ian Gilby
Financial Manager Patricia Urwin
Credit Controller Barbara Boys
Mail Order Manager Sally Thompson

Photography Ewing-Reeson
Colour Scanning Goodfellow & Egan Ltd
Colour Origination Spectrum Print Ltd
Colour Planning WYSIWIG
Printing Warners Midlands plc
Newstrade Distribution Warners Group Distribution Ltd, The Maltings, Manor Lane, Bourne, Lincolnshire PE10 9PH

Subscriptions Hotline +44 (0)181 861 0690
sos.subs@sospubs.co.uk

UK £36 **Europe** £60 **World** £75
Payable in sterling through UK bank

ISSN 0951 - 6816

A Member of the SOS Publications Group

The contents of this publication are subject to worldwide copyright protection and reproduction in whole or part, whether mechanical or electronic, is expressly forbidden without the prior written consent of the Publishers. Great care is taken to ensure accuracy, in the preparation of this publication but neither Sound On Sound Limited nor the Editor can be held responsible for its contents. The views expressed are those of the contributors and not necessarily those of the Publishers or Editor. The Publishers accept no responsibility for the return of unsolicited manuscripts, photographs, or artwork.

Copyright 1998 SoundOn SoundLimited incorporating Music Software magazine, Recording Musician magazine, Sound On Stage magazine, SR magazine & Sound Pro magazine. All rights reserved.

142 Neumann TLM103

REVIEWS

30 **Event EMP1 Microphone Preamp**
32 **Korg Z1 Expansion Card**
34 **TL Audio Ivory 5013 Parametric EQ**
36 **Preview: Spirit 328 Digital Mixer**
42 **AVI NuNeutron Compact Monitors**
46 **Korg SG Rack Piano Module**
48 **Focusrite Platinum Tone Factory**
71 **Midiman Dman 2044 PC Soundcard**
76 **TC FireworX Multi-Effects Processor**
96 **Line 6 Flextone DSP Guitar Amp**
108 **Analogue Systems Modular Synth**
142 **Neumann TLM103 Microphone**
152 **Roland VS1680 Digital 16-track**
165 **Steinberg *Wavelab* v2.0**
196 **Syntrillium *Cool Edit Pro* PC Multitrack**
214 **Fostex FD4 Digital 4-track**

FEATURES

52 **Mono: *Great Expectations***
102 **The Truth About Demos: Part 2**
132 **Producer: Mike Hedges**

PC MUSICIAN
Improving Cubase VST Timing p82

Volume 13 Issue 8 June 1998

in this issue

Computer notes

Apple Notes.....238
PC Notes.....244
Atari Notes.....246

170 Recording Goldie

186 Acoustic Treatments For Project Studios

258 Retrozone: Moog Polymoog

SOUND WORKSHOPS

40 20 Tips On Mixing

146 Optimising MIDI Gain Structure

178 Synth School: Part 8

204 The Basics Of Digital: Part 2

220 Equipping A Home Studio: Part 4

REGULARS

4 Crosstalk

8 Shape Of Things To Come

234 Sample Shop

250 Demo Doctor

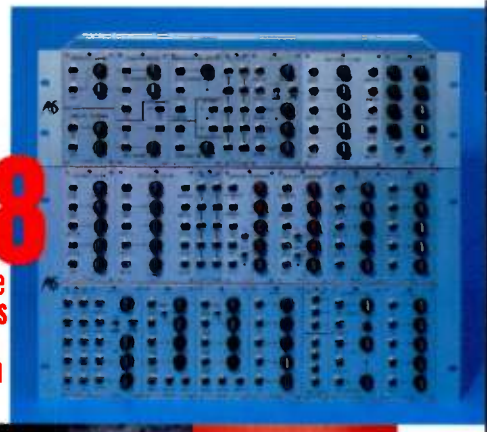
264 Readers Ads

278 Mail Order: Books, Videos, CDs

284 SOS Subscriptions

285 Classified Ads

304 Sounding Off



108 Analogue Systems Modular Synth

42 AVI NuNeutron

170 Recording Goldie

214 Fostex FD4

52 Mono: Great Expectations

AVI £2000 Zoom & Tech 21 gear from Exclusive Distribution p272

76 TC FireworX

Crosstalk

Send your letters, queries, tips and comments to: Crosstalk, Sound On Sound, Media House, Trafalgar Way, Bar Hill, Cambridge CB3 8SQ.

Our email address is sos.feedback@soapubs.co.uk

The SOS web site can be located at www.soapubs.co.uk

Vintage Korgs — Reid it & Weep

I'd just like to have a quick rant at Gordon Reid for some of the cutting remarks he made about the Korg PE1000 polyphonic ensemble in his Retrozone article (*SOS* April '98). OK, so it's not a great synth by any means — it's not touch-sensitive and the presets are quite thin as they stand. However, when the Control button is activated and you begin tweaking the envelope and Traveler (filter) control, it's transformed into a wonderfully warm-sounding string/pad synth with plenty of character. Just add a sprinkling of reverb, and away you go.

The PE1000's robust construction and built-in flightcase make it ideal for gigging for those who don't want to transport their Juno or Jupiter. If you see one for £50, buy it — but I would have thought a dealer price of up to £125 would be reasonable for an example in good condition. Anyone looking for a budget analogue polysynth, please take note.

And by the way, if anyone's got a Traveler footswitch kicking around that they don't want, please make me an offer!

Nick Edwards
Bristol

I'm a proud owner of a Korg 770, as featured in your April Retrozone. In the 'price you pay' box, you suggested that £100 would be a good second-hand price, so my synth must have been a real bargain; I bought it for £30! Thank you for some invaluable information on this great-sounding synth. However, I still have one unanswered question: Do you know what the rear-panel connection marked 'remote control' is for? I noticed that there's already a socket for a Traveler footswitch, so I assume the remote is for something different. Could it be for voltage-controlling the synth? I have a Kenton Pro 2 MIDI-CV converter, and I'm rather hoping I could get the 770 working with it via this mysterious socket. Any light you can shed would be very welcome.

John Consemulder
Via email

Gordon Reid replies: *With respect to Nick Edwards, I try not to criticise anything that I haven't played extensively or, preferably, owned. My comments regarding the Korg Ensembles are a result of both. My first encounter with the PE1000 was in 1977 (pre-Prophet, pre-OBX) when I fully expected to be blown away by it. I wasn't. The single envelope and filter were horrible limitations. Furthermore, the sustained sounds, when compared to the fully polyphonic Logans, were appalling, and the percussion patches were no better. As a result, after a few jam sessions with one, I bought my first Logan String Melody II and — later — an RMI 368X Electrapiano. The Logan is a gorgeous evocation of massed strings and cathedral organs, while the RMI remains a classic to this day. What's more, they cost me little more than the PE1000, so these were decisions that I never regretted.*

Nevertheless, I picked up a PE1000 many years later, partly for nostalgic reasons, and partly because we keyboard anoraks are duty-bound to do such things. It cost me next-to-nothing, and was in near-mint condition. So, before writing this reply, I dug the old lump out, pressed the 'control' button, carefully adjusted the envelope and filter as suggested and... singularly failed to discover the warm beast within. I did, however, stumble across several synth/brass sounds that confirmed Vangelis' use of the instrument in the mid-'70s. Those, at least, count in its favour. But whatever the rights and wrongs of it... if Nick loves his PE1000 as much as I do my Logan, I'm very happy. It's a wide world, and if everybody shared my tastes, it would be a very boring one.

Regarding the value of the PE1000, I stand by my original statement. I can't, in good faith, recommend that anybody hands over £125 for one of these, simply because this much cash would also buy you a Korg Poly800 or, on a lucky day, a Roland Juno 6. On that basis, £50 seems a much fairer price to pay.

Moving on to the remote input on John's Korg 770, I must admit that this had me stumped for a while. So I picked up the phone, and called service maestro Paul Bundock at Korg UK. After much rooting around, he enlightened me...

The input, it seems, was designed for use with Korg's 'Mouth Controller'. This may, or may not, have ever been built (nobody is quite sure any longer) — but it was certainly never imported into the UK. It seems to have been a primitive breath controller that allowed (in paraphrased Korg-speak) "sound to be coloured by vibrato and brightness".

From the circuit diagram for this input, it seems that the input modifies the action of the envelope generator in order to control the VCA and VCF. This is a very strange choice of destination; after all, why not control the amplifier and filter cutoff frequencies directly? But on the other hand, the 770's envelope does not conform to a standard ADSR model, and modifying the Singing Level may have been an economical way to achieve the desired effects.

The specification of the input is as follows:

Pin 1	*Not connected*
Pin 2	*Chassis ground*
Pin 3	*+VCC (positive power)*
Pin 4	*Mouth Controller control voltage (specification not known!)*
Pin 5	*-VSS (negative power)*

Unfortunately, this is not compatible with the Traveler pedal input (nor, therefore, the pedal itself), because this uses Pin 1 for voltage control. It may be possible to use the Remote input with a self-powered source providing an unspecified CV at Pin 2, but you would have to be brave to try it. My advice with regards to the input, after careful consideration, is... forget it!

The CV input-less Korg 770.

Assistant Editor Matt Bell adds: *Fortunately, if it's voltage control of your 770 you're after, John, retrofit specialists (and manufacturers of your MIDI-CV interface) Kenton Electronics will either sell you a CV input modification kit (at £18.80 including VAT), or, if you don't fancy attcking the innards of your synth with a soldering iron, they'll do the mod for you at a total cost of £76.38 including VAT. All you need then is a way of getting your Pro 2 to output CVs using the Hz/Volt standard (which the original Pro 2 couldn't do). Once again, Kenton can help, as the Pro 2 can also be modified by them to do this — contact them on 0181 337 0333 for details.* ❑

emagic tour '98

will answer these questions:

Why is Logic Audio better than ... ?

Do I need Silver, Gold or Platinum?

Some software inspires you. Some software winds you up. Some software just about does the job.

You may have heard of Logic Audio but you haven't had the full story of what it has to offer. Some people may have recommended Logic Audio but you're used to another sequencer ...

This is your opportunity to find out why you should choose Logic Audio (and whether you need Silver, Gold or Platinum).

To cut to the chase, we want to show you why we think emagic Logic Audio is the best sequencing software you can buy. Yes, even better than that software you may already be using.

You may go away thinking you don't need Logic Audio, in which case you clearly have a system that works well for you. But, as the cliche goes, how do you know what you're missing until you see it for yourself?

Emagic go on tour around the UK from Tuesday 26th May to Saturday 13th June and will appear at the Mad About Music Show at London's Docklands Arena from Friday 19th to Sunday 21st June.

Choose unsurpassed timing.
Choose synchronisation.
Choose VST™ and DirectX™ plug-in support.
Choose third-party hardware support.
Choose reliability.
Choose Logic Audio.

Tuesday 26th May	Manchester	Sound Control	0161 877 6262
Wednesday 27th May	Liverpool	Dawsons	01925 632591
Thursday 28th May	Glasgow	Sound Control	0141 204 0322
Friday 29th May	Edinburgh	Sound Control	0131 557 3986
Saturday 30th May	Newcastle	Sounds Live	0191 230 3422
Monday 1st June	Wakefield	KGM	01924 371766
Tuesday 2nd June	Nottingham	MCorporation	0115 9474070
Wednesday 3rd June	Birmingham	Musical Exchanges	0121 248 5868
Thursday 4th June	Ringwood	MCorporation	01425 470007
Friday 5th June	London	Music Lab	0171 388 5392
Saturday 6th June	Leicester	Academy of Sound	0116 262 418
Monday 8th June	Croydon	Digital Village	0181 408 8444
Tuesday 9th June	Brighton	Guitar Amp & Keyboard	01273 676835
Wednesday 10th June	Guildford	Andertons	01483 456777
Friday 12th June	Southend	PMT	01702 436501
Saturday 13th June	Cambridge	Music Village	01223 316091

Friday 19th - Sunday 21st June London Arena Mad About Music Show

For more information call your nearest venue or Sound Technology on 01462 480000

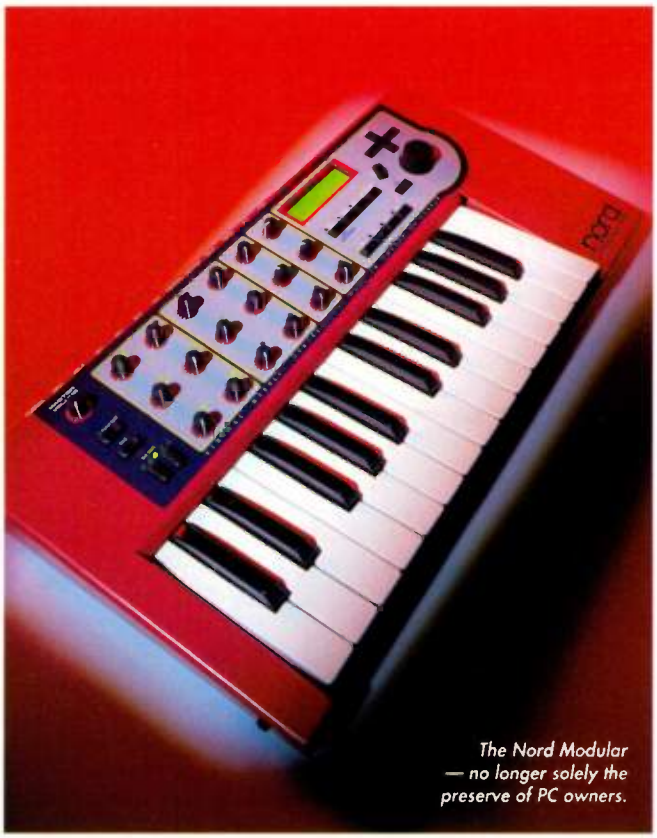
Sound Technology plc, Letchworth Point, Letchworth, Hertfordshire. SG6 1ND www.soundtech.co.uk

emagic

Crosstalk

Stop Press: Modular Dons Mac

Assistant Editor Matt Bell writes: *Just as we were going to press (and, incidentally, after this month's Sounding Off had been completed, before anyone writes in to complain!), some news reached us from Swedish manufacturers Clavia. It seems that the editing software for their Nord Modular DSP* tibersynth *(which was previously available for PCs only, as detailed in our April and May review)* can *now be run on Apple Macintoshes* — provided *they have the following (fairly tightly defined) spec: a minimum 604e/200MHz processor, a minimum 48Mb of RAM, and at least System 8.1d. Furthermore, the MIDI interface used must be an Emagic Unitor 8, and lastly, but most importantly, the whole shebang must be running Connectix's* Virtual PC *v2.0d PC emulator for the Mac. Whew! Guess it's time to trade in my Performa...* [or start using it as a doorstop — Realistic Ed] ❑



The Nord Modular — no longer solely the preserve of PC owners.

Pitching it Right

Firstly, thanks for a great, informative mag.

On page 56 of the May *SOS*, in his Effective Drum Programming series, Nicholas Rowland mentioned that he'd be interested in knowing the mathematical formulae for relating sample rate or tempo changes to pitch changes. I have prepared an equation and an explanation of how it works, and it may be found on my web site. Hope this helps! The address is:

www.birdsoft.demon.co.uk/music/samplert.htm

Wes Bird
Via email ❑

Getting Your Back Up

Don't rely on using your mastering DAT recorder for data backup.

I wonder if anyone at *SOS* can help me with a PC query. I own a Tascam DA20 MkII DAT recorder, which I use primarily for mastering. I also would dearly like to use it for backing up data from my PC, but cannot work out how. Tascam tell me I will be able to if I can take an S/PDIF output from my soundcard, but sadly my Turtle Beach Tahiti has no such port. Even if I purchased a new card with an S/PDIF out (which I am reluctant to do, as I have already lavished what feels like the gross national product of a small country on my setup) I am not sure how it would work. Would it be plug and play? Would I need special drivers? Could I use the standard Windows 95 backup utility?

Alternatively, is there a way to connect up the DAT to the parallel port of my PC, and if so, how would I do the backup? The same questions regarding plug and play, drivers, and the Windows 95 backup utility then apply.

I am sure other readers would find an answer to this question useful, as many must have DATs in their setup and could make use of them for backup purposes.

PS: Many, many thanks for an excellent mag — you've got me out of many muddles with my PC, and given me much sound advice about other gadgets too.

Steve Bradbury
London

***SOS* PC Notes columnist Martin Walker replies:** *Your suggestion is sensible, and I'm sure the same thing has occurred to plenty of other people as well. Unfortunately, as you have already found, interfacing a DAT machine and a PC does require S/PDIF digital I/O on the PC, and this is not cheap. However, the problems don't stop there — for audio backups you could certainly use your DAT in this way, but computer data uses much more robust error correction than audio, which would require special software drivers. You can buy DAT machines specifically for computer data backup, but they can be considerably more expensive. Even the DAT tapes themselves, while looking identical, are specially certified for use with program data, and tend to cost double that of the audio variety.*

Backup devices that use the parallel port are specially designed to do this (with a price to match), and are provided with both special leads and driver software, so I'm afraid this is not a viable budget option.

Even if you could use a DAT machine for this purpose, you might find it tediously slow for each backup/restore process, and of course tape does not offer random access, which makes it rather long-winded when it comes to restoring single files.

For the cost of a digital I/O card (about £100) you might be better off buying a Zip drive to back up your important files, or a dedicated tape backup drive like the Travan — the Ditto Max can backup 7Gb of files for about £120. For that same £100, you could also buy another 2Gb hard drive, and this could provide huge backup capability for your main drive. For more information on backup alternatives, check out my PC Musician feature in SOS December '97. ❑

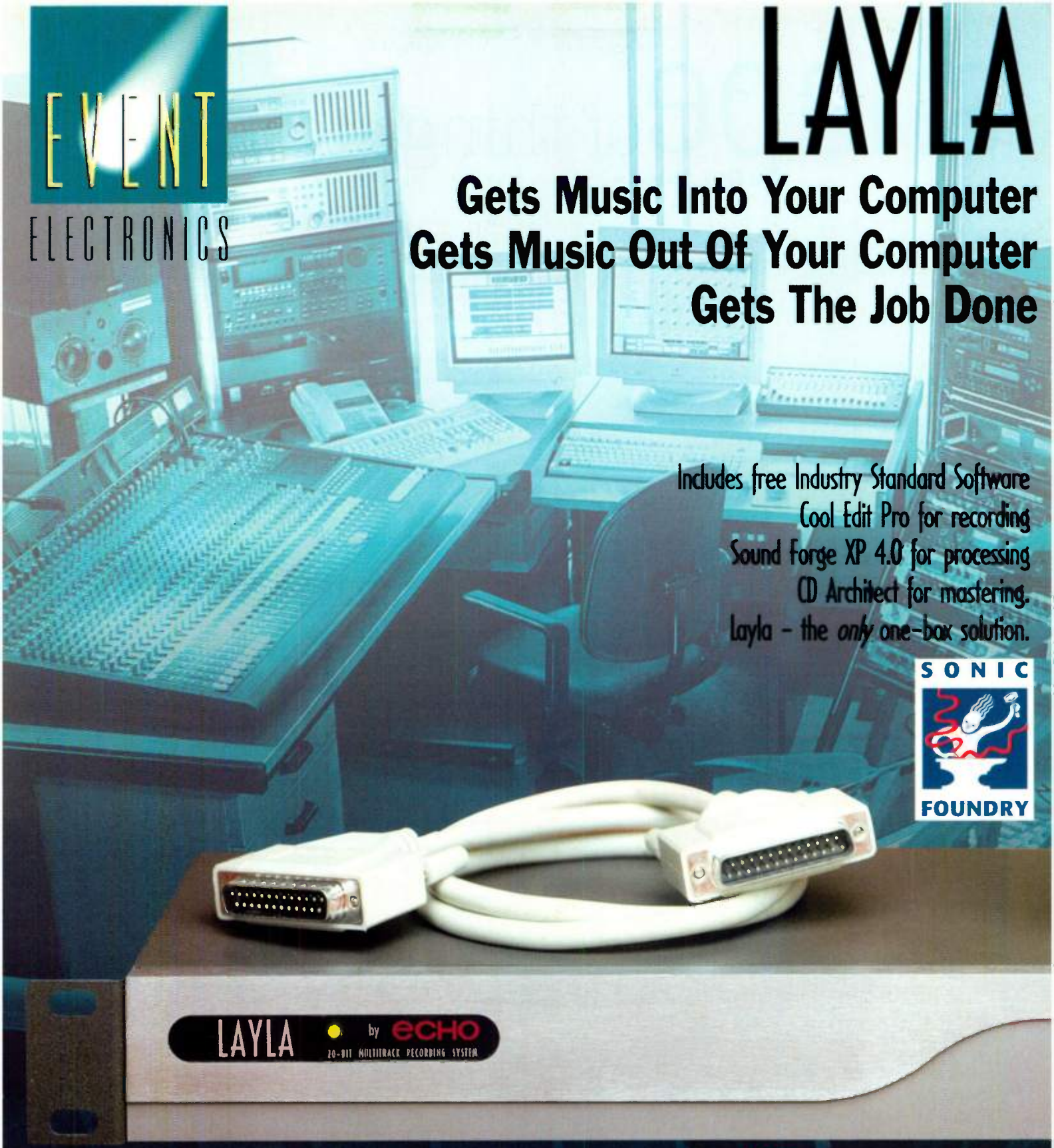
EVENT ELECTRONICS

LAYLA

Gets Music Into Your Computer
Gets Music Out Of Your Computer
Gets The Job Done

Includes free Industry Standard Software
Cool Edit Pro for recording
Sound Forge XP 4.0 for processing
CD Architect for mastering.
Layla – the *only* one-box solution.

SONIC FOUNDRY



CHOOSE AN ARTIST • CHOOSE A STUDIO • CHOOSE A DIGITAL MULTITRACK RECORDING SYSTEM WITH 24-BIT RESOLUTION, BUILT-IN MIDI INTERFACE, WORD CLOCK, STEREO DIGITAL I/O AND FULLY BALANCED 20-BIT ANALOG INPUTS AND OUTPUTS • CHOOSE FULL DUPLEXING OF 8 ANALOG INS, 10 ANALOG OUTS AND S/PDIF IN AND OUT • CHOOSE A CROSS-PLATFORM SYSTEM THAT WORKS WITH ALMOST EVERY AUDIO APPLICATION • CHOOSE A POWERFUL ON-BOARD DSP CAPABLE OF SUPPORTING THIRD-PARTY PLUG-INS • CHOOSE AS MANY CARDS AS YOU HAVE PCI SLOTS • CHOOSE MUSIC • CHOOSE LAYLA.

Key audio systems

For more information contact
Trish on:
Tel: 01245 344001
Fax: 01245 344002
email: info@keyaudio.co.uk

shape of things to come

by Derek Johnson

MIDI made Cimple

CIMPLE Solutions Pro Ltd are now distributing the full range of products from MIDI Terminal, including three compact MIDI interfaces equipped with SMPTE sync. The 64 and 64i (for PCs) provide two MIDI Ins and four independent MIDI Outs (for a total of 64 MIDI channels), while the 32 Midiworks is for Macs only. It offers similar features, but with just 32 MIDI channels.

CIMPLE will also be handling the Wave Terminal, a 20-bit PCI digital audio card offering four channels of analogue and digital I/O; two Wave Terminal cards can be used in the same computer, providing eight channels of ins and outs. The card is compatible with *Logic Audio*, *Cakewalk Pro Audio*, *Cubase Audio* and *Cool Edit Pro*. MIDI Terminal also produce the Wa-Mi Rack, a 4-in/4-out MIDI interface and SMPTE synchroniser with 2-in/8-out digital audio capabilities, in a 1U rack package. The next step up is VAMS — Virtual Audio and MIDI Studio — a rackmounted PC with built-in Wa-Mi Rack. You choose the PC's spec, but the basic package includes a Pentium 233MMX processor, 64Mb RAM and a 4.3Gb hard drive.

A CIMPLE Solutions, Wembley Commercial Centre, North Wembley, Middlesex HA9 7UR.
T +44 (0)181 904 4141.
F +44 (0)181 904 1200.
E sales@cimplesolutions.demon.co.uk
W www.cimplesolutions.demon.co.uk

The smallest DX7 in the world

Although Yamaha's eagerly anticipated SW1000XG PCI audio card isn't due until later this summer, there are already a few trickles of information concerning enhancements for it. Due out at about the same time as the SW1000XG is the PLG100DX daughterboard, which offers a fully-functioning classic DX7 6-operator FM synth in a very compact form. The card offers several advantages over an original DX7, the most obvious being improved noise performance. Also provided is a varied collection of 24-bit effects, space for 256 edited sounds and (for the PC user) a software editing front end and editability from within certain sequencers. It's too early to tell what support will be available for Mac users. More news on both the SW1000XG and PLG100DX when we hear it.

Yamaha are also introducing an entry-level PCI soundcard for PC clones. The WaveFront WF192XG will retail for £69, and will offer the budding PC musician, or games user, lots of features. The basic card itself provides 64-note polyphony, with a General MIDI/XG sound set equivalent to a CS1x or DB50. However, it also comes supplied with a copy of *XG Softsynth*, which turns your PC into a virtual synth with up to 129-note polyphony, which, added to the card's basic sound capabilities, equals 192-note polyphony (hence the card's name). In addition, the WF192XG offers full-duplex stereo digital audio, with a top sampling rate of 48kHz. Other software bundled with the card includes the *XG Works Lite* sequencer, *Tiny Wave Editor*, Internet MIDI and audio plug-ins and a collection of MIDI Files and games. Drivers are included for Windows 95, Windows 98 and NT4, and the card is MPU401 and SoundBlaster compatible.

A Yamaha-Kemble Music (UK), Sherbourne Drive, Tilbrook, Milton Keynes MK7 8BL.
T Product Info Line +44 (0)1908 369269.
F +44 (0)1908 368872.
W www.yamaha.co.uk

Logic shines on

To coincide with the launch of the new *Logic Audio Silver*, *Gold* and *Platinum* computer sequencing packages, Emagic and Sound Technology have announced a UK demo tour, running from May 26 to June 21. Highlights of the new packages include real-time Steinberg *Cubase VST* plug-in support for Mac *Logic Audio* and real-time DirectX plug-in support for Windows versions. The Windows versions now support all PC multi-channel audio hardware through new MME multi-channel and multiple stereo wave drivers. *Silver*, *Gold* and *Platinum* all feature AMT — Active MIDI Transmission — which, in conjunction with Emagic's Unitor8 MIDI interface, provides accurate MIDI timing.

Gold and *Platinum* both feature real-time non-destructive audio crossfades, and included with *Logic Audio Platinum* is additional third-party sample editing software: BIAS *PeakSE* for MacOS, and Syntrillium *Cool Edit Pro LE* for Windows 95.

If you're an existing *Logic* or *Logic Audio* user, contact Sound Technology for details of free and chargeable upgrades.

The tour dates are:

- May 26 Sound Control, Manchester (0161 877 6262)
- May 27 Dawsons, Liverpool (01925 632591)
- May 28 Sound Control, Glasgow (0141 204 0322)
- May 29 Sound Control, Edinburgh (0131 557 3986)
- May 30 Sounds Live, Newcastle (0191 230 3422)
- June 1 KGM, Wakefield (01924 371766)
- June 2 M Corporation, Nottingham (0115 947 4070)
- June 3 Musical Exchanges, Birmingham (0121 248 5868)
- June 4 M Corporation, Ringwood (01425 470007)
- June 5 Music Lab, London (0171 388 5392)
- June 6 Academy of Sound, Leicester (0116 262 418)
- June 8 Digital Village, Croydon Digital Village (0181 408 8444)
- June 9 Guitar Amp & Keyboard, Brighton (01273 676835)
- June 10 Andertons, Guildford (01483 456777)
- June 12 PMT, Southend (01702 436501)
- June 13 Music Village, Cambridge (01223 316091)
- June 19-21 Mad About Music Show, London Arena.

A Sound Technology, Letchworth Point, Letchworth, Hertfordshire SG6 1ND.
T +44 (0)1462 480000.
F +44 (0)1462 480800.
E info@soundtech.co.uk
W www.soundtech.co.uk

Pro Tools free?

How about this for an offer: Digidesign's *Pro Tools PowerMix* v3.4 software, *free*, on a *Pro Tools Free* CD-ROM which is to become available through a number of promotions, including trade shows, product demonstrations and Digidesign user events.

The *Pro Tools PowerMix* software runs on a Power Macintosh without the need for additional hardware. Using the analogue inputs and outputs of the Mac, *PowerMix* provides two simultaneous record tracks and up to 16 tracks of playback, 64 virtual tracks and two bands of digital EQ per track. All of Pro Tools' acclaimed editing features are available.

What's in this wonderful offer for Digidesign? Well, since it's fully compatible with the Digidesign product line, *Pro Tools Free* allows customers to graduate to hardware-based Pro Tools systems as they feel the need for more sophisticated features. Can't be bad!

On the hardware front, Digidesign are launching an "integrated control surface" for their Pro Tools system. ProControl offers hands-on access to Pro Tools features such as TDM mixing, editing and DSP processing, and its modular design allows expansion up to 32 channels in 8-channel increments. Pro Control offers total recall of every session parameter, with tactile control of virtually every function in Pro Tools, and uses patented DigiFader touch-sensitive moving faders.

Digidesign are also introducing their redesigned ADAT Bridge I/O ADAT interface for Pro Tools. Equipped with two ADAT 'Lightpipe' interfaces, the Bridge allows up to 16 channels of Alesis ADAT digital audio to be transferred to a Pro Tools system in a single pass. The interface can be used on its own, or alongside Digidesign's 888 24 I/O, 888 I/O, or 882 I/O with Pro Tools 24, Pro Tools III PCI, or Pro Tools Project PCI systems. Users with multiple ADATs or ADAT optical-equipped devices (such as Yamaha's O2R and O3D mixers) will be able to combine multiple ADAT Bridges and achieve up to 72 channels of ins and outs. The ADAT Bridge will be fully compatible with any Pro Tools 4.1.1 compatible digital audio sequencer, as well as with third-party ADAT sync devices, including the Alesis BRC and MOTU's Digital Timepiece. It also includes a 20-bit D/A monitor output and 24-bit capable S/PDIF and AES/EBU ports. The ADAT Bridge I/O is expected to have a retail price of around £1069 including VAT, and upgrades will be offered to registered owners of the original Digidesign ADAT Optical Interface.

A Avid Technology Ltd, Westside Complex, Pinewood Studios, Iver Heath, Pinewood, Bucks SL0 0NH.
T +44 (0)1753 653322.
F +44 (0)1753 654999.
E prodinfo@digidesign.com
W www.digidesign.com

More Bits for your money

New from Joemeek is a 24-bit version of the SC3 digital compressor. Due to a lack of 24-bit chips, the SC3 was launched with 20-bit converters; now the processor offers full 24-bit, 128x oversampled conversion. Also modified is the VC3 Pro Channel, which now features a dual high-level balanced output and modified compressor drive gain. Physically, the VC3 has been repackaged, with a green sleeve and black front panel (it was originally the other way around).

A Sound Valley Distribution Ltd, The Briars, North Road, Amersham, Buckinghamshire HP6 5NA.
T +44 (0)1494 434738.
F +44 (0)1494 727896.
W www.joemeek.com

Waldorf's Pole position

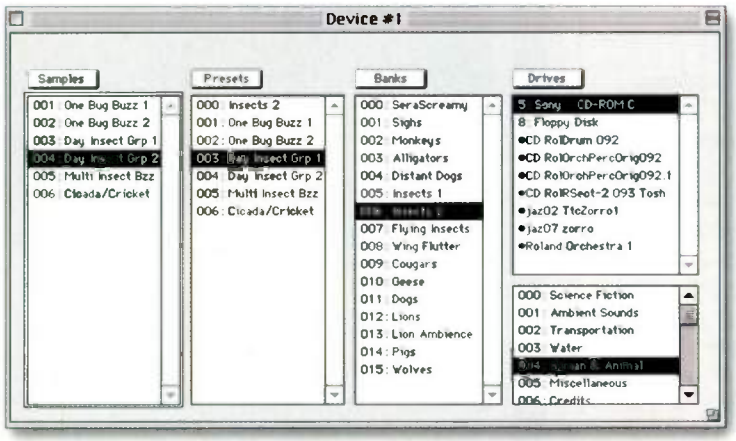
The Waldorf *D-Pole* plug-in aims to bring "the classical synthesizer sound to your computer-based recording environment". Compatible with Steinberg's *Cubase VST* and *WaveLab* v2, the £149 *D-Pole* can be fully automated, with settings savable as single programs or banks. Five 12dB or 24dB filter types, with resonance up to self-oscillation, are offered: low-pass, band-pass, high-pass, notch and resonator. A tempo- or audio-sync'able LFO is available, and an "amplifier module" offers 52dB of overdrive, plus volume, panning and delay mix options. This last facility is needed because of the delay module; it has a maximum delay time of 2000ms, tempo sync'able, with feedback and damping controls. Other features include an envelope follower and an oscillator module, offering ring modulation and sine, triangle and sawtooth waveforms.

To run this tasty new plug-in you need, in addition to the host software, a minimum of a133MHz Pentium PC equipped for running *Cubase VST* or a 604e 132MHz Power Macintosh.

A Arbiter Pro Audio Group, Unit 2, Borehamwood Industrial Park, Rowley Lane, Borehamwood, Herts WD6 5PZ.
T +44 (0)81 207 5050.
F +44 (0)181 207 4572.
E steinberg-uk@dial.pipex.com
W www.steinberg.com

SOS can be reached at sos.feedback@sospubs.co.uk or visit www.sospubs.co.uk

shape of things to come



You are feeling Browsy...

Gallery Software have released *EOSBrowser*, developed in conjunction with Emu Systems Inc for Emu's EOS range of samplers. The software provides a file management and library system for the Emulator 4, E64, E6400 and the new ESynth. *EOSBrowser* runs on almost any Macintosh with OMS v2.0 or later, and provides Emu sampler users with a convenient way to manage large sample libraries. Much of the development work for *EOSBrowser* was done on location at Air Studios in London, during the recording of the soundtrack for the forthcoming Hollywood blockbuster *Zorro*. Keyboard player Ian Underwood, alongside a traditional orchestra, used no fewer than seven Emu samplers, and hundreds of library CD-ROMs and Jaz disks. As the software developed, it became more and more apparent just how useful it was.

EOSBrowser lets you view the contents of drives connected to the samplers, make snapshots of Emu drives, search multiple snapshots for matches, load Emu Banks, Presets and Samples, and assign MIDI channel, audio output and pan position when loading Presets. Support is also provided for multiple samplers. *EOSBrowser* costs £149, with a pro version available for £249 (this version allows more convenient handling of multiple samplers).

A Unity Audio Limited, Upper Wheeler House, Colliers End, Hertfordshire, SG11 1ET.
T +44 (0)1920 822890.
F +44 (0)1920 822892.
E sales@unityaudio.co.uk
W www.unityaudio.co.uk

Voyetra Vendor!

Et Cetera have been appointed UK distributor for products from PC software specialists Voyetra. The company's range includes the *Orchestrator* family: *MIDI Orchestrator Plus*, a MIDI sequencer; *Digital Orchestrator Plus*, which adds digital audio recording and editing facilities to the sequencer; and *Digital Orchestrator Pro*, which adds many more features to *Digital Orchestrator Plus*.

The company also produce *AudioStation 2*, which provides home stereo-like control over your PC's MIDI, WAV and CD functions; the entry-level *Computer Music Starter Kit*; the *Value CD* series of "low-cost, high-quality CD software" for creating, learning, and having fun with music and sound; *Discovering Music*, music education software that works with or without an external MIDI keyboard; the *Discovering Keyboards* keyboard tutor (attached MIDI keyboard needed!); and *Teach me Piano*, featuring 150 lessons and over 100 exercises that provide beginners with basic piano techniques.

A Et Cetera Distribution, Valley House, 2 Bradwood Court, St. Crispin Way, Haslingden, Lancs BB4 4PW.
T +44 (0)1706 228039.
F +44 (0)1706 222989.

SPIRIT DEALER LIST

ABERDEEN	RnB Music	01224-210121
ALTRINCHAM	Concert Systems	0161-927 7700
BARNET	Digital Village	0181-440 3440
BARNSTAPLE	Soundpad	01271-323686
BELFAST	Marcus Music	01232-322871
BINGLEY	Spectre Sound	01274-568843
BIRMINGHAM	Musical Exchanges	0121-236 7544
BIRMINGHAM	Q Music	0121-643 4655
BIRMINGHAM	London Microphone Centre (LMC)	0121-359 4535
BLACKPOOL	Tower Music	01253-27359
BOLTON	H W Audio	01204-385199
BOURNEMOUTH	Eddie Moor's Music Ltd	01202-395135
BRIGHTON	Guitar and Amp	01273-676835
BRISTOL	Sound Control	0800-525260
BURNLEY	Dawsons Music	01282-425829
CAMBRIDGE	Music Village	01223-316091
CARDIFF	Gamlins Music Centre	01222-220828
CARDIFF	Musicland	01222-621715
CARLISLE	AVI	01228-45599
CHESTER	Dawsons Music	01244-348606
COLCHESTER	Axe Music	01206-765652
COVENTRY	Musical Exchanges	01203-635766
CROYDON	Digital Village	0181-407 8444
DERBY	Play It Again Sam	01332-348156
DONCASTER	Electro Music Services (EMS)	01302-369999
DUBLIN	Control Techniques Ireland (CTI)	003531-454 5400
DUBLIN	Sound Communications & Electrical	003531-450 7324
DUNDEE	Sound Control	01382-225619
DUNFERMLINE	Sound Control	01383-732273
EASTBOURNE	Bonners Ltd.	01323-639335
EDINBURGH	Sound Control	0131-557 3986
EDINBURGH	The Warehouse	0131-555 6900
FAREHAM	The Audio Connection	01329-235566
GLASGOW	The Warehouse	0141-950 1757
GLASGOW	Sound Control	0141-204 0322
GRIMSBY	PSS Music	01472-343211
GUILDFORD	Andertons Music Co.	01483-456777
HEYWOOD	Wigwam Acoustics Ltd.	01706-363400
HIGH WYCOMBE	Percy Priors	01494-528733
HOUNSLOW	Project Music	0181-570 4444
INVERNESS	The Music Station	01463-225523
KIRKCALDY	Sound Control	01592-260293
LANCASTER	Low Fold Audio	01524-847943
LEEDS	Carlsbro Academy of Sound	0113-240 5077
LEICESTER	Carlsbro Academy of Sound	0116-262 4183
LIVERPOOL	Ad Lib	0151-486 2214
LONDON	Turnkey	0171-379 5148
LONDON	London Microphone Centre (LMC)	0181-743 4680
LONDON	Gradav Theatre Services	0181-886 1300
LONDON	Raper and Wayman	0181-900 8288
LONDON	HHB Communications Ltd	0181-962 5000
LONDON	Studio Spares	0171-482 1692
LONDON	Soundivision	0171-609 3939
LONDON	Music Lab	0171-388 5392
LONDON COLNEY	DM Music	01727-821242
MANCHESTER	A1 Music Centre	0161-236 0340
MANCHESTER	Sound Control	0161-877 6262
MORECAMBE	Promenade Music	01524-410202
NEWCASTLE-UPON-TYNE	Sound Control	0191-232 4175
NEWTOWN	Mid Wales Music	01686-622161
NORTHAMPTON	Willow Communications	01604-21525
NORWICH	Carlsbro Academy of Sound	01603-666891
NOTTINGHAM	Carlsbro Academy of Sound	0115-9581888
OWESTRY	Systems Workshop	01691-658550
OXFORD	PMT	01865-248083
PETERBOROUGH	B&H Sound Services	01733-223535
PETERBOROUGH	The Live Music Shop	01733-555505
PORTSMOUTH	Nevada Music	01705-660036
PRESTON	A1 Music Centre	01772-204567
RINGWOOD	The M Corporation (TMC)	01425-470007
RINGWOOD	AJS Theatre & Lighting Supplies	01425-480698
ROMFORD	Music Village (Chadwell Heath)	0181-598 9506
SHEFFIELD	Carlsbro Academy of Sound	01142-640000
SHEPPERTON	Marquee Audio	01932-566777
SOUTHEND-ON-SEA	PMT	01702-436501
ST.HELENS	Dawsons Music	01744-730424
ST. HELIER	East Coast Music (ECM)	01534-80575
STOCKPORT	Axis Audio Systems	0161-474 7626
STOCKPORT	Dawsons Music	0161-477 1210
STOKE-ON-TRENT	Carlsbro Academy of Sound	01782-205100
STOKE-ON-TRENT	Music Control	01270-883779
SWANSEA	The Music Station	01792-775751
THETFORD	Thetford Music	01842-766325
TUNBRIDGE WELLS	JB's Music Stores	01892-515007
TWICKENHAM	Way Out West	0181-744 1040
WAKEFIELD	KGM Studio Specialists	01924-371766
WARRINGTON	Dawsons Music	01925-632591
WASHINGTON	Vamps	0191-416 2385
WATFORD	Active Sound	01923-246282
WIGAN	Dawsons Music	01942-244680
WINCHESTER	Whitwams	01962-865253

SPIRIT
by Soundcraft

SPECIAL FX MIXING 2

You need an **8 or 16 CHANNEL CONSOLE** for **live and studio mixing**, but you also need an **effects unit**. **FX8** and **FX16** give you all this in rugged, compact 10U frames, because each is a dedicated live/recording mixer from **SPIRIT** and a programmable **LEXICON** effects unit. Now who said you can't have it all? Take an **FX** console to a venue and its **8** or **16 MIC PREAMPS**, subgroup, mono out, HPFs and comprehensive aux facilities make it a versatile FOH console. Back in the studio, its 8 or 16 pre/post fade direct outs and 3-band swept mid EQ make it the perfect mixing tool. But what makes **FX** mixers so **special** is their internal **LEXICON EFFECTS UNITS** with 16 editable programs, which save you the cost of an external unit that ties up valuable rack space. Get down to your Spirit dealer and see what effect an **FX** mixer can have on your mixes.

- FX8 - 8 Mono + 4 Stereo inputs, with up to 16 inputs to mix
- FX16 - 16 Mono inputs, with up to 26 inputs to mix
- All mono inputs have UltraMic™ preamps with 60dB of gain range, pre/post-fader switchable Direct Outs, 3 band mid-sweep EQ, HPFs and Inserts
- Lexicon Effects section with dual effects capability, and editable and storable programs and parameters
- SIP (FX16 only) and PFL solo capability
- 4 Stereo Returns on FX16
- 3 Auxes on FX8, 4 on FX16 [Aux 1 pre-fader and Aux 3 (FX8) or Aux 4 (FX16) for Lexicon send]
- Stereo subgroup
- 100mm faders
- Phantom Power
- Rackmount option [10U]

SPIRIT
by Soundcraft

ONLY MUSIC MATTERS

A Harman International Company

SPIRIT FOLIO FX8 & FX16	Live/Recording Mixers with Effects
Send me a brochure on FX8 ☐ FX16 ☐	I read the following magazines:
The full Spirit Range ☐	Name
I would use my FX console for Live ☐	Band Name
Studio ☐	Address
Other	Please send me a free copy of the Spirit Guide to Mixing ☐ SOS

Spirit by Soundcraft™, Harman International Industries Ltd, Cranborne House, Cranborne Industrial Estate, Cranborne Road, Potters Bar, Hertfordshire EN6 3JN, England. Tel: +44 (0)1707 665000. Fax: +44 (0)1707 665461

Check out the Spirit Website: http://www.spirit-by-soundcraft.co.uk

shape of things to come

The West Midlands-based Rain Corporation have released a 5-track CD of original material in aid of the charity organisation SPARKS (Sports Aiding Medical Research for Kids). The songs on the CD were recorded, mixed and mastered using a Digidesign Pro Tools and Yamaha 02R mixing system supplied by The M Corporation. The CD costs just £4.99, £2 of which goes to the charity.

A Mark Scrimgeour, The Rain Corporation, Design One, Malt House Barns, Grove Lane, Lapworth, Solihull B94 6AR.
E rain@design-one.co.uk
T SPARKS +44 (0)171 931 8899.
T M Corporation +44 (0)1425 470007.

As of 1st April, all UK trade distribution and sales of the Twiddly Bits range by Keyfax software passed to Arbiter plc. Keyfax expect this move to result in an increase of retail stockists of the range throughout the UK. UK trade enquiries should be directed to Maria Hall or Charlotte Hynes at Arbiter on +44 (0)181 207 5050. Direct sales will still be dealt with by Keyfax on +44 (0)1491 413938.

Retail chain Sound Control have been invited by the organisers of Scotland's T in the Park summer festival (the weekend of July 11-12, at Balado, near Kinross) to provide a "one stop shop" in a backstage tent. Apparently, a similar facility helped ensure the smooth running of last year's event; the tent will provide sound advice, technical know-how and production back-up for all production staff and crew. Sound Control have also announced the launch of two new division: Sound Control Digital, to serve pro studio, post production and broadcast customers,and Sound Control Direct, an enhanced mail order service.
T Freephone +44 (0)800 525260.

HHB Communications have made their first ever acquisition: they've bought Genex Research, the UK manufacturer of the GX8000 high-bit, 8-track magneto-optical recorder. Genex's R&D and manufacturing operations will shortly move to new premises immediately opposite HHB's London HQ.
T HHB Communications +44 (0)181 962 5000.
W www.hhb.co.uk

The electronic percussionists amongst should check out the new Wernick Musical Instruments web site. As well as checking out the company's product range, including their Notepad drum trigger pads, and UK dealers, you can access their list of electronic drum links.
T +44 (0)116 255 6225.
W www.webleicester.co.uk/customer/wernick

Clock up yer Digits!

SOS reviewed the Aardsync II low-jitter master digital clock back in October 1997, and now Aardvark have released a product which allows that low-jitter clock to be distributed to an entire digital audio studio, eliminating clicks, pops, and jitter problems when the studio has no master clock, or not enough clock outputs to run to every device. The half-rack Sync DA (£817 including VAT) can resolve word clock and 256 Superclock from any AES/EBU signal, as well as distributing word clock to up to six devices. Because word clock cables should remain at under 15 feet to avoid severe jitter problems, Aardvark have included an AES/EBU input so that you can now distribute digital clocks from room to room. While the Sync DA is ideally suited to distributing the Aardsync II's clock, it can actually distribute word clock and 256 Superclock from any DAT, digital audio workstation or digital mixer.

A The UK Office Ltd, Berkhamsted House, 121 High Street, Berkhamsted, Herts HP4 2DJ.
T +44 (0)1442 870103.
F +44 (0)1442 870148.
E cday@theukoffice.co.uk

Girl Power

Electrovoice have launched the first stage mic ever designed specifically for the female alto/soprano vocal range. The N/D367 Female Vocal mic forms part of EV's new line of application-specific N/DYM microphones.

According to UK distributors Shuttlesound, the N/D367 "has a sound and frequency response comparable to a condenser mic, while retaining the the robustness of a dynamic." It features EV's proprietary N/DYM magnet geometry and a neodymium-iron-boron structure, which combine to produce a "vast improvement" in the mic's signal-to-noise ratio. The EV R&D team have been able to further enhance the mic's performance by focusing on a specific vocal register.

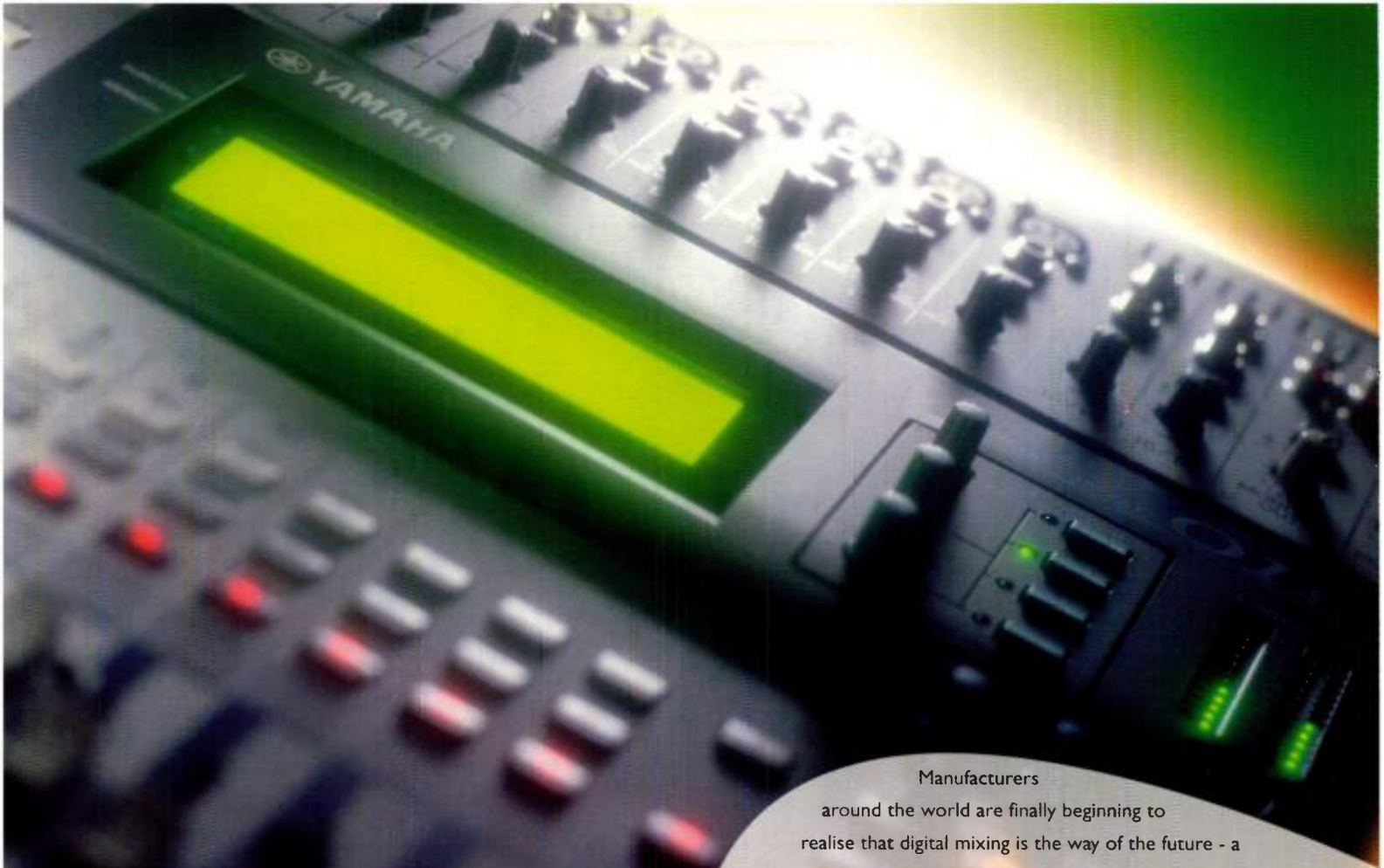
The N/DYM range offers other models designed for particular applications, including full-range vocals and instrumental uses.

A Shuttlesound, 4 The Willows Centre, Willow Lane, Mitcham, Surrey CR4 4NX.
T +44 (0)181 646 7114.
F +44 (0)181 640 7583.
E 100270.1315@compuserve.com
W www.electrovoice.com

CTI make their *Point*

Point Seven is the fourth entry in the Library of Sound series of intriguing ambient CDs from CTI (aka *SOS* contributors Chris Carter and Cosey Fanni Tutti). The album is mainly instrumental, with two tracks featuring Cosey's vocals. Offering lushly-synthesized backdrops and deep, involving 3D soundscapes, with the duo's usual attention to sonic detail, it's a great listen. Interestingly, the CD was recorded entirely with Steinberg's *Cubase VST*, and mastered direct to DAT via the digital out of a Korg 1212 I/O PCI card, all in CTI's own studio. Check your local record store (the CD, catalogue number CTI98004, is distributed by World Serpent), or buy direct from CTI at £12 including UK postage. European buyers should contact CTI before sending any money; enclose an SAE (or two International Reply Coupons) with all queries.

A BM CTI, London WC1N 3XX.
W www.netdirect.net.uk/~chris.cosey



Manufacturers around the world are finally beginning to realise that digital mixing is the way of the future - a conclusion that Yamaha came to some ten years ago.

Which is why Yamaha digital mixers, including the Programmable Mixer 01, 02R and 03D, have already saved millions of production hours in thousands of projects across the globe.

As other manufacturers struggle with unfamiliar technology, Yamaha's new 01v offers up to 24 inputs (16 analogue plus 8 digital I/Os on optional ADAT, TDIF, or AES/EBU boards, or, from September, a further 8 analogue channels), total instant recall with 99 memories, two 32-bit ProR3 based effects processors and 22 dynamic processors, 120 bands of 44-bit parametric EQ, motorised faders and full dynamic automation via MIDI.

What's more, 48 channel capability is easily achieved by linking two machines.

Call 01908 369269 to discover more about the console that actually exists and, at **£1,399 (MRP inc.VAT)**, costs rather less than other companies' vaporware.

Yamaha reveals its radical new concept in digital mixing. Availability.

O2R

O3D

01v

Yamaha-Kemble Music (UK) Ltd. Sherbourne Drive, Tilbrook, Milton Keynes. MK7 8BL.
www.yamaha.co.uk

20 32 YAMAHA

Tannoy take wraps off Reveal

Tannoy Professional's new Reveal nearfield monitors offer a two-way design, providing "extremely detailed, dynamic sound with a wide, flat frequency response". The monitor's quirky front panel is not just for show: the curved baffle has been precisely designed to minimise diffraction. At 40mm thick, this panel provides a massive non-resonant mounting platform for the drive units; a 25mm soft-dome tweeter is matched with a 165mm long-throw bass unit using a hard-wired, low-loss crossover. Both drivers are magnetically shielded, allowing operation close to video monitors. Sensitivity is quoted as 90dB, and the monitors are rated for use with amps from 50W to 150W, into 8Ω. One particularly attractive attribute of the new monitors is their price: £229 including VAT.

A Tascam UK, 5 Marlin House, The Croxley Centre, Watford WD1 8YA.
T +44 (0)1923 819630.
F +44 (0)1923 236290.
W www.tascam.com

ATC's new power tool

ATC have spun off the technology used in their noted active monitors as a new stand-alone power amp. The SPA2-200 Pro is rated at 200W per channel, and uses a proprietary ATC grounded-source FET output stage, resulting, it is claimed, in "remarkable performance figures into all manner of loads". ATC also claim accuracy, transparency and musicality as notable features of their new amp. Microprocessor supervision of both amplifier channels provides protection and clear indications of overdrive and overheating. The SPA2-200 is set to retail at £2056.25 including VAT.

A HHB Communications, 73-75 Scrubs Lane, London NW10 6QU.
T +44 (0)181 962 5000.
F +44 (0)181 962 5050.
E sales@hhb.co.uk
W www.hhb.co.uk

Bundles of joy from Waves

Two bundles are now available which take the strain out of choosing from the numerous Mac-platform plug-ins developed by Waves. There's an extra incentive to buy a Waves bundle: you'll receive all new plug-ins free for the rest of 1998, along with free upgrades for that period.

The Gold Bundle (£1825 including VAT) features every current Waves plug-in: the brand new *MaxxBass*, the famous *TrueVerb* reverb, the *Q10* EQ, *C1* compressor/gate, *S1* stereo imager, *PAZ* psychoacoustic analyser, *L1 Ultramaximiser MultiRack*, *WaveConvert Pro*, *TrackPack Pro*, *PS22*, *Audio Track* and the *Renaissance* compressor.

The lower-cost TDM Bundle (£799) includes all plug-ins except *Renaissance* Compressor, *PS22*, *Audio Track* and *MaxxBass*; *Wave Convert Pro* is also substituted by *WaveConvert Mac*. This particular bundle is ideal for use with a Digidesign Pro Tools system.

SCV London continue to add software lines to their list of distributed ranges, the latest coming from PC specialists SEK'D. SEK'D stands for Studio Electronic Klangprocessing Dresden (there's a useful piece of information for you), and the company design and manufacture professional-quality hard disk recording, mixer editing and CD-mastering software, plus digital interface cards and studioware. Their product line includes the ProDif and ARC range of cards, *Samplitude* hard disk recording/editing software and the *Red Roaster* CD mastering package.

A SCV London, 6-24 Southgate Road, London N1 3JJ.
T +44 (0)171 923 1892.
F +44 (0)171 241 3644.
W www.scvlondon.co.uk

Pavilion: take cover...

Specialist gear insurers Pavilion have launched a web site to coincide with the introduction of a wider range of policies, and rates that are, according to Pavilion "even more affordable."

The site, at www.musicalinsurance.com, features an instant quoting system, full policy wording, full range of policy options, on-line application form, and an interactive lost and found and want ads sections. Pavilion also print a useful newsletter which gives some good information about security and what to watch out for when insuring your equipment.

A Pavilion Musical Instrument Insurance, Granton House, 27-28 Queen's Road, Coventry CV1 3EG.
T +44 (0)1203 555900.
F +44 (0)1203 555520.
E PavilionDirect@btinternet.com
W www.musicalinsurance.com

Fostex's little Xtras

Though there's been much action of late on the portable digital multitrack front, Fostex have not abandoned the traditional analogue cassette multitracker format which has served so many of us over the years. The new X55 (£379, shown right) is an updated and revamped version of the XR5 and retains many of that machine's features: Dolby B noise reduction, a 4-input mixer with 2-band EQ; insert points; two auxiliary sends; a post-foldback send facility; and a MIDI/tape multi-mix mode. The new machine adds balanced mic XLR inputs.

The X77 (£499), like its predecessor, the XR7, provides 4-track simultaneous Dolby C-enhanced recording; a 6-input mixer; and 2-band shelving EQ on channels 1-4. The XR77 also adds a pair of balanced XLR mic inputs (on channels 5 and 6), a new mid-range parametric EQ, and two insert points. All channels feature two auxiliary sends, and there are two stereo aux returns. In addition, the parametric EQ may be assigned to the master stereo output.

Fostex X55.

A SCV London, 6-24 Southgate Road, London N1 3JJ.
T +44 (0)171 923 1892.
F +44 (0)171 241 3644.
W www.scvlondon.co.uk

Audio antidote

SPL continue their tradition of cute product names with the Qure dual-channel, 3-band parametric EQ. The new unit features a 'Qure' control which apparently 'cures' digital harshness by using coils and valves "to introduce warmth, depth and dimension".

Designed for recording, mixing and mastering, the unit selectively employs valves, coils and transistors in the frequencies they work best at. The parametric filters are optimised for music, and the Qure has a low noise level and generous 113dB dynamic range, making it suitable for the most demanding applications. It's especially recommended for adding presence to vocals and guitars, and for improving the sound of digital recordings, with specially designed frequency controls which give a "gentle frequency sweep within a musically optimised control range."

Also new from SPL is the Transient Designer, an intriguing dynamic signal processing tool, which uses SPL's Differential Envelope Technology to allow you to shape and manipulate the transients and sustains of sounds; four independent channels facilitating the creation of interesting panorama effects. SPL suggest that the Transient Designer could be used, for example, to emphasise the attack of a bass drum or sample, damp down the sustain of a snare or reverb to clean up a mix, or mellow the attack of acoustic or electric instruments. As always, we'll review these two as soon as we can get hold of them.

A Stirling Audio, Kimberley Road, London NW6 7SF.
T +44 (0)171 624 6000.
F +44 (0)171 372 6370.
E sales@stirlingaudio.com
W www.stirlingaudio.com

Smart Dog's pet sounds

Yamaha's 03D digital mixer is proving popular at Warwickshire computer games company Smart Dog. The company uses the mixer, purchased from Watford's Active Sound, for game soundtracks and developing in-game sound effects. Smart Dog in-house musician Gerard Gourley says: "The use of CD for Playstation games has meant that the music and sound effects to accompany any new game have to live up to the stunning visuals that the graphics guys create. I read some really glowing reviews of the 03D last year and it sounded like a dream come true. I had a demo and promptly bought one, and I've been using it ever since. The overall quality and practicality of the product is very impressive; the sound is just so clean that sometimes I have to *add* noise for that touch of realism."

Gerard Gourley of Smart Dog.

Gerard's work can be heard on the recent Playstation release *Tennis Arena* and forthcoming racing game *Circuit Breaker*.

A Yamaha-Kemble, Sherbourne Drive, Tilbrook, Milton Keynes MK7 8BL.
T Brochure Line +44 (0)1908 369269.

shape of things to come

Sing something sampled!

KAE Labs have introduced *VocalWriter*, the first music synthesizer to sing lyrics! *VocalWriter* is a Power Mac MIDI file editor, player and synthesizer package using a proprietary acoustic modeling technology called Resonant Articulatory Synthesis (RAS). It offers, claim KAE Labs, "the first musical instrument that can model the human vocal tract in singing unrestricted English lyrics". *VocalWriter* also synthesizes the full General MIDI instrument set, providing stereo instrumental accompaniment to the vocals.

The task of entering and editing lyrics is for the most part automated using *VocalWriter*'s music editor; simply type the English lyrics for each note and VocalWriter automatically figures out the pronunciation (from its 100,000 word phonetic dictionary), the syllable timing and synchronisation, and the required model parameters to sing the lyrics. Users can make program changes for new singing voices, enter pitch-bend and volume controls, and various extended vocal controls such as brightness, glide rate, chorus and aspiration levels. Since the synthesizer is polyphonic and multitimbral, music can be scored with more than one vocal track, to provide sung choral parts using different voices. *VocalWriter* includes over 85 different singing voice models. The voice range covers models from the complex but subtle characteristics of human singers to models that extend beyond physical possibilities, like singing musical instruments.

VocalWriter can be downloaded for a free 15-day evaluation from the KAE Labs web site; the shareware registration is US$99 — a little over £60.

A KAE Labs, PO Box 1904, Woodinville, WA 98072-1904, USA.
E kae@kaelabs.com
W www.kaelabs.com

Remotely interesting

Users of multiple Tascam DTRS digital tape recorders (DA38, DA88 and DA98) will be interested in a new remote control for such systems. The RC898 succeeds the previous RC848 and is designed to extend the operational capabilities of multiple DTRS configurations. It confers the transport and control capabilities of Tascam's latest digital recorder, the DA98, to all DTRS machines, as well as providing control over external VTR or ATR machines.

The RC898 offers centralised control for up to six DTRS recorders, featuring Jog/Shuttle, Input Monitor, Monitor Mode, Chase On/Off, and so on. VTRs can be controlled by just plugging in, whereupon full transport and record function control (of the audio track) is available via the RS422 protocol. The RC898's LCD display replicates the information displayed on the DA98's LCD.

Other features offered by the RC898 include Auto punch-in/out with rehearsal, direct locate to pre-roll point, 99 cue-point memory, and 20 short-cut user-definable operation keys. The new remote will set you back £1199.

A Tascam, 5 Marlin House, The Croxley Centre, Watford, Herts WD1 8YA.
T +44 (0)1923 819630.
F +44 (0)1923 236290.

Matrix is a new community studio based above the North Pole live music bar in Winchester. Opened at the end of last year, Matrix offers budget rehearsal and recording facilities for local artists. To help maintain the low rate of £5 (sessions due for commercial release will cost more), the studio is looking for industry sponsors — Joemeek have already donated a VC6 compressor/mic preamp.
T +44 (0)1962 878315.

On May 30 and 31, Manchester's G-MEX Centre will host the second DJ Culture fair. This weekend-long event will include a record market, a "fashion and lifestyle arena", a home studio equipment section and a mixing competition. The DJ hardware section will feature products from the likes of Pioneer, Vestax, Gemini, Roland, Technics and others. Tickets are a mere £5, and travel packages are also available. Noted DJs on site will include Roger Sanchez (who'll be flying in from the States specially), Allister Whitehead, Tuff Jam and Mr C.
T Box office +44 (0)171 385 8687.

This year's Mad About Music show (British Music Fair) is being staged at the London Arena on June 17th-21st, and there's a number of attractive ticket offers available. An Adult (aged 13 and over) ticket will cost £6 on the door, but £5 if accompanied by a Mad About Music flyer (obtainable from music retailers) and £4.50 in advance from the booking office (including a 50p booking fee). If you buy two tickets you'll be entitled to free entry for a third person, and families (two adults and two children) can get in for just £10. Entry for pre-registered trade visitors is free throughout the show.
T Mammoth Events +44 (0)1353 665577.
F +44 (0)1353 662489.
W www.madaboutmusic.co.uk3

Nearly all the writing and playing on (ex-Stone Roses) Ian Brown's recent hit 'My Star' is by Aziz Ibrahim, who has

just equipped his studio with loads of Tascam gear. He now runs two DA88 digital 8-tracks and an MC2600 MkII desk; a 424 MkII portastudio is still in his bedroom.
T +44 (0)1923 819630.

SOS can be reached at sos.feedback@sospubs.co.uk

Our web site address is www.sospubs.co.uk

K5000

ADDITIVE POWER

Over 100 NEW UK Patches!

K5000S

Additive synthesis with up to 64 harmonics per source

- Unique 128 band formant filter
- 4Mb of PCM samples
- Up to 6 sources per patch (sources can be either pcm or additive)
- Hi-pass and multipole low-pass filter
- 2 LFO's
- 2 envelopes
- 4 individual effect processors (37 effects including delay, reverb, chorus etc)
- 4 outputs
- Graphic Eq
- Excellent programmable 40 pattern arpeggiator
- Portamento
- 32 note polyphony
- 18 real time controls
- 4 real time controls can adjust 2 parameters (ie add harmonics while closing the filter etc)
- 61 quality keys

K5000R

2u rackmount version of K5000S. Does not include real time macro controls

K5000W

The workstation version includes an additional 4Mb of PCM samples and a 50000 step, 40 track sequencer with 32 midi channel support

Did you know that if you break down any sound to its individual components, you will end up with a collection of sine harmonics?

Additive synthesis was developed to emulate the way nature creates sounds by adding harmonics with different envelopes. This most natural and expressive method for generating sounds is the basis of the Kawai K5000 series of synths.

Great real time controls, a cool filter and excellent effects adds to the power of K5000. The included editor for mac and pc makes it even easier to program your own sounds.

KAWAI

ARBITER PRO AUDIO
a division of ARBITER GROUP PLC, Wilberforce Rd. London NW9 6AX
Tel: 0181 207 5050 • Fax: 0181 207 4572 • Web: www.arbitergroup.com

shape of things to come

New card dealt direct to UK

Now available in the UK via Direct Digital Distribution, the Sonorus StudI/O card gives 16 channels of digital I/O via two ADAT optical inputs/outputs plus an 18-bit stereo 1/4-inch jack output for monitoring. The optical interfaces may be switched in software to operate as S/PDIF inputs/outputs (complete with sample rate conversion) for use with CD and DAT machines, and the internal architecture of the Sonorus card will support up to 24-bit

throughput in either ADAT or S/PDIF formats, making it ideal for the new versions of digital audio packages like *Cubase VST* and *Logic Audio*, which are in the process of expanding to 24-bit compatibility.

The card itself is a PCI 2.1 standard 'short card', thus increasing the number of computers into which it can be fitted. It comes complete with ASIO drivers for *Cubase VST* on both Macintosh and Windows 95 operating systems, plus Windows MM System drivers for more general use with other PC digital audio programs. *Logic Audio* v3.0 drivers are under development to take advantage of the 24-bit capability and should be available "soon". The card will run on any Mac or PC with a minimum of 120MHz clock speed, although 200MHz is recommended to ensure that all 16 channels are simultaneously available with sufficient power left over for plug-ins.

Direct Digital Distribution tell us that the Sonorus StudI/O's dual ADAT I/O capability makes it ideal for use with digital desks like the Korg 168RC and the new Spirit 328 desk (with their two ADAT optical interfaces as standard) giving a full 16 channels of digital connectivity, and even with desks that can only have a single ADAT I/O option (like the Yamaha 03D and 01V), the SPDIF capability means that 10 channels of digital interfacing are still possible. Two StudI/O cards can also be used together on the Mac (PC soon to follow) to give 32 channels of digital connectivity with desks like the Yamaha 02R, Mackie Digital 8-bus and the new Panasonic/RAMSA digital mixer.

The Sonorus StudI/O PCI card retails for £799 including VAT, and claims to be the cheapest 24-bit, 16-channel digital audio card on the market at present.

A Direct Digital Distribution, 10 Bicknoller Close, Sutton, Surrey SM2 5NQ.
T +44 (0)181 642 6306.

One World Song Contest

At this year's NAMM show in Los Angeles, Keyfax Software and Q-Up Arts, in conjunction with *Sound On Sound*, announced the winners of their One World Song Contest. Musicians were invited to write a piece no longer than five minutes in length using Twiddly Bits MIDI Samples and/or Q-Up Arts sample CDs. All entries were judged by a group of the world-class musicians included on the Keyfax and Q-Up Arts titles, including Bill Bruford and Steve Gadd.

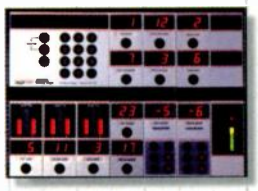
The Grand Prize winner is Mr A Reid from Australia, with a track entitled 'Hammer The Hammer'. USA winner is Bill Bernson; UK winner Nicholas Cook and runner-ups David Cooper Orton and Kevin Houldsworth. The Japanese winner is Keiji Tjima, with Moli Kand as runner-up.

T +44 (0)1491 413938.
W www.keyfax.com

turnkey

dynaudio lexicon dbx

If you want to look at equipment we'll send you some brochures...



If you'd prefer to listen and evaluate a wide range of products by strict A/B comparison there is currently only one option.

Turnkey's revamped and enlarged demo facilities feature what we believe to be the world's largest digital comparator systems for pro audio* and the only one of its type in the U.K.

One side of the switcher-equipped recording room.

Over 70 effects processors are available for instantaneous A/B via relay switching, eliminating the repatching time which makes good comparisons so difficult. 16 pairs of studio monitors, 10 power amps, 16 mixing consoles and around 30 sources and recorders from DATs, CDs, HDRs and Multitracks are on the same matrix so you can instantly configure complete systems.

Compare 6 mics. by recording simultaneously to ADAT.

Take 8 bus consoles - hundreds are bought each year on recommendation. Bearing in mind the sums involved it's hard to believe that the opportunity to properly compare the various brands for EQ and noise has not previously been offered.

Waldorf Wave, ProTools IV and Big by Langley in Studio 1.

We've taken the same innovative approach to demonstrating all our products from CD Rom samples to analog synthesisers.

Most dealers will tell you which products best suit your needs. Only one can show you.

Huge range across Mac, PC and Acorn platforms.

turnkey LOOPSTATION DUBLIN
NOW OPEN
Same Products. Great Service.
Call 01677 9377 or visit 34-35 Wellington Quay, Temple Bar, Dublin 2.
Please note that Irish prices may vary due to currency fluctuation and local VAT differences.

INDEX

3 Turnkey Professional
4 Multitrack Recording
5 Multitrack Recording
6 Outboard
7 Outboard
8 Computer Software/Hardware
9 Computer Hardware & Samplers
10 Synthesisers
11 Synthesisers & Drum Machines
12 Keyboards & Guitars
13 Mics, PA/DJ, Mixers & Monitors

* The leading manufacturer of this equipment tells us that the Turnkey systems are the largest ever supplied worldwide.

turnkey 0171 379 5148
Fax: 0171 379 0093 114 Charing Cross Road London WC2H 0DT

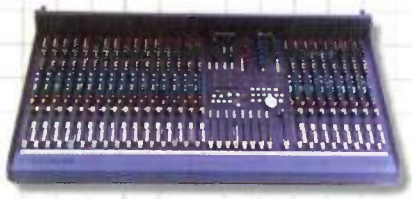
DREAM RECORDING PACKAGES AT DREAM PRICES

Soundcraft & ALESIS

GHOST CONSOLE

- Pristine Audio Quality Throughout
- 4 Band EQ & Fully Parametric Mids
- Up to 12 Auxiliaries
- MMC, Jog/Shuttle, Track Arming, MIDI Muting & Synchronisation Built-In (not LE)

The project studio has changed how professional musicians make and record music. Record advances used to pay for studio time, but now its for an artist's home studio utilising digital 8 track and a compact high quality console.



The Ghost, though, is more than a project console, you only have to look at the features to see this. Soundcraft continues to break new [illegible] bringing fully professional facilities. Ultra low noise inputs, 4 band EQ with 2 full parametric mids, up to 12 auxiliary sends, MIDI mute automation and MTR transport control (not LE) are a few of the features that put other project consoles to shame. In fact the only comparison with a project console you could make is the price.

RRP £6729	RRP £7469	RRP £7575	RRP £8327
£3999.99	£4599.99	£4699.99	£5199.99
GHOST 24 LE + ADAT LX20	GHOST 24 + ADAT LX20	GHOST 32 LE + ADAT LX20	GHOST 32 + ADAT LX20
ALL PACKAGES INC FREE LOOMS	ADD £399.00 FOR 24ch METER BRIDGE	ADD £499.00 FOR 32ch METER BRIDGE	ADD £1499.00 FOR 2nd ADAT XT

ADAT LX20 DIGITAL MULTITRACK RECORDER

- New 20 Bit ADAT Format for Superb Quality
- Ultra High Speed Transport
- Digital Dubbing Between Two Machines
- Fluorescent Bargraph Metering

Alesis pioneered low cost digital multitrack recording with the introduction of the ADAT, and changed the face of home and professional recording. The new LX20 version still plays tapes from the old machines, but now records at full 20 bit resolution - 16 times more detail than previously!

The clarity really must be heard to be believed, revealing the finest nuances in both acoustic and electronic sounds. Improved locking times make multi machine setups a dream to use.

NEW

Digidesign have added a high performance 24 bit system to their ProTools range of products. The new D24 PCI-bus audio card is based on the Motorola 56301 processor, and increases the audio tracks from 16 to 24 per card. There is also an updated 888 interface with 24bit A/D & 20bit D/As, multiple 888s enabling up to 72 channels of discrete analog or digital I/O. They have also reduced the price of the standard ProTools from £7,131 to £4,465.

DSP FARM REDUCTIONS & FREE PLUG INS WHEN PURCHASING PT24

ProTools 24 & G3 Pack

NEW G3 PACKAGE £9499.99 INCLUDING VAT

- G3/233 64/4096CD & Apple Design Keyboard
- Apple MultipleScan 720 Display
- ProTools24 Core System
- Digidesign ADAT Bridge or 882/20 Interface
- PCI SCSI Accelerator
- 4Gb Fast & Wide Barracuda Hard Drive

ProTools 24 & 9600 Pack

9600 PACKAGE £10499.99 INCLUDING VAT

- 9600/350 64/4096CD, ZIP & Ext. Keyboard
- Apple MultipleScan 720 Display
- ProTools24 Core System
- Digidesign ADAT Bridge or 882/20 Interface
- PCI SCSI Accelerator
- 4Gb Fast & Wide Barracuda Hard Drive

New Products:

Digidesign ADAT Bridge & 882/20 Interfaces: New Low Cost Interfaces: the ADAT bridge provides 16ch digital I/o via ADAT Toe-link with 20bit DA for monitoring. Expanding upon the original 18-bit 882 I/O audio interface design, the 882/20 features 8 channels of 20bit analog I/o and two of 24-bit S/PDIF I/O.

digidesign

ProTools Plug-ins

t.c. tools £775.99

Arguably the best reverb plug-in available, TC Tools uses algorithms developed from the M5000 mainframe reverb. Great user interface allows you to visualise the effects via the graphics, making it intuitive and easy to use.

Dolby Surround Tools £1339.99

Produce Dolby Surround mixes entirely within the ProTools environment. Both Encoder & Decoder Plug-ins are available as a bundle providing digital implementation of encoding/decoding process.

Focusrite D2 £880.99

Based on the famed Focusrite Red 2 Dual EQ designed by Rupert Neve, the D2 plug-in matches the high-quality expected from this company, even down to the brushed aluminium front panel.

Antares Auto-Tune £580.99

The plug-in that many professionals have but none will admit to it! AutoTune identifies the pitch of a signal and corrects it to a defined scale, retaining original quality, making intonation problems a thing of the past. Available as a TDM or VST plug-in.

QUESTED

Ask anyone in the know in the audio industry about who are the foremost acoustic designers in the business, and the chances are that the name of Roger Quested will be top of the list. He has built an unrivaled reputation for himself in a notoriously difficult process which is half science, half art.

Whilst his initial designs were all large bespoke projects for his studio installations, the last few years have seen the emergence of a very carefully thought out, high quality range of monitor speakers, to cater for the demands of the modern speaker market, from the innovative new F11, to the incredible HQ410.

The Quested range is probably the most comprehensive available, covering active, passive and self powered designs, as well as amplifiers and active crossovers, from subwoofers through nearfields to custom built soffit mounting units.

Call Turnkey Professional to arrange a demonstration, a free trial in your own studio, or to enquire about our generous part exchange facilities.

F11 SELF POWERED MONITOR

The F11's cabinet design is another Quested first, being made from a new mineral loaded material which offers excellent acoustic properties using a considerably smaller box than would be possible using conventional materials. The design is a self powered two way bi-amplified one, with 165mm bass driver, and 28mm soft dome HF unit. Months of fine tuning have resulted in a speaker which produces a superb sound, totally belying its size. Custom colours can be specified for bulk orders.

NEW PRODUCT £1149.99

VS2205 SELF POWERED MONITOR

One of the most popular models in the Quested range, the VS2205 is designed as a highly accurate reference monitor, and its low profile and shielding made it ideal for a wide variety of uses. The built in amplifiers separately drive two 130mm bass units and a 28mm ferrofluid damped soft dome tweeter. Switches are provided for input sensitivity and HF and LF equalisation, to compensate for room conditions and positioning.

NEW PRODUCT £1699.99

We will beat any genuine [illegible] from a UK or European dealer at the time of order. We must be able to substantiate the quote and the goods must be available and in stock. Prices include 17.5% VAT except Digidesign bundles. UK mainland carriage from £9.99. Please allow 10 working days for delivery. [illegible]

turnkey In Ireland: TURNKEY DUBLIN 01677 9377 34-35 Wellington Quay Temple Bar Dublin 2
turnkey 0171 379 5148
Fax: 0171 379 0093 114 Charing Cross Road London WC2H 0DT Email: sales@turnkey.demon.co.uk Web site: http://www.turnkey.uk.com

KORG emsonic ALESIS Steinberg Technics Vestax KURZWEIL FATAR

EUROPE'S LOWEST

YAMAHA

STAY IN THE MIX WITH YAMAHA

PROMIX 01 Digital Mixer

This is the digital mixer that shattered the price/performance barrier. You get 1 stereo and 16 mono inputs (8 are mic/line), all with 3 band parametric EQ, 2 external aux sends, 2 internal sends to the built in SPX990 based FX processors, 3 assignable dynamics processors, motorised faders and total automation. The SPDIF digital output means you can connect the ProMix01 directly to your DAT, CDR or MiniDisc with absolutely no loss of quality. This was incredible value at the original price, but this new low price makes it probably the best value for money mixer on the market.

- Up to 20 Inputs in Total
- Moving Fader Automation
- 2 Built in Effects Processors
- 3 Assignable Dynamics Processors

~~RRP £1999~~ **£999.99**

03D Digital Console

Like the 02R, the 03D is a fully-automated digital mixing console set to have a large impact on the mixing market. With 26-inputs & 18-outputs the console features fast 32-bit internal digital audio processing, versatile analog and digital I/O configuration, new 32-bit onboard multi-effects processors with freeze (sampling) and guitar amp simulation effects, motorised faders, fader and mute grouping, surround sound mixing, onboard automation, MIDI remote capabilities and much more.

- Ultra Compact Format
- Moving Fader Automation
- Surround Sound Capabilities
- Takes ADAT, TDIF or AESEBU Digital Board

Call now for a Turnkey Professional brochure and a free trial!

~~RRP £2999~~ **£2349.99**

02R Digital Console

The fully digital 40 input 8 bus console with total automation and moving faders. 4 band parametric EQ and dynamics for every input and 2 comprehensive on-board fx processors with a range of reverbs, delays and other standard fx. Optional interface cards allow full digital connection of ADAT, T-DIF and AES/EBU formats for integration of MTR and hard disk systems.

- Up to 40 Inputs In Total
- Moving Fader Automation
- Dynamics Processors on Every Channel
- Takes 4x ADAT, TDIF or AESEBU Digital Boards

~~RRP £6999~~ **£5699.99**

THE UK 4 TRACK CENTRE

Our famous 4 track pack includes everything you need to start making music. Mixer, headphones, a dynamic microphone, a chrome tape, cables, head cleaning kit and the best book we've yet seen on multitrack recording, taking you through basic track laying, mixdown etc... with sections on everything from mic placement to synchronisation and MIDI. We've obtained some great 4 track pricing and for a limited period, we will give you the 4 track pack (normal price £59.95) absolutely free when you purchase any of these multitrack recorders.

PORTASTUDIOS — TASCAM

PORTA 02

Brand new entry level portastudio from the inventors of the original portable multitrack recorder.

NEW PRODUCT **£149.99**

ALL MULTITRACKS INC '4 TRACK PACK' ADD £10 FOR PORTA 02

414

All new Portastudio from Tascam! Records to all 4 tracks at once using DBX noise reduction. Double speed recording for better bandwidth, 2 band EQ, 4 mic inputs and full LED metering make it great value for money. Includes free four track pack!

~~RRP £349~~ **£319.99**

424 MkII

A brand new version of the best selling 424 from Tascam, inventors of the portastudio. Features include 3 band EQ with a mid sweep, records to all 4 tracks at once, 2 independent auxiliary sends (1 switchable pre/post fade). Logic controlled 2 speed transport with built-in memory location points, DBX noise reduction, initial supplies limited.

~~RRP £489~~ **£419.99**

ALL MULTITRACKS INC '4 TRACK PACK' ADD £10 FOR X-14 — FOSTEX

X-14

The neatest introduction to multitrack recording ever! Built in mic for instant recording and straightforward operation means almost anyone can make a track without reference to the manual. Buy with our complete four track pack for only £10 extra!

~~RRP £149~~ **£129.99**

NEW

X-24

The X24 is the latest in a long line of successful budget multitrackers from Fostex. It records at double speed with Dolby B noise reduction for great quality, and has two XLR mic inputs to maintain your signal's integrity. Fostex's unique 'Auto Bounce' facility means it's easy to cram multiple tracks on, and other great features include a wide pitch control with -50%+15% variation, allowing you to slow down a track by an octave! Stop dreaming - start recording!

NEW PRODUCT **£249.99**

XR3

High speed machine at under £250! New autobounce facility and built in mic - ideal for 4 track recording on the move.

~~RRP £249~~ **£199.99**

X-55

Stunning new double speed Fostex machine with individual EQ, up to 3 aux sends and 2 stereo returns, 2 inserts & 4 separate tape outs allowing use with an external mixer. 2 XLR mic inputs.

NEW PRODUCT **£379.99**

X-77

The XR7 breaks new ground in price and performance - 6 inputs (2 mics), 2 separate aux sends, low/hi plus sweep mid EQ. Records up to 4 tracks at once - double speed transport, Dolby C. 2 XLR mic inputs.

NEW PRODUCT **£499.99**

ALMOST 60% OFF! — TASCAM

564 MINIDISC PORTASTUDIO / EDITOR

Tascam are the inventors of the Portastudio, and were also the first on the market with a MiniDisc based four tracker. The result, the 564 is triumph of engineering and heavily feature packed with it: up to 12 inputs at mixdown, built in MIDI Clock and Time Code synchronisation, 3 band mid sweep EQ, 2 individually adressable aux sends, full LED metering, jog / shuttle wheel, 4 XLR mic inputs with insert points, individual track outputs, SPDIF digital i/o, 37 mins record time per disc, whilst the unique bounce forward facility allowing retention of the original parts even after digitally bouncing tracks. Far too many specs to list here - a studio in a box!

This is without doubt, the ultimate Portastudio. Excellent value for money at the original price, but Turnkey's exclusive offer makes this superb machine the recording bargain of the year - order now while stocks last!

~~RRP £1199~~ **£499.99**

DA20MkII DAT MACHINE — TASCAM

The new Mk II version of the DA20 builds on what is already a quality machine: reliable tray-loading mechanism. SCMS is switchable in or out, both analog and digital recording at all 3 sample rates and coaxial SPDIF in and out. High sound quality is guaranteed by 1-bit DAC playback, and there is a special 'Table-of-Contents' feature. New features include error counting & adjustable ID encoding.

~~RRP £699~~ **£599.99**

102MkII & 202MkIII TAPE DECKS

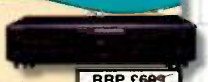
Fantastic deals on Tascam's superb professional quality mastering cassette decks. Both are full 19" rackmount units, the 102 MkII is a single deck unit, the 202 MkII is a double deck, which records on both decks. Limited stocks only at these prices, ideal for mastering and duplication.

~~RRP £249~~ **£199.99**

~~RRP £349~~ **£269.99**

DTC-ZE700 DAT RECORDER

ALMOST 50% OFF! — SONY



We have exclusively secured a small supply of the Sony DTCZE700 to bring you by far the cheapest full size DAT machine on the market, but not at the expense of features. SPDIF coaxial input and optical in and out, digital and analog recording at all three sampling rates (32 kHz, 44.1 kHz, 48 kHz), as well as all the usual ID functions and a full function infra red remote control. Also features Sony's exclusive Super Bit Mapping technology for incredible recording quality. ***Another DAT exclusive from Turnkey!***

~~RRP £699~~ **£359.99**

MDS-JE510 MINIDISC RECORDER

Although DCC looks to have died as a format now, Minidisc is thriving, and rapidly becoming a standard in radio stations and other institutions around the world. With sound quality almost as good as DAT, and a range of editing features like Combine, Move, and Auto Cut, it makes an ideal choice for mastering on a budget. If MiniDisc is for you, there's no better value on the market than the MDS-JE510, with digital input, jog dial and full function remote control as standard.

~~RRP £299~~ **£199.99**

MZ-R30 PORTABLE MINIDISC RECORDER

Now available in this compact portable version of the MDS-JE510 as featured above. ***This must be the neatest walkman you've ever seen!***

~~RRP £399~~ **£199.99**

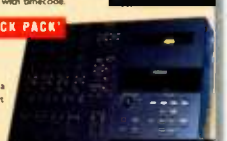
MT50 MULTI-TRACKER — YAMAHA

The MT50 can record on all four tracks simultaneously, and works at double the normal speed for improved frequency response and reduced wow and flutter. Each channel has it's own two band EQ, an auxiliary send for use with effects units, and DBX noise reduction is incorporated to keep background noise to a minimum. A special 'sync' output bypasses this so as not to interfere with timecode.

~~RRP £389~~ **£269.99**

BOTH INC '4 TRACK PACK'

MT4X MULTI-TRACKER



The MT4X is Yamaha's top of the line machine and has a specification to go with it! It's logic controlled transport means that as well as two autolocate points and "return to zero" function, you also get a special 'rehearsal' mode, so that you can practice dropping in and out as many times as you like, without risking erasing your precious recording! Other great features include three band EQ on each channel, two auxiliary sends, LCD metering, double or single speed operation, and individual track outputs for use with an external mixer.

~~RRP £569~~ **£369.99**

We will beat any genuine quote from a UK or European dealer at the time of order. We must be able to substantiate the quote and the goods must be available and in stock. Prices include 17.5% VAT. UK mainland carriage from £9.99. Please allow 10 working days for cheque clearance. Errors & omissions excepted.

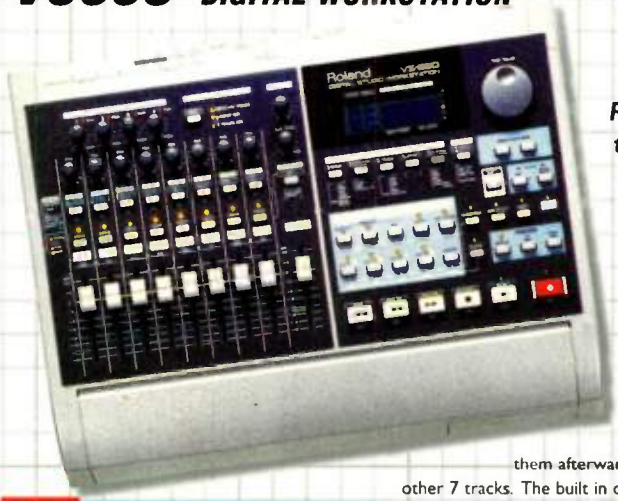
turnkey 0171 379 5148 turnkey 0171 379 5148
Fax: 0171 379 0093 114 Charing Cross Road London WC2H 0DT E-mail: sales@turnkey.demon.co.uk Web site: http://www.turnkey.uk.com

PRICES GUARANTEED*

VIRTUAL STUDIO? VIRTUAL GIVEAWAY!

Roland

VS880 DIGITAL WORKSTATION



Roland's VS880 has become the de-facto standard for compact digital eight track recording, hardly surprising with it's combination of great sound quality, compact size, and excellent feature set.

Each of the 8 tracks has 8 virtual tracks, allowing you to record several different takes, and then compare them afterwards, even if you've already recorded on the other 7 tracks. The built in digital mixer can handle up to 14 channels, features 2 band parametric EQ, 1 external and 2 internal aux sends (to the optional FX board), and is fully automatable over MIDI. The SCSI port allows the connection of external SCSI devices for recording or backup, which can also be made to DAT via the digi i/o. There's not even any need for a separate synchroniser, as it puts out MTC as standard to sync up your sequencer.

New version 2 software not only allows automation data to be recorded directly to the hard drive for total integration, but also brings numerous new effects to the optional board, including COSM based mic emulation - make your SM58 sound like a U87! Existing owners can upgrade to version 2 for only £49**.

*To offer a completely integrated solution, we are bundling the VS880 with a 1.4 gig hard drive and mounting kit, and the FX board together. These would normally have a combined retail price of £2238, but for a limited period only all this can be yours for only £1499**!*

- Digital Mixer with Full Automation
- Totally Integrated Solution
- Built in MIDI Sync
- 64 Virtual Tracks
- Built in Effects

~~RRP £2238~~

£1499.99

INCLUDES 1.4Gb HD, MOUNTING KIT & FX BOARD

NEW VS-840 DIGITAL WORKSTATION

Want the advantages of a heard disk based recorder, but without the price tag? Roland's new VS840 should fit the bill, recording 8 tracks (up to 64 virtual tracks) onto its built in Zip drive, you still benefit from a fully digital mixer, and a built in FX processor, with 26 different algorithms and guitar level input. An all in one no-nonsense product with a no-nonsense price. Initial stocks will be very limited - get your order in early!

NEW PRODUCT

£949.99

DMT-8 VL DIGITAL MULTITRACKER

Fostex

INC SCSI INTERFACE!

The personal digital multi-track is here at last, and at a price you won't believe! 8 separate tracks of CD quality audio recorded to 1.6 Gb hard-disk (40 minutes). Record 2 tracks simultaneously, jog-shuttle audio and sync to MIDI without losing a track. The 8 channel mixer accepts 2 mics, with a 2 band EQ and 2 aux sends. Separate outputs and S/PDIF optical output. Price includes optional SCSI interface.

Why buy 4 tracks when you can have 8?!

~~RRP £1206~~

£849.99

D80 HD RECORDER

INC 1.3Gb HD

The D80 is a 3U rackmount unit, with 8 individual in/outs and outputs, a removable front panel doubles as a remote and meter-bridge, and a removable cannister drive slot. Slaves to MMC as well as being able to act as a master, all with no track loss, and has S/PDIF digital ins and outs to allow backup to a standard DAT machine and direct digital recording. Easy to use editing allows cut, copy and repeat pasting across multiple tracks.

Comes with 1.3Gb Hard Drive as standard.

~~RRP £1499~~

£1099.99

D90 HD RECORDER

INC 1.6 Gb HD

The D90 has all the features of the D80, but also has ADAT digi i/o as standard, and optional kits for connecting SCSI drives & balanced analog i/o's for interfacing with pro level equipment.

Our price includes a 1.6 Gb Hard Drive fitted free!

~~RRP £1706~~

£1299.99

D160 HD RECORDER

INC 3.6 Gb HD

Latest in the family from Fostex is the superb D160, giving you a full 16 tracks of hard disk recording for well under £3000 - less than the price of a secondhand analogue machine! D/A conversion is 20 bit delta-sigma 128x oversampling, so sound quality is superb. An amazing amount of machine for your money - call us for more details.

Price includes 3.6 Gb Hard Drive.

~~RRP £2932~~

£2099.99

MDMX4 DIGITAL MULTITRACKER

OVER 40% OFF!

SONY

The MDMX4 offers 37 minutes of high quality four track digital recording on an MD data disk.

It also features the exclusive Track Edit system and a host of other functions that will revolutionise your concept of personal recording, and Sony's second generation data compression algorithms give it a significant sound advantage over similar machines. The 10 input mixer (2 XLR's) has 4 busses, individual track outputs, 2 aux sends and 3 band EQ. Random access transport includes 11 point locator, jog-shuttle wheel as well as rehearsal and auto-punch modes. There's no need to leave a track spare for bouncing, and whole songs can be digitally copied forward for a 'safety' version. MMC and MTC compatibility for use with MIDI sequencers - you can even control it from your sequencer! MIDI Clocks are also supported for use with keyboard workstations and drum machines.

Stocks are very limited on this exclusive deal - order now!

~~RRP £999~~

£439.99

CDR870 RE-RECORDABLE CD WRITER

PHILIPS

The ultimate mastering medium! As well as offering excellent durability, CDs are the industry and consumer standard format. What's more, there's nothing like your own finished CD to impress your mates! This brand new recorder from Philips is the only machine on the market to be able to use re-recordable CDs, as well as the cheaper 'consumer' standard blanks. Digital and analogue ins and outs, superb sound quality. *Our incredible price even includes the remote control and one free CD. (Further CDs: consumer £4.99, re-recordable £14.99)*

~~RRP £499~~

£359.99

PDR-04 CD RECORDER

PIONEER

Why master to DAT when you can master to CD for the same price! DAT, CD or Mini Disc ID codes are automatically translated onto the disc, and recording can be stopped and started on the same disc. CD's are more durable and have a longer shelf life than DAT, and you get all the advantages of instant access, and impressing your mates with your very own CD! *These will sell out quickly - order now!*

~~RRP £699~~

£499.99

PDR-05 ALSO AVAILABLE with sample rate conversion ONLY £599.99

MAGNETIC MEDIA

AMPEX

TYPE	SIZE	PRICE	MIN ORDER QUANTITY
DAT	16 min	£3.99	10
DAT	34 min	£3.79	10
DAT	60 min	£3.49	10
DAT	90 min	£3.69	10
DAT	90 min	£4.10	10
DAT	135 min	£4.49	10
456	1/2" x 7"	£3.99	6
456	1" x 10"	£15.99	3
456	1/2" x 10"	£27.49	3
456	1" x 10"	£47.99	2
456	2" x 10"	£96.99	2
467	1/4" x 7"	£10.29	5
ADAT	40 min	£5.99	6
ADAT	80 min	£10.49	6
488	30 min	£3.99	6
489	60 min	£7.29	6
489	115 min	£8.99	6

Ampex has long been the media of choice for studios worldwide. Now Turnkey's incredible prices mean it's the only realistic choice - check out the list below!

TCD-D8 PORTABLE DAT MACHINE

aiwa

Turnkey bring you the first stocks of Sony's brand new portable, the TCD-D8. Sturdily built with a back-lit display, the unit features 48kHz and 44.1 kHz analog and digital recording. *No other portable is available under £1499 - initial supplies will be very limited, phone now to reserve yours.* The Ultimate Walkman !

~~RRP £599~~

£399.99

NEW MD8 DIGITAL WORKSTATION

YAMAHA

If you thought 4 tracks on MiniDisc was good - check out the new 8 track Yamaha MD8. There are 8 mic / line inputs (2 with XLRs and insert points), 3 band mid sweep EQ, 2 aux sends and a jog / shuttle wheel. There are up to 20 inputs available at mixdown, so there's plenty of room for synth and sampler outputs, whilst the latest ATRAC compression algorithm means the sound is virtually indistinguishable from DAT. *We have guaranteed allocation on the first shipment - call us now to reserve yours!*

NEW PRODUCT

£999.99

PCM-R300 DAT RECORDER

SONY

Turnkey have done it again! A pro, full spec DAT machine at a bargain price! Just look at the list of features: SPDIF coaxial and optical ins and outs, digital and analog recording at all three sampling rates (32 kHz, 44.1 kHz, 48 kHz), full 19" rackmount, as well as all the usual ID functions and a full function infra red remote control. Sony's exclusive Super Bit Mapping process can also be switched in, cramming the sound of 20 bits into 16! Stocks at this incredible price are limited - get your order in now!

~~RRP £799~~

£475.99

NEW D8 DIGITAL WORKSTATION

KORG

For the last few years, Korg's high end SoundLink hard disk recording system has enjoyed considerable success in post production houses around the world. Now they've used all that expertise to bring you the amazing new D8 - a complete digital recording studio in less than the size of a shoe box!

The D8 records up to 8 tracks onto its built in SCSI drive, has digi i/o and SCSI ports as standard, a whole range of built in digital FX, and even a guitar level input to do away with DI boxes. *In stock and on demo at Turnkey - call now for further details.*

NEW PRODUCT

£849.99

MULTITRACKS NEW, USED & EX DEMO

AKAI DR16	£249.99	KORG D8	£799.99	TASCAM 424B	£419.99
AKAI DR8	£199.99	KORG NS5R	£99.99	TASCAM DA20 MK2	£549.99
FOSTEX D160	£2099.99	ROLAND VS880P	£1299.99	TASCAM DA38	£1699.99
FOSTEX D5	£499.99	SONY DTC A6	£499.99	TASCAM PORTA02	£145.99
FOSTEX D80	£899.99	SONY DTC A8	£599.99	TASCAM TASCAM 564	£699.99
FOSTEX D8TB	£799.99	SONY MDMX4	£549.99	TDK CONSUMER CDR'S	£3.99
FFOSTEX X14	£129.99	SONY MDMX4 MK2	£499.99	YAMAHA MD8	£899.99
FOSTEX X55	£269.99	SONY PCMR300	£499.99	YAMAHA MT4X	£335.99
FOSTEX XR3	£199.99	TASCAM 414	£319.99	YAMAHAMT50	£249.99
FOSTEX XR5	£279.99	TASCAM 424	£439.99	FOSTEXD5	£549.99

We will beat any genuine quote from a UK or European dealer at the time of order. We must be able to substantiate the quote and the goods must be available and in stock. Prices include 17.5% VAT. UK mainland carriage from £9.99. Please allow 10 working days for cheque clearance. Errors & omissions excepted.

turnkey In Ireland TURNKEY DUBLIN 01677 9377 34-35 Wellington Quay Temple Bar Dublin 2

turnkey 0171 379 5148

Fax: 0171 379 0093 114 Charing Cross Road London WC2H 0DT Email: sales@turnkey.demon.co.uk Web site: http://www.turnkey.uk.com

Authorised Dealer Soundcraft DRAWMER MACKIE Roland SONY TASCAM FOSTEX digidesign

EUROPE'S LOWEST

dbx

DBX DDP -THE DBs!

Dynamics processing has been living in the dark ages recently, whilst virtually all other areas of the studio have gone digital, humble compressors and gates seem to have been left behind. Now DBX are changing all that with the incredible new Digital Dynamics Processor. As well as compression and gating, the DDP also performs limiting, de-essing, has detailed sidechain processing facilities and DBX's patented Type IV conversion with Tape Saturation Emulation.

50 presets and 50 user programs mean at last you can recall your favourite settings at the touch of a button, so that great crunchy drum sound or smooth vocal you had two months ago can now easily be applied to this week's mix.

The DDP's superb display makes editing a breeze, with an on screen plot of dynamics curves instantly visualising your edits. Processing can be true stereo or dual mono with completely different programs on each channel, inputs from -10 to +4 dB are catered for, full MIDI support is provided, and the 24 bit A/D and D/A convertors mean that pristine audio quality is ensured throughout.

So come out of the dynamics dark ages, and see what a DDP can do for you today!

- *Completely Digital Processing for Superb Audio Quality*
- *Multiple Dynamics Processes Catered for by a Single Unit*
- *Instant Recall of Factory or User Programs*
- *Superb Display for Easy Graphic Editing*

NEW PRODUCT **£599.99**

THC-00 RESINATOR

FAT

Freeform Analog Technologies FreeBass is already one of the most successful sound modules of the year, and now following hot on the heals of the Freebass and PCP330 Procoder is the new THC-00 Resinator.

Not one, not two, but three band pass filters with resonance! And we mean resonance! Feed any mono signal into this unit and get out some of the most wacky and groovy sounds you've ever heard in glorious auto panning stereo. Each of the filters has it's own cutoff point which is modulated in a selection of ways, by a combination of the built in LFO, the polarity reversable envelope follower and even an external control voltage. Ideal for processing loops, vocals or indeed any another signal, for results ranging from the sublime to the extreme! ***Must be heard! More fresh thinking from F.A.T.***

NEW PRODUCT **£169.99**

PCP330 VOCODER

One of the most asked questions in the industry must be "Why doesn't anyone make a vocoder anymore?" - well here it is, with a fantastic feature list, great sound quality and a down to earth price. The carrier can be either an internal VCO or external line input, whilst both line and mic inputs are given for the modulator signal. Eleven filter bands each have their own level knob on the front panel giving true hands on control of your sound, and the sibilance (unvoiced) control also has an external input if required. The final output can contain any mix of modulator, carrier, vocoded signal and a special filtered version of the signal. Remember, this doesn't only create robot voices, there are thousands of creative uses, and it's also ideal for processing drum loops.

Order now and own an instant classic!

NEW PRODUCT **£299.99**

DIGITAL PROBLEM SOLVERS

FRIEND-CHIP

In today's increasingly digital world, many people are still using their equipment's analogue ins and outs, because of the difficulty of interconnection and synchronisation. Friend Chip's new sensibly priced digital patchbays and 'black box' problem solvers end the misery and make the digital studio a reality! The DigiMax digital patchbay (£299.99) has 8 inputs and outputs (2 each on optical), can accept both AES/EBU and SPDIF signals, and is MIDI controllable. An XLR version (£499.99) is also available for greater AES/EBU reliability. The Audio Time Base (£499.99) is a 1u 19" rack which acts as a master clock source for your studio, outputting word clock, Digidesign Super Clock and SPDIF. The master clock can be internally generated, or a reference taken from mains, SPDIF word clock, Super Clock, video or LTC (SMPTE). Lockup from timecode is in around 1 second!

Also in the range:

OP-CON	£49.99
PRO CON	£129.99
D 4:2 COPY CON	£119.99
SR44	£149.99
SRC44	£249.99
Super Clock Driver	£129.99
Client Audio Clock	£129.99
ADAT Audio Clock	£129.99
ADAT Word Clock Synchroniser	£199.99
ADAT SPDIF Synchroniser	£199.99
ADAT MIDI Machine Control	£69.99

FROM **£49.99**

XR300 SYNCHRONISER

TURNKEY EXCLUSIVE

XRI Systems

Long the synchroniser of choice in professional studios, we now exclusively bring you this industry standard unit at an unheard-of price. Features include true SMPTE at all standard stripe-rates, MIDI clocks / Song Pointers or MTC for compatibility with all MIDI sequencers. Large LED time-code display. Merged MIDI input. Straight-forward operating system. Full 19" rack unit.

RRP ~~£299~~ **£169.99**

VC3 PRO CHANNEL

JOEMEEK

Legendary sixties producer Joe Meek was often asked the secret of his fantastic vocal sound. It was in fact a custom made 'black box' of electronics, whose contents he would not reveal during his life. Now JOEMEEK bring his designs to life, and with knobs on! In addition to the compressor and high headroom mic amp, controls like Drive, Enhance and Q make the VC3 one of the hottest ways to get your signal down. ***Incredible low price - order yours today!***

RRP ~~£249~~ **£169.99**

COMPOSER WORKHORSE COMPRESSOR

BEHRINGER

A natural sounding and fully featured compressor at a give away price! Built-in gate removes any unwanted noise, soft-knee action makes compression much less obtrusive, "auto" mode makes quick setup a doddle and sidechain access means it can also be used for de-essing etc.

RRP ~~£349~~ **£169.99**

STUDIO QUAD 4 CH. STUDIO FX PROCESSOR

ONCE-IN-A-LIFE-TIME OFFER!

DigiTech

At last - Multi effects as they should be! The new Digitech Studio Quad features not only their custom designed and ultra-powerful 'S-DISC' chip, but also 4 independent inputs and outputs, which using the built-in sub-mixer, can even be configured as 4 mono inputs feeding 4 effects processors, feeding 4 stereo outputs!

The huge screen and new intuitive operating system make editing a breeze, 20 bit convertors give greater than 90 dB signal to noise ratio and the range of effects includes reverbs, delays, detuning, chorus, flanging etc... Hundreds of other features too numerous to mention.

Exclusive end of line deal only at Turnkey!

RRP ~~£529~~ **£259.99**

104 AURAL EXCITER

ALMOST 50% OFF!

APHEX

Unbelievable new low price on the Type C2 exciter from the inventors of the process, Aphex who have pioneered these designs since 1975. The two channel Model 104 excites high frequencies by generating extra harmonics, plus it features Aphex's "Big Bottom" low frequency enhancement which compresses the low end of the mix to increase punch without raising peak levels. Limited quantities only - Buy now to avoid disappointment.

RRP ~~£289~~ **£149.99**

266A DUAL COMPRESSOR GATE

DigiTech

Two channels of classic dbx compression with new Auto-Dynamic™ Attack and Release controls, program-adaptive expander gates, balanced inputs, precision LED metering and sidechain insert. Front panel selection of stereo or dual mono operation, all in a standard 1U rack design and at an unbelievable price! ***Entire dbx range also on demo at Turnkey.***

RRP ~~£249~~ **£149.99**

We will beat any genuine quote from a UK or European dealer at the time of order. We must be able to substantiate the quote and the goods must be available and in stock. Prices include 17.5% VAT. UK mainland carriage from £9.99. Please allow 10 working days for delivery. Subject to status. Errors & omissions E&OE

turnkey 0171 379 5148 **turnkey 0171 379 5148**

Fax: 0171 379 0093 114 Charing Cross Road London WC2H 0DT E-mail: sales@turnkey.demon.co.uk Web site: http://www.turnkey.uk.com

PRICES GUARANTEED*

Bellari

PREMIUM QUALITY VALVE OUTBOARD EQUIPMENT

If you've previously used valve equipment, you'll be well aware of the magical quality that tube circuitry produces, and if you haven't used it - try it now! Many manufacturers use the word valve as an excuse to charge exorbitant prices for their product, but not Bellari, and our factory direct exclusive makes the range unbelievable value for money!

The RP583 Studio Tube Compressor / Limiter

has become an instant hit, offering as it does two channels (stereo linkable) of some of the finest sounding compression money can buy, with a smooth and natural compression characteristic. Ratio is continuously variable from 2:1 to infinity, and there are separate controls for attack, release, threshold and make-up gain. Dual VU metering is provided, as well as jack and balanced XLR ins and outs, and sidechain access is fully catered for. ***Ideal for a variety of instruments, vocals and complete mixes.***

NEW PRODUCT **£499.99** FACTORY DIRECT

RP533 Studio Tube Multi-Processor

Whilst mixers these days are of a better quality than they used to be, to get the best possible signal to tape or disk, you can't beat a dedicated unit - and for value for money, you can't beat the Bellari RP533 Studio Tube Multi-Processor. The all tube 2u box, features a premium quality transformer balanced mic pre amp with switchable 30dB pad, phase reverse and true 48V phantom power. The compressor has all the features of the RP583, and the exciter section adds a wonderful sheen to virtually any sound, as well as beefing up the bottom end. Each stage has it's own bypass switch, sidechain access is provided, and the large VU meter can monitor input, output, or gain reduction. ***No serious recordist should be without one!***

NEW PRODUCT **£499.99** FACTORY DIRECT

RP520 Studio Mic Pre Amp

A true dual tube mic pre amp at a bargain price, with tubes used at all the crucial gain stages, not just strapped across the outputs. Features include phase reverse, input and output pads, separate gain and output level controls, true 48v phantom power, jack and XLR ouputs and dual VU meters. ***Bypass you desk's mic amps and feel the quality!***

NEW PRODUCT **£399.99** FACTORY DIRECT

RP562 Stereo Exciter

Traditional exciters usually do a good job of brightening up the extreme top end, but can often leave you with a rather harsh signal lower down. The incredible warmth of the Bellari Sonic Exciter ends all that, providing a sparkling top end with no harshness, and a huge bottom end to boot. The stereo unit has both Jack and XLR connectors, dual VU meters, and even a separate subwoofer output with it's own cutoff and level controls. ***Superb sound quality at a fraction of the price of similar devices.***

NEW PRODUCT **£299.99** FACTORY DIRECT

ADB3 Stereo Direct Box

Stand alone 2 channel tube DI box.

NEW PRODUCT **£129.99**

MP110 Direct Drive Mic Pre Amp

Stand alone single channel tube mic pre amp.

NEW PRODUCT **£169.99**

FINALIZER 2
MASTERING PROCESSOR

t.c. electronic

Brings top professional quality mastering tools to the project studio. 5 band stereo EQ, Deesser, Digital Radience Generator™, Normalizer, and Dynamics, all with highly flexible editing, or the option to let TC's 'Wizard' do the work for you by analysing the program material automatically. Analog and digital I/o, call us for a demo - guaranteed to improve your masters! New Finalizer 2 has ADAT I/o and is fully 24 bit!

RRP **£1899.99**

MIKEMAN
MIC PRE-AMP

The Mikeman is a dual channel, high definition mic preamp featuring up to 72dBs of gain, allowing the noise free amplification of even the lowest input signals. The un que design of the phantom power supply, g ves a precise 48 output, eliminating the problem of phantom drift the source of so many problems, particularly when using older or tube microphones. Uniquely the Mikeman has a facility to give a single input into two outputs and features individual controls for gain, phase reverse, phantom power and a -35dB pad. We don't expect to have these long!

RRP ~~£349~~ **£169.99**

4 POLE
FILTER

waldorf

The 4 Pole is the legendary Microwave I Wave 24 dB lowpass filter. You are free to apply this filter to any audio signal that you patch into the Filter. So if your favourite sampler or analog player lacks this special quality, you can give it a subtle boost via the 4 Pole Filter.

It is the most powerful (and quite possibly the only) analog filter available today!

NEW BOXED **£269.99**

VITALIZER STEREO JACK
ENHANCER/EXCITER PROCESSOR

The Vitalizer has always been considered to be the Rolls Royce of enhancer / exciter processors. Using a significantly different process to other such products, the effect deals with the full frequency range and is particularly effective on mixes. Also included is a "surround" effect which varies the width of the stereo field. Massive bulk purchase allows this unbelievable price - check one out now - we guarantee you'll be impressed.

RRP ~~£299~~ **£169.99**

X POLE FILTER

What do you get if you take two of Waldorf's 4 pole filters, put them in a rack and spice it up? The all new X-Pole! Maintaining all of the 4 Pole's great sound, MIDI and tactile controllability, the X-Pole allows you to treat two mono signals independently, or the two channels can be linked together for a stereo signal. 2u rack design makes for easy integration into your studio. Fatten up your sound today - your loops need never be the same again!

NEW PRODUCT **£439.99**

5021 IVORY RANGE
2 CH. VALVE COMPRESSOR

TL Audio

NEW

Each channel offers fully variable control of input and output gain, threshold, ratio and gain make up. Attack and Release times are switchable for 'fast' and 'slow' modes. An expander/gate is provided with control of threshold. Metering is via VU meters - either output level or gain reduction can be monitored. A front panel instrument input is also included. The unit will work in dual mono or stereo linked mode, and a compressor bypass switch is provided on each channel. Inputs and outputs are duplicated on balanced XLR and unbalanced jack, and a sidechain insert point is included on each channel.

NEW PRODUCT **£469.99**

FOCUS EQ
PARAMETRIC EQUALISER

UNDER HALF PRICE! Focusrite

Turnkey are well known for bringing you clearance deals at bargain prices, but not often does the chance come to own something as prestigious as Focusrite outboard, at a fraction of the original cost. The Focus EQ features an ultra high quality mic preamp complete with phantom power and phase reverse, as well as line and instrument level inputs, making it an excellent recording channel, or even a top quality preamp for bass or acoustic guitar. In addition to the four parametric EQ bands, there are also variable high and low pass filters, and the EQ and filters each have their own bypass switches. Typical Focusrite build quality can be taken for granted, as can some of the best sounding EQ you've ever heard. Very limited quantities available for this exclusive deal - order now or regret forever!

RRP ~~£939~~ **£399.99**

DUAL MIC PRE
DUAL CHANNEL MIC PREAMP

UNDER HALF PRICE

One of the most transparent ways available of getting your mic signal down. Huge gain of up to 60dB per channel, ultra stable 48v switchable phantom power supply, 12dB per octave high pass roll-off filter, and an amazing Equivalent Input Noise figure of -128dBu. Small quantities only at this incredible price.

RRP ~~£869~~ **£399.99**

The Quad Compr ... £849

The Voicebox this combines a multi-instrument preamp, compressor, de-esser and parametric EQ in a single unit - the ultimate signal path for digital recording ... £799

The Compressor highly versatile compressor with hard & soft knee types, separate limiter and gate and built-in sidechain filters ... £849

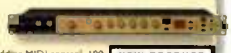
The Channel Strip similar to the Voicebox, but also featuring line level inputs and extra EQ ... £899

1201
TRUE STEREO FX PROCESSOR

The 1201 is a full 19" rack unit, featuring true stereo 16 bit processing at 44.1kHz, with 64x oversampling converters. The quality of the reverb alone would make it worth the price, but there's lots more. Two simultaneous effects are offered, from a choice of 33 including delay, chorus, flanging, tremolo and pitch shifting, 'vocoder', karaoke, 'lo-fi' and vocal distortion effects as well as various reverb types including reverse. If one of the 363 presets doesn't suit exactly then using the two parameter knobs will allow you to tweak the program until it does, and the addition of 2 band EQ will further tailor the sound to your mix.

NEW PRODUCT **£99.99**

1204
TRUE STEREO FX PROCESSOR



The 1204 builds on the success of the original 1202 by adding MIDI control, 100 extra user presets for storing your own edits, and a two digit LED display. On top of this, there is also a rotary speaker effect, and a vocoder - a front panel mic input is even provided for quick and easy setup.

Nothing else touches these units at the price - check one out today!

NEW PRODUCT **£199.99**

REFLEX
EFFECTS PROCESSOR

UNDER HALF PRICE! lexicon

Once the preserve of only the world's top studios, Lexicon reverb has become more affordable in recent years, but this incredible exclusive deal means anyone can own one!

The Reflex packs stunning reverb quality together with other effects such as delay and Resonator, and some of the most comprehensive MIDI control available into a 1U rack unit. Reverse, gated and plate reverbs are included along with more traditional algorithms, and up to 10 editable parameters are available for each program. Lexicon's famous Dynamic MIDI allows for any four of these to be controlled in realtime via virtually any MIDI information - imagine varying decay time via note number, or feedback from your modulation wheel - the possibilities are endless! The best sounding reverb this side of an MPX1.

Limited stocks only - first come, first served!

RRP ~~£469~~ **£169.99**

MPX1
MULTI EFFECTS PROCESSOR

lexicon

For those of us who need top quality reverb & multi FX but cannot stretch to the expense of the PCM80, Lexicon have released the MPX-1. Featuring the famous 'Lex' chip for reverb and separate DSP processor for multi FX, the MPX-1 brings you all that is good in signal processing for an incredibly low price. Up to 5 simultaneous effects are available including pristine quality stereo pitch shifting, and effects can be "morphed" from one algorithm to another, as pioneered in the Vortex. Modelled only at Turnkey!

RRP ~~£1149~~ **£699.99**

PCM80 2 CARDS AVAILABLE only ~~£1399~~

OUTBOARD NEW, USED & EX DEMO

ALESIS WEDGE £319.99	JOEMEEK VC3 ..... £149.99	TC ELECTRONIC FINALIZER
BBE BBE 362 ..... £148.99	LEXICON MPX1 ..... ~~£329.99~~	..... £1499.99
BOSS SX700 ..... £329.99	LEXICON REFLEX £199.99	YAMAHA REV 100 ..... £149.99
DBX 266A £149.99	SPL VITALIZER £179.99	YAMAHA REV500 ..... £319.99
DIGITECH ST. QUAD ... £258.99		

We will beat any genuine quote from a UK or European dealer at the time of order. We must be able to substantiate the quote and the goods must be available and in stock. Prices include 17.5% VAT. UK mainland carriage from £9.99. Please allow 10 working days for cheque clearance. Errors & omissions excepted.

turnkey In Ireland: TURNKEY DUBLIN 01677 9377 34-35 Wellington Quay Temple Bar Dublin 2

turnkey 0171 379 5148

Fax: 0171 379 0093 114 Charing Cross Road London WC2H 0DT Email: sales@turnkey.demon.co.uk Web site: http://www.turnkey.uk.com

KORG ensoniq AUDIS Steinberg Technics Vertax KURZWEIL FATAR

EUROPE'S LOWEST

turnkey PRO TECH

THE TURNKEY PRO TECH PENTIUM: A TOWER OF STRENGTH

Ringing round for the cheapest Pentium? We sell audio equipment - not office software and games! The computer is the heart of any studio setup, and a Turnkey Pro Tech audio-ready PC, built with carefully selected components, means a quality solution at an affordable price. We deliver a tested, working, integrated system - if you have a problem, just call us!

intel inside pentium

A modern *Pentium* can be used for a myriad of tasks ranging from desktop publishing, multimedia, games, and office work. However, few applications are as demanding as digital audio recording. Criteria which are irrelevant to most PC shoppers (such as the level of radio frequency interference within the casing), become very important, and sound cards which are otherwise considered "best buy" in the press often lack the essential "*full duplex*" ability which permits monitoring of audio during recording.

By supplying a pre-installed computer which we build from carefully selected components and run through 16 separate tests, we ensure that you get up and running immediately, you won't need to delve into DMA channels and P'n'P BIOS conflicts, and you won't get any nasty surprises like "insufficient system resources" warnings when you try to run your software. Call us to discuss your requirements - ***satisfaction guaranteed!***

Genuine Email found on Cubase newsgroup from satisfied Turnkey customer Richard Blekinsopp:

"With all the problems that people seem to be having with compatibility, I just thought I'd tell about a system that works fine. You can get the whole lot from Turnkey (Soho Soundhouse) in London. Looking at the problems people have, I'm glad I did. If things do go wrong, there is only one contact point and there's no excuse for them not to help you. Mine has not caused any problems so far, and in fact crashes no more regularly than my Atari did (for anyone who doesn't know, that wasn't very often!). I wouldn't like to quote noise figures, but it is certainly as good quality as anything else I've heard. I recorded the same tune in a studio using ADAT, and all items on my PC - my PC won in terms of sound quality (some people may have trouble believing this, but for what exist reason, it's true). Turnkey supply a fully tested system, which includes VST for under £1,200. It doesn't include all the usual bundled rubbish that normally comes with "high street" PC's, so if you want to thank Aunt Maud for that lovely sweater she knitted, you'll have to add the cost of a decent word processor, but for music it's great. They do plenty of options for larger hard drives, more RAM, a faster processor, D'sB's sound-card etc, if that's what you need, but my humble P166 works fine with upto 20 tracks of digital audio, pertectly timed with MIDI tracks! PS - I don't work for "turnkey"!"

CAKEWALK STARTER PACK

- Intel Pentium 200mmx (optional 233)
- 16Kb L2 cache RAM
- 32 Mb RAM (optional 64 Mb)
- 2 Gb HD (optional extra 4 Gb, 6 Gb, 9 Gb)
- 24x speed CD-ROM drive
- 14" SVGA display (optional 15", 17")
- Windows95 CD, keyboard & mouse
- Cakewalk Pro Audio V6.0
- 16 bit full duplex audio system
- Kurzweil GM Synthesizer
- 1x1 MIDI interface adapter

RRP £1561 **£999.99**

CUBASE VST STARTER PACK

- Intel Pentium 200mmx (optional 233)
- 16Kb L2 cache RAM
- 32 Mb RAM (optional 64 Mb)
- 2 Gb HD (optional extra 4 Gb, 6 Gb, 9 Gb)
- 24x speed CD-ROM drive
- 14" SVGA display (optional 15", 17")
- Windows95 CD, keyboard & mouse
- Cubase VST PC V3.5
- 16 bit full duplex audio system
- Kurzweil GM Synthesizer
- 1x1 MIDI interface adapter

RRP £1591 **£1149.99**

LOGIC / AUDIOWERK PACK

- Intel Pentium 166mmx (optional 233)
- 16Kb L2 cache RAM
- 32 Mb RAM (optional 64 Mb)
- 2 Gb HD (optional extra 4 Gb, 6 Gb, 9 Gb)
- 24x speed CD-ROM drive
- 14" SVGA display (optional 15", 17")
- Windows95 CD, keyboard & mouse
- Logic Discovery PC
- Audiowerk 8 in, 8 out card
- Logic Audio 3 MIDI Upgrade Voucher
- 1x1 MIDI interface

RRP £1612 **£1149.99**

STEINBERG PRODUCER PACK

- Intel Pentium 233mhz
- 64 Mb RAM, 1Mb L2 cache RAM
- 24x speed CD player, 4x speed CD writer
- 20 blank CDs
- Dual 2 Gb (programs) & 6 Gb (audio) HDs
- 17" SVGA display
- Windows95 CD, keyboard & mouse
- Cubase VST PC 3.5 & AudioTrack Dynamics
- WaveLab CD mastering tools
- Korg 1212I/O 12 ch digi PCI audio card
- Opcode Studio64 96 ch MIDI interface

RRP £2999 **£2999.99**

Add £99 for 233 MHz option	Add £69 for 64 Meg RAM option	Add £39 for 15" SVGA option	Add £229 for 17" SVGA option	Add £199 for extra 4 Gig HD	Add £299 for extra 6 Gig HD	Add £399 for extra 9 Gig HD

MU10 GM SOUND MODULE

YAMAHA

OUT OF THIS WORLD MEGADEAL!

Mac OS

Turnkey's incredible buying team have done it again! Yamaha's MU10 was already great value for money, but this exclusive offer makes it unbeatable! The "XG" range of products (including the famous DB50XG) has long been highly regarded for its 676 excellent sounds, 3 built in effects processors and superb integration with computers.

The MU10 comes in a handy module format which means there's no need to open up your computer, no IRQ conflicts or DMA problems, you just connect it to the serial port of your Mac or PC (cable included). What's more its MIDI in and out ports means it also acts as a MIDI interface, and it can be used as a stand alone module without a computer!

The 34 built-in effects can be used not only with the built in sounds, but also with any external signal (eg your voice, guitar etc) via the stereo audio input. The MU10 comes with the CD-ROM version of Steinberg's famous Cubasis MIDI sequencing software, and this incredible offer includes a shareware version of Yamaha's XgEdit editor free for detailed editing of the onboard sounds.

A complete starter kit for anyone looking to get into making music.
This exclusive offer is only available whilst stocks last - get your order in now!

Package available with Peter Stuyvesant MIDI keyboard, midi lead, mouth sensitive keys, microphone, headphones and cables only **£169.99**

RRP £199 **£115.99**

CAKEWALK PRO

CAKEWALK

OVER 60% OFF PRICE

Cakewalk has been the US #1 sequencer for ever. For a limited period, we are offering Cakewalk Pro v5.0, with 4 discrete audio tracks and 256 MIDI tracks for £79.00. That's less than the price of Cakewalk Home Studio! Upgrade option to Pro 6 (£49.99) or Pro 6 Audio (£109.99).

(Comes on CD-ROM. Also includes v4.5 for Win3.1)

Cakewalk Pro 5 + MIDIMan Dman	£229.99
Cakewalk Pro 5, MIDIMan Dman + DB50	£335.99
Cakewalk Pro 5 + laptop MIDI Interface	£149.99
Cakewalk Pro 5 + Pentium package	£999.99

RRP £199 **£79.99**

SIBELIUS-7 TOP-END NOTATION V3.5

Sibelius

NOW MULTI PLATFORM - CALL FOR DETAILS

Mac OS Acorn

Why do so many music academies use a program which doesn't work on the PC or Mac? Because for professional notation type-setting, nothing else comes close! "In a totally different league from anything else" - Paul Patterson, Royal Academy of Music. Future Music Platinum award.

We are now an Acorn Authorised Dealer, we stock and demonstrate the exciting new RiscPC computer, running RiscOS/3 powered by the 200 MHz ARM Processor, and with optional 486 or 586 board for running Microsoft Windows software.

Call for a DEMO. One to one tuition also available upon request.

FROM ONLY **£499.99**

CODA FINALE 97

NEW VERSION NOW AVAILABLE

Mac OS

Finale has long been considered the "Rolls-Royce" of score programs, but at a price of £699, few people could stretch as far as buying it, and with its extremely powerful but complex user interface, many beginners were put off. Well, Finale 3.7 now retails for just £499.99 (£249.99 for Academic Users), and now sports a radically redesigned user interface and rewritten manuals. If you're looking to notate Holst's "Planets" or Stockhausen's "Gruppen", Finale contains all the features you'll need!

RRP £699 **£499.99**

MUSIC AT PASSPORT NOTATION / COMPOSITION

Musicatme has been our best selling piece of music software since its introduction in 1992. The latest upgrade is called "Music At Passport" and includes a new "PushWrite" facility which allows notes to be sung or played into the program using a microphone. A "pure score program" such as this offers the cleanest and most intuitive user interface, since the program revolves around the score, which is always displayed on the screen. Advanced facilities such as part extraction are included, and the program handles transposing instruments with ease. Includes Internet Explorer free!

RRP £129 **£89.99**

BAND-IN-A-BOX INTELLIGENT ARRANGER v7.0

PG music

Tired of starting each song with a 'Blank Slate'? Band-in-a-Box is the worlds leading intelligent arrangement software. Combine your chord list with built in styles, or create your own. NEW VERSION now includes full GS / XG compatibility, as well as 'Auto Soloing' which has to be heard to be believed. Notation / Lyrics display during playback. Can export music into Cubase.

FOR PC, MAC (v5.0) or ATARI (v5.0)

#1 SELLER **£89.99**

MIDI INTERFACES FOR PC COMPATIBLES

INTERFACES

Genuspoint Cable To win Soundblaster™ type card		£35.00
MIDI Lite	1 in, out serial interface for notebooks	£69.00
MPU401-E	1 in, out MIDI card with Wavetable	£99.00
Winman 1x1	Works easily with your existing sound card	£59.00
Winman 2x2	2 in, 2 out MIDI card for Windows only	£79.00
Portman 2x4	2 in, 4 out parallel interface for notebooks	£149.00
MIDI Edge 1x4	1 in, out MIDI card with Wavetable	£129.00
Winman 4x4s	4 in, 4 out MIDI / SMPTE card for Windows	£219.00
Portman 4x4s	as Windows4x4s except for Parallel port	£219.00

DMAN 2044 PCI DIGITAL AUDIO CARD

midiman

NEW

Brand new high-performance PCI digital audio card. Featuring 4 independent inputs and outputs, 20 bit delta-sigma convertors with 128x oversampling, on-board DSP able to perform realtime effects processing on each channel.

Really really easy installation with Win95 (Plug 'n' Play). After putting the card in, switch the PC on, and insert the disk when prompted. Takes about 90 seconds and will even run alongside an existing sound card.

Buy with Cubase for only £529.99!!!

NEW PRODUCT **£269.99**

CUBASE VST FOR PC!

CUBASE Mac OS Steinberg

The industry standard MIDI sequencer is now even better value than ever! Version 3 now includes full hard disk recording facilities as on the Mac that work with virtually any soundcard!

Get £50 off Score version at only £449.99

CUBASE VST MAC

As well as all the great sequencing and audio recording facilities you've come to expect from Cubase, Power PC owners can now take advantage of up to 32 audio tracks, complete with built in digital EQ, DSP, reverb and FX! ***Get £50 off Score version at only £449.99***

RRP £329 **£299.99**

AUDIOWERK 8 HARD DISK RECORDING CARD

INCLUDES FREE LOGIC AUDIO DISCOVERY!

emagic

For well under £500 including VAT, you can now buy a PCI card for your Mac or PC, which gives 2 analog inputs, 8 analog outputs, and SPDIF digi I/O as standard! You even get Emagic's Logic Audio Discovery sequencing & hard disc recording software, and Zap compression software thrown in! 2 cards can be used in the same computer to give 24 track recording with 16 outputs (Logic Audio 3 required). Turn your computer into a sophisticated digital multitrack!

RRP £499 **£449.99**

1212 I/O PCI AUDIO CARD

KORG

The card that everyone's been waiting for! Now you can use Cubase VST (amongst others), and have multiple inputs and outputs, without spending a fortune! But the PCI 1212I/O is far more than just a soundcard - it can become the very heart of your studio. There are stereo analogue ins and outs, SPDIF in and out, and 8 more digital ins and outs in ADAT format. All these can be used independently giving you a total of 12 ins and outs! Word clock and ADAT 9 pin connectors are also provided. Call for more details or to arrange a demo - this card could change your recording life!

RRP **£599.99**

REBIRTH RB-338 SOFTWARE SYNTHESISER

Mac OS

If you're into techno, trance, ambient, hardcore... you simply must have the sound of a 303 in your arsenal of sonic weapons. As it's been out of production for well over a decade, those still in existance are collector's items. They'll cost you an arm and a leg which has opened a market for clone products. The ReBirth RB-338 is a CD-ROM which gives you two 303s and one 808 - a software recreation of these two classic pieces of analog hardware. All the quirks and subtle qualities of the real thing are there, with full MIDI and sync capabilities. No cables, no boxes... all you need is a Mac or a PC.

RRP **£149.99**

We will beat any genuine quote from a UK or European dealer at the time of order. We must be able to substantiate the quote and the goods must be available and in stock. Prices include VAT. UK mainland carriage from £9.99. Please allow 10 working days for cheque clearance. Errors & omissions excepted.

turnkey 0171 379 5148 turnkey 0171 379 5148

Fax: 0171 379 0093 114 Charing Cross Road London WC2H 0DT E-mail: sales@turnkey.demon.co.uk Web site: http://www.turnkey.uk.com

PRICES GUARANTEED*

A DIGITAL HURRICANE IN YOUR PC?

turtle beach

99% of available sound cards use the old-fashioned "DMA" system of recording audio in order to be compatible with Soundblaster games. With the Pinnacle and Fiji, Turtle Beach abandoned this system in favour of their proprietory Hurricane architecture. Basically, it gives you more tracks than DMA on the same PC hardware, and leads to less driver conflicts.

DMA

The Turtle Beach Multisound series has long been considered the "Rolls Royce" of sound cards, from the very first Multisound in 1993, through to the highly respected Tahiti card, and now - the Multisound Pinnacle.

FREE DIGITAL ORCHESTRATOR PLUS WITH PINNACLE (WORTH £129)

The audio quality of the Pinnacle is beyond reproach, based around a Motorola DSP with 20bit convertors on both record and playback, 64x oversampling, and Delta/Sigma convertors. An on-board Kurzweil chip provides a top-quality set of synth sounds, which can be augmented with your own samples which can be mapped to a MIDI keyboard via the SampleStore™ control panel. (Up to 48 Meg of samples can be loaded, depending on the size of SIMMs fitted). Create your own drum-kits, mix in break-beats sampled from CD etc... etc...

CUBASE VST £549.99 ACKAGE WITH FIJI

C'WALK PRO AUDIO 6 £599.99 PACKAGE WITH FIJI

LOGIC AUDIO £649.99 PACKAGE WITH FIJI

ADD £75 FOR PINNACLE INSTEAD OF FIJI
ADD £99.99 FOR S/PDIF DIGITAL I/O

Other upgrade options include a synth daughter-board (eg DB50XG), cable for MIDI interface, and S/PDIF daughter board allowing direct digital transfer to/from DAT, CD player, MiniDisk etc... (£99** for either card). The Pinnacle is bundled with Voyetra's D.O.P. sequencer which gives up to 16 audio tracks with digital effects (eg reverb, delay....) depending on hardware specification.

FIJI £299.99

A PINNACLE WITHOUT SYNTH & SAMPLESTORE
ALSO INC. FREE DIGITAL ORCHESTRATOR SE

PINNACLE £375.99

INC. FREE DIGITAL ORCHESTRATOR PLUS

- 20 BIT DAC / ADC
- Enhanced or Std Duplex
- Sample Store (up to 48 Meg)
- WaveBlaster™ Connector (for DB50)
- Optional S/PDIF Daughterboard
- Kurzweil Wavetable Synth

K2000/K2500 SYNTH/SAMPLE WORKSTATIONS

KURZWEIL

In many people's eyes, Kurzweil's K2000 and K2500 represent the pinnacle of sampling/synthesis technology. Both machines feature VAST synthesis and play back samples as standard, with optional boards allowing sampling in both digital and analogue domains. The K2000 has true 24 note polyphony (96 oscillators), whilst the K2500 has a whopping 48 notes (192 oscillators). The superb presets are expandable using up to 3 expansion boards, sample and preset RAM are also fully expandable, whilst a comprehensive sequencer and built in FX make these true workstations. Multiple outputs, a range of keyboard and rack versions - far too many features to mention here. Call the experts at Turnkey for more information, we have the full range on demo and in stock, including all accessories and library.

FROM £1399.99

CD3000XL SAMPLER WITH CD-ROM DRIVE

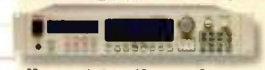
AKAI

This incredible deal on the CD3000XL makes it by far the best value for money in the AKAI range - just look at the spec sheet: 10 outputs, SPDIF digi i/o, built in CD ROM drive also allows digital sampling from audio CDs, 2 track hard disk recorder built in (requires drive) can be triggered by MIDI, classic AKAI user interface, takes all the same boards as the S3000XL, bundled with MESA editing software. Turnkey's amazing offer also includes 4 CD ROMs (including 3 Zero G titles) absolutely free! Limited stocks only - grab yours whilst stocks last!

RRP ~~£1999~~ £1199.99

INC FREE ZIP DRIVE, CD ROM DRIVE & 32 MEG

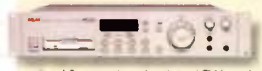
S3000XL SAMPLER



Akai continues it's tradition of supplying workhorse samplers to the studio market with this sturdy offering. The compact 2U rackmount machine features 32 note polyphony, 10 outputs, 2 meg expandable to 32 with SIMMS, SCSI as standard, MESA editing software, and a whole range of expansion abilities including digital i/o and an extra filter board. *Buy from us and get 32 meg and a ZIP drive free!*

RRP ~~£1799~~ £1499.99

S2000 SAMPLER



Akai's entry level studio sampler, the S2000 doesn't skimp on features: 32 note polyphony, low pass resonant filters, 2 meg RAM expandable to 32 meg, optional 8 output board and quad FX board. Comes bundled free with MESA software to allow full graphic editing from your computer.

RRP ~~£999~~ £799.99

£999.99

We endeavour to keep all AKAI expansion boards in stock at all time including those for the more obscure and discontinued models. Here are some examples of ways to get the maximum out of your sampler or hard disk recorder

IB208P	8 outputs & digi I/o for S2000	£249
IB304F	2nd filter board for S2000/S3000XL	£299
EB16	multi FX board for S2000/S3000XL	£299
EXM3008	8 meg expansion for S2800/S3000/S3200/CD3000	£399
EXM008	8 meg expansion for S1000/1100	£398
IBM208P	8 outputs & digi I/o for MPC2000	£249
IB807V	monitor output board for DR8/DR16	£499
IB804AEX	8 in 16 out ADAT interface for DR16	£399
IB803M	MIDI interface for DR8/DR16/DD8	£198
IB802T	SMPTE board for DR8/DR16/DD8	£249

S20 SAMPLER

All new sampler from the makers of the industry standard, the S20 brings quality sampling to a new affordable level. 16 bit sampling gives great quality, and the standard 1 meg memory is expandable to 17 meg, giving up to 18 minutes sampling time depending on the sample rate used. Built in sequencer means you can build up grooves without the use of a computer, and the special auto loop tempo mode makes BPM calculation a doddle. The 1.44 meg disk drive reads floppies from virtually all Akai samplers giving you instant access to a huge library of sounds.

Megadeal only at Turnkey - get your order in now!

RRP ~~£499~~ £POA

ZIP REMOVABLE DRIVE

INC DISK & 25 PIN SCSI CABLE

IOMEGA

There was a time when hard disks were a luxury for sampler owners, but with the advent of the ultra cheap Iomega Zip Drive, this has become a thing of the past. For under £150 the Zip drive stores 100Mb (94Mb formatted) on each cartridge. A must for anyone with more than 2 meg of RAM!

RRP ~~£219~~ £149.99

SP202 SAMPLING UNIT

BOSS

More functionality than the original Fairlight for under £300! The SP202 offers 16 bit sampling with sample rates up to 32 kHz, giving a maximum of 4' 20" sampling time, or 37' using optional PCMCIA memory cards. Features like timestretch, filter, delay and ring modulation mean this machine has to be taken seriously, and the built in automatic BPM calculator, together with tap tempo function, is a godsend for loop merchants. The built in mic and battery operation (optional PSU available) make it great for sampling 'on the move. Ideal for DJ's or anyone needing sampling on a budget, initial stocks will be very limited - get your order in early!

RRP £299.99

MPC 2000 SAMPLING DRUM MACHINE

Ever since the launch of the Roger Linn MPC60, Akai have led the way in sampling drum machines. It's latest evolution, the MPC2000, is a lot more than a glorified drum machine however - the 64 track sequencer is a development of what most people consider to be the only real alternative to computer based setups (32 MIDI channels are available), the sampling section is virtually identical to the best selling S2000, SCSI is standard, and the outputs can be expanded from 2 to 10 and digi i/o for only £249! There are far too many other features to mention here - on demo now at Turnkey.

RRP ~~£1199~~ £1149.99

INC FREE 8 MB RAM

PROTECH 12x CD-ROM DRIVE

If you want access to large amounts of sample data at a cheap price, then there's no better way to do it than via CD-ROM. Hundreds of discs are now available full of everything from orchestral instruments to hip hop loops, all ready prepared to load into your sampler. In theory SCSI is SCSI, but in practice it's just not the case, particularly when it comes to samplers. Drives that work perfectly with one machine will often flatly refuse to work with another. So we've taken the guesswork out, and come up with a bargain priced CD-ROM drive that works with all current Akai, Emu and Roland machines, and what's more, it runs at 12x normal speed, for ultra quick loading (actual speed depends on SCSI spec of sampler). Guaranteed to work! (Supplied with connector for 25 pin SCSI port, specify sampler when ordering - may require additional cable)

NEW PRODUCT £169.99

SU10 SAMPLING UNIT

INC 2 FREE TIME & SPACE CDs

YAMAHA

Yamaha's SU10 is a ground breaking unit, making professional quality stereo sampling available to everyone. Up to 54 seconds of sampling is available and 48 samples can be held in memory at any one time. Samples can be filtered, reversed, scaled, crossfaded, pitchshifted and even scratched using the ribbon controller. The built in sequencer means you can produce your own tunes using just this unit! The SU10 comes bundled with 2 free Time & Space CDs containing almost 800 samples.

RRP ~~£299~~ £249.99

ALSO AVAILABLE WITH 3 OCTAVE MIDI KEYBOARD only £319.99

E6400 SAMPLER

INC FREE CD-ROM DRIVE, 5 CD-ROMS & 16 MEG!

EMU

Building on the success of the E64 comes the E6400 from EMU. As well as coming with 4 meg of RAM as standard, and all the features of version 2 software, expandability is unrivalled with options including an extra 8 outputs, 32 MIDI channels, 18 bit dual stereo FX processors, and up to 128 note polyphony!

Huge E-MU CD ROM library available at Turnkey.

RRP ~~£2495~~ £1799.99

ESI4000 NEW SAMPLER

TURNKEY MEGADEAL INC. 32 MEG CD-ROM DRIVE, 5 CDs & ZIP DRIVE

The ESI4000 has all the features of the ESI32 we have come to know and love, but now has 64 note polyphony, memory capacity of up to 128 meg and an operating system upgrade giving you E4 style multi mode filters. All E-MU samplers come with free access to our enormous sample library (we have all the EIII library on CD-ROM) and of course, excellent technical support.

Stocks are very limited on this superb package deal - call to reserve yours now!

RRP ~~£1695~~ £1299.99

COMPUTER NEW, USED & EX DEMO

EMAGIC LOGIC AUDIO £325.99	STEINBERG CUBASIT VST £265.99	AUDIOWERK8 £449.99
MIDIMAN DMAN £99.99	STEINBERG REBIRTH £145.99	PRODUCER PACK £499.99
STEINBERG CUBASE SCORE £369.99	TURTLE BEACH MALIBU £119.99	

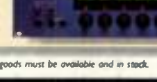
SAMPLING NEW, USED & EX DEMO

AKAI 3200XL £1699.99	EMU E6400 64 MEG £1795.99	KURZWEIL K2500X £2995.99
AKAI MPC2000 £999.99	KURZWEIL K2000 + 3 ROMS £1899.99	ROLAND SP202 £249.99
AKAI S20 5 MEG £449.99	KURZWEIL K2500R 32MEG £2299.99	YAMAHA A3000 £999.99
AKAI S2000 £599.99		YAMAHA SU10+PHONES £239.99
AKAI S3000 XL £995.99		
AKAI S1200XL £1649.99		

A3000 SAMPLER

YAMAHA

Arriving any time now, Yamaha's A3000 is their first entry into the sampling market for almost ten years, but this break has allowed them to take a good look at the market and come up with a highly competitive product. 64 note polyphony, four outputs (expandable to twelve plus digi i/o), .WAV file compatibility and memory expandable up to 128 meg, means that the A3000 must be taken seriously at this price. Call for full details or a demo.



RRP ~~£1299~~ £999.99

CALAMARI EXP. BOARD ALSO AVAILABLE only ~~£299.99~~

We will beat any genuine quote from a UK or European dealer at the time of order. We must be able to substantiate the quote and the goods must be available and in stock. Prices include 17.5% VAT. UK mainland carriage from £9.99. Please allow 10 working days for cheque clearance. Errors & omissions excepted.

turnkey In Ireland: TURNKEY DUBLIN 01677 9377
34-35 Wellington Quay Temple Bar Dublin 2
turnkey 0171 379 5148
Fax: 0171 379 0093 114 Charing Cross Road London WC2H 0DT Email: sales@turnkey.demon.co.uk Web site: http://www.turnkey.uk.com

Authorised Dealer | Soundcraft | DRAWMER | MACKIE | Roland | SONY | TASCAM | FOSTEX | digidesign

EUROPE'S LOWEST

Mark of the Unicorn

THE COST OF RECORDING - KEEPS ON FALLING!

Twenty-four track digital recording for under a grand?! No, you're not dreaming, Mark Of The Unicorn's new 2408 has twenty-four ins and outs in both ADAT and TDIF format, as well as eight analogue ins and outs all in a 1U rack!

MOTU 2408 HARD DISK RECORDING SYSTEM

The system doesn't stop there though, there are also two channels of SPDIF i/o which allow digital dubbing between an SPDIF source and either ADAT or Tascam machines, and you can also dub directly between ADATs and Tascams. Synchronisation is amply catered for with an ADAT sync in, word clock in and out, and a MOTU Control track input for sample accurate Digital Timepiece sync.

The PCI-324 card is included for use in either Macintosh or Windows computers, and it will allow you to connect up to three 2408s for seventy-two ins and outs, and as many channels as your computer allows! The 2408 is also shipped with fully featured workstation software for Mac, with recording, editing, mixing and real-time effects processing, whilst a standard Windows driver is included for PC compatibility.

All in all, a ground breaking product in terms of price / performance, features and compactness - call today to arrange a demonstration.

- ***Twenty-Four Inputs and Outputs on One Interface***
- ***Connect up to Three Interfaces to One Card***
- ***ADAT, TDIF and Analogue Connections all Catered for***
- ***Multi Platform Compatible with Drivers Included***

NEW PRODUCT
£995.99

QUASIMIDI

RAVE-O-LUTION 309
DANCE WORKSTATION

The Rave-O-Lution 309 is undoubtedly Quasimidi's best and most innovative product to date. Imagine the raw powerful sound quality of Roland's TR909 and TB303, give them 50 times as many sounds, add resonant filters to the drums, and you've still only got half the instrument that is the Quasimidi 309! Knobs for all functions all send out MIDI controllers, built in real-time and step-time sequencer, 2 on board effects processors & EQ, optional rack ears, typical German build quality - far too many features to mention here! The ultimate dance production workstation, must be heard to be believed. "superb bass synth ... excellent drum sounds ... one of the most immediately useable products on the market" - Sound On Sound.
Call for a free demo CD. Money back within 7 days if not satisfied (ask for conditions).

FACTORY DIRECT
£499.99

SYNTH & DRUM EXPANSIONS ALSO AVAILABLE only £79.99

309 AUDIO-EXPANSION

[illegible] board now available only £149.99. 2 extra outputs, 24-bit, allowing you to route 2 extra signals through the A&S synthesis. Also comes with new operating system with many new features.

FACTORY DIRECT
£119.99

POLYMORPH
SYNTHESISER

Coming soon, the Polymorph is a four part analogue style synthesiser, with 8 note polyphony, 4 outputs and superb 309 style realtime editing facilities and sequencer & FX.
Call for more details.

FACTORY DIRECT
£769.99

ATC-1
ANALOGUE MONOSYNTH

Studio Electronics started out life as a company that serviced and modified old Moogs, moved on to producing remanufactured Mini Moogs in 19" rack form, and then developed the SE1 - a modern Mini Moog whose components were painstakingly researched to provide an instrument that was according to the reviewers indistinguishable from the real thing.

Most recently has come the ATC-1 Tone Chameleon - hand crafted in the USA in the same way as their previous products, but with reduced cost due to less knobs but a vastly increased sound palette thanks to the ingenious use of filter cartridges to emulate the best sounding instruments of yesteryear. Editing is a breeze thanks to an individual button for each function, and a large central parameter dial.

Circuitry is analog throughout - right down to the oscillators, and the sound is needless to say, superb. There are 2 LFO's (one syncs to MIDI), three envelopes, and virtually all parameters can be controlled over MIDI. The ATC-1 is supplied with the Mini Moog filter, and can also be fitted your choice of a TB303, ARP 2600 or Oberheim Xpander filter (only £69 each), and for the filter fetishists amongst you, the filter Selector (only £199) takes all 4 filters simultaneously, and the filter type is automatically stored with each patch, avoiding the need for switching. The rear panel sports an audio input, and CV & gate ins and outs as well as the usual MIDI connections.
Incredible reduction on another Turnkey exclusive - quality doesn't have to break the bank!

RRP ~~£809~~
£469.99

VIRUS
VIRTUAL ANALOGUE SYNTH

Control specialists Access have used all their considerable expertise in the design of their new 'virtual analogue' synth, the Virus.

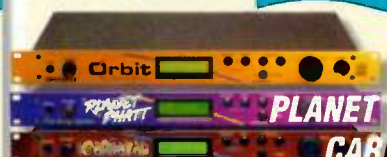
All major parameters have their own dedicated knob or switch, and an 'expert' mode allows super detailed editing via the LCD display and parameter controls. Of course, all edits send out controllers in realtime. Synthesis facilities are unparalleled - 64 oscillator waveforms (2 per voice), 3 LFO's, 2 multi-mode filters per voice, oscillator sync, filter overdrive, built in FX - you name it, it's got it!

12 note polyphony, 16 part multitimbrality, 6 outputs and 2 filter inputs mean you're not just limited to one sound at a time. We're so confident that you'll love this synth that we're offering a seven day money back guarantee (ask for conditions).

The most flexible and best sounding virtual analog on the market.

NEW PRODUCT
£899.99

SYNTH MODULES



Emu have taken their wealth of experience in making modules such as the Proteus, Vintage Keys and Morpheus, combined it with the filters from the incredible Emulator 4, and with their usual innovation, come up with the Orbit, Planet Phatt and Carnaval.
The Orbit is stacked full of classic drum sounds, pulsating basses, ambient pads, as well as a huge variety of hits and effects. Planet Phatt brings a new definition to swing, and the Carnaval is ideal for dance grooves as well as Latin specialists.
The inclusion of the E4's 16 different types of 6 pole filters mean that these modules have more powerful filtering than any other synth. Finally the 'BEATS MODE' includes a wide selection of loops and grooves which can have their pitch changed without tempo change and vice-versa, and even their sounds too!
V2 software now gives improved beats mode and other enhancements.
Orbit upgrade available for only £69.99.

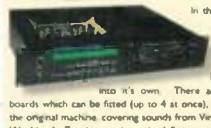
RRP ~~£869~~
£POA

DEEP BASS 9
TB303 CLONE

A great sounding TB303 clone. 1u rack with 1 knob per function, all the sound controls of the 303 are duplicated, filter cutoff, accent and glide all controllable over MIDI. Audio input allows treatment of external signals by the filter etc. and CV / gate in / out also means it can be used as a MIDI - CV convertor. An excellent analog bass machine - this unbelievable price on the end of the line means they will sell out very quickly!

RRP ~~£449~~
£199.99

JV1080
SYNTH MODULE



In the same way as the S1000 became the industry standard sampler, Roland's JV1080 has become the industry standard synth module. It's not hard to see the reason why - straightforward operation combined with top flight sound quality and a huge range of useable sounds.
But expandability of the machine is where it really comes into it's own. There are over 10 different expansion boards which can be fitted (up to 4 at once), each one with as much ROM as the original machine, covering sounds from Vintage to Orchestral and Dance to World. At Turnkey we have the full range in stock, as well as an unbeatable price on the machine itself.

RRP ~~£1189~~
£POA

JV2080 SYNTH MODULE

The Roland JV1080 has been become the industry standard sound source for home studios and professionals alike. It's superb sound quality, 64 note polyphony and expandability were a winning combination.
Now the new JV2080 builds on that success by offering a giant editing screen, three independent effects processors as well as reverb / delay and chorus, and room for 8 of Roland's renowned expansion boards - the potential is virtually limitless! Judging by the success of the JV1080, these will be in strong demand - call us now!

RRP ~~£1399~~
£POA

...will beat any genuine quote from a UK or European dealer at the time of order. We must be able to substantiate the quote and the goods must be available and in stock. Prices include 17.5% VAT. UK mainland carriage from £9.99. Delivery allow 10 working days for cheques. Subject to status & availability. E&OE.

turnkey 0171 379 5148 turnkey 0171 379 5148
Fax: 0171 379 0093 114 Charing Cross Road London WC2H 0DT E-mail: sales@turnkey.demon.co.uk Web site: http://www.turnkey.uk.com

PRICES GUARANTEED*

WALDORF MICROWAVE XT

waldorf

THE FUTURE'S ORANGE!

A classic - with knobs on! The Microwave XT takes all the features of the incredible Microwave II and adds new software and the user interface you've been waiting for! It's simplicity of use is obvious with knobs everywhere (which all send MIDI controllers) and a 2x40 character back lit LCD, whilst at the rear, the Microwave XT has 2 fully modulatable stereo outputs which are configurable as 4 monos with panning.

Sound generation comes from a powerful DSP generating unique wavetables, and the ten voices each feature two oscillators, two wave generators, one mixer, two filters in series, one stereo amplifier, four envelopes, two LFOs, and one modulation matrix with 16 slots and several 'modifiers'! More than enough to keep even the most demanding knob twiddler satisfied! The awesome sound has been further enhanced by a superb new sound set, with many patches being a performance in their own right. And what a paint job!

All this adds up to make the Microwave XT a highly desirable instrument - call us now to make your mix (and your rack) stand out from the crowd.

- Classic and Unique Waldorf Wavetable Sound
- All Knobs Send out MIDI Controllers
- Arpeggiator per Sound Syncable to MIDI
- 8 Part Multitimbral & 10 Note Polyphonic

RRP **£1099.99**

MEGADEAL ALERT NEW LOW PRICE!

FAT

FREEBASS TB303 CLONE

If you need the unique sound of an original Bass Line™, but can't afford the inflated prices that go with it, then Freeform Analog Technologies' Freebass is the product for you!

It's the only authentic sounding TB303™ clone on the market, and it's got MIDI! 1U rack with 1 knob per function, all the sound controls of the 303 are duplicated. Cutoff, Resonance, Envelope Mod, Accent, Tune and Decay. Waveform is continuously variable from square wave to sawtooth, and an auto tune button is included to retune the oscillator - no more continual drifting!

On top of this, there's an audio input to the filter stage, allowing you to process any external signal with the FB383's powerful synthesis. The ultimate analog bass machine - this incredible price means these will fly out of the door! Another Turnkey exclusive.

- Superb Sounding TB303™ Clone
- Fraction of the Price of an Original
- External Input to the Filter
- Exclusively Available at Turnkey

FACTORY DIRECT

~~RRP £199~~ **£129.99**

DM5 DRUM MODULE

OVER 60% OFF PRICE

ALESIS

The DM5 offers superb performance features and an excellent selection of drum, percussion & FX samples putting over 540 all-new studio drum sounds into a 1u rack space, many recorded in true stereo and with ambient effects. It's Expanded Dynamic Articulation feature allows sounds to change volume, tone, and pitch according to MIDI velocity. The Random Sample feature realistically varies the sound of the drum as you play. The DM5 includes an ultra-fast trigger-to-MIDI converter with 12 trigger inputs, 4 audio outputs and a backlit LCD display. The drum sound for you is waiting right here!

Another Turnkey megadeal!

~~RRP £429~~ **£269.99**

P50-m PIANO MODULE

ALMOST 60% OFF!

YAMAHA

At this price, can your setup afford to be without a piano module - no more need to load up lengthy samples or chew up valuable polyphony! The P50M takes the dazzling sounds from Yamaha's flagship stage piano, the £5,000 P500, including grand and upright pianos, CP80, Rhodes, Wurlitzer, Clavinet, and DX electric sounds. Many instruments are sampled in stereo for stunning realism, stretch tuned versions are available, and there are 22 different effect types (2 simultaneously) to choose from, as well as a 3 band equaliser. 32 note polyphony means you should never run out of notes, but for those with a heavy right foot, two modules can be connected in overflow mode for a whopping 64 notes, and there are seven velocity response curves to choose from to suit any playing style.

A bargain at the full price, this amazing deal means that stocks will not last long - call for yours now!

~~RRP £399~~ **£169.99**

RY8 RHYTHM MACHINE

The RY8 has to be the most versatile rhythm machine on the market. As well as 128 of Yamaha's finest drum and percussion samples, 12 drum pads, 200 preset patterns, 50 user patterns, and 12 customisable drum kits, the RY8 also has a selection of 50 instrument sounds including basses, pianos, strings, guitars, saxes and many more. There are an additional 200 accompaniment patterns, playing 1 bass, 2 rhythm and 1 lead part each, chord changes are user definable and there are 4 sections to each pattern. But there's more! Plug in a guitar or a microphone and the built in pitch to MIDI convertor allows you to play any of the instrument sounds directly, without a MIDI keyboard or special interface. MIDI in and out (syncs to MIDI clock), headphone socket, battery or mains powerable - absolute bargain!

Exclusive end of line offer - buy now whilst stocks last!

~~RRP £199~~ **£129.99**

M-BD1 SOUND MODULE

Roland

UNDER HALF PRICE!

Over 50% off on this top quality bass & drum module. Packed full of superb acoustic and elecronic sounds of typical Roland quality, the M-BD1 is 28 note polyphonic and 8 part multitimbral, and has 2 built in FX processors. Makes an ideal addition to any MIDI setup, providing the bread and butter sounds for a wide variety of tracks.

Very limited quantities - order now to avoid disappointment.

~~RRP £469~~ **£169.99**

SP-808 GROOVEBOX SAMPLER & HD RECORDER WORKSTATION

NEW

Roland's incredible new SP808 groovesampler continues the company's great tradition of producing top products for dance producers. The SP808 combines sampling with hard disk recording (to the built in Zip drive), along with a raft of effects, built in synth, and dual D-Beam controllers which allow you to modify the sound with just a gesture of your hand! Being able to play back samples directly from the Zip drive makes this the ultimate remix tool.

Initial stocks will be extremely limited - call now to reserve yours!

NEW PRODUCT **£1099.99**

RHYTHMTRAK 234 DRUM MACHINE

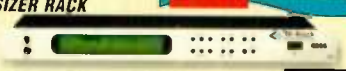
ZOOM

Whilst drum machines have remained little changed in recent years, the 234 certainly brings some fresh thinking with it, together with a fresh price! As well as all the usual drum and percussion sounds you would expect to find, the 234 also incorporates some of the best electronic kits we've ever heard, together with a huge range of Latin and other ethnic sounds, and 50 bass programs! Parameters such as level, pitch and hi-hat opening can be edited in real time, whilst pads can be set to trigger whole patterns for the ultimate in instant creativity.

NEW PRODUCT **£199.99**

TR-RACK SYNTHESIZER RACK

NEW KORG



Love the sounds of the Korg Trinity range but don't have room for another keyboard? Here's the answer you've been waiting for! Huge screen for easy editing, four outputs, 32 polyphony, and the huge fat sounds that Korg are famous for - from long evolving pads to exciting effects.

Initial stocks are very limited - order now to avoid disappointment.

~~RRP £999~~ **£949.99**

MC-505 GROOVEBOX DANCE WORKSTATION

NEW Roland

Take an MC303 Groovebox, add an extra effects processor, a D Beam infrared controller, a RAM card slot, enhance the arpeggiator and what have you got? An MC505! Well not quite, in fact the MC505 also has up to 4 tones per voice, more user patches and memory, (256 on the 303) and up to 64 note polyphonic. If most of the sound makers making a middle price synth don't do it, call us now!

NEW PRODUCT **£949.99**

MC-303 ALSO AVAILABLE only £499.99

MDF2 MIDI DATA FILER

Direct to disc MIDI data filer stores sysex files from virtually any MIDI device for sound storage etc. as well as recording and playing back Standard MIDI Files - perfect for live use as well as the studio!

Exclusive end of line clearance only at Turnkey - buy now while stocks last!

~~RRP £379~~ **£199.99**

SOUND MODULES NEW, USED & EX DEMO

ALESIS [illegible] £269.99	NOVATION BASS STATION RACK	ROLAND MGS64 £199.99
ALESIS SR18 £189.99	£369.99	WALDORF MICROWAVE 2 £749.99
BOSS DR5 £249.99	NOVATION DRUM STATION	WALDORF PULSE £299.99
EMU ORBIT £699.99	£369.99	YAMAHA MDF2 £195.99
EMU PLANET PHATT £599.99	ROLAND JV1080 £995.99	YAMAHA RY20 £259.99
FAT FREEBASS £129.99	ROLAND JV2080 £899.99	
KORG X5DR £299.99	ROLAND MC303 £399.99	

We will beat any genuine quote from a UK or Eurotique dealer at the same time of order. We must be able to [illegible] the item, it must be available and in stock. Prices include 17.5% VAT. UK mainland carriage from £9.99. Please allow 10 working days for delivery. Errors & omissions excepted.

turnkey In Ireland: TURNKEY DUBLIN 01677 9377 34-35 Wellington Quay Temple Bar Dublin 2

turnkey 0171 379 5148

Fax: 0171 379 0093 114 Charing Cross Road London WC2H 0DT E-mail: sales@turnkey.demon.co.uk Web site: http://www.turnkey.uk.com

Authorised Dealer | Soundcraft | DRAWMER | MACKIE | Roland | SONY | TASCAM | FOSTEX | digidesig

EUROPE'S LOWEST

SIRIUS
DANCE WORKSTATION

QUASIMIDI

NEW

The dance sensation of the year! Following hot on the heals of the award winning Rave-O-Lution 309, Quasimidi bring you the incredible new Sirius keyboard - a complete dance production workstation all in one.

The Sirius features the same acclaimed Analogue Emulation Synthesis as used in the 309, but gives you 3 synth parts with 12 note polyphony as well as the usual drum and percussion sections. But the innovation doesn't stop there, the built in Vocoder can take its modulator and carrier signals from any combination of internal or external sources (or the accompanying gooseneck mic), and for any budding DJ producers, the Sirius can be synced directly to a record deck or other audio source by automatic tempo analysis. Built in FX, a 4 octave velocity sensitive keyboard and a mod wheel that's assignable to multiple parameters simultaneously, round of a tour de force product that's sure to be highly desirable.

FACTORY DIRECT **£799.99**

Call now for full details, or to reserve your unit!

Wave
Synthesiser

waldorf

We now offer a new custom range of Wave synthesisers with 76-note keyboards in four colour options - standard blue, red (as shown), Sahara and black. Totally unique sound.

PRICES FROM **£6299.99**

K5000s
ADDITIVE SYNTH

KAWAI

In this age of many 'soundalike sample + synth keyboards, it's not often you get something coming along with a completely fresh approach. Kawai have dared to be different though with the K5000S, and reintroduced additive synthesis. This has been tried in the past, but the limited DSP power has severely curtailed the possible results. The only method of synthesis that can theoretically produce any possible sound, additive has a palette which ranges from superb acoustic simulation, to timbres quite unlike those offered by any other synth. The inclusion of a traditional synthesis section complete with an incredibly powerful filter means it's also a cinch to create fantastic analogue style sounds, and a generous complement of knobs which all send MIDI controllers add to the ease of use.

RRP £1199

incredible new low price only at Turnkey!

RACK VERSION ALSO AVAILABLE only £699.99

£849.99

Z-1 MULTI OSCILLATOR SYNTHESIZER

KORG

Korg's Z1 is probably the most comprehensive modelling synthesizer built to date, incorporating 13 different algorithms for stunning simulations of everything from classic analogue synths to incredibly lifelike string and brass sounds. Multitimbral performance and 12 note polyphony (expandable to 18) mean this is a really useable instrument, and there's even an optional ADAT format output board for those of you trying to maintain a fully digital system. Other features like the unique polyphonic arpeggiator and 15 effect types make the Z1 superb value. Check one out today!

RRP £1699

£POA

TRINITY
KEYBOARD WORKSTATION

KORG

When it comes to workstation keyboards, the Korg name is legendary. Their current flagship product, the Trinity not only features the customary range of exemplary sounds, but also touchscreen technology to make it one of the most intuitive instruments on the market, and a range of options to turn it into a fully fledged recording studio: sample playback (Akai compatible), Prophecy expansion board, and even hard disk recording!

TRINITY PLUS £1349.99
TRINITY PRO £1999.99
TRINITY PROX £2399.99

RRP £2345

£1349.99

CALL SOHO SOUNDHOUSE ON 0171 379 6766 FOR DETAILS

AN1x
VIRTUAL ANALOGUE SYNTH

YAMAHA

The analogue emulation market is hotting with this exciting new release from Yamaha. Building on the incredible success of the CS1X, the AN1x is built on the same design principles, but uses technology from the groundbreaking VL range to produce stunning virtual analogue sounds. With a 5 octave aftertouch sensitive keyboard, 10 note polyphony, 8 knobs and a ribbon controller, and built in effects, the AN1x is sure to be an instant hit.

Demand will far outstrip supply - get your order in early!

RRP £899

£729.99

HP 330e
HAMMER ACTION PIANO

Roland

Taken from the latest updated Roland range, the HP330e is the perfect instrument for beginners and accomplished pianists alike. Encased in a newly-refined cabinet, this hammer-action digital piano features excellent stereo samplings of grand pianos as well as several other fine sounds, including harpsichord, vibes & strings, all with a truly authentic touch.

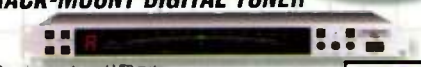
RRP £1799

£1599.99

CALL @PIANO.KEYBOARD ON 0171 497 5559 FOR DETAILS

DTR-1
RACK-MOUNT DIGITAL TUNER

KORG



- Oversize easy to read LED meter.
- Auto tuning with 3 selectable modes; Strobe, Cent, Hz.
- Two tuning inputs to handle tuning of 2 instruments.
- Built-in microphone is perfect for tuning acoustic instruments.
- 3-Octave reference tone. • Cable check function.

RRP £249

£169.99

DTR-2 RACK-MOUNT DIGITAL TUNER

- Rack-mount auto chromatic tuner with large LED meter.
- Full 7 octave tuning range.
- Auto reference calibration function can automatically calibrate the tuner to instruments that are not easily tuned.

RRP £149

£99.99

JP-8000
ANALOGUE MODELLING SYNTH

Roland

So far, modelling technology has been used to recreate acoustic timbres, but Roland are the first to specifically model true analogue synthesis with their new Analogue Modelling technology, and believe us, the results are spectacular!

Analog Modelling not only produces superb emulations of the great synths of the 60's and 70's, but also totally unique timbres never before heard. Realtime control is excellent, and all knobs, sliders, buttons and the ribbon controller send out Continuous Controller messages. For instant creativity, a powerful arpeggiator and real time phrase synthesiser are included, which can be easily synchronised to an external MIDI clock.

This is very likely to be the hottest synth of '97 - order now!

RRP £1499

£1099.99

EP-75
76 NOTE WEIGHTED ACTION

Roland

The Roland EP Series pianos are the perfect choice for those seeking a piano which is both affordable and compact. The 76-note semi-weighted keyboard is ideal for children or for those who prefer a lighter touch. 8 sounds are available, including an amazingly authentic piano sound, as well as 9 different piano accompaniment styles, built-in recorder, headphone socket & a host of other functions.

88-note version also available.

INCLUDES STAND

RRP £599

£449.99

CALL @PIANO.KEYBOARD ON 0171 497 5559 FOR DETAILS

VOODU VALVE
VALVE DRIVEN DSP PRE-AMP with HUSH

ROCKTRON

The Voodu Valve is Rocktron's flagship valve pre-amp processor giving you over 250 programmable memory patches using it's huge choice of internal effects which include 2 tap chorusing, 2 tap flanger, dual mode phaser, compression, tremelo, reverb, delay, pitch shift and frequency programmable wah-wah. All patches can access Rocktron's famous Hush Noise Reduction and speaker emulator.

Also available Rocktron Repitfex, Rocktron Intelifex & Rocktron Chameleon - call for more details.

RRP £1042

£699.99

XP-80
WORKSTATION KEYBOARD

Roland

All the power and flexibility of the JV1080 in a keyboard, together with what has to be the best onboard sequencer around, and a built in disk drive. The XP80 has a 7 octave keyboard, also a, 4 outputs and the same king size display as featured in the JV2080.

We have limited stocks only at staggering prices - don't delay - order today!

RRP £1899

£POA

WK-1200
MIDI KEYBOARD

CASIO

Great value 73-note touch-sensitive MIDI keyboard with 2-Way Bass-Reflex Speakers for improved sound quality. The 6-track sequencer, synth & mixer functions, pitch-bend wheel, backlit LCD & many more superb features make the WK1200 an outstanding instrument, ideal for any level of performance.

RRP £299

£POA

CALL @PIANO.KEYBOARD ON 0171 497 5559 FOR DETAILS

GUITAR SILENCER
NOISE LIMITER with HUSH

UNDER HALF PRICE

The Rocktron guitar silencer is a switchable 2 channel noise reduction system featuring Rocktron's famous Hush technology

As well as the guitar silencer we have managed to obtain a small quantity of the entire Rocktron range at unbelievable prices - call for more details!

RRP £322

£129.99

CALL SOHO SOUNDHOUSE ON 0171 379 6766 FOR DETAILS

CS1x SYNTHESISER

YAMAHA

Not only does the CS1X look great, it sounds great too! As well as 480 XG format voices and 11 different drum kits, the CS1x also has 128 special performance sounds especially designed for dance and techno music. Front panel knobs allow instant access to crucial editing parameters like the filter, and 2 are assignable to anything you like. Round this off with top quality effects and an arpeggiator, and you have what has to be the best value keyboard of the year!

RRP £599

£499.99

BUY WITH VL70M VIRTUAL LEAD MODULE for only £799.99

MK149
MIDI CONTROLLER KEYBOARD

Evolution

Compact touch sensitive master keyboard offering full control over pitch bend and a mod. wheel assignable to reverb, pan or any controller, sustain pedal input, transpose over 2 octave range, send patch & bank change messages

Check out our unique package prices with these modules:

RRP £119

£99.99

SANSAMP RANGE

TECH 21 • NYC

The Tech 21 range of hand built American products emulates every tube amplifier sound ever desired, giving you the classic Fender, Marshall, Boogie, HiWatt, Vox sounds etc - an all in one versatile unit at a fraction of the cost of the originals!

SansAmp PSA1 rackmount £189.99
Trademark 60 1x12 £299.99

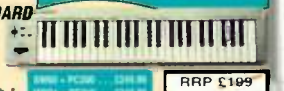
CALL SOHO SOUNDHOUSE ON 0171 379 6766 FOR DETAILS

PC-200 MkII
MIDI CONTROLLER KEYBOARD

Roland

Compact touch sensitive master keyboard offering full control over pitch bend and mod, data slider assignable to reverb, pan or any controller, sustain pedal input, transpose over 2 octave range, send patch & bank change messages

Check out our unique package prices with these modules:



RRP £199

£139.99

KEYBOARDS NEW, USED & EX DEMO

ALESIS QS6 ..... £575.99	KORG TRINITY £1349.99	YAMAHA AN1X £649.99
ALESIS QS8 ..... £1099.99	KORG TRINITY + ... £1499.99	YAMAHA CS1X £495.99
KORG N5 ..... £599.99	ROLAND A90EX £1699.99	YAMAHA P150 ..... £1149.99
KORG SG PROX £1350.99		

RP12
MULTI-FX FLOOR UNIT

OVER 30% OFF!

DigiTech

With 128 factory and 128 user patches the RP12 is a truely professional floor unit. With internal effects including analogue distortion, digital reverb, delay, pitch-shift, chorusing, flanging and programmable cabinet simulators, as well as an assignable built-in controller pedal

RRP £480

£329.99

CALL SOHO SOUNDHOUSE ON 0171 379 6766 FOR DETAILS

We will beat any genuine quote from a UK or European dealer at the same level of spec. We must be able to confirm the quote and the goods must be available and in stock. Prices include 17.5% VAT. UK mainland carriage from £9.99. Please allow 10 working days for cheque clearance. Errors & omissions excepted.

PRICES GUARANTEED*

DIGITAL 328
DIGITAL MIXING CONSOLE

SPIRIT Soundcraft

NEW

FREE STUDIO QUAD OFFER

Coming soon - the incredible new Spirit Digital 328. Not only do you get 32 channels each with moving faders, 3 band fully parametric EQ, 6 aux sends and total automation, but there's also 2 built in Lexicon effects processors, 2 high quality dynamics units, 16 channels of ADAT & TDIF I/o (no need for extra cards), and on top of all this, the desk is 24 bit throughout and with the superb E-strip, operation couldn't be simpler. Likely to be the hottest recording product of the year!

Free Digitech Studio Quad with all advance orders only at Turnkey!

NEW PRODUCT

RRP £3499.99

MONITOR 2
MID FIELD STUDIO MONITOR

ALESIS

TURNKEY MEGADEAL!

Buying a great pair of speakers for your home studio setup often envolves a compromise between sound quality, cost, bass performance and portability. Now you can have it all with this once in a lifetime deal on the stunning Alesis Monitor 2's.

Flat bass response down to 40Hz assisted by the substantial ported cabinets which come in a mirror image pair. The three way design with 10" woofer offers superior transparency with excellent quality reproduction across the whole frequency range. Power handling is up to 150w per speaker.

We cannot hold this offer forever - buy now before it's too late!

~~RRP £609~~

£349.99

BUNDLE WITH SERVO 550 only £699.99

ABSOLUTE ZERO
by SPIRIT
NEW NEARFIELDS

Soundcraft

The latest addition to Soundcraft Spirit's monitor range are the Absolute Zero's. For those of us with slightly less demanding monitoring applications, they make the ideal choice.

RRP

£199.99

ABSOLUTE 2
by SPIRIT
STUDIO MONITORS

Here at last! Stunning sounding and looking monitors from the UK's leading mixer manufacturer. Incredible bass extension and power handling at a killer price - in stock now, come in and audition them ASAP!

RRP £269

£POA

CONTROL 5
STUDIO MONITORS

JBL

These classic monitors from JBL have been a standard in studios for several years and still stand up very well against more recent competition. The solid build quality you can expect from JBL comes as standard and the ported design gives fantastic bass response. Internal fuses help to prevent blown tweeters and a compatible Turbosound sub-woofer is also available for only £199.99. Exclusive to Turnkey.

~~RRP £439~~

£249.99

CONTROL 1
COMPACT MONITORS

These superb compact monitors (RRP £199) are ideal for accurate monitoring on a budget. Sturdy impact resistant casing makes them the only choice for location work.

~~RRP £199~~

£99.99

BUNDLE WITH DENON PMA250 only £269.99

MONITORS
FROM HARBETH ACOUSTICS

Xpressional

Many of today's popular budget monitors sound impressive in the store, with tremendous bottom end and sparkling treble. But mixes made on these monitors can still sound wrong when played on other systems. The problem? Lack of clarity and detail in the mid-range, particularly vital when working with vocals and lead instruments. Harbeth, manufacturers of monitors for the BBC and others for many years, now address this problem with their new expression near-field monitors, offering great frequency response, and excellent mid-range clarity.

NEW PRODUCT

£339.99 PER PAIR

MONITORING NEW, USED & EX DEMO

ALESIS MONITOR ONE	£249.99
BEYERDYNAMIC DT100	£89.99

FOLIO NOTEPAD
PORTABLE MIXER

SPIRIT Soundcraft

For quality mixing on a budget, this has to be the nearest solution around. Typical Soundcraft quality has been further enhanced by the use of surface mount technology and custom designed rotary pots. 4 mono inputs are provided along with 2 stereo, which also feature RIAA preamps for record deck connection. 2 band EQ and an auxiliary send complete a highly flexible package.

~~RRP £189~~

£149.99

FOLIO F1
NEW MIXER

The introduction of the new F1 sees the Williams team of mixer manufacturers in top gear! Features include 3 aux. sends, 100mm faders, 3 band mid sweep EQ and insert points. Available in 14 or 16 channel versions.

~~RRP £379~~

£299.99

FOLIO FX-16
16 CHAN MIXER WITH FX

SPIRIT Soundcraft

NEW

Buy a superb quality Lexicon effects unit, and get a fantastic Spirit by Soundcraft mixer thrown in free! The built in Lexicon caters for editable reverb, delay, chorus and regeneration effects, whilst the mixer features 16 main inputs, each with XLR and jack inputs, insert points and direct outs, UltraMic preamps, 3 band mid sweep EQ, 4 aux sends, solo in place, and 100mm Alps faders, and there are also an additional 10 inputs available for stereo sources and FX returns etc.

Built like the proverbial outhouse, step up to quality now!

NEW PRODUCT

£849.99

FX-8 ALSO AVAILABLE only £429.99

C1000
CONDENSOR MIC

The C1000 has become an industry standard amongst project studio owners and live performers alike, offering as it does a great frequency response, and extraordinarily rugged construction for a condenser mic. It can be phantom powered or used with a 9v battery, and even comes with a polar response adaptor to change from cardioid to hyper-cardioid.

RRP £286

£149.99

WMS51BT
WIRELESS MIC SYSTEM

High quality diversity radio mic systems have always been the reserve of the professional, due to the high costs often associated with them. AKG's WMS-51 system breaks that tradition, offering an unbelievable price / performance ratio. The system consists of a belt pack transmitter which can accept any of the MicroMic II series (handling anything from Lavalier applications to sax), or electric guitar (cable included), whilst reception is handled by the SR51, a half rack receiver featuring balanced and unbalanced outputs, a control for squelch (RF interference rejection) and an auto mute facility. ***Unbelievable clearance deal only at Turnkey!***

RRP £316

£169.99

WMS51HT HANDHELD ALSO AVAILABLE only £199.99

C3000
LARGE DIAPHRAGM MIC

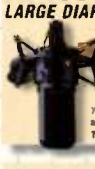
The C3000 uses all of AKG's experience in building large diaphragm mics such as the C12 and C414, but by using modern manufacturing techniques, and only offering two patterns (cardioid and hyper cardioid), the price has been kept to a minimum. Its open sound and superb frequency response make it ideal for vocals, as well as sounding great on a variety of other instruments.

RRP £309

£199.99

AT4033
LARGE DIAPHRAGM MIC

audio-technica



For years the Neumann U87 dominated the large diaphragm condensor mic market, but at a price. That was until the advent of the Audio Technica ATM4033. For about one third of the price, it offers superb sound quality - sparkling vocals and acoustic guitars, and all the kind of qualities you would expect from this kind of mic. Now Turnkey have secured a quantity at a new unbelievable price. If you're in the market for a serious microphone, you can't afford to pass this one by!

This price is available on current stocks only.

RRP £599

£299.99

SM58
INDUSTRY STANDARD DYNAMIC MIC

SHURE

Shure's SM58 has been the industry standard microphone for as many years as we can remember, and even today it's still a great buy! Robust enough to withstand countless heavy metal gigs, versatile enough for a wide range of studio uses, the yard-stick by which all other mics are judged, now at an unrepeatable price.

RRP £169

£84.99

IMPACT SERIES

Turbosound

IMPACT120

IMPACT110

The Impact range means Turbosound quality at a previously unheard of price - for example we can offer the superb Impact 120's at only £999.99 a pair.

Incredible value for money!

Headed on the Impact 110 subwoofer is only £199.99 - it's passive crossover also makes it an ideal partner for studio

FROM

£199.99

CALL TURNKEY LOOPSTATION ON 0171 497 5737 FOR DETAILS

POWERSTATION 600
PA MIXER BY SPIRIT

Soundcraft

The PowerStation has been revamped, and this is the first of a 3 model range. Power is up to 300W per chan. there are 6 mono and 2 stereo inputs. Lexicon effects get 2 editable parameters, there's 3 band mid sweep EQ and now 3 aux sends. Check out these amazing package deals:

CALL TURNKEY LOOPSTATION ON 0171 497 5737 FOR DETAILS

SPIRIT STUDIO
CONSOLES BY SPIRIT

SPIRIT Soundcraft

Soundcraft's Spirit Studio desks revolutionised the project studio market when they were introduced over 5 years ago offering sound quality and features only previously found on desks several times the price. Even then they were great value for money, but because Soundcraft have recouped their R&D costs, and because of our substantial buying power, they are now available at an unbelievable price. No other desks represents such fantastic value for money, just check out the feature list:

'In line' layout means 40, 56 and 72 inputs respectively for the 16, 24 and 32 channel desks, 4 band EQ with 2 mid sweeps, 6 aux. sends, 8 true subgroups, direct outs on every channel, LED metering, fader reverse - the list is endless!

~~RRP £1537~~

£899.99 16 ch.

~~RRP £2083~~

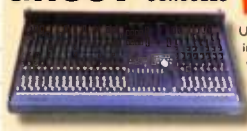
£1465.99 24 ch.

~~RRP £2894~~

£1999.99 32 ch.

GHOST
CONSOLES

OPTIONAL METER BRIDGE AVAILABLE



Ultra low noise inputs, 4 band EQ with 2 fully parametric mids, up to 12 auxiliary sends, MIDI mute automation and MTR transport control are a few of the features that put other project consoles to shame (no MIDI on LE versions).

~~RRP £4617~~

£2499.99 24 ch. LE

~~RRP £6607~~

£2999.99 32 ch. LE

MIXERS NEW, USED & EX DEMO

KORG 168RC £729.99	SOUNDCRAFT SPIRIT 32 ..£1999.99	YAMAHA 030 ..... £2499.99
SOUNDCRAFT GHOST 24LE	SOUNDCRAFT SPIRIT F1 14	YAMAHA EMX640 ..... £399.99
..... £2349.99	..... £249.99	YAMAHA MX1224 ..... £299.99
SOUNDCRAFT GHOST 32LE	SOUNDCRAFT SPIRIT F1 16	YAMAHA PROMIX 01 ... £899.99
..... £2849.99	..... £299.99	
SOUNDCRAFT SPIRIT 16 ..£899.99	SOUNDCRAFT SPIRIT STUDIO 16	
SOUNDCRAFT SPIRIT 24E1465.99	..... £899.99	

SERVO 170
AMPLIFIER

SAMSON AUDIO

Samson's Servo 170 is specifically designed for use with nearfield monitors, and does an excellent and unobtrusive job, sticking as close as possible to the "wire with gain" ideal for an amplifier. It offers a power rating of 85 Watts per channel RMS, making it an ideal partner for most of today's nearfield studio monitors. The standard 2u design means it fits neatly into your rack system, independent left and right volume controls are given, and there are built in signal and clip indicators, together with protection circuitry to help prevent blowing your speakers.

At this price stocks won't last long - another Turnkey exclusive!

RRP £289

£169.99

NT1
LARGE DIAPHRAGM MIC

INC FREE BOOM STAND

RODE

Rode have quickly made a great name for themselves with the NT2, now the NT1 cuts out the frills at an incredible price. The gold plated large diaphragm capsule gives a superb full frequency response, and is great for all round use and particularly good on vocals. If you only have one mic, this has got to be a strong contender!

RRP £329

£199.99

NT2 ALSO AVAILABLE only £429.99

MICS NEW, USED & EX DEMO

AKG D3500 ..... £89.99	LANGEVIN CR3A £279.99	NEUMANN U47 S/H £999.99
AKG D3800 ..... £79.99	NEUMAN U87 S/H £999.99	OKTAVA MK219 ..... £169.99

AMPS NEW, USED & EX DEMO

SAMPSON SERVO 170 .. £159.99

SOUNDLAB DLP3Rs & KAM GMX7

INC FREE CABLES

MIX PACK

- 2 x Soundlab DLP3R
- 1 x KAM GMX7
- 2 x Signal
- 2 x Stanton Cart
- 1 x Mixer Phones

A fantastic start-up direct drive bedroom package by the most respected names in DJ equipment. The outstanding DLP3R and the versatility of the GMX7 sampling mixer is sure to be a winner!

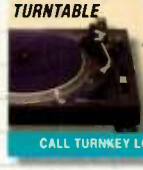
RRP £649

£429.99

CALL TURNKEY LOOPSTATION ON 0171 497 5737 FOR DETAILS

SL 1210 MkII
TURNTABLE

Technics



After more than 10 years at the top, Technics SL 1210s are still holding their own.

Solid build quality, near instant start & stop and a rock steady pitch control make them a safe buy.

Package prices also available with various mixers - please enquire.

RRP £499

£POA

CALL TURNKEY LOOPSTATION ON 0171 497 5737 FOR DETAILS

We will beat any genuine quote from a UK or European dealer at the time of order. We must be able to substantiate the quote and the goods must be available and in stock. Prices include 17.5% VAT. UK mainland carriage from £9.99. Please allow 10 working days for cheque clearance. Errors & omissions excepted.

turnkey In Ireland: TURNKEY DUBLIN 01677 9377
34-35 Wellington Quay Temple Bar Dublin 2

turnkey 0171 379 5148

Fax: 0171 379 0093 114 Charing Cross Road London WC2H 0DT Email: sales@turnkey.demon.co.uk Web site: http://www.turnkey.uk.com

Event EMP1

Solid-State Mic Preamp

Many mic preamps are marketed on the strength of the sound they claim to impart to your recordings, but the Event EMP1 is designed to sit as unobtrusively in your signal path as possible, amplifying quietly to itself. HUGH ROBJOHNS investigates...

Mic preamps frequently constitute the weakest links in the signal path in recording mixers (especially budget and mid-price models), the reason for this being that the average mixer has to contain so many of them. Consequently, it is common practice in the recording industry to use a very high-quality stand-alone mic preamp for the most critical jobs. Indeed, this is can be a very cost-effective way to significantly improve the performance of an otherwise so-so mixer.

Mention stand-alone mic preamps and most people would probably think in terms of exotic units like classic Neve modules, or state-of-the-art machines from Focusrite, GML, and Amek. At the more affordable end of the market are the preamps from manufacturers like Digitech, Drawmer, Joemeek and ART. Excellent though many of these units are, they are often beyond the budget of many home studios, and this is where Event Electronics' new EMP1, priced at a remarkably modest £265, comes in.

THE BOX

The EMP1 is housed in a distinctively arched, brushed metal case. There is no provision for rackmounting and although the sides feature what appear to be heat-sink fins, these are merely a design feature. The lid is secured with anti-tamper fastenings (making it hard to peek inside) and the unit measures roughly 160 x 155 x 30mm (wdh), rising to 42mm high in the middle.

The front and rear panels are formed from the folded ends of the base and carry all the controls and connectors. The rear panel has an (inverted) IEC mains socket and associated On/Off rocker switch, and although the power supply is fused, this is not accessible externally. There are also three Switchcraft audio connectors: an XLR microphone input, and two line-level outputs; one on an XLR and the other on a quarter-inch TRS jack socket. All connectors are electronically balanced, but the output jack socket will also accept a tip-sleeve jack for use in an unbalanced system.

The front panel carries a mere four controls and five LEDs. Push buttons provide for phantom power, a high-pass filter, and polarity inversion (each with a green status LED), and a rotary knob adjusts gain in a continuous sweep from +20 to +60dB. The two remaining LEDs indicate when the unit is powered (green) and the presence of signal and overloads. This last LED shows green for signals above -2.5dBu and red when they exceed the clipping point at +23dBu.

TECHNOLOGY

The circuitry employed in the EMP1 is entirely solid-state and has been designed to maximise audio quality whilst keeping costs in check. The unit has a frequency response which remains flat to within 0.1dB between 20Hz and 20kHz and is only 3dB down at 122kHz (this falls to 90kHz with phantom power switched on, presumably because of the need for DC blocking capacitors on the input). Apparently, the response of the amplifier stages, excluding the input and output filtering, extends to around 1MHz which allows a very fast slew rate of around 15V/µS to help preserve delicate transient information. However, the input and output filtering has apparently been designed to reduce the likelihood of RF and electro-magnetic interference.

Another interesting design feature is that a DC servo is employed to eliminate any DC offset at the output instead of series blocking capacitors (which are often cited as introducing distortion in lesser designs). The output stage uses a discrete high-current topology capable of driving long cables and further discrete circuitry is used in the power supply regulation stages.

The high-pass filter is unusually gentle at only 6dB/octave and starts rolling off at an extraordinarily low 24Hz (-3dB point). In my experience, if a microphone is creating problematic rumbles the high-pass filter needs to be rather more vigorous than this design, although it will be of some use where modest levels of sub-bass noise exist.

IN USE

The Event unit looks very rugged and reliable and weighs enough to confirm that impression when handled. Connecting the EMP1 is a simple process and setting up the preamp is just as easy, involving little more than selecting phantom power and advancing the gain control

pros & cons

EVENT EMP1 £265

pros

- Superb quality/price balance.
- Easy to use.
- Ample headroom and relatively benign clipping characteristics.
- Low noise and extended frequency response.

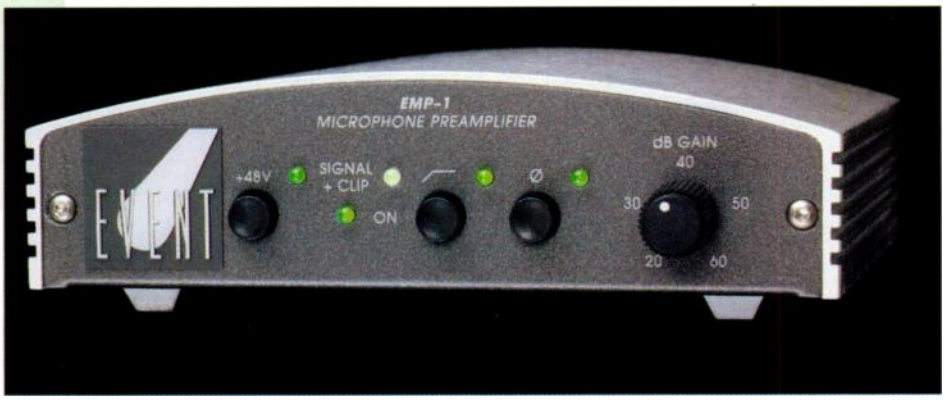
cons

- No earth lift facility on outputs.
- Polarity reversal switch creates loud splats.
- High-pass filter rather gentle.
- No provision for rackmounting.

summary

This is a no-fills mic preamp which redefines the quality/price balance. The EMP1's carefully designed transformerless circuitry retains virtually all the detail and clarity captured by high-quality mics.

SOUND ON SOUND



until sufficient output level is achieved.

The circuitry appears to have a very wide dynamic range and as long as the 'signal' LED is illuminated when the input signal is present, the signal-to-noise of the system seemed very good. For some reason best known to Event, they have chosen to quote the Equivalent Input Noise in terms of dBV rather than dBu, (and without reference to the source impedance). When converted, the impressive-sounding -129dBV comes out as a slightly less impressive -126.8dBu and so it would be fair to say that the EMP1 is not the ultimate in low-noise mic preamps, although it is undoubtedly significantly better than most budget mixer mic stages.

If the microphone input signal is excessively loud, or the gain is advanced too far, the amplifier will inevitably clip and although plainly audible (and accompanied by the front-panel LED glowing red), it was not as unpleasant an experience as would be expected from many comparable units. I don't think anyone would want to overdrive the EMP1 in the way you might with a valve preamp, but its clipping characteristics were relatively benign for a solid-state device. Although there is no separate input attenuator, the EMP1 proved quite capable of handling very loud sources such as drums and close-miked brass without difficulty, provided the gain control was adjusted sensibly.

(NOT) DOWN TO EARTH

The EMP1's metal case is connected to the earth pin of the mains socket — as it should be of course — but so too are the earth pins of the microphone input and both outputs. Unfortunately, there is no provision to 'lift' the earths of the output connectors and so earth loops and hum are a distinct possibility. Although I did not experience such problems while I was using the EMP1, I remain concerned because should earth loops become a problem I fear some users might resort to disconnecting the earth pin in the mains plug — with potentially lethal results. A simple earth lift facility on the output sockets would surely have been a sensible and practical addition with significant safety benefits.

The only major disappointment for me was that when the polarity inversion was selected or deselected, an enormous tweeter-destroying splat was created. You might expect that kind of thing when switching phantom power on or off, but not the phase reverse!

THE AUDITION

Event's new mic preamp is certainly no slouch — overall, its performance was very good — and although not quite in the same league as the really big names in this field, it is not far off. For the price, it is a very impressive unit and certainly worthy of a personal audition.

On careful listening tests, the EMP1 seemed able to preserve the detail and clarity of microphones costing many times more than the EMP1 itself. For example, it coped admirably with the intricate and complex harmonics of 12-string guitar (a pretty severe test for mic preamps) and this is undoubtedly due in part to the wide bandwidth circuitry employed. The EMP1 has ample headroom and although the noise performance is perhaps not quite as startling as the marketing hype suggests, it is perfectly respectable for the vast majority of applications.

Overall then, this is a decent mic preamp which offers an impressive quality/price balance and which would be a worthwhile upgrade for anyone who is squandering the quality of a decent mic by using run-of-the-mill mixer mic amps. SOS

info

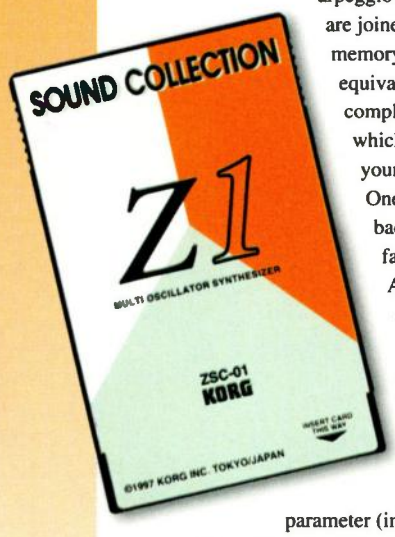
£ £265 including VAT.
A Key Audio Systems, Robjohns Road, Chelmsford, Essex CM1 3AG.
T +44 (0)1245 344001.
F +44 (0)1245 344002.
E info@keyaudio.co.uk
E info@event1.com
W www.event1.com
W www.keyaudio.co.uk/keyaudio

Korg ZSC 01 Sound Collection

Z1 Sound Card

A few famous names have been co-opted by Korg to contribute to their first extra sound set for the Z1 physical modelling synth. DEREK JOHNSON lends an ear.

Korg have released the first new sound collection for their Z1 DSP-based physical modelling synth (reviewed by SOS in October 1997). The sounds come on a PCMCIA card that slips into the synth's rear slot. It features 256 new Programs, 32 Multisets and 15 arpeggio patterns, which are joined by two other memory 'areas', each equivalent to the Z1's complete memory, in which you can save your own edits. One area features a backup of the factory sounds. A tip in the accompanying data sheet that you should follow is to ensure that the Card Area parameter (in the Z1's Global menu) reads '00'. Otherwise the Z1 either won't acknowledge the card, or will see a collection of initialised programs.



ON THE CARD

At first listen, the card appears to offer a similar set to the Z1's factory presets, but closer examination reveals a grittier selection, perhaps more attractive to the bedroom junglist and dancefloor hooligan, amongst the new organs, basses and electric pianos. About 30% of the new sounds originated in the UK, with contributions from such luminaries as Erasure producer Martyn Philips, Tom Green (who's working with The Orb's Kris Weston), *SOS* contributor Paul Wiffen, and Korg UK's Paul Bundock.

I'll start where I had the most fun: Multisets A00 Crusty Dub and A08 Volcano. Both are built around Programs (dubbed Zoop — presumably 'Z1 Loop' — 1-6) that emulate drum loops with a hint of bass line. There are *no* samples on board the Z1, but these patches make you believe there are. Similar Programs and Multisets are available in the factory collection, but the card examples go further. These two Multisets are virtually entire tracks in themselves: press a key and the loop kicks in, together with a pumping bass line; one half of the keyboard contains a lead sound in both cases. Crusty Dub is a distorted grind, while Volcano is pure early-'80s electro-pop. Multiset A01 Drums&Bass also deserves mention, but a lot of its unpredictable effect is generated by the arpeggiator, with aftertouch adding the rapid snare blurs typical of this genre.

The Z1 is particularly good at mimicking vowel sounds (using a dual band-pass filter). The card features just a few examples, but A039 AEIOU Choir has an eerie quality about it, with the various vowels brought out by manipulating the Z1's X/Y controller pad. The X/Y pad also helps bring various wind simulations to life: A008 Cave Flute is suitably primitive, with plenty of under- and over-blowing effects available from the pad.

A070 BD/SN Set 1 is a bass/snare emulation that seems to draw its inspiration from 4-operator FM synthesis; supply a suitable arpeggio (Drum&Bass is ideal) and you get a really funky pattern. Add this — or the TR606-ish B043 BD/SN Set 2 — to a Multiset to create your own instant grooves. Want more percussion? Check out A095 8008 SD+HC or A115 Solid HH/Perc.

On a more traditional synth sound front, you can take your pick. There are pads that are lush and pads with movement, brassy hits and cone-flapping basses (try A011 'n'Bass), TB303 bloops (check out the wickedly arpeggiated A000 Morph 3003) and subtle (and not so subtle) takes on polysynths of the past. Even bigger synth sounds appear amongst the Multisets; B02 GigaSynthesis plays with just 4-note polyphony on a basic Z1, though this is quite enough! B13 Thicky Bass Splt, a fat bass/resonant pad split, is also pretty up-front in an Oberheim kind of way. The convincing and cutting B124 Got Mini? and A005 mini Lead are ideal old-school lead sounds, while B118 VPM Sync (using, surprisingly, the Z1's FM-like model) and A096 Sizzlin' Lead also belong on top. The Z1 is a synth that's designed to be tweaked, and the programmers have given even the more conventional sounds something extra courtesy of aftertouch, the X/Y pad or real-time knobs. They also know how to use sync'd LFOs as an alternative to the arpeggiator.

Inevitably, there are some impressive yet musically questionable sounds on this card, but even these could provide inspiration for sound designers. A007 V8, for example, uses the Z1's reed model to produce an unstable powerhouse of an engine that chugs away until it screams into life when you crank the mod wheel, and B127 Bomb Test is an instant WWI newsreel soundtrack.

CONCLUSION

I've just scratched the surface of this uniformly well-programmed collection. At £129 it's perhaps a little pricey, though the excellent sounds are augmented by the extra memory (and to be honest, Z1 owners don't have a lot of choice at the moment, since there don't appear to be any third-party developers with Z1 sounds ready yet). Many of the sounds spark ideas, and the card could even be educational: deconstructing those loop-heavy Multisets has shown me the way towards some intriguing areas of sonic exploration. Recommended. SOS

pros & cons

KORG Z1 SOUND COLLECTION £129

pros
- Well-programmed, varied selection of patches.
- Extra memory for your own edits.

cons
- A bit pricey.

summary
This is a good collection of sounds that extends the sonic scope of the Z1, and one that any Z1 owner should seriously consider.

SOUND ON SOUND

info

£ £129 including VAT.
A Korg UK Ltd, 9 Newmarket Court, Kingston, Milton Keynes MK10 0AU.
T Brochure Line +44 (0)1908 857150.
F +44 (0)1908 857199.
E info@korg.co.uk
W www.korg.com

Blue, the spirit of creativity....
Roland
BLUE SYSTEMS
Blue Systems
The Old School House
Church End, Ashdon
Saffron Walden Essex CB10 2HG
England
Tel: +44 (0) 1799 584095
Fax: +44 (0) 1799 584094
Sales@Bluesystems.com
Http://www.Bluesystems.com
01799 584095
Rolands new 16Trk,
24Bit digital studio,
Call for details.
SP-808
Roland are about to change the face of DJ's for ever. The SP-808 features Rolands new D-Beam infra-red controller, intuitive sampler and digital recorder. A unit beyond words.
MC-505
The MC-505 builds on the successful MC-303 as a self contained, retro styled dance music sequencer. DJ, Hip-Hop, Techno or dance dream.
FORMULA 4000
ANALOG ODYSSEY
EARTH TONES
TECHNO TRANCE
PROTEZOA
HIP-HOP NATION
EMU ESI4000 & Glyph special offer!
EMU ESI4000 16MB
Glyph Ext. CD-ROM 12x
9 EMU Sound library CD-ROMs
£1199 inc. VAT
Focusrite
audio engineering
Focusrite Main Dealer
Blue Systems are stockists for the Blue, Red and Green range of outboard excellence. Enquire about our 'Try before you buy' policy.
The New TLA Ivory range is now available.
EQ-5013 £440
C-5021 £440
VP-5051 £440
emagic
Yamaha Digital Consoles on Demo.
Inluding the New 01V and the DSP-F card - An 02R in a computer and under £1000!
New from Emagic, Silver, Gold & Platinium.
Supports Direct X, VST Plug-Ins
up to 96 Audio Tracks, 24Bit & ND Crossfades.
Emagic Logic Audio Package:
Apple G3 233MHz D/top, 64/4000CD
Radius 17" Trinitron Monitor
Emagic Logic Audio Platinium, Emagic Audiowerk8
Glyph 4.5GB T/top HD, MOTU MTP AV.
£3799 Inc VAT
PRO 24 TOOLS
digidesign
Call for deals on PT4 & PT24 Systems.
A massive range of Plug-Ins available.
See our website for more information.
SCSI over 100FT?
Attention everyone who would like SCSI to run over 10ft. We now have a device for under £100 to make SCSI run up to 100FT.
SCSI Switcher
3 - 1 Solution
SPL Tube Vitaliser
Special £1785 Inc VAT
GLYPH
CUBASE
peak
WAVES
digidesign
Soundscape
Version 2.0
E & O E.

TL Audio Ivory

Parametric Equaliser

PAUL WHITE lends an ear to TLA's latest parametric EQ, an attractively-priced valve/solid state design that keeps up the company's tradition of delivering quality without the cost.

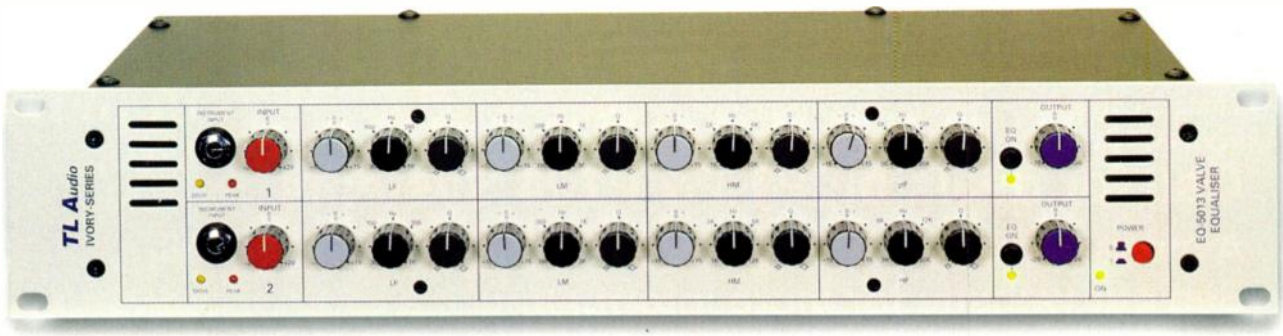
Assuming you have a skilled engineer and a talented performer, the factors most likely to influence the quality of a finished recording are a clean signal path, good EQ, accurate monitoring, quality reverb and an appropriate choice of microphone. TLA hope to address the first two points with their Ivory 5013 parametric equaliser, a hybrid valve/solid-state device that is loosely based on the EQ circuitry of the all-solid-state 3013 Crimson-series unit (reviewed *SOS* August '97).

Like the Crimson 3013, the 5013 is a dual-channel, 2U parametric equaliser. Each channel provides four bands of fully parametric equalisation, though the useful high- and low-pass variable-frequency shelving filters of the Crimson have been omitted, which I feel is rather a shame. Another difference is that whereas the Crimson also featured balanced mic amps, the 5013 is strictly a line-level processor. The high-impedance line input jack on the front panel, however, has been retained, allowing you to DI electric guitars and basses when necessary. The Input gain control has a ±20dB range, with an orange Drive LED and a red Peak LED to provide basic metering. The Drive LED provides an indication of how much valve colouration is being added.

Both balanced XLR and unbalanced jack audio connectors are provided on the rear panel, which is useful — most semi-pro desks still use unbalanced insert points. Equally practically, power is supplied at mains level via an IEC connector rather than a wall wart. Both input and output levels can be changed via rear-panel buttons; each set of connectors can be independently switched between +18dBu and +4dBu nominal instead of +4dBu and -10dBu (balanced and unbalanced respectively). A glance at the block diagram in the manual shows that each channel contains a dual-triode valve gain stage, which directly precedes the solid-state equaliser. Varying the input gain setting affects the degree of valve drive, enabling you to introduce a controlled degree of tube coloration.

The parametric EQ comprises four fully parametric sections with overlapping frequency ranges. Band one covers 30Hz to 1kHz, band two 100Hz to 3kHz, band three 1kHz to 12kHz and band four 3kHz to 20kHz. All have a ±15dB gain range, and the filter's Q can be varied from 0.5 to 5, but there is no facility for bypassing the individual bands — there's simply an EQ On button and green status LED for each channel next to the Output level control (-20 to +20dB range). All the EQ controls are continuously variable rather than stepped. To the extreme right of the unit is a red Power button with green status LED.

> "...a sweet-sounding parametric EQ that should be noticeably better than the EQ sections on the vast majority of mid-priced mixing consoles..."



pros & cons

TL AUDIO IVORY 5013 £469

pros
- Good build quality.
- High-quality, flexible EQ with variable valve drive.
- High-Z DI input is useful.

cons
- No individual band bypass switches.

summary
The 5013 offers a good balance of facilities for the price, and sounds noticeably better than most mid-price console EQs. Having variable valve drive is useful.

SOUND ON SOUND

SPECIFICATIONS

Gain Range:	-20 to +20dB
Connections:	Unbalanced jack and balanced XLRs
Audio Bandwidth:	40kHz
Noise:	-80dBu
Dynamic Range:	106dB
Valves:	1xECC83 per channel

PERFORMANCE

As regular readers will know, I've checked out units from all the TL Audio ranges at one time or another, and their equalisers always perform extremely well when compared with

5013

competitors in the same price range. This model is no exception, though I'm sorry to lose the shelving filters and the individual bypass buttons of the Crimson predecessor. However, what you do get is a sweet-sounding parametric EQ that should be noticeably better than the EQ sections on the vast majority of mid-priced mixing consoles, not to mention being a lot more flexible. Specifically, you can add 'air' to the top end of a recording without making it sound harsh or making the mid range sound nasal, while at the low end you can really warm up the bass or add punch to a kick drum without the low mid dissolving into a sea of mud.

As with all equalisers, if you can deal with a problem by cutting rather than boosting, the result will sound more natural — but where you do have to boost, the 5013 lets you go a lot further than you can with a typical desk EQ before the sound starts to get mangled. Adding a wide Q boost at around 12kHz to 15kHz, for example, provides a nice airy sound, while a little 200Hz boost thickens vocals without making them muddy. Boost in the 1kHz to 3kHz area can start to sound harsh unless you're very sparing with it; but then that's a difficult part of the spectrum anyway.

At higher Q settings the filters are very selective indeed, so you have to be particularly careful how you use them in this mode. One useful trick is to tune the filter onto a hi-hat sound, then apply a little gain to lift the hi-hat out of the mix, but you can't usually do this with a musical line that's changing in pitch, as you'll find some notes will be emphasised while others won't. Once again, this is a characteristic of all parametric equalisers, so the general rule is to use a wide Q wherever possible, and use as little EQ boost as you can get away with.

Increasing the valve drive adds both thickness and definition to the sound, providing you use it with caution, and it can make solid-state mics sound rather more assertive. Personally, I find that modest drive levels sound better than heavy drive for vocal use, whereas more drive suits percussive and synthetic sounds. Note that the valve stage is still in circuit when the EQ is switched out, so you can use the valve colouration on its own if you want to.

SUMMARY

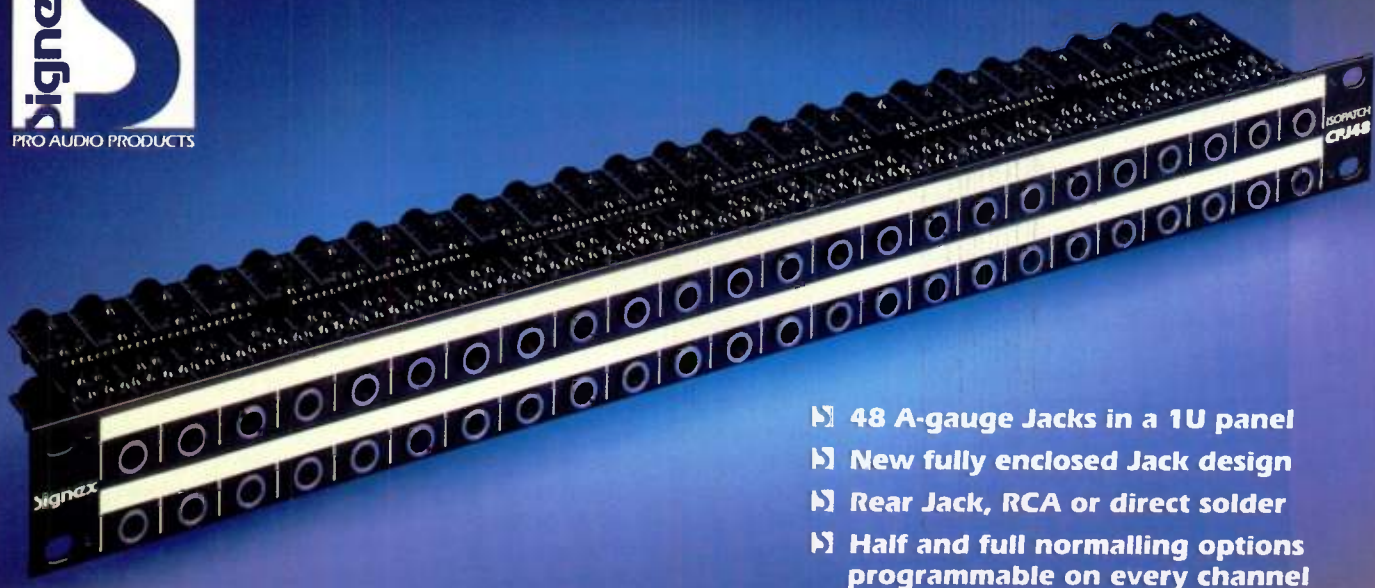
TL Audio's 5013 is a nice-sounding, no-frills parametric equaliser, with the bonus of a variable drive valve gain stage to add controlled distortion when required. It is keenly priced, very well engineered, and looks the part in a pro studio, though some desirable facilities (notably the shelving filters and the individual band bypass buttons) have been omitted to save cost. All the controls are set out clearly, with reasonable spacing between the knobs, and status LEDs are employed where necessary. Given that you can't have everything you want and still keep the price low, the 5013 gives you the core functions you really need from a parametric equaliser without compromising on quality. SOS

info

£ £468.83 including VAT.
A Tony Larking Professional Sales Ltd, Letchworth SG6 1AN, UK.
T +44 (0)1462 490600.
F +44 (0)1462 490700.
W www.tlaudio.co.uk

THE ULTIMATE 48 WAY PATCH PANEL!

signex PRO AUDIO PRODUCTS



- 48 A-gauge Jacks in a 1U panel
- New fully enclosed Jack design
- Rear Jack, RCA or direct solder
- Half and full normalling options programmable on every channel
- Suitable for balanced/unbalanced use
- Neat and easy slide-in ident strip

The NEW Signex ISOPATCH

Manufactured and distributed in the UK by:

ISOTRACK 21A Hankinson Road, Bournemouth, BH9 1HJ, UK

Tel: +44 (0)1202 247000
Fax: +44 (0)1202 247001

preview

Spirit Digital 328

8-Bus Digital Mixing Console

The Spirit name stands for quality analogue mixing at affordable prices — but can their new 328 carry the company's traditional values into the digital age? PAUL WHITE takes a first hands-on look at Spirit's digital debut.

Digital mixers have been around for a few years now, but it's only recently that prices have fallen far enough to challenge analogue desks on cost grounds alone. A typical digital console includes a degree of automation, often with moving faders, and there's a tendency to include built-in effects and dynamics processors — largely because it's cheaper to do that than provide additional analogue I/O to accommodate external boxes. This provides a lot of functionality for the price, but may well restrict the ease with which external processors can be connected.

With everyone competing on price, the main difference between models tends to lie in how the available processing power is deployed, and in the design quality of the user interface. This latter consideration is very important, as anybody brought up on an analogue desk is already used to having instant access to virtually any function, whereas with a digital desk it is invariably necessary to use multi-function controls to keep the control surface manageable and affordable. The challenge is to make the digital control surface operate as much like an analogue console as possible, but without providing knobs and switches for every parameter.

Spirit have come into the digital mixer market after observing the strengths and weaknesses of the first generation of products, and though the overall functionality of their 328 isn't hugely different to that of similarly priced competitors, they have taken a different approach to the user interface. The main difference is the use of what Spirit call the E-strip — a row of knobs above the channel faders that can be used either to access a single channel control (such as an aux send or tape return) across the whole console, or which can function as a virtual channel strip that provides one-knob-per-function access to all the EQ, aux and pan controls of the currently selected channel.

Although we've already reported on this mixer, we didn't want to do a preview before the majority of the functions were implemented. At the time of writing, there was still a little tidying up to do in some areas of the software, and there was still some work to be done on the dynamics processors, but the console was otherwise fully usable. The processing power of the desk, for those interested in such things, comes from a Motorola 56002 processor.

ANALOGUE-TO-DIGITAL CONVERSION

Spirit have designed the 328 to look as much like one of their analogue consoles as possible and, in analogue terms, it functions approximately as a 16:8:16:2 in-line mixer with additional general-purpose stereo inputs and direct channel outputs via the digital interface. In fact it's rather more than this, because all the tape returns, stereo ins and FX returns have the same routing facilities as the main input channels. Digital interfaces for Tascam (T-DIF) and ADAT recorders are built in as standard: two pairs each of T-DIF and ADAT, both in and out. You can get up to 24 tracks of digital recording by using both the groups and the direct channel outs, though you still only have 16 true tape return channels. Of course it would be possible accommodate 24-track recording by bringing one of the 8-track recorders back via eight of the analogue channels, which would also provide an opportunity to insert analogue processors between the tape machine and the desk. I use the term 'tape machine' throughout this preview, though the 328 is compatible with any digital recording system that has an ADAT or T-DIF interface. Apparently Spirit have already used the desk with a Korg 12/12 PCI card-equipped computer-based hard disk recording system with no problems.

The 328 has two built-in effects units based on Lexicon algorithms, two assignable dynamics processors (mono or stereo), and automation of all mix parameters with the exception of the analogue input gain controls. Apparently the Spirit designers felt it was better to include two really good dynamic processors than 16 perfunctory ones; the algorithms for these are designed by Orban and dbx.

When the desk is used on its own, it can provide snapshot automation (manually sequenced or MIDI controlled), with up to 100 snapshots of all the desk's digital controls, while full dynamic automation is possible with a MIDI sequencer. The automation can be referenced to SMPTE or MTC, and mixer maps are currently under construction for *Cubase VST* and *Logic Audio* to make operating the automation as transparent as possible. In dynamic mode the familiar read write and update modes of automation are supported.

THE CHANNEL STRIP

The best way to understand the main features of this desk is to first examine a channel strip. (All 16 are identical, by the way.) The analogue input stage has an XLR mic input and a balanced jack line input controlled by a single Trim knob — phantom power can be applied globally. A switchable low-cut 100Hz filter is fitted to each channel and there's a conventionally wired TRS jack analogue insert point following the input stage, after which the signal is digitised.

All 16 channel strips include a 10-segment bargraph meter, switchable to show the mic/line channel levels, the tape return levels, or the master group and aux

> "...within 10 minutes, and with no manual in sight, I managed to find my way around most of its features..."

send levels. A record button is placed directly beneath the meter to arm a multitrack recorder via MMC. At this point, the E-strip runs across all 16 channels. It comprises 16 encoder-style knobs, each of which is surrounded by a ring of indicator LEDs, plus a row of switches for selecting Fader Bank (mic/line, tape or master), Meter Bank (mic/line, tape or master), and Rotary Control function select buttons that allow the knobs to access any of the aux sends or the pans across all 16 channels. An indicator LED shows whether you're working with the mic/line or tape channels (as both have identical features), and this status is flipped when the Fader Bank selection is changed. This kind of 'one control across the board' method of control is quite common in other digital mixers, but what sets the 328 apart from the rest is that when you select an individual channel, the 16 control knobs then work as a conventional channel strip with one knob per function. All the E-strip's functions are printed beneath the knobs: frequency, gain and shape for three bands of parametric EQ (the outer bands can be switched to shelving), plus four pre/post selectable aux sends, and two further sends for the two internal effects and pan. The rings of LEDs around each knob indicate the filter bandwidth, gain settings and so on.

Below the E-Strip, channel controls continue with channel Select buttons for both the Mic/Line and Tape banks, a channel Mute button and a Solo button, which works in either PFL (pre-fade listen) or SIP (solo-in-place) mode depending on how you set it up in the master section. All the faders are full 100mm Panasonic motorised units, unlike the short throw types used by many of the 328's rivals. A single stereo fader controls the main output.

MASTER SECTION

Console master sections can be scary places, but the 328's is almost cuddly! At the top you'll find controls for all the analogue ins and outs for 2-track tape, control room, aux sends and so on. As well as a choice of two selectable 2-track returns, there are two sets of stereo analogue line ins with the same channel features and routing destinations as the main channels. The first of these, STE 1, has four stereo inputs that are mixed into one stereo pair with a level control for each, while STE 2 has a single pair of inputs. Of course, all four STE 1 inputs must be processed or EQ'd in the same way, but four mixable stereo inputs are a great way of bringing keyboards or effects returns back into the mixer.

The 2-line backlit liquid crystal display looks more suited to a synth than to a digital mixer, but the truth is that you seldom need to look at it except when calling up a setting from a library or choosing an effect. Four cursor buttons steer you around the display, while another rotary encoder allows parameter values to be changed. A Confirm/Yes button acts as an enter key, and most actions can be undone or redone using the Undo or Redo buttons. It's in this section that snapshots and dynamics processors can be accessed.

Moving down the panel, there's a large SMPTE readout, plus transport and locator buttons that can be used to control any recorder that supports MMC (MIDI Machine Control). The physical rather than virtual button theme continues in the Select section where there are eight discrete Group routing buttons, as well as further buttons for channel Phase reverse, EQ In/Out, channel Direct outputs, SIP Safe mode, Route to Mix, Record Arm, Mute and Solo. ▶

Spirit Digital 328

OPTIONAL EXTRAS

- **8-Channel I/O: this connects to the T-DIF port to provide eight unbalanced analogue group or direct outputs and inputs.**
- **AES/EBU Interface: four pairs of AES/EBU digital ins and outs on XLRs. Connection is via the T-DIF sockets.**
- **Mic Preamp Interface: provides eight mic inputs using the same low noise Ultramic preamps as in the 328. Each input has a gain control, high-pass filter, insert point, phase button and pad switch; connection is via the T-DIF sockets.**

Routing is quickly and easily accomplished using a combination of the channel select buttons and the Route to Group buttons, and as all the console buttons are illuminated, the routing status can be clearly seen. Furthermore, holding down just a Group button in the master section causes the select switches in any channels routed to that group to light up, so it's very easy to check the channel routing. There are also discrete buttons for setting up the Solo status and for storing, recalling and stepping through snapshots.

Finally, internal effects levels can also be set via rotary encoders, and you can EQ and route effects in the same way as other channel signals (except that it's not possible to route an effect to itself, a sensible safety precaution to prevent feedback). Both the effects and dynamics processors are editable.

OPERATIONALLY SPEAKING

What I liked most about this desk was that, within 10 minutes, and with no manual in sight, I managed to find my way around most of its features and was able to set up a mix quite efficiently. This is partly because the E-strip makes setting the EQ, aux sends and pan far easier than on desks that offer access to just one control type at a time. Channel data can be copied to an adjacent channel simply by holding down the Select button of the source channel, then prodding the Select button of the destination channel, a simplicity of operation that is carried through most of the desk's switchable functions. As the mixer maps weren't complete, I was unable to check out the dynamic automation, which uses non-registered controller data, but the snapshot system proved to be very straightforward. In addition to the 100 main snapshots, there are 20 further user setups that can, in effect, be hidden to prevent accidental overwriting. These may be used to store a starting configuration for a mix, including the I/O routing, sample rate, SMPTE frame rate and so on.

Though the analogue inputs have insert points, there's no straightforward way to insert an analogue effect into the signal path if you're using the digital tape returns. However, if the two on-board dynamics processors aren't enough, you could use a spare pre-fade send to route a signal to, say, a compressor, leave the channel fader down to remove the dry signal, then return the compressor output to a spare analogue input channel. It's also possible to configure the AES/EBU or S/PDIF connectors as master stereo insert points for use with outboard devices that have a digital interface.

With analogue in-line consoles, it's common to have to share facilities between the main and monitor channels, but with the 328, both the main ins and tape ins have exactly the same facilities, so all you need to do is select the tape fader bank instead of the mic/line fader bank when you come to mix.

IMPRESSIONS

So far, I've concentrated on the user interface and said nothing about the sound of this mixer. Despite its budget price, the 328 uses 24-bit, 128x oversampling converters, and offers the ability to use noise shaped dither when reducing the output signal for 16-bit media such as DAT. The dynamic range is quoted as 109dB for the mic input, and the sampling frequency can be selected from 44.1kHz, 48kHz, or external sync (over a 30-50kHz range). Certainly the mixer seemed very quiet, though there was a very low level of audible hiss when the effects were switched in, but as more work has to be done on this section, I'll wait until the final review model before commenting. It's worth mentioning that the mic amps are Spirit's UltraMic design, so they should be as quiet as those on a good all-analogue desk. Unusually, for a digital desk, the EQ has an analogue sound to it, and each band has a set frequency range rather than having all sections cover the full frequency range. Apparently designer Graham Blyth has put a lot of work into the EQ, and he may well do further tweaks before desk goes on sale.

I don't like to draw too many firm conclusions at the preview stage, but my initial impressions of the 328 are very positive. Its weakest points are the lack of any insert points in the digital tape return path combined with limited dynamics processing, and its relatively basic effects when compared with the competition. I'm told, however, that the effects capabilities will be extended in version 2.0 of the software to include dual effects such as chorus/reverb, delay/reverb and so on. On the other hand the user interface is well ahead of anything else I've seen to date, the built-in digital interface for 16 Tascam/ADAT tape return channels (24 tape sends) is excellent, and all 16 main channels have both mic and line inputs. The provision of five stereo analogue inputs makes it easy to connect external effects units or to route other stereo signals into the mix and, if you outgrow the mixer, you can cascade two together with nothing more complicated than a single cable.There's a lot more I'd like to say about this mixer, even at the preview stage, but space prevents me — so you'll have to wait for the in-depth, full review in a month or two. Spirit are confident that the desk will be on sale by early summer. SOS

info

£ £3523.83 including VAT.

A Spirit By Soundcraft, Cranborne House, Cranborne Industrial Estate, Cranborne Road, Potters Bar, Hertfordshire EN6 3JN.

T +44 (0)1707 665000.

F +44 (0)1707 665461.

E spirit@dial.pipex.com

W www.spirit-by-soundcraft.co.uk, www.spiritbysoundcraft.com

Introducing millions of new stores.

All at one address: www.apple.com/uk

Now buying Apple technology is as easy as using one. Because now you can go on-line and shop any time at The Apple Store. You can browse as much as you like and study spec sheets to your heart's content. Need assistance? No problem. You'll find plenty of on-screen answers, directions and suggestions. With the addition of The Apple Store, you now have 3 great ways to purchase Apple products: over the Web, over the phone and from your expert Apple Reseller.

And hundreds of new ways to build a Macintosh.

Not everyone wants the same things from a computer. So why put the same things in them? At The Apple Store, you can configure your dream computer. It allows us to better tailor your Macintosh to fit your unique style of working. Say you're a serious multi-tasker, for instance. We can load you up with as much as 384MB of memory. There are hundreds of possibilities. The Apple Store can help you arrive at the one that's perfect for you.

Think different.™

© 1998 Apple Computer, Inc. All rights reserved. Apple, the logo, Macintosh and PowerBook are trademarks of Apple Computer, Inc. The Apple Store and Think different are trademarks of Apple Computer, Inc. PowerPC is a trademark of IBM Corp., used under license therefrom.

20 TIPS ON...

MIXING

PAUL WHITE delivers a crash course in instant mixing.

The vocals sound great, the drums are really kicking and the guitars are exceptional, but put it all together and what have you got? A mess! Sound familiar? Until you've gained plenty of experience in mixing music, the process can seem very frustrating. There are probably as many correct ways to tackle a mix as there are successful engineers and producers. Even so, I've taken 20 tips that I've found to be helpful over the years and presented them below in the form of a checklist. These are not immutable rules, just general guidelines that can be broken any time you feel you can get away with it. Have fun!

1 Put the mixer into neutral (EQ flat, aux sends down, routing to Left/Right only and so on), before you start work and pull down the faders on any channels not in use. Make sure all unused aux sends are set to zero and that unused mixer channels are unrouted as well as muted, as this will further reduce the level of background noise. If you don't do this, you may find effects on tracks that don't need effects, or unwanted tracks creeping into a bounce due to a routing button being left down. You should also have a track sheet for your recording from which you can label the mixer channels. The time-honoured way to do this is to use masking tape and felt pen, so that you can peel the whole lot off when the job is finished.

2 Optimise the gain settings not only for the multitrack returns, but also for all effects sends and returns and for your external effect units. Also ensure that your master recorder is being driven as hard as possible, without overloading on signal peaks. These simple measures can significantly improve the clarity of your mix. If your recording is going to be digitally edited, leave any fade-outs until the edit stage, and don't try to chop off the noise that precedes or follows the mix — you may need this when setting up a digital denoiser that requires a bare noise 'fingerprint' for calibration purposes.

3 Subgroup logical sections of your mix, such as the drum kit or the backing vocals, so that you can control the overall level of the subgrouped elements from a single fader or stereo pair of faders. This allows you to control the mix using fewer faders, and fewer fingers! Be aware that any channels subgrouped this way must also have their effects routed to the same groups(s), otherwise the effects level won't change as you adjust the group fader.

4 Where level adjustments need to be made, mark the fader settings with a chinagraph wax pencil and, if necessary, take note of the tape counter or timecode locations at which the level changes occur. This way you can solicit help from other musicians in the studio if the mix gets too busy. If you're lucky and are using mix automation, listen to the whole mix through without watching the levels, so that you can concentrate on the balance of the instruments.

5 Don't assume that your ears always tell you the truth. Rest them before mixing and constantly refer to commercial recordings played over your monitor system, so that you have some form of reference to aim for. This is particularly important if you use harmonic enhancers, as your ears can grow used to the effects of over-enhancement very quickly.

6 Don't overdo the effects, especially reverb, as this can clutter your recording and take away the contrast that is needed to give your mix punch. As a rule, the drier the sound, the more up-front it will sound, while heavily reverbed sounds tend to move into the background. If you need strong reverb on lead vocals, try to add some pre-delay to the reverb effect and adjust both the vocal level and reverb level so that the vocal sits comfortably over the backing.

7 Don't pan bass sounds such as kick drums or bass instruments to the sides of the stereo soundstage, as these high energy sounds need to be shared equally between the two stereo speakers for best results. As a rule, very bassy sounds contain little or no directional information anyway, although bass sounds that also contain a lot of harmonics can sound more directional.

8 Leave any final EQ and effect adjustments until the full mix is playing. If you work on any single instrument in isolation, it's likely to sound different when everything else is added. If you can avoid using any heavy EQ, the result is more likely to sound more natural.

9 Try not to have too many instruments competing for the same part of the audio spectrum. The mid-range is particularly vulnerable, so try to choose the best sounds at source. You can improve the separation when mixing by using EQ to narrow the spectrum of the sound you're working with. Try rolling off some low end and occasionally taking out any excessive top end. This is sometimes known as spectral mixing, where each sound or instrument is given its own space in the audio spectrum. A good example of this is the acoustic guitar which, in a rock mix, can muddle the low mid. If you roll off the low end, you still get plenty of definition, but the mix will seem far cleaner. Sidechain filters on noise gates (set to Key Listen mode) are often very good tools for trimming the high and low ends of sounds without unduly changing the section you want to keep.

10 Don't over EQ sounds as they're likely to sound unnatural, especially when boosting. As a rule, good external equalisers will sound better than your console channel EQ when you're trying to make significant tonal changes. If you can confine your EQ to gentle shelving cut or boost rather than using heavy sweep mid, you're less likely to end up with nasal, harsh or phasey sounds.

11 If possible, fix problems by using EQ cut rather than boost. The human hearing system is less sensitive to EQ cut than it is to boost. This is especially true if you are using a low-cost equaliser or the EQ in your desk.

12 Compress the vocals to make them sit nicely in the mix. Few vocalists can sing at a sufficiently even level to be mixed successfully without compression. Soft-knee compressors tend to be the least obtrusive, but if you want the compression to add warmth and excitement to your sound, try an opto-compressor or a hard-knee model with a higher ratio setting than you'd normally use. Be aware that compression raises the background noise (for every 1dB of gain reduction, the background noise in quiet passages will come up by 1dB), and heavy compression can also exaggerate vocal sibilance.

13 From time to time, check your mix balance by listening from outside the studio/bedroom door. This tends to show up level imbalances more clearly than when listening from directly in front of the monitors. Nobody is quite sure why, but it works.

14 Don't monitor too loudly. It may make the music seem more exciting (initially), but the end user is unlikely to listen at the same high level. High monitoring levels also tend temporarily to shift your hearing perspective and can lead to permanent hearing damage. It's fine to check the mix loudly for short periods, but most of the time, it's useful to try and mix at the level you think the music will eventually be played. (Forget I said this if you're mixing dance music for nightclubs!)

15 Check your mixes on headphones as well as speakers. Headphones show up small distortions and clicks that you may never hear over loudspeakers. However, don't rely solely on headphones for mixing, for they represent the stereo image differently to loudspeakers and are notoriously unpredictable at low frequencies.

16 Don't vary the level of the drums and bass unnecessarily during a mix, as the rhythm section is traditionally the constant backdrop against which other sounds move. Natural dynamics within rhythm instrument parts is OK, but don't keep moving the faders on these sounds.

17 In a busy mix, try 'ducking' mid-range instruments such as overdrive guitars and synth pads under the control of the vocals, so that whenever the vocals are present, the conflicting sounds fall in level by two or three dBs. Just a little ducking can significantly improve the clarity of a mix. Use a fairly fast attack time for the ducker (which may be either a compressor or a noise gate that has ducking facilities), and set the release time by ear. Shorter release times will cause more obvious gain-pumping, but in rock mixes, this can add welcome energy and excitement.

18 If you are recording a primarily MIDI-based track, try not to look at your sequencer display while mixing; the visual stimulus interferes with your ability to make subjective judgements based only on the sound. If necessary, close your eyes. Watching your sequencer progress through the arrange page can also give you a false impression of how well the arrangement is working, which is why some composers prefer hardware sequencers.

19 If a close-miked sound seems unnaturally lifeless, but you don't want to add any obvious reverb, try an ambience or early reflection setting to induce a sense of space. The shorter the reverb time, the easier it is to move the treated sound to the front of your mix.

20 Listen to your finished mix again the day after you've finished it, as your perception is likely to change after resting your ears overnight. Also check the master recording on as many different sound systems as you can, to ensure it sounds fine on all of them. Even then, save all your mix information and track sheets, including effects settings, as you never know when you might want to try to improve on the 'final mix'!

AVI NUNEUTRON COMPACT MONITORS

Neutron Star?

PAUL WHITE discovers that it is possible for a compact monitor to deliver a sound that is both accurate and tonally well-balanced.

AVI are a UK company who have established themselves as manufacturers of well engineered, decent sounding hi-fi components at sensible prices. Their first foray into loudspeaker design was the original Neutron (reviewed *SOS* May '96). Although this was a compact 2-way bookshelf monitor designed for listeners who had no space for larger speakers, the design was also well received in broadcast and studio circles because of its uncoloured, natural sound. It seemed nearly everyone liked the Neutron, but designer Martin Grindrod thought he could do better, so he redesigned the speaker from scratch using different drive units and a much lower crossover frequency of around 3.2kHz. The result is a visually similar but technically quite different speaker that, in comparison with the original Neutron, does sound (and measure), significantly better. Already the pro audio fraternity have placed orders for multiple pairs of these new monitors for use in broadcast, but their compact nature and extremely revealing, uncoloured sound also makes them well suited to small studio and edit suite applications.

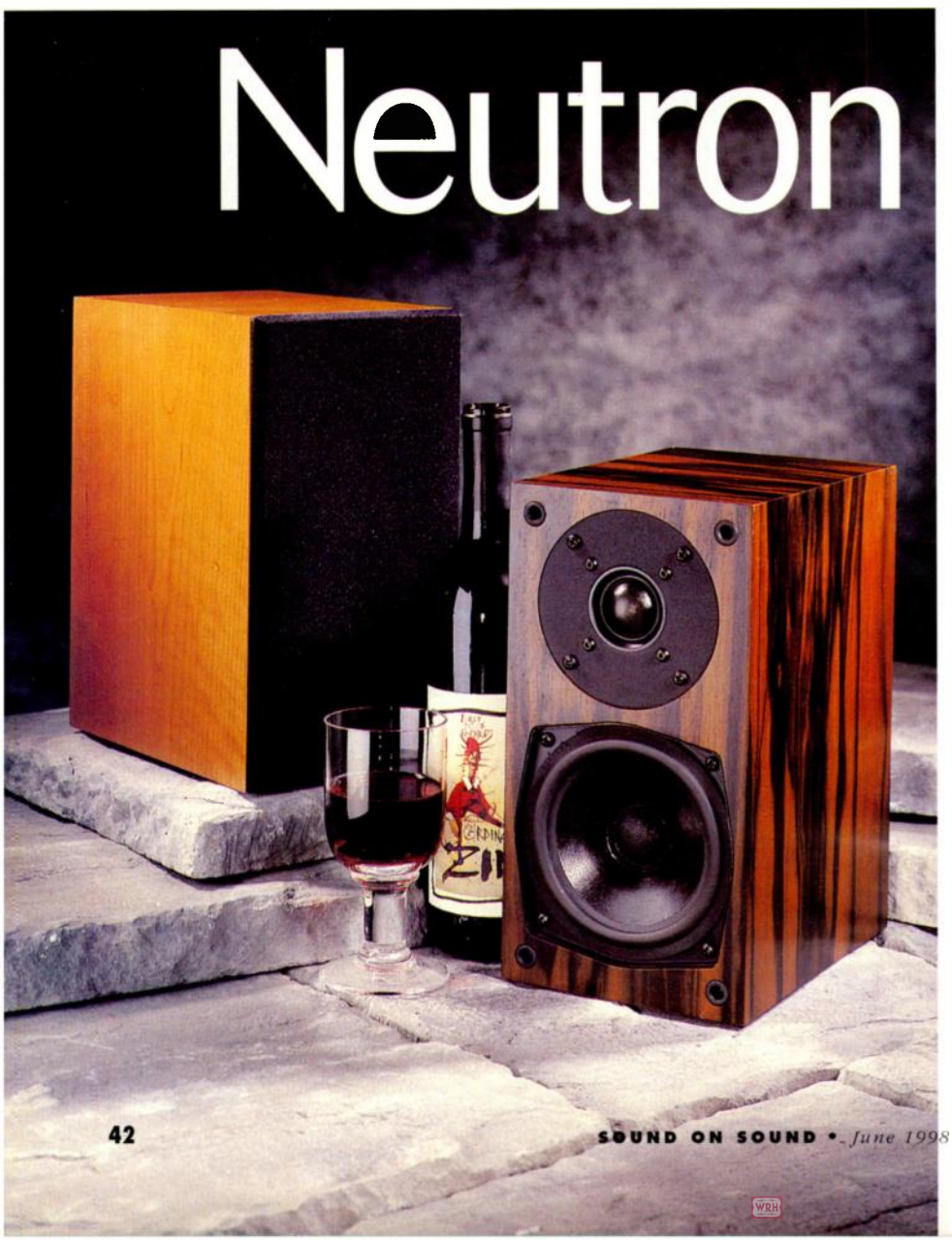
At first glance, the NuNeutrons look quite small when compared with other nearfield monitors — the enclosure is only five litres and measures just 265 x 140 x 205mm. Constructed from heavy MDF, the cabinet is fastidiously veneered in cherry or black ash (ebony is available at extra cost) and has a removable grille. Rear connection is via heavy, brass-cored terminals and, unlike the original model, the bass port is now at the rear of the cabinet.

The driver line up starts with a 5-inch Vifa bass/mid driver that has a curvilinear, doped paper cone driven by a 25mm voice coil. This is augmented by an expensive, hand-made 28mm Scanspeak tweeter with a fabric dome. According to marketing director Ashley James, a typical pair of £1,000 hi-fi speakers would use tweeters that cost in the region of £4 each, while the NuNeutron tweeters are considerably more expensive. Both drivers are recessed into the front baffle.

You might expect such small drivers in a compact enclosure to be bass-light, but the NuNeutrons actually manage a -6dB point of 65Hz and, in a typical small studio room, they sound surprisingly well balanced, though obviously lacking the sub-bass kick of a full-range studio monitor.

Of course, there's a lot more to creating a good monitor than choosing a couple of good drivers and putting them in a box. The drivers must be chosen to complement each other, and the crossover must be designed with great care to ensure the drivers work properly together. It's also very important that the drivers perform properly well beyond the crossover frequency because, with a gentle 12dB per octave slope, the overlap region is surprisingly wide. Any performance differences in this area will lead to phase errors that result in poor imaging and a loss in mid-range transparency. AVI took care to measure the performance of all of the NuNeutron's components at the design stage, rather than rely on manufacturers' data sheets, and the finished design was apparently tested outdoors on a tower in a free-field environment. Furthermore, the individual drivers were subjected to listening tests with swept sine sources, tests which resulted in an alternative brand of tweeter — one which measured well — being rejected.

The crossover used here is a 3.2kHz, second-order Linkwitz-Riley filter designed with the aid of computer modelling. It is not bi-wirable. The crossover board uses large ferrite-cored inductors and polystyrene capacitors on a heavy grade PCB, and features impedance equalisation to ensure that the filter works into a constant load — if a crossover is connected to a load that varies with frequency, phase problems will result, causing the effective acoustic centre to move, and this in turn compromises the imaging and can make the speaker uncomfortable to listen to. This is a key area of loudspeaker design that Martin Grindrod believes is overlooked by most other designers, and the larger ▶



WAY OUT WEST

music company

tel: 0181 744 1040/1050 fax: 0181 744 1095

WAY OUT WEST **WORLDWIDE MAIL ORDER** WAY OUT WEST

Recently voted "Best shop for studios" by Evening Standard Magazine

ANALOGUE RECORDING

TASCAM

PORTA 02 £145
NEW 414 £325
424 II £419

Fostex

NEW X14 £129
XR3 £219
XR55 £375
XR77 £495

STOP PRESS!!

YAMAHA

MT 50 £265
MT 4X £369

free goodies with all 4 models!

MIXING DESKS

Best Demos Best Prices

SOUNDCRAFT GHOST
24 L.E. & 32 L.E. - IN STOCK !

From £2399 BELIEVE IT!

BARGAIN BASEMENT

ALESIS MICROVERB III	£119
ALESIS MIDIVERB II	£139
ALESIS HR 16 DRUM MACHINE	£99
ALESIS QUADRAVERB +	£245
ATARI 1040 COMPUTERS FROM	£199
AUDIO LOGIC PA 88A ENHANCER	£99
ALESIS MEQ 230 GRAPHIC EQ	£199
BEHRINGER ULTRALINK	£119
BOSS BX 80 8 CH STEREO MIXER	£125
E-MU PROTEUS I MODULE	£350
FOSTEX A8 1/4" 8 TRACK	£450
FOSTEX 4050 REMOTE/SYNC	£350
FOSTEX 24-12-2 MIXING DESK	£999
FOSTEX 4030 + 4035 EI6 REMOTE + SYNC	£300
FOSTEX 280 MULTITRACKER	£250
HARRISON 300 w STUDIO POWER AMP	£350
KORG KEC 42 COMPANDER	£75
KORG P3 PIANO MODULE	£150
LINN LMI VINTAGE DRUM MACHINE	OFFERS
MESA BOOGIE TRI AXIS	£799
ROLAND D50 CLASSIC SYNTH	£275
ROLAND U 220 INC 4 CARDS	£299
ROLAND JUNO 6 SYNTH	£199
ROLAND JUNO 60	£275
ROLAND D 110	£175
ROLAND PC 200II + SOUND CANVAS SC7	£350
ROLAND MKB 300 FULL SIZE MIDI KEYBOARD	£350
ROLAND D20 LA WORKSTATION	£250
ROLAND MV-30 STUDIO M PRODUCTION SYSTEM	£199
SIMMONS MTM MIDI TRIGGER PROCESSOR	£175
STUDIOMASTER 8 INTO 4 RACK MIXER	£199
STUDIOMASTER MIXDOWN 24-8-2	£895
STUDIO RESEARCH NEM 24:2 NOISE ELIMINATING MIXER	£150
SIEL DK 600 ANALOUGE SYNTH	£150
REVOX B77 MK I + MK 2 FROM	£225
TASCAM 488 8 TRACK PORTASUDIO	£495
TASCAM 688 MIDI STUDIO	£599
TASCAM TSR 8 ½ INCH 8 TRACK	£899
TASCAM DAP-1 PORTABLE DAT	£999
TASCAM 488 II 8 TRACK PORTASTUDIO	£699
TASCAM 34B 1/4" 4 TRACK	£299
TLA DI VALVE MIC PRE AMP	£199
VOICE MICRO B ORGAN MODULE	£150
XR 300 MTC PRO SMPTE UNIT	£125
YAMAHA KX 88 WEIGHTED CONTROLLER K/BOARD	£575
YAMAHA TG 300 TONE MODULE	£365
YAMAHA RY8 DRUM MACHINE	£149
YAMAHA SPX90 REVERB	£175

MORE USED & EX DEMO EQUIPEMENT EVERY MONTH

0% Finance now available
Call for details
Subject to status

SEE W.O.W. HI-TECH AD ON PAGE 269 OF S.O.S!

OUTBOARD

ALESIS

NANOVERB	£145
MICROVERB IV	£199
MIDIVERB IV	£249
Q2	£599
NANOCOMP	£99
SR 16	£189
NANOPIANO	£CALL

LEXICON

VORTEX	£CALL
MPX 1	£749
ALEX	£CALL
REFLEX	£199
LXP 15	£450
PCM 80	£1399

BEHRINGER

DUALFEX	£139
ULTRAFEX	£169
AUTOCOM	£149
COMPOSER	£189
MULTICOM	£189
INTELLIGATE	£189
POWERPLAY	£225

DIGITECH

TSR 24	£CALL
STUDIO QUAD	£399
VOCALIST II	£CALL
STUDIO VOCALIST	£CALL

YAMAHA

REV 100	£229
SPX 990	£729
SPX 1000	£1199
REV 500	£319

OTHERS

APHEX C2	
EXCITER	£199
ZOOM 1201	£99
ZOOM 1204	£199

MICS & MONITORS

audio technica · MICS · SENNHEISER · NEUMANN · AUDIX / OCTAVIA RODE · AKG · SHURE · beyerdynamic

MONITORS

GENELEC · TANNOY · EVENT · Soundcraft · YAMAHA · ALESIS

DIGITAL RECORDING

TASCAM

TASCAM 564 DIGITAL STUDIO £600

TASCAM

DA 38 £BEST
DA 88 £BEST
DA 98 £BEST

Roland

New VS-840 £949
VS-880 VX
New VS-1680

ALESIS

ADAT XT 20 £BEST

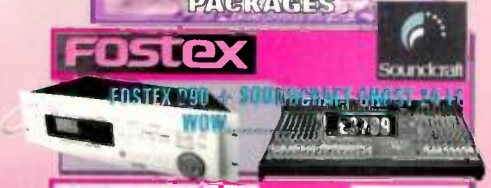
Fostex

DMT8 VL DIGITAL MULTITRACKER £799

Fostex

D-80.....£109
D-90 BLX ..£129
NEW D-160..£209

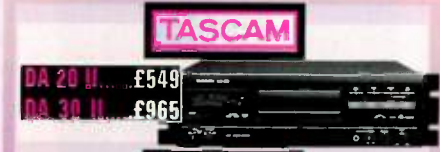
PACKAGES



DCC / DAT/CDR

TASCAM

DA 20 II.....£549
DA 30 II.....£965



Fostex

D5 DAT only£579
NEW CR200 CDR

PROFESSIONAL SERVICE
WE BUY USED GEAR & P/X
FREE PARKING
1 MINUTE FROM TWICKENHAM STATION

47 London Road Twickenham TW1 3SA UNITED KINGDOM

esale@wowmusic.demon.co.uk

EXPRESS NATIONWIDE & OVERSEAS DELIVERY
WOW MOBILE NATIONWIDE INSTALLATION SERVICE
EDUCATIONAL DISCOUNTS

the monitor, the more difficult it is to resolve. Everything about this design appears to follow sensible engineering principles rather than fashion.

A number of hi-fi speaker designs actually exploit coloration to make their speakers seem larger than life, something we know all about through our use of enhancers in the studio. The trouble is that coloured speakers only sound impressive on relatively simple material, and tend to be fatiguing after prolonged listening. More serious from the studio user's point of view is the fact that distortions in the loudspeaker may mask distortions in the music. Thankfully, AVI do not subscribe to this approach.

LISTENING TEST

The more you listen to loudspeakers, the more you realise that the commonly measured parameters only tell you a small part of a very large story. No purely measurement-based test has yet been devised that can tell you exactly how a loudspeaker will sound, so after wading through the technical material (in this case there was a great deal of it), you have to sit down and listen. As you've probably gathered by now, the NuNeutrons' design brief is to be as accurate and neutral as possible, and I can confirm that good recordings of voice and acoustic instruments show them to be exceptionally natural and open-sounding. Neutral speakers can sometimes be very insensitive due to the use of heavy, doped components, but the NuNeutrons' small drivers are relatively efficient, yielding a sensitivity figure of 86dB for 1 Watt at one metre. The maximum usable SPL is quoted as 104dB (at 70 Watts), which is quite enough for nearfield work, and although the bass end is limited, the overall performance in a typical small studio room is in no way thin or lightweight.

It is important to allow the speakers to draw as much undistorted power as they need, and an amplifier rated at between 30 to 150 Watts per channel is recommended. For serious studio use, I would recommend not less than 50 Watts per channel; for my listening tests I used my own AVI integrated amplifier, which can deliver around 100 Watts per channel.

I use a range of classical, jazz and pop material for loudspeaker testing, and make direct comparisons with other high-quality monitors (including my revered ATCs). What struck me right away about the NuNeutrons was their extremely good stereo imaging — with some monitors you have to make a conscious effort to imagine the sound coming from anywhere but the two speakers, but with the NuNeutrons the soundfield hangs convincingly between the two sound sources with plenty of left-right definition on panned sounds or instruments recorded in true stereo. Acoustic instruments and voice also sound extremely smooth and natural, yet retain plenty of 'air' around the top end. Delicate high-frequency percussion is well represented, yet there's no harshness or tendency to fatigue — you could work with these speakers for hours at a time with no problem. It's also possible to drive them quite hard before any trace of boxiness becomes evident.

Pop mixes sound solid, with good separation between the individual instruments and plenty of ambient detail. Transients are handled coherently, giving a solid, believable drum sound, and there's more than enough level at typical monitoring distances. The NuNeutrons provide the ability to hear inside a mix rather than just listening to its surface; for me, that's one of the hallmarks of a well-designed monitor.

SUMMARY

There's no doubt at all in my mind that the NuNeutrons are rather special monitors, and though some may perceive the cost as rather high for what appears to be a bookshelf speaker, I think that would be to seriously misjudge them. It's a fact of life that quality components — even small components — cost a lot of money, and what AVI have managed to achieve in so small a space is extraordinary. I would urge you to listen to a pair as they're more accurate and revealing than the vast majority of monitors out there, regardless of size or price.

If I had to say who might most usefully benefit from owning a pair of these speakers, I'd shortlist those running desktop editing systems (though the NuNeutrons aren't magnetically shielded, so they shouldn't be placed too close to computer monitors), broadcasters, musicians with small project studios based around compact, high-quality equipment, and anyone wanting a quality control monitor for cassette or CD duplication. They'd also make good secondary reference monitors for studios with larger but less accurate monitoring systems. It's probably no exaggeration to say that the AVI NuNeutron redefines our expectations of what a compact monitoring system is capable of achieving. This is a seriously good British loudspeaker that meets a very real need for a monitor that is both compact and highly accurate. SOS

pros & cons

AVI NUNEUTRONS £499

pros

- Good build quality, using top-notch components.
- Extremely neutral sound with good stereo imaging.
- Compact and physically attractive.
- Work extremely well in small rooms that might be problematic with larger speakers.

cons

- Could be considered expensive when compared with other compact nearfield monitors.
- Limited bass response.
- No magnetic shielding.

summary

A surprisingly accurate and compact monitor suited to small studio monitoring, broadcast, edit suites and general listening. Don't let the price put you off.

SOUND ON SOUND

NEED SPEAKER STANDS?

Target (+44 (0)1582 401244) have designed a floor stand for the AVI NuNeutrons, and will also build custom stands for positioning the NuNeutrons behind mixing consoles.

info

E £499 per pair; ebony finish models £749; Target speaker stands £150. All prices include VAT.
A AVI, Bath Road Industrial Estate, Stroud, Glos GL6 8DS.
T +44 (0)1453 752656.
F +44 (0)1453 752777.
E avihifi@btinternet.com

FIRST BLOOD

ZOOM

CATCH US IF YOU CAN

ZOOM RhythmTrak ...234

DRUMS/PERCUSSION/SFX/BASS

- 124 Drum Kits including Percussion and SFX
- 297 Rhythm Patterns (Preset 99/User 99/Preset Groove 99)
- 50 Bass Programs
- 99 Songs, 13,000 notes maximum
- 13 Velocity-Sensitive Pads
- 32 Voice Polyphony
- Sound Jammer Controller
- Groove Play Mode
- Synchronized play using Midi In
- Resolution: 96 PPQN
- Tempo: 40 - 250 BPM
- Stereo Output (1/4" Jack)
- Line Input (1/4" Jack)
- Stereo Headphone Output
- Power Supply Included

£199.95 inc

DISTRIBUTED IN THE UK BY EXCLUSIVE DISTRIBUTION LTD

FOR A FREE COLOUR BROCHURE AND YOUR NEAREST DEALER CALL

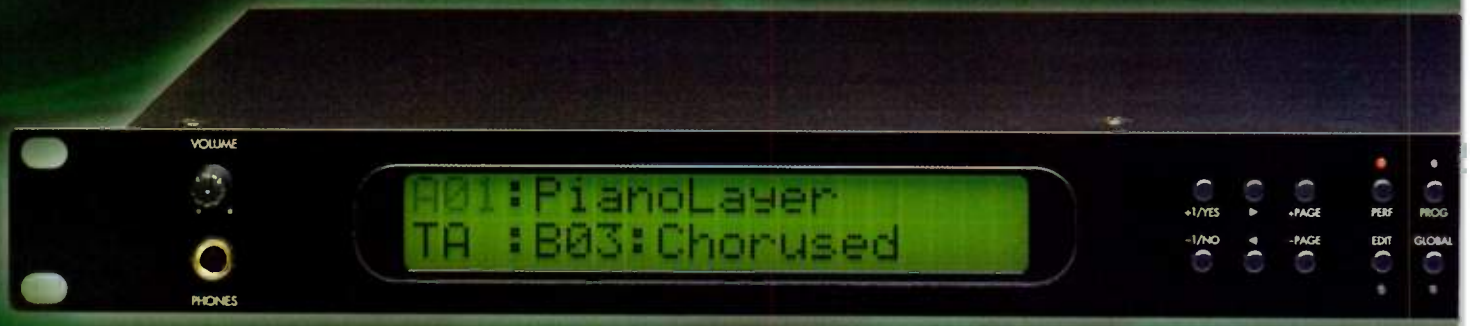
Exclusive Distribution Ltd
Unit 10 Furmston Court
Icknield Way, Letchworth
Hertfordshire SG6 1UJ
Tel: 01462 481148
Fax: 01462 481149

A quality acoustic piano sound in a 1U rack-mounting package? PAUL WARD lifts the lid to see if there are any strings attached...

A convincing acoustic piano sound is still one of the prerequisites for most modern keyboard players and is pretty much a must for any self-respecting commercial studio. The better piano emulations usually require a considerable amount of sample RAM to perform their tricks — sample RAM that could often be put to better use elsewhere. Several manufacturers have recognised this dilemma and packed their best sampled pianos into ROM for us to access in a more convenient form. Korg's SG-Rack, the modular version of Korg's SG ProX Stage Piano, is the latest to take this approach, presumably to tempt those who are already happy with their keyboard, but would like to access those much-vaunted SG piano sounds.

Right Grand

KORG SG-RACK STAGE PIANO MODULE



RAISING THE STANDARD

The build quality of Korg instruments is generally very high, and the SG-Rack is, happily, no exception. I shudder with horror at the thought of trying to find a home in my live rack for those annoying half-rack sound modules, with their nasty phono outputs and annoying external power supplies. No problems here; nail the SG-Rack into your standard 19-inch rack, plug in the Euro power cable, hoist a pair of standard quarter-inch jack leads between module and mixer, man the MIDI sockets (In, Out and Thru) and... well, that's it really, because you've run out of holes!

The SG-Rack's apparent simplicity extends around to the front panel, too. To the far left is the headphone socket with volume control, while to the far right is the chunky power switch. Filling the centre ground are the items of more enduring interest —14 black buttons (set into a black background, in fine synth design tradition) and a seriously large backlit LCD. Having seen other manufacturers adopt larger instrument displays leads me to hope that the trend continues, if only for the sake of those of us having to peer nervously across a darkened stage before hitting the first key of a song.

Operation of the SG-Rack's various parameters will be familiar to seasoned users of Korg equipment. Dedicated buttons take the instrument into Program or Performance mode. In Program mode, only one sound may be used at a time, whilst a Performance allows for the splitting or layering of two Programs. Modification of a Program or Performance is only a press of the Edit key away, with the +Page/-Page, cursor left/right and +1/-1 value keys being used for moving around the pages and changing settings.

Both Programs and Performances are arranged in four banks of 16, including a basic range of piano, electric piano, organ, string and synth sounds. 24Mb of sampled PCM ROM gives the module its source waveforms, with a maximum polyphony of 64 voices being delivered by the familiar AI2 synthesis engine.

TEMPER, TEMPER

Since the SG-Rack is geared towards providing a ready-made palette of usable sounds, the amount of editing that can be made to a Program is fairly restricted. Brightness, level, attack, decay, release (including options to simulate realistic piano damping) are all adjustable, while Key Touch allows the effect of velocity on volume and tone to be varied to suit your playing style. The tuning scale is also selectable between equal temperament, pure major, pure minor, Pythagorean, Werkmeister, Kirnberger and stretch. Each edited Program can be saved with a new name, or in the event of a sudden panic, can be restored to its factory settings — nice touch for us nervous types.

Moving into Performance Edit allows two Programs (or 'Timbres', as they are known within a Performance) to be encouraged to co-exist across your keyboard. Here the level, pitch, panning and key zones for each of the Timbres may be defined. Here also may be set filters to enable or disable each Timbre's response to certain MIDI message types, such as pitch-bend or expression. Velocity curve is also adjustable here, or can take on the Global curve setting. One useful feature in the SG-Rack's armoury is its use of 'macros' to quickly set up a pair of Timbres for split, layered, or velocity-switching, saving you the painstaking effort of

making all the necessary edits manually — a facility I'd like to see more of in the future please, Korg! In a similar fashion to Programs, a Performance may be named and saved, or the factory settings retrieved should it all go horribly wrong.

Korg have endowed the SG-Rack with two effects processors (FX1 and FX2), arranged in series, and both capable of a wide range of useful treatments, including reverb, delay, flanging, chorus, overdrive and rotary speaker simulation. These effects are quite simply excellent, with the usual proviso that digital overdrive just never seems to get close to sounding like the real thing. In Performance mode, there is the flexibility to specify whether or not Timbre B should pass through FX1, which makes up somewhat for losing Timbre B's dedicated effects settings. The SG-Rack's effects can be muted instantly by the single click of a button — no need to go searching through buried menus.

Global mode hides all of those useful goodies that affect the instrument as a whole, such as tuning, transposition and MIDI channel settings. Here also are the pages for transmitting MIDI System Exclusive data, and even a facility for customising the text message that appears when the SG-Rack is first powered up — room for some fun here!

SPEC CHECK

Synthesis type:	AI2 synthesis
Voices:	64 for mono Programs, 32 for stereo Programs
Waveform memory:	24Mb
User memory:	64 Programs, 64 Performances
Effects:	2 digital multi-effects units, supplying 12 effects types (reverb, early reflection, stereo delay, stereo chorus, stereo flanger, overdrive, stereo phaser, rotary speaker, auto pan, wah, flanger-delay, hyper enhancer)
Connections:	MIDI (In, Thru, Out), Output (L(Mono)/R), Phones
Display:	20 character x 2 line backlit LCD
Weight:	6.17lbs
Dimensions:	19 (W) x 10.4 (D) x 1.75 (H) inches

YOU HUM IT...

So much for the theory. How does it all hang together in use? Well... very well, in fact. The generous 64-voice polyphony is comforting. Selecting a stereo Program reduces this figure to a respectable 32 voices, but despite all my concerted efforts I couldn't make voice-stealing an audible problem. The piano samples are generally superb, although just one or two of the sample changeover points are more obvious than I would have liked. The bottom ends of the pianos are rich and rounded, and the upper middle range — often gritty and cold on some other manufacturers' emulations — is deliciously clear and vibrant here. Several variants on the basic piano sound are served up, from bright, chunky dance pianos to smooth, warm concert grands. All acquitted themselves impressively. To be honest, I found it difficult to stray very far from Program A01 'Concert', which is pretty much all I've ever looked for in a sampled grand — smooth and vibrant, with plenty of sustain.

The SG-Rack's electric pianos are equally inspiring, with plenty of character and warmth in the lower reaches of the keyboard. I still hate the velocity-switching to which manufacturers resort to access the 'hard' electric piano samples, but until physical modelling comes up with a smooth-changing alternative I guess we're stuck with it. The organs are amongst the best I've heard from any synth. The 'SGX Organ' Program held my attention for a long time, despite a rather too obvious tonal change in the middle of the keyboard. Selecting another Program, I was unprepared for such beautifully lush strings, and had to check my Kurzweil K2000 for a while to make sure I wasn't MIDI'd up somewhere I shouldn't be — impressive!

In any group of preset sounds there have to be a couple of duffers, and I could certainly live without the cheesy synth-brass and bass, but they will undoubtedly find use in someone's music. I particularly missed a Yamaha CP70 emulation, although I guess I'm probably in a minority here (although in the good company of Peter Gabriel and Simple Minds, I'd hasten to add).

ENCORE?

We are well past the days when a vague stab at a piano sound is considered adequate, and most players are keen to have at least one high quality piano sample amongst their armoury. Why replace your favourite master keyboard when you can just plug in a new set of piano samples? Studios looking to provide their clients with instant high-quality piano timbres should definitely check out this device, and it will use up a mere 1U of studio rack space. In my opinion, the only other piano module that comes close to the SG-Rack is probably General Music's RealPiano, which uses physical modelling to generate some of the resonances and nuances of the real thing — and to good effect.

The SG-Rack is a solid purveyor of high-quality piano (and piano related) sounds and more than up to the task. The non-piano sounds are all very usable and only serve to make the package more tempting. Until someone comes up with a better way of doing the job, the SG-Rack is about as good as it gets. SOS

info

£ £699 inc VAT.
A Korg UK Ltd, 9 Newmarket Court, Kingston, Milton Keynes MK10 0AU.
T Brochure Line +44 (0)1908 857150.
F +44 (0)1908 857199.
E info@korg.co.uk
W www.korg.com

pros & cons

KORG SG-RACK £699

pros

- Quality piano sounds.
- Plenty of other usable sounds.
- Convenient, well-built package.

cons

- Limited editing for some of the more synthetic sounds on offer.
- Price could put some potential buyers off.

summary

Delivers the goods as far as piano sounds are concerned and packs a lot of other usable sounds into the bargain. Price might be considered a little steep for some, but quality always comes at a price.

SOUND ON SOUND

"I found it difficult to stray very far from Program A01 'Concert', which is pretty much all I've ever looked for in a sampled grand."

tone ranger

FOCUSRITE PLATINUM TONE FACTORY

PAUL WHITE clocks on for a shift in Focusrite's Tone Factory, the first of the company's new low-cost Platinum range of processors, and discovers the anarchic side of Focusrite.

Focusrite are one of the big names in high-end signal processing, so they surprised everybody when they launched the lower-cost Green range (the first units of which were reviewed in *SOS* back in November '96). Their brand-new Platinum range signals a further decrease in price, as well as being conceptually quite different to what we've come to expect from the company.

The Focusrite sound is traditionally associated with transparency and sonic purity, but while the Platinum range borrows from some established Focusrite EQ topographies, it also provides the means to colour or even distort sounds in musically interesting ways. Focusrite designer Rob Jenkins explains that the company's existing products were built for studio engineers, while the Platinum range is specifically designed for recording musicians. He describes these new units as 'results-orientated products' rather than purist engineering tools.

The first Platinum unit to be launched is the Tone Factory, a 1U mains-powered rack unit that combines a class-A mic amp, variable-frequency high and low shelving filters, a compressor, a set of instrument-style tone controls (complete with overdrive and speaker simulator), a 2-band semi-parametric equaliser, and a noise gate. It's designed mainly for instrument use, but can also double as a mic channel if required.

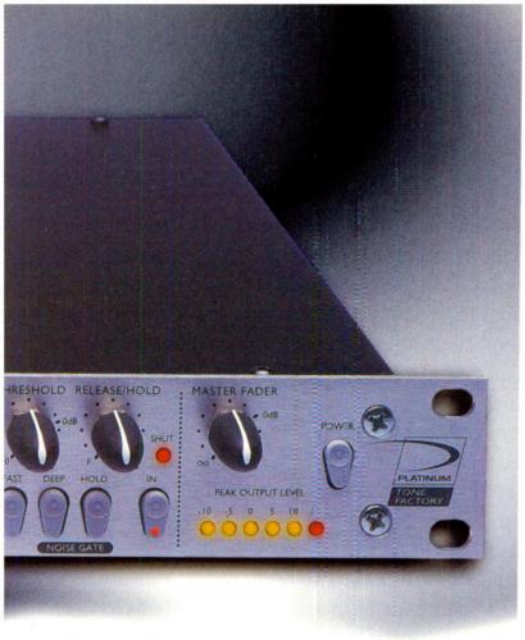
Gone is the visual flamboyance of the Green range, to be replaced by a businesslike grained aluminium front panel, sober silk screening and pear-shaped buttons. The conical rubber knobs used in the Green range have been retained, but in most respects this is a radically different product to anything the company has made before, both cosmetically and electronically.

THE MODULES

This unit might best be thought of as a series of more-or-less independent modules wired in series, though it is possible to switch the high- and low-pass filters into the gate side-chain if required, to facilitate frequency-conscious gating. At the front end is a class-A preamp switchable to mic, line or instrument mode; the XLR mic socket and balanced line jack are on the back panel, while the unbalanced, high-impedance instrument jack is on the front. Unlike the Green series mic amp, which uses expensive specialist chips, this preamp is built from discrete bi-polar transistors and FETs, and has a soft saturation characteristic so that you can introduce some coloration by driving it hard. As well as the variable gain control, there's switchable phantom power and a simple dual-LED metering system, where green shows the presence of a signal and red signifies overload.

Next in the signal path is the high-/low-pass filter section, which is not quite as straightforward as it might seem, as there are two filter modes — normal and corrective. The corrective mode provides two 12dB/octave filters, with conventional curves, variable from 10-320Hz and 2kHz-30kHz respectively. In the normal mode the curves are under-damped, so there's a slight peak at the turnover frequencies, and the low filter's rolloff becomes more gentle so as to be more musical on bass sounds. A Gate button places the filters in the gate side-chain, while the To Audio button puts the filters in the main audio path. With both buttons out, the filters are out of circuit altogether.

According to Rob Jenkins, the compressor was an interesting design challenge, because Focusrite wanted to avoid low-cost VCAs that might adversely



colour the sound, so they went to an opto design based around a photocell. This is quite a popular technique at the moment, no doubt inspired by the success of the JoeMeek range, but Focusrite have adopted a very different approach, by using a second opto cell in a feedback circuit to linearise the control law of the gain circuit. (Apparently, simpler opto designs tend to have an 'all or nothing' response because of their inherent non-linearity.) The only variable controls here are Threshold, Release and Output, with attack being switchable to fast or slow and ratio being controlled by the Hard Ratio switch. With the switch out the ratio is around 2:1, and when it's in this increases to 6:1. The compression law is a conventional hard-knee type, and a 6-LED meter monitors the amount of gain reduction taking place. A rear-panel TRS jack insert point allows processors such as equalisers to be patched into the compressor side-chain, for de-essing and similar tasks. As with the other modules, a bypass switch is fitted.

Next on the list is the Tone Controller section, which is the part of this design that seems least like what you'd usually expect from Focusrite. The Tone Controller comprises an overdrive control, with its own bypass switch; a Bright switch, which brings in a speaker simulator filter when out; and a separately bypassable 3-band passive instrument EQ, based on the same type of high-impedance circuitry you'd expect to find in a guitar amplifier. The controls are designated Bass, Middle and Treble, in true instrument amp fashion, and the Treble control can be switched to operate as a high-mid control for use with guitars and basses. As far as I could ascertain, this EQ section has no completely flat position.

Following on is perhaps exactly the type of EQ module you'd expect from Focusrite, although (to keep the cost down and to conserve panel space) the variable Q of a conventional parametric has been replaced by a Normal/Fine switch. This module comprises two EQ sections which can be switched individually between shelving (one high-pass, one low-pass) and band-pass mode. Centre-detented gain controls provide up to +/-18dB of range, while the frequencies can be varied from 40Hz-1kHz and 500Hz-20kHz respectively. A single bypass button takes the Parametric EQ section out of circuit when it's not required.

A TRS jack insert point is fitted between the EQ section and the gate that follows, and a rear-panel sensitivity button selects +4dBu or -20dBv operation. The idea behind including a -20dBv setting, rather than the more usual -10dBv, is that instrument pedal effects can be used. I get the impression that Focusrite envisage some musicians using the Tone Factory on stage as well as in the studio; to this end, the balanced +4dBu XLR main output is supplemented with a -10dBu line output jack and a -20dBu instrument output jack.

The final module is the noise gate, which is quite flexible even though it has only two variable controls. Threshold and Release are variable, but a switch turns the Release control into a Hold control, for creating gated reverb effects and so on. A Fast/Normal switch optimises the gate attack for percussive or non-percussive sounds, while the Deep button sets attenuation in the gate-closed position to either the maximum of 100dB or around 20dB. A single red LED shows when the gate is closed. When the shelving filters are switched into the gate's side-chain, it operates as a conventional frequency-conscious gate, and there's a rear-panel Gate Key jack, at a nominal 0dBu level, to allow the creation of externally triggered gating effects. At the end of the line is a Master Fader knob, a 6-LED level meter, and the power switch.

WORKING IN THE TONE FACTORY

Although the Tone Factory's mic amp design is very different to anything Focusrite have done before, it's still very quiet and, at normal gain settings, quite transparent. It's only when you drive it really hard that subtle coloration starts to creep in. It's probably fair to say, though, that it doesn't equal the Green front end's openness and transparency. The high and low-pass filters are extremely useful — I often use those on my Drawmer gates as instrument equalisers, so it's good to have them in addition to the more conventional EQ. The subjective difference between normal and corrective mode is quite evident, providing two distinct tonal flavours.

The compressor has something of the classic opto sound, but it's not nearly so pronounced as you might expect — largely, I suspect, because of the measures taken to linearise the gain-control process. The result is a compressor that you can hear working on all but the gentlest settings, but it's still very much under control and musical. The higher ratio combined with the longer attack setting ▶

RoKit Science

There is more than one good reason why you should check out these amazing little monitors from KRK.

KRK have applied many of the principals and technology from their larger professional models to make the RoKit™ - a small-room closefield loudspeaker with power, punch and accuracy.

The unique tetrahedral front ported cabinet minimises internal standing waves, optimising linearity and permitting greater bass extension. The 6½" polyvinyl woofer and 1" silk dome tweeter are magnetically shielded for use next to your computer screen or video monitor.

Then there is the price... At just £269.00 (RRP) all this technology can be yours!

Price including VAT correct at time of going to press

CALL!!! For your nearest stockist

THE UK OFFICE LTD
Berkhamsted House
121 High Street
Berkhamsted
Hertfordshire
HP4 2DJ England
Tel: 01442 870103
Fax: 01442 870148
E-Mail: tuko@theukoffice.co.uk

pros & cons

FOCUSRITE TONE FACTORY £349

pros

- Focusrite quality at an affordable price.
- Packed with useful features, especially in the EQ and tone-shaping departments.
- Smooth and musical EQ and compressor sounds.
- Useful for vocals as well as instruments.

cons

- Overdrive works better on some sounds than others.

summary

A multi-purpose input channel that successfully combines traditional Focusrite values with more creative, less purist ideas.

SOUND ON SOUND

"The Tone Factory offers a wealth of genuinely useful features, and combines the classically smooth Focusrite EQ sound with new creative potential."

▶ is more aggressive and works especially well on guitar sounds to produce a nice glassy sustain, though there's plenty of scope too for effective vocal compression. Despite the simplified controls, the compressor seems to work fine on a wide range of sound sources.

I have to admit that I found the overdrive/Tone Controller section to be a little quirky, but as long as you accept that it's there purely to create instrument colours and not to act as a traditional equaliser, it can be a lot of fun. The overdrive is really a soft clipper based around FET circuitry and doesn't offer the kind of range you'd expect from a guitar overdrive box, though it works well to augment guitar sounds that have already been overdriven prior to processing. It's probably best used at lower settings to add thickness to synth sounds, guitars or basses — at higher settings, it has a tendency to light up the overload LED in the preamp section. Realistically, any guitar players using this box will almost certainly already have some form of overdrive device or preamp.

The speaker simulator controlled by the Bright button trims away most of the grittier harmonics of a guitar, though if the button is pushed in, to bypass the simulator filter, the sound is somewhat buzzy and ragged, as you might expect. The only way to describe the EQ is to say that it's very coloured, in the same way that a guitar amp EQ is coloured. It has a pretty good tonal range and, in conjunction with the other EQ sections, allows you do a lot of serious tone-shaping. Though there's no nominally flat setting, you can get close by setting the mid to maximum and the treble and bass to halfway.

The Parametric section is more familiar, with a flat position at the gain centre detents. As with other Focusrite designs, even when you pile on lots of boost you rarely get the impression that you're overdoing things. Having a choice of band-pass or shelving really adds to the flexibility of this section, and although Focusrite's next Platinum unit will be a voice-channel unit, the Tone Factory also doubles as a useful voice processor when the Tone Controller instrument section is switched off — you can actually get some interesting vocal effects with the Tone Controller switched in, as long as you don't expect them to be very natural!

Having the gate at the end of the chain helps keep noise under control, and it does its job very well. However, because the insert point comes before the gate, delay and reverb effects may suffer from truncated tails. For this reason it would probably be best to put such effects at the end of the chain, reserving the insert point for effects that don't create significant amounts of delay.

CONCLUSIONS

Once you get over the original surprise at this new direction from Focusrite, the Tone Factory turns out to be a very flexible and powerful creative tool, as well as a convient means of sending clean mic, line or instrument signals directly to a recording system. As small digital mixers become better accepted, I foresee more people bypassing their mixers at the recording stage and instead using high-quality 'channel' products for virtually all single-source recording. The Tone Factory is a good all-rounder in this area, as it combines a sweet-sounding mic amp with a line input and instrument DI, so that it can cope with virtually any type of source signal. On top of that, there's a more than generous quota of equalisation and tone-shaping options — three different sections that may all be used at once if needed, as well as a simple but very musical compressor and a noise gate. The overdrive control and speaker simulator are also useful for smoothing off synth sounds or DI'ing guitar effects pedals, though they don't replace a dedicated guitar preamp.

Considering the attractive price of the Tone Factory, it offers a wealth of genuinely useful features and combines the classically smooth Focusrite EQ sound with new creative potential. I'm particularly pleased to see that variable frequency low- and high-pass filters have been included. The compressor has rather more 'attitude' than you'd find in the Green range, though it is still extremely smooth and musical, while the Tone Controller section is unlike anything I've heard from the company before. To be honest, I don't think the overdrive/simulator part of this section will satisfy many guitar players when used on its own, but it is useful for adding further character to an already overdriven sound, or for warming up synth leads and basses. However, the 3-band instrument EQ is distinctly different to the unit's other EQ sections, and greatly adds to the tonal range available. In addition to being useful as a front end when recording, the Tone Factory can also be used via insert points during mixing, and I've no doubt that some players will also want to take one of these units on the road with them.

Because Focusrite have managed to cram so much into a relatively inexpensive unit, there may be a tendency to think of the Tone Factory as a bit of a jack of all trades, rather than as a tool to do a specific job. In many respects that's a fair assessment, but everything it does it does well, and some things it does superbly well. This is one unit that's going to appeal to those musicians and studio owners who are prepared to spend just that little bit more on quality equipment, but who previously couldn't justify the expense of a high-end processor. I look forward immensely to trying the next processor in the Platinum range. SOS

info

E £349 including VAT.
A Focusrite Audio Engineering Ltd, 19 Lincoln Road, Cressex Business Park, High Wycombe, Bucks HP12 3RD.
T +44 (0)1494 462246.
F +44 (0)1494 459920.
E sales@focusrite.com
W www.focusrite.com/

D-90 features..

- 8 track digital multitrack with no compression
- 8 track simultaneous recording / playback
- 44.1 or 48kHz (selectable)
- Copy, paste, move & erase editing with undo & redo
- ADAT™ Digital Interface (simultaneous 8 channel)
- ±6% pitch control with no loss in audio quality
- MMC & Fostex Exclusive Message for controlling transport from external MIDI device, e.g. sequencer
- Approx. 30 mins recording to 1.3GB drive @ 44.1KHz
- 9 'Virtual reels' ■ Versatile chase mode
- Tempo mapping - create up to 64 tempo & signature changes per song
- Midi clock with song position pointer
- Analogue & Digital I/O (S/P-DIF & ADAT interface)
- SCSI-2 interface option for fast backup of sessions

D-160 features..

- 16 track digital multitrack with no compression
- 8 further 'ghost tracks' for additional takes
- ADAT™ Digital Interface (simultaneous 16 channel)
- ±6% pitch control with no loss in audio quality
- SCSI-2 interface as standard for fast back-up
- 44.1kHz & 48kHz sample frequencies
- Up to 99 'Virtual reels'
- Tempo mapping - create up to 64 tempo & signature changes per song
- Midi clock with song position pointer
- MMC & FEX implemented for external MIDI control
- Copy, paste, move & erase editing with undo & redo
- Analogue & Digital I/O (S/P-DIF & ADAT interface)
- Optional LTC Timecode board with Word & Video sync
- Balanced I/O option (+4dBu I/Os on D-sub 25-pin)

Digital Multitrack Recording - you have a difficult choice

Choosing to 'go digital' is fast becoming one of the easier equipment decisions you have to make.

But choosing the right digital multitrack can be a little more taxing as you have to be sure your chosen recorder excels in four critical areas: audio quality, expansion, synchronisation and editing.

Both the Fostex D-90 and D-160 offer industry standards in digital recording. Using both 18-bit & 20-bit convertors, they provide for CD-quality audio with a choice of 44.1kHz & 48kHz sample rates.

And being Fostex, the audio remains uncompressed meaning no compromises.

An ingenious caddy-held hard drive system means that increasing recording time is simply a matter of popping in a larger hard drive.

SCSI back-up of recording sessions is available too.

Sync facilities are as you would expect from Fostex. Both models are equipped with the ability to chase to incoming MTC; MTC plus S/P-DIF or ADAT™ (optical); or run free after MTC lock.

In addition, timecode sync facilities can be added to the D-160 via an optional board.

Finally, being non-linear machines, full copy, paste, move and erase (with undo & redo) editing is available across all tracks.

So maybe the choice isn't so difficult after all.

At least you know it'll be a Fostex.

Exclusively distributed in the UK by SCV London.
6-24 Southgate Road London N1 3JJ. Tel: 0171 923 1892. Fax: 0171 241 3644
email: fostex@scvlondon.co.uk web: http://www.scvlondon.co.uk

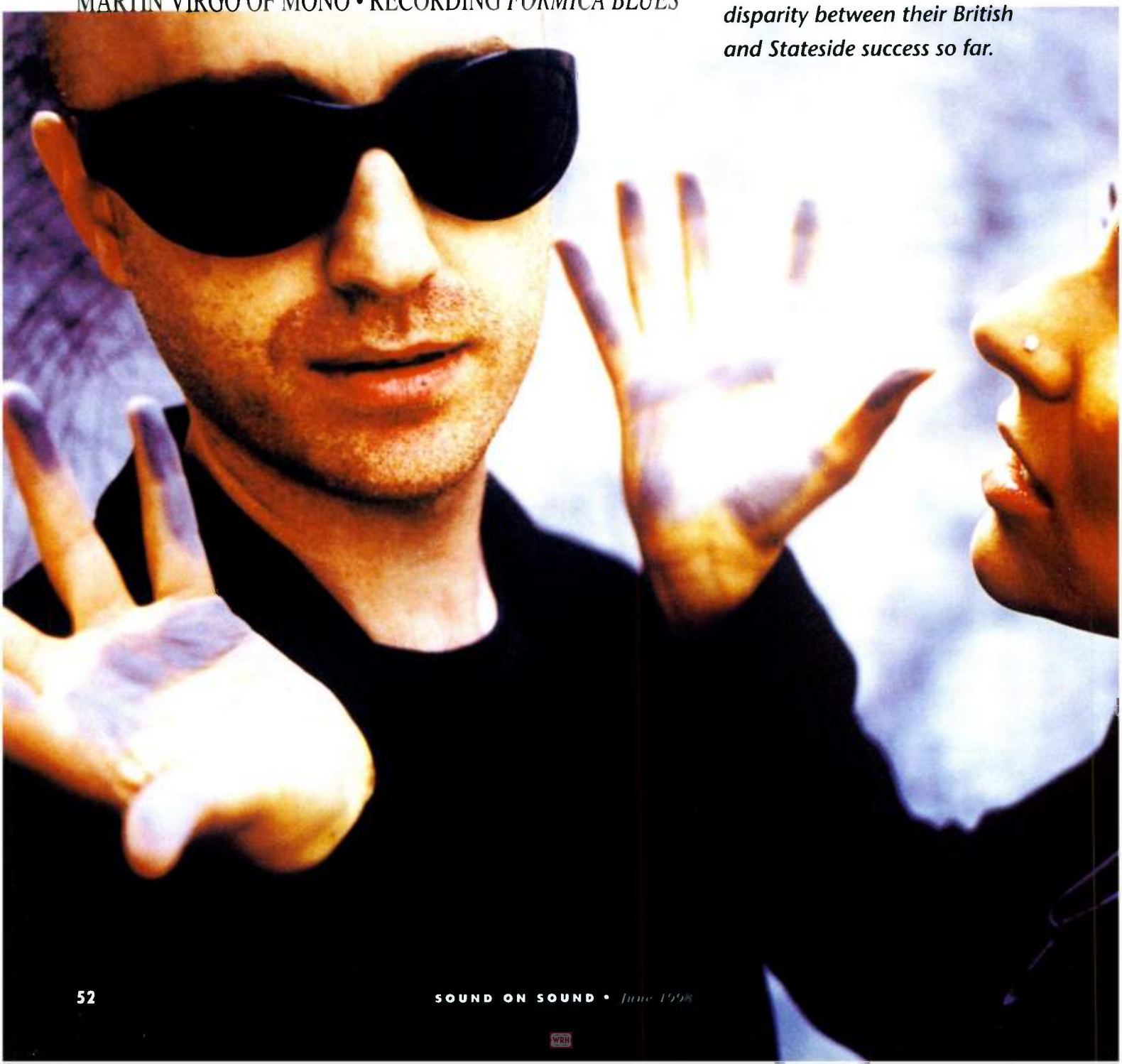
blue notes

MARTIN VIRGO OF MONO • RECORDING *FORMICA BLUES*

English electronic duo Mono are virtually unknown in the UK, but are in big demand in the USA, thanks to their single 'Life In Mono' being used as the main theme to the new film of Great Expectations. US-based English writer SAM MOLINEAUX talks technical to Mono's musical mainstay Martin Virgo, and provides the perfect perspective on the disparity between their British and Stateside success so far.

From a US-based perspective, there's no doubting the fact that British bands are cool. They have been ever since 9 February 1964, the day The Beatles made their first US appearance on the Ed Sullivan Show, watched by a staggering 73 million Stateside viewers. As far as the Americans were concerned, Britpop was born, and they welcomed it with open arms. Although in recent years the sensationalism has lessened, the thirst for the best of British pop in the US certainly hasn't. Tune in to any radio station, particularly the alternative ones such as Los Angeles' KROQ, and you'd be amazed at just how much of what's being played is from our side of the pond.

The latest Big Thing musically in the States, of course, is Electronica — a term coined by the American music press last year to describe the world



of synths and drum loops following The Prodigy's explosion onto the American music scene. It would be an understatement to say they can't get enough of it right now. Anything from Blighty that's suitably drum & bass, big beat, techno, jungle or trip-hop (all known collectively as electronica) is, to use another American term, the bomb.

Riding high on the crest of the electronica wave are British newcomers Mono, a group (like Cornershop) who've experienced their first taste of success not on home turf, but in the US. The duo — comprising keyboardist, programmer and producer Martin Virgo and vocalist Siobhan De Maré — weave together a seamless mix of peculiarly diverse threads of music, serving up an exotic blend of British trip-hop, '70s TV themes and '60s-style French pop to create a lush new musical fabric they jokingly term 'glam & bass'.

They've recently been in the States on their first major tour, where their popularity is soaring, certainly due in part to the fact that their first single, 'Life In Mono', features prominently on the *Great Expectations* soundtrack (released in the UK at the end of April).

It's uncertain whether the soundtrack album brought Mono success or whether their hauntingly serene song was responsible for the album's gold status. What cannot be denied is that 'Life In Mono' was the number one requested song on US commercial radio stations for weeks following the movie's release. "It's amazing really, and something we never expected," says Virgo, speaking from the offices of their record company in Hollywood, just before the commencement of their US tour. "This is the first time I've been to L.A. and we're top of KROQ's playlist!"

It's not that success has evaded them closer to home, but so far their European-flavoured sound, although popular on the Continent, is yet to achieve widespread recognition in the UK. However, with the recent release of Twentieth ▶

Got Meek?

The JOEMEEK range is used by professionals around the world.
Why?
It is simple to use, and offers the most powerful, musical compression on the market. The Mic-preamplifiers are extremely warm and add real sparkle to vocals.
We offer free demonstration equipment because we are confident that the you will love the JOEMEEK sound.

Can you afford not to try it?

JOEMEEK

Please call us for a free JOEMEEK Video & Information Pack.

UK Distribution: Sound Valley Distribution Ltd.
The Briars, North Road, Amersham, Bucks HP6 5NA
Tel: 01494 434738. Fax: 01494 727896. E.mail: soundvalley.demon.co.uk

Century Fox's remake of the Dickens classic (starring Robert De Niro, Gwyneth Paltrow and Ethan Hawke), all that could be set to change. The song rounds out the movie as the closing credits roll, and is also being used as the backing music to the film's trailer and TV commercials, as well as being the lead cut on the Atlantic Records soundtrack album.

FORMICA BLUES

But there's a lot more to Mono than just this one song. Their debut album *Formica Blues*, released on Chrysalis subsidiary Echo Records, draws the whole French-inspired retro pop formula one step deeper into the area of sample-based drum & bass, with a collection of 10 beautifully melodic yet profoundly rhythmically driven cuts in a style that encompasses both lounge music and breakbeats. So why the juxtaposition of such diverse musical genres?

"I've always liked French music — the songs of people like Françoise Hardy and Astrud Gilberto as well as the Impressionist composers, Satie, Debussy and Ravel — and I wanted to incorporate that into my own music, partly because

there's so little music that sounds like that anymore," explains Virgo, a classically trained pianist and composer who studied at London's Guildhall School of Music and Drama before making a name for himself on the London studio scene as a session keyboard player, most notably with Nellee Hooper and Massive Attack.

"The drum & bass aspect of Mono came out of my session work with those kinds of people. With the dance revolution, keyboard session work has changed. Now people don't just want someone who can play a Hammond solo; they want somebody who can also program a 909 kick drum! I just adapted to what was demanded, and then found myself really getting into the whole computer-orientated dance thing."

Virgo's involvement with renowned producer/remixer Nellee Hooper started out as a one-off session at London's Nomis Studios but rapidly turned into something more permanent, and together they worked on numerous dance projects including Bjork's *Debut* album, Shara Nelson's *Friendly Fire* and Massive Attack's seminal track 'Unfinished Sympathy' from the 1991 classic album *Blue Lines*. "Nellee was doing a lot of remixes around that time, so he'd be taking just the vocal from a track and the music would have to be built up underneath it. I would do that part of it on the Atari — all the programming, sampling, and drum programming," he recalls.

During a break in projects back in 1996 Virgo first started laying down a few tracks of his own. "I was resting at the time," he laughs, continuing more seriously, "The thing about being self-employed in this area of music is that you think every job's your last, even when you've got a supposedly regular gig like I had with Nellee.

MONO PRODUCTION — JIM ABISS

Producer/engineer Jim Abiss and Mono's Martin Virgo first worked together in '93, Abiss engineering and Virgo programming songs on Björk's *Debut* album, under producer Nellee Hooper. Having also been involved in mixing various Massive Attack records, Abiss has more recently produced the Sneaker Pimps, DJ Shadow, and the Pecadillos, and is currently working on his own original project Darling. He agreed to talk to me about recording Mono's *Formica Blues*.

Where did you work on the record?

"We worked at a lot of places. Martin's got his own little writing room at home, so we started a lot of it there. And we went to Britannia Row, where we did a lot of overdubs, and then to the Strongroom to finish it off and mix it."

As well as producing and engineering, you're also credited with some of the programming. What was your involvement there?

"I've worked with analogue synths for a long time, and I took a lot of mine to the studio, so if there were sounds that Martin wanted to improve upon, I'd sit there with headphones on for a few hours and work out a sound that I thought was more interesting, rather than using something that was just an easy sound that he had to write with. So most of the programming I did was not so much on the computer, but more getting actual sounds."

Which analogue synths were you using and how were they controlled?

"Various things, among them a Roland Juno, a Minimoog, an OSCar, and a Sequential Pro One. Although those synths don't have built-in MIDI on them, I've had Kenton CV-to-MIDI interfaces added to them all, so they could be controlled by our sequencer. Quite often, though, when we were putting things to tape, I'd be fiddling manually with frequencies, resonance, amounts of LFO, and so on. You can hear a good example of that on the instrumental song 'Playboys', which Martin and I wrote together. That one's more of a techno workout, with a touch of vocals where we thought we needed them."

There's a very distinctive, highly processed sound to the lead vocal on most of the songs. How did you achieve that?

"We tried a lot of different mics on Siobhan and we ended up doing half of the album using a valve AKG C12, which is a mic I use a lot, and the rest on an ordinary Neumann U87. It just depended on which song suited which vocal character and which range in Siobhan's voice. The signal was fed through a Tubetech valve compressor and pretty heavily compressed, with no EQ to tape, and then, when we mixed it, we either used a Neve EQ or a Massenberg EQ to get the tone we wanted, and put it through the Tubetec valve compressor again on mixing.

"We used lots of different effects, including a real plate the studio had, and a [Lexicon] 480L. My favourite effects box for vocals is the Roland Chorus Echo — it's an old '70s tape delay with reverb and chorus on it. We also fed Siobhan through speakers and miked those occasionally to get a slightly different tone."

Were there any other unusual approaches or special effects that you particularly remember from the sessions?

"There's one thing we did on the song 'Penguin Freud'; a trick which has been used by various people over the years and it's a sound that I really like. We wanted to get a kind of eerie, ghostly sound, so we fed the vocal and the sampled piano signals through a speaker sitting on the strings of a grand piano, wedging the sustain pedal down with a brick. We then miked up the effect of the piano's strings vibrating and that gave a very nice shimmery effect on both of those sounds.

"A lot of other effects we used which maybe *sound* like they were very reverby were just samples of sounds which already had a lot of reverb on them. I buy loads and loads of old crap records from charity shops — the worse the cover the better they usually are — and I use lots of samples I find on them, especially for reverby sounds."

Although the songs sound very simple on first hearing, the more you listen the more detail you hear — there's more going on than you first think...

"Martin's a really good musician, and he's been writing songs for a long time, so he had a lot of ideas that he wanted to try, as well as certain sounds in his record collection and sample collection; and I've made a lot of records as well, so between us it was a case of deciding how far we wanted to go with each song. We did spend a lot of time on the detail, but not at the expense of the more important elements. I think all good music should sound simple the first time you listen to it. As long as you have the key elements — which are the lead vocal, a lead instrument playing a riff and some kind of rhythmic pulse — it just depends on how detailed you want to go from there. It's a case of prioritising; a lot depends on how much time you have, and how important you think those details are."

"Eugen Beyer" founder of beyerdynamic, GmbH & Co. shown testing the World's First moving coil Headphones.

A Bright Past... A Brilliant Future.

DT 48

Audio history. In 1937, beyerdynamic introduces the world's first moving coil stereo headphone, the legendary DT 48.

Audio future. In 1998, beyerdynamic introduces the world's first digital recording microphone, the MCD 100.

Established in 1924, beyerdynamic's legacy of innovation, fidelity and reliability is recognized and honored by audio professionals around the world. 73 years of audio excellence.

An ear to the past, an eye to the future.

beyerdynamic... *Fidelity in Audio.*™

beyerdynamic

for more information

Tel. 0800 374994 e-mail: sales@beyerdynamic.co.uk Burgess Hill, RH15 9TN

I started writing again just as something to do between jobs."

The creative catalyst was a holiday in France, the country with which he feels the closest musical affinity. "I'd just spent a month in Paris and then St Tropez, and I think the whole French vibe got into my blood," he explains. "I'm very into France and French music — the rich harmonies and powerful melodies — and I came back wanting to recreate that very particular kind of style."

INTO MONO

Virgo's introduction to his future bandmate Siobhan de Maré was simply a meeting set up by a mutual friend. Having written the music and lyrics to his first song, 'Life In Mono', he was on the look-out for a female vocalist to complete the picture. Her seductive voice was the perfect fit for his European flavoured retro-futurist arrangements.

Coming from what she describes as a "showbiz background" (her grandfather is the guy who bangs the gong in the Rank trailers film, her grandmother was a Cuban dancer who performed with Shirley Bassey, and her dad was the original drummer in The Shadows), de Maré describes their characters as "extreme opposites". Nevertheless, it's a collaborative partnership that seems to work. No sooner had they begun writing together when Virgo's publisher was on the phone with some exciting news.

"My manager had played her the backing track without telling me. I hadn't actually wanted anyone to hear it for a bit," Virgo remembers. "And, you know, it's an industry thing; my publisher then played the tape to some people she knew, and before we knew it the bids started coming in."

De Maré was out of the country at the time and had to make a hasty return to record the vocal part. Virgo had already started on their next song which was still only half-finished when they were offered a record deal. "We signed an album deal on just one and a half songs," he says, still amazed by the speed it all took off. "We didn't even have a name!"

The name Mono, named after their first song, was in fact a reference to another one of Virgo's musical heroes, producer Phil Spector. "He's such an important producer for many different reasons, but purely sonically he has an amazing legacy, right the way through Brian Wilson and up into contemporary types of music," comments Virgo. "I love that whole school of music production where there are so many things going on at once but the overall sound doesn't seem complicated. It's so kaleidoscopic, and that's what I'm really into: creating 'colour-melody'.

"The composers of the Second Viennese School — Schoenberg, Webern and Berg — had the exact same approach with orchestral music, which they called *Klangfarbenmelodie*. This was especially true of Webern, who experimented with the orchestra in very unusual ways, creating melodies out of changes of timbre. This isn't music that tends to rear its head in a lot of popular music, but it's what I listen to, and I've absorbed these influences."

Pulling all these strands together seems to be something that Mono do with consummate ease. 'Life In Mono', for example, started out as a sample taken from film composer John Barry's theme to *The Ipcress File*, to which Virgo added a deep bass line and sampled drum loops, before juxtaposing lush string harmonies, achingly sentimental harpsichord figures and a heart-melting melody. As if painting in extra splashes of colour to the foreground of an almost complete painting, he then created numerous counter-melodies out of additional snatches of sound: little synth riffs, the odd DJ scratch, slowly evolving filter sweeps, pulsating waveforms, and suchlike.

"Most of those extra sounds come from the Korg Prophecy or a Juno 106, both of which I use a lot," he reveals. "I also have an Oberheim Matrix 6R, the rackmount version, which I use for some of the nice analogue sounds."

MUSIC FOR LAZY MUSICIANS?

Virgo describes himself as a "lazy musician" when it comes to working with sounds — but get him on the subject and he starts talking about multisampling dulcimers and recording scratches off old 78s... and you can't help but wonder what he thinks an energetic musician is like. "I do a lot of my own multisampling. I sampled The Beatles' piano at Abbey Road to get the piano sound for 'Slimcea Girl' [track 3 on *Formica Blues*]," he reveals.

"I was doing a string session in the main studio there, and the engineer said 'Hey, look at this'. He'd opened up this cupboard and there was an old Steinway upright inside, which was apparently the original piano the Beatles had used on some of their classic recordings. We wheeled it out and I started playing 'Lady Madonna' on it — it sounded exactly like the record. It was amazing; and seemingly, it had just been in this cupboard for years. I asked if I could sample it and no-one seemed to mind, so the

RECREATING MONO LIVE

"If I'd thought we were ever going to play this music live, I don't think I'd have been half as eclectic instrumentally," says Virgo, who claims it was a major feat reorganising the material on the album so it would work well in a live situation.

"When we were doing *Formica Blues* the circumstances were such that we didn't really think it would end up being a live thing at all, so I never once made a concession to that — which is why there are things on the album like a dulcimer coming out of the left speaker and a Mellotron out of the right."

The Mono duo are joined on stage by a guitarist, bassist and drummer. Virgo covers the keyboard parts on a Fender Rhodes and a Roland A33 master keyboard, which controls his Roland S760 and Akai S3000 samplers. Meanwhile, an ADAT provides the breakbeats and backing vocals.

"It's arranged so that the drums are spread between the ADAT and the live drummer," he explains. "I felt it was important to have a live drummer to avoid gigs becoming karaoke-type affairs. It's a bit of a test, but it seems to be working."

MARTIN VIRGO — SELECTED FAVOURITE GEAR

• KEYBOARDS & SYNTHS

Fender Rhodes

Korg M1 workstation

Korg Prophecy monosynth

"I've got really into the Prophecy; I used it for the clubby, trancy sounds on the album."

Yamaha acoustic grand piano

"The Strongroom has a really nice Yamaha grand, which I used a lot on *Formica Blues*."

Moog Minimoog analogue synth

Oberheim Matrix 6R rack synth

Roland Juno 106 synth

Roland MKS20 synth

"Nothing I use off this ever ends up as a straight patch. That's not through any kind of dogma, it's just a question of something to do if we get bored!"

Vox Continental organ

Wurlitzer EP200 organ

SAMPLERS

Akai S3000/Roland S760

"I mainly use the Akai sampler for drums and the Roland for the instrumental parts. I commit all those sins that musicians aren't supposed to, like using factory presets and sounds that come on the operating disks. When I got the S760, I thought 'Let's get this out of the way' and I bought the entire Roland sample library, which I use a lot."

• COMPUTER & SOFTWARE

Apple Macintosh Quadra 650

Emagic *Logic* sequencer

Steinberg *Recycle*

"I use *Recycle* a lot — I'll often run breakbeats into it, chop them up and then re-use them in a pattern that's more appropriate for the song I'm doing."

• MISCELLANEOUS

Dulcimer

"We had a dulcimer player come in for a session and he actually let me multisample his instrument, so some of the dulcimer parts on record come from my own samples."

ENTER THE CREATIVE WORLD OF DANCE MUSIC PRODUCTION

SOUND DIVISION presents...

Sponsored by: Roland Vestax

In association with: DJ Magazine

Dance tech '98

Sunday July 5TH

11am-6pm

at COMPLEX CLUB

1-5 Parkfield St (off Liverpool Rd)
Islington London N1
Nearest Tube Station - Angel (Northern Line)

AN EXCLUSIVE HANDS-ON EXHIBITION DEDICATED TO DJS, REMIXERS & PRODUCERS

See, hear and demo the latest state-of-the-art dance music production tools from the worlds leading equipment manufacturers:-

Roland	Yamaha	Akai	Vestax	Pioneer
Emu	Korg	Soundcraft	Gemini	Intimidation
Red Sound	Alesis	Steinberg	Kam	Numark
Waldorf	Sennheiser	E-Magic	Stanton	Denon
Digitech	AKG	JBL	Ecler	Citronic

DANCE MUSIC TECHNOLOGY FOR TOTAL CREATIVITY

Special Guest Appearances by:

THE DREEM TEEM
TIMMI MAGIC MIKEE B
DJ SPOONY

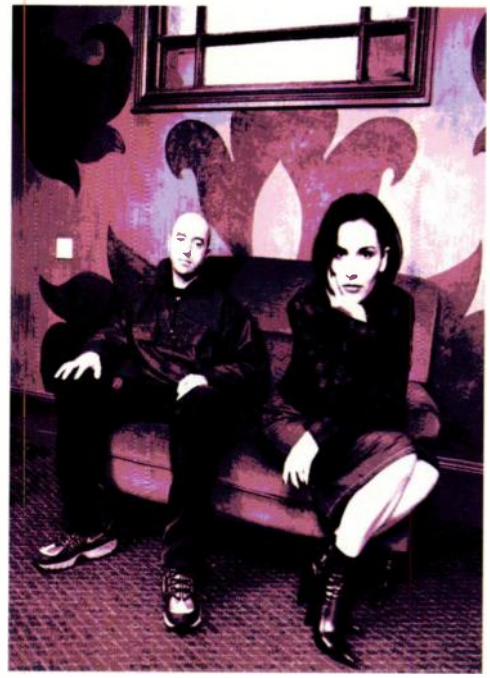
THE SCRATCH PERVERTS

GRAHAM GOLD daveANGEL TONY TRAX

FREE EQUIPMENT Money Saving Vouchers for every visitor to spend at DANCE TECH '98

Admission Price £5 on the door (£4 in advance) Licensed bar

Avoid the queue and the waiting - buy your tickets in advance - Tel: 0171-281 8121 and for further info
Price includes FREE Entry into Vestax & Roland Equipment Prize Draw



"I never want to be led by the hand by a computer; on the last album I wrote at least half of the songs at the piano before I even went near the computer, and I think that kept me in control of what I was writing."

engineer and I spent an afternoon multisampling the entire thing — literally three velocities for every note. When I got home I edited it all up on my Roland S760. It used up virtually the whole 32Mb of sample RAM but it's a really good sound, and I used it a lot on the album."

Alongside the reverberant Beatle-esque piano part on 'Slimcea Girl' is a killer '70s-style trumpet line, notable as much for its old-fashioned sound as its cheesy melody. "That was actually a flugelhorn patch from one of the S760 sample disks which we put through a Sansamp speaker simulator, one of those things that gives the effect of an old amp, and then we added a bit of surface noise underneath it which I sampled off an old record," he explains. "I was basically trying to get an old sound from a modern digital sample, and it seemed to work.

"We did a similar thing for the vibes on the album track 'The Blind Man'. There's a vibes patch on the Roland MKS20 module which is actually pretty uninspiring, and really, just as something to do, we ran it out into the studio, put it through a Leslie speaker, recorded it onto a Dictaphone and then sampled it. Believe it or not, it produced a really cool vibes sound!"

And the harpsichord, which is so prominent on 'Life In Mono'? "That started out as a Vox Continental patch from the *Roland Keyboards Volumes 1 & 2* sample libraries and I used that on the demo," he says. "But when we were in the studio, we didn't think it sounded enough like the real thing, so we hired in an actual Vox Continental and used the harpsichord patch on that — it's the sound that John Barry used to use a lot."

It turns out that many of the keyboard sounds on *Formica Blues* were 'the real thing'. "There was quite a bit of live piano, and we hired in a lot of vintage keyboard instruments — a Wurlitzer, Rhodes, the Continental, some Moogs — and went for live takes," reveals Virgo, adding, "I'm a real old-school musician in many ways; when I first started, I was doing all sorts of piano and organ sessions, which were always live, so doing it this way comes quite naturally to me."

SINGIN' THE *BLUES*

Recording *Formica Blues* took almost a year from start to finish, although a lot of that time was spent writing since the duo had very little material in demo form when they first went into the studio. Most of it was done in the Neve Room (Studio 1) at London's Strongroom, half on 48 and half on 24 tracks, and then mixed on a Neve VR60 Legend console.

Production and engineering credits were shared equally between Virgo and producer/engineer Jim Abiss (see the 'Mono Production' box), who was largely responsible for coming up with the distinctive '60s-style haunting effect on de Maré's vocal.

"Siobhan has quite a quiet voice, so it was a case of getting it to stand out in the mix first of all, and between them they worked quite hard on the vocal to get the right sound," remembers Virgo. "A lot of the sound is in the effects stage, such as the hollow backing vocal on the chorus of 'Life In Mono'. I actually recorded that at my house with an SM58 mic and sampled it. Then we tracked it, added EQ, and ran it through the plate reverb at the Strongroom."

GOING DIGITAL

Since completing *Formica Blues*, Virgo has delved deeper into the whole area of Mac-based recording, and is currently in the process of setting up a new digital studio at the Strongroom complex, where he intends to do most of the writing and recording for Mono's next album as soon as they've finished the current tour.

"I never want to be led by the hand by a computer; on the last album I wrote at least half of the songs at the piano before I even went near the computer, and I think that kept me in control of what I was writing. The other half of the album, the more groove-based tracks, were done largely on the Mac," he concedes.

"For the next album, though, I'm investing in a 24-track Pro Tools system, in many ways because we're tending towards the live end of things now and also because there'll be slightly more of a clubby sound next time, which that type of system lends itself well to.

"I'm very excited by the possibilities of hard disk recording, and I've been checking out a lot of the plug-ins that are available, such as the vintage Focusrite and Neve EQs, which are amazing. It's an incredibly versatile system.

"I've also been getting into programs such as Steinberg's *Rebirth* where you use the Mac itself as a sound source. Once you make the software work for you it can start to become really creative."

Roll over Debussy, and tell Phil Spector the news!

MUSIC CONNECTIONS

nord MODULAR

With the Nord Modular you are able to construct the "synthesizer of your dreams." Simply drag synth modules out onto the screen, make your connections using "virtual patch cords", and in no time, you'll have your new synthesizer in front of you. The innovative and flexible architecture of the Nord Modular allows for extensive sound sculpturing. How about a 5-oscillator-per-note synthesizer with 5 LFO's, two highly resonant 24 dB/oct low-pass filters with seperate envelopes or maybe a fat string sound with 14 oscillators - in stereo. Move your body to a megafat bass sound built-up with 4 oscillators and a distorted classic analog lowpass filter. Or, why not a classic 6 operator FM patch for that "electric" piano sound or a 24 sine wave oscillator patch for inharmonic spectrum generation. The possibilities are endless and ongoing due to future FREE software updates from Clavia containing even more exciting modules, for example; Formant Waveforms, Frequency Shifter etc, etc. Available in rack and keyboard.

MOD KEYS
£CALL

MOD RACK
£CALL

Clavia proudly presents their new line of electronic drums. The ddrum4 is a new type of electronic drum system built around a newly designed percussion brain and a completely re-designed pad system - THE CAST PRECISION SERIES. The new, much more affordable ddrum4 system offers a large sound capacity, a vast collection of innovative playback features and a completely new pad concept. Check it out, ddrum4 will take your drumming one giant step further.

Features:

Flash memory system ensures sound flexibilty-download samples any time-free of charge!

1000 steps of dynamics

Unparalleled pad trigger interface- fast and precise!

Superior acoustic trigger interface. No need to muffle your drums!

Newly developed cymbal and hi-hat pads - with that right "metal feel"

True two zone cymbals-chokeable!

Groundbreaking hi-hat triggering interface!

Cast Hi-hat mounts onto a standard type of hi-hat stand.

Rugged Chromed Steel rackstand with heavy duty snare basket support.

ddrum 4
ELECTRONIC DRUM SYSTEM

With the Nord Lead 2, a great concept is being improved upon in many ways. The Nord Lead 2 is actually 4 synthesizers in one. It has 4 multi-timbral channels, each with it's own fully assignable output. This is an essential feature for musicians who need to access sounds independently for further processing and mixing.
Nord Lead 2 comes with an "impressive" 16-voice architecture, a highly beneficial feature when creating layered sounds, "power pads", awesome leads and booming basses. 16 notes are also very useful in an instrument containing 4 independent MIDI channels. The keyboard can be split into two sections.
Also, since the Nord Lead 2 has the ability to use up to four patches simultaneously, each side of a split can contain one or two patches, creating "split/layers" for even more exciting sonic possibilities.

What's new in Nord Lead 2:

Filter section:

Filter section in the Nord has been appreciciated for it's warmth of sound character and "unique" filter types. Another exciting new addition to the filter section is the distortion button. Try it! It will do fun things along with your filters, adding even more excitement to your patches.

Oscillator:

A sine wave is added to the already powerful oscillator section. From all of the classic features of the analog concept Nord Lead 2 now adds an old favorite editing parameter: ring modulation as well as a wealth of new digital waveform possibilities created by using the "synchable noise" feature. In the Nord Lead 2 you are able to sync noise and OSC 1 to create sounds unlike any you've heard before.

Filter Keyboard Tracking:

The filter keyboard tracking choices have been added to in the new Nord Lead 2. Now you can choose between 1/3, 2/3, full or off.

LFO1:

We're not through yet. In the modulation area several new features have been added. The LFO1 section receives two more waveform choices, "soft" random and square waveform plus one more destination.

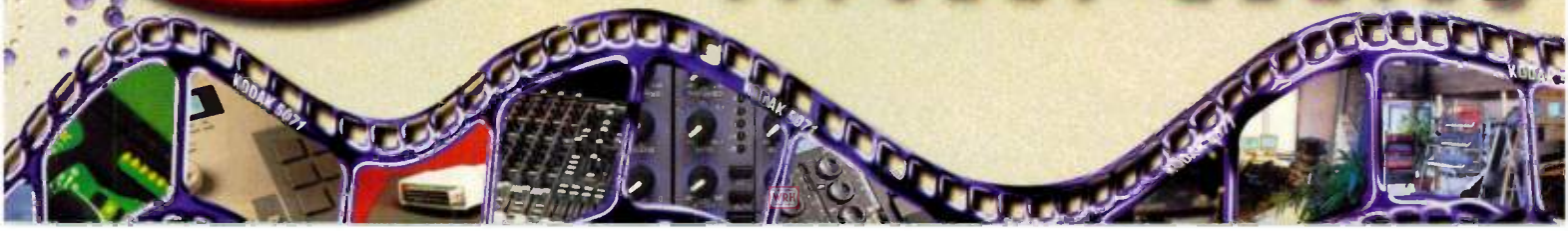
LFO2:

The arpeggiator has been redesigned. An arpeggiator hold button has been added.

MOD ENV:

Pulse width has been added to the destinations in the modulation envelope section.

nord lead 2
virtual analog



MUSIC CONNECTIONS
MC
MUSIC
LONDON - 0171 7315993
BRISTOL - 0117 9467700
KORG
All over the world, professional musicians have come to rely on the KORG brand name.
Their continual innovation has now brought about the Z1, a 'next generation' synthesizer with advanced synthesis techniques that provide realism, limitless creativity and expressiveness at an unsurpassed level.
For those interested in other areas of audio creativity, KORG have produced the SGproX and the TR-RACK. The SGproX is the ultimate stage piano, with an unbelievably rich and realistic sound and feel. The TR-RACK has all the features of the famous Trinity keyboard, but in rack format. This rack is sure to be a hit with those of you who want powerful synthesizer effects but don't have the room for the full keyboard.
The Korg N5, an astounding number of sound programs and versatile functions in a very affordable package.
The tone generator of the N5 uses the same AI synthesis system as Korg's professional synthesizers. It features 12 Mb of PCM ROM containing an incredible selection of 528 multi samples and 286 drum samples. You've got everything at your fingertips, from basic necessities like piano, organ and strings, to a wide range of unique synth sounds and sound effects. To put the finishing touches on your sound, the N5 also provides two completely independent stereo multi effect units, with 48 types of effect, such as resonance filter, chorus, delay and rotary speaker. Polyphony is a generous 64 notes (in single mode). The N5 can function as a 32 channel multi-timbral tone generator, and the list goes on...
nord lead 2
virtual analog
Clavia must now be one of the most renowned synth manufacturers in the world, and after their success with the ground-breaking Nord Lead and rack version thay have gone from strength to strength. Nord Lead 2 has been designed to add and improve features of the original whilst still keeping the feel and quality. Good eh? Well listen to this...Now a musician's dream is due to redesign synth technology again. The Nord Modular is the most versatile synthesizer ever. As with the old patchcord method of synthesis, the Nord Modular makes practically any synth you want without messy wires and diagrams.
DO NOT MISS THIS!
novation
Novations Supernova has been in developement since early 1997 and now has some of the most astounding features to ever appear on an analog synth. A 16 note polyphony, flexible effects structure, 8 audio outs and full MIDI control are just the starting points. Not to mention that this is expandable to double polyphony, programs and performances.
Don't miss out, call now for more details.
NEW
NEW
YAMAHA
Has this company woken up from a deep sleep or what. I mean, this is the company that bought us DX synths, TX Synths and VL synthesis. And now this little wonder called the AN1X. This synth really must be heard. No advert can ever convey just how good this little gem really is. Don't forget there's still the CS1X & VL70 as well. Also hot on the heels of the AN1X is Yamaha's A3000, this sampler is so packed full of features, that it has most of the established sampler manufacturers hurriedly rushing back to the drawing board. Once again you must come in and sample the delights of this unit for yourselves (no pun intended)
The A3000 Sampler features on page 5 of this advert.
EX-stremely sought after.
That's what these synths are going to be! Yamaha's EX range come crammed with:
on-board effects • sequencer • disk drive • up to 72 meg of sampling • up to 126 note polyphony • optional SCSI • additional outputs •
Available in EX5, EX7 and EX5-R, call for most up-to-date information and best prices.
ROLAND
WE STOCK IT ALL!
E-MU
Orbit
As probably the country's largest EMU retailer, we offer the largest range and the best prices on all EMU equipment, you'll see it here first.
We believe EMU equipment to be second to none and we are proud to have their equipment on show & on demo in our stores.
Great deals available on all EMU equipment, if you would like an example just check out the great offer on Darwin on our hard Disk Recording page. And try out the superb Carnaval, Planet Phatt and Orbit V2.

CONNECTIONS

ESSEX - 01245 354777 **BIRMINGHAM - 0121 2124777**
LEEDS - 01943 850533 **SOUTHAMPTON - 01703 233444**

ENSONIQ

Ensoniq's ASR-X is a hybrid machine dedicated to making it easy to sample, resample and loop. In addition it holds a built-in synth, incredible effects, resonant filters and an easy to use sequencer. The best parts have been taken from Ensoniq's famous ASR-10, MR family and all their other ideas they have never had the chance to include. The ASR-X TURBO is expandable to 26Mb ROM and 34Mb RAM not forgeting the Expansion boards and 10 output expansion options. And now your luck is really in because we are now including SCSI as standard at £1199. However, as an even bigger bonus we are now including the Dance Board & SCSI in a model called the ASR-X TURBO at just £1495.

Just come in and try this awesome groove machine for yourself, we can't begin to describe the power of this machine in words, hear what you've never heard before!

ASR-X TURBO

E-MU

Emu's new Audity 2000 is the latest synth module that introduces synthesis and rhythm generation to give life to your music like never before. The feature list is too long to list please call for more information!

Just arrived from EMU, the stunning new E-SYNTH. Just study the specification below to realise what this new combination can do for you.

Up to 128 note polyphonic • Up to 32Mb High Quality ROM sounds • Up to 32Mb Multitimbral with voice card • 16 Outputs • Digital Modular Synthesis • 64 x 6 Pole filters with 2 filters • 24 bit stereo effects • Advanced 48 track sequencer • Stereo sampling up to 64Mb • Digital resampling • Pc & Mac Editor included • SCSI Interface & 2 Great CD-ROM's included.

YAMAHA

The A3000 is an affordably priced 64-poly, 128 MB professional sampler that's as accessible to techno/hip-hop/dance DJ's and seasoned electronic musicians as it is to those in the market for their first sampling unit. With it's unique control knobs and easy to edit sound architecture, the A3000 takes the mystery and frustration out of the sampling process, while providing a powerful performance and composing tool ideal for stage and studio alike. Memory can be expanded to a maximum of 128MB via four 72-pin SIMM sockets. The internal DSP provides three effect blocks including high quality effects plus special types (for phrases and loops) such as real-time stretch (beat change), Lo-Fi effects, and others which can be configured specifically for each program.

All of these are available for analog input audio recording and external audio mixing. Dynamic filters (Lo Pass, Hi Pass, Band Pass, Band Eliminate) and a parametric EQ can be applied to each sample, which can be freely mapped to key and velocity ranges with layers and/or splits. Other features include a 4-band total EQ, an easy MIDI record/playback function for making quick song sketches, plus sound file compatibility across multiple platforms (including WAV, AIFF). All this, and more, make the A3000 the one sampler that professional musicians everywhere will want to take a serious look at.

Get ready to shift into a new dimension of sound and value with the new ESI-4000.

64 Voice polyphony - the ESI-4000 gives you 64 voices of music power so you can layer and sequence thick, lush sounds and never drop a note.

Easy to use - the ESI-4000 provides you with an intuitive user interface that is easy to learn and a pleasure to use-you'll spend more time making music less time reading manuals.

Powerful DSP and sample editing - The ESI-4000 gives you incredibly powerful digital signal processing that lets you massage and manipulate samples to create your own unique sounds. Built-in sample editing tools such as automatic truncation, normalization, and cross-fade looping allow you to edit samples quickly and easily.

Unmatched filter technology - the ESI-4000 has 64 digital 6-pole filters with 19 different types available that make your sounds come alive as never before.

Highly expandable - Your ESI-4000 can hold up to 128Mb of RAM using 72-pin SIMMs and you can easily upgrade the number of outputs, add dual 24-bit effects and digital I/O with the ESI turbo kit.

Unbeatable value - the ESI-4000 starts at only £1199 with 4Mb RAM, making it the best value sampler in it's class. Shift dimensions and see the ESI-4000 at Music Connections

AKAI

The new AKAI samplers have all the capabilities that made the S3000 series the world standard for professional sampling, the new range add features like a powerful multi-mode for ease of layering and multitimbral sequencing, multi-effects card that provides four independent channels of effects, RAM expansion with readily available SIMM memory, flash RAM, MESA graphical Macintosh based front-end etc.. And because we are probably the country's largest AKAI retailer we can offer you the best package deals, technical support and back-up that most of our customers require. Currently top of our hit list is the stunning CD3000XL, as standard this machine includes a CD-ROM player, 8 seperate outputs, 8 Mb memory and solely from Music Connections the brilliant EB16 effects board. If you don't want to be dissapointed call as soon as possible, as the stunning price we are selling this for means that our meagre stocks will not last very long. Happy Shopping!

EAST★WEST

Say goodbye to RAM Limited SAMPLING ..GIGASAMPLER is here!

Unleash the power of your PC.

Today's fast computing and storage capabilities allow the GIGASAMPLER PC software to utilize the inexpensive, high performance hardware that already exists in most PC's. GIGASAMPLER takes sampling technology to the next level.

And as we are the sole retailer of EAST WEST in the Midlands and South of the country you need look no further!

MUSIC CONNECTIONS

LONDON - 0171 7315993
BRISTOL - 0117 9467700

TASCAM

M1600 £799

The M1600 series has all the features needed in a mixing console of this standard with a sensational price tag. Available in 16 or 24 channel versions and complete with meter unit it's making a big mark in the music industry.

SOUNDTRACS

A dedicated multitrack recording console must provide the following: Superb audio performance, exceptional equalization, versatile monitoring, comprehensive patching and 1st class ergonomics. All are in abundance in the stunning new Topaz Project Studio Console from Soundtracs.

£1499

LAST FEW AVAILABLE

TOPAZ 24 inc stand & meterbridge £1499

Topaz

YAMAHA

03D £CALL

YAMAHA 03D

If you're ready for a compact,comfortably priced, full-featured digital mixer - one especially made for professional project and post production studios relying on modular digital multitrack recorders such as TASCAM, ADAT, AES/EBU and YAMAHA digital formats - then you're ready for the 03D Digital Mixing Console. Nestled between the popular ProMix 01 - famed for bringing affordable digital mixing to the masses - and the award winning, industry standard 02R Digital Recording Console.

02R £CALL

PROMIX 01 £949

Special MIX12/4 £299

168RC £799

CALL FOR AMAZING DEALS!

KORG

168RC

The 168RC has been created with this goal; to help you create stunning recordings without adding noise, by converting from analogue to digital and back again. The 168RC utilises KORG's renowned heritage in DSP design coupled with 16 channels of Digital I/O in the industry standard ADAT optical format. So two digital 8 channel devices can be simultaneously mixed to 8 buses digitally, using the optical link.

ENTER THE WORLD OF ADVANCED AFFORDABLE DIGITAL RECORDING

MACKIE

DIGITAL 8•BUS

- 48 true channels for tracking, overdub & mixdown jitter-free, touch-updateable motorized faders
- 12 aux sends per channel.
- 10 fade & mute groups.
- 24-bit output.
- 32-bit processing
- Direct assign.
- Dynamic & snapshot recall of all parameters.
- Multiple simultaneous digital effects, dynamics & EQ.
- V-pot virtual rotary controls.
- SVGA monitor output.
- Mouse & keyboard inputs
- Built-in hard disk & floppy drive
- Instantly upgradeable DSP effects
- Dedicated transport controls & jog shuttle
- Built-in multifunction meter bridge
- Powerful CPU with 8 megs of memory
- Record-ready button on every channel

and that's just a preliminary spec list!

These consoles offer the highest audio and build quality with easy to use features that take the effort out of superb mixing.

Don't forget the Original Mackie 8•BUS

Still one of the leading mixing consoles in the world for reliability, sound quality, ease of use and ergonomics. Put this together with our amazing price deals and you've got a serious machine at a serious price.

CALL FOR DETAILS!

COMPLETE MACKIE RANGE AVAILABLE AT ALL STORES!

Still the world leader in small mixers the VLZ range includes 1202, 1402, 1604, SR24, SR32 and LM3204.

ESSEX - 01245 354777 BIRMINGHAM - 0121 2124777
LEEDS - 01943 850533 SOUTHAMPTON - 01703 233444

EFFECTS

KORG

DL8000R NEW

AM8000R NEW

Attention has been paid to every detail of the audio circuitry in the new DL8000R Digital Multi-Tap Delay and AM8000R Ambience Multi-Effects Processor.
With high Quality, sophisticated effects algorithms and parameters, these effect processors provide advanced sound processing power at an affordable price. Intuitive two-control user interfacing allows easy access to each units extraordinary processing power and ultra-large high-brightness vacuum luminescent displays allow effortless visibility under any lighting condition.

Boss unleashes the SX-700 Studio Effects Processor, a 1U rackmount unit that features standard spatial effects like reverb and delay, the latest four-voice Harmonist (intelligent pitch shifter) and other modulation effects, as well as RSS 3-D effects that can place your sound anywhere in a three dimensional field. Overall, it puts more spatial processing at your fingertips than a whole slew of dedicated effects. And the SX-700 delivers better performance and a more user-friendly interface than ever before.

With such a large range of effects on the market at the present time, it is impossible to display all the effects we currently hold in stock. But you can be sure that if it's a Focusrite EQ, Lexicon reverb Behringer compression, Presonus Midigate, Drawmer compressor, ART valve etc, etc then we are the company for you.

PCM-80 £1395

PCM-90 £CALL

MASS

With all these wonderful monitors on show what possible amplifier would one choose to go with a pair of massive monitors? Well there can only be one make...MASS.
If you have never seen a Mass amp you haven't lived. Look at those gorgeous curvaceous VU metres. The chrome is so amazing, it's almost liquid. The unique aluminium finger cooling system.
This system is so efficient that no cooling fans are needed, therefore for todays noise conscience recording artist there really isn't a better pro audio amplifier.

Call into a Music Connections store and see why the recording world is talking about these amplifiers.

MACKIE

HR824 £CALL

Mackie's eagerly awaited HR824's have now arrived, and believe us they were worth the wait! These monitors are receiving rave reviews by magazines and users alike for their combination of servo feedback, passive radiators and waveguides never before seen ina studio monitor of this type. They offer such a high level of performance at such an attractive price that passing them by is going to be a hard decision indeed. And just like Mackie's other lines these monitors are built like tanks and perform like a Rolls Royce. The HR824's deliver main monitor performance for a nearfield price. What's more, the small size and reasonable weight means these make great portable references for the travelling producer, not to mention great home cinema speakers for a Dolby Pro Logic system. Come and see what all the fuss is about you have to hear these to believe anything so small could sound so big.

GENELEC

1031 £CALL

STOP PRESS...We are now stocking Genelec 1029 & 1031 monitors, these near-field monitors are the best named brand in the industry, come and find out why!

1029 £CALL

20/20 £CALL

Event speakers have built themselves an image to be proud of and considering how young this company is they must be something special for people to take these in preference to a known brand name. The 20/20's have such clarity and accuracy that you would believe them to be of such value as to put a sizeable dent in your wallet. Yet they have the price tag to compete with well known brands fighting for space in anyone's home studio! These monitors need to be heard to be believed and we'll prove it, demo's can be arranged at all of our stores nationwide.

Tria £CALL

M1400 £CALL

Like Mackie's world-renowned mixers, the new M1400 is built to sound perfect and last for years. A real workhorse! Call now for the best prices!

MUSIC CONNECTIONS

Our Chelsea store is need of an exceptional salesperson. If you think you fit the bill please call Jessica on 0171 731 5993.

LONDON - 0171 7315993
BRISTOL - 0117 9467700

Fostex

NEW

X-24 The ultimate note pad from Fostex.
Speed is of the essence. When you have an idea, you want to get it down quickly. While it's fresh. While it's still a buzz.
To do so you need a multitrack machine which has every essential feature you need to capture your idea - fast.
Introducing the new Fostex X-24 multitracker, the ultimate musical notepad.
Call now for the best prices and support.

X-24 £CALL

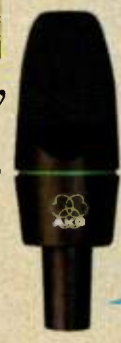
NEW

Fostex's X14 is the easy route to multitracking; Portable, incredibly robust & easy to use, the ideal musical sketchpad. The X-14 offers independent recording on four tracks via the seperate front mounted microphone or instrument inputs, or the innovative 'internal microphone'. Recorded tracks can be mixed using the four level faders, placed on the stereo stage using the pan controls, & monitored on headphones or via the standard RCA jack stereo line output. Simple operation straight out of the box is guaranteed thanks to helpful 'pictorial' legends moulded into the casing.

C1000 £CALL

C3000 £CALL

We will beat any advertised price on these two mics!



X-14 £CALL

NEW

SOLIDTUBE

AKG

In 1953 AKG's classic C12 set the standard in valve microphones
Following an extensive R&D program designed to make this legendary technology available to a wider audience, AKG are now proud to present the SOLIDTUBE.
By combining the latest solid-state manufacturing techniques with traditional AKG tube technology, the SOLIDTUBE recreates the classic, warm sound of the C12.

audio-technica
The Complete Microphone Solution

AT4033A £BEST

The birth of Audio Technica's AT4033A has redefined microphone technology to the point that it is one of the most popular mics available today. A specially-contoured, vapor-deposited gold diaphragm provides accurate reproduction of even the most subtle sounds, especially at high-frequency signals not easily reproduced by conventional large diaphragm microphones.
And that's not all, it's uncomparable performance and accuracy come at a surprisingly low price so anyone can afford excellent vocals for the most demanding of projects.

NT1 £CALL

RØDE

Australian microphone designer Peter Freedman took the world by storm with his first release, the general-purpose NT2 large diaphragm condenser microphone. The mic features a low noise, transformerless design, a dual pressure gradient transducer with 1" gold-sputtered membranes, selectable high pass filtering, a -10dBV pad, and both omni and cardioid patterns. Yielding a crisp, pristine, yet smooth sound, the NT2 is an ideal choice for vocals and acoustic instruments. Comes complete with a shock mount, widescreen, and flight case.

CD RECORDERS

Why master to DAT, when most professionals master direct to CD.
Come in to your nearest Music Connections store and see these two stunning CD recorders.

DA38, DA30, not allowed to print £CALL

DA-20 £599

CAD

E-300 £699

E-100 £299

FACTORY DIRECT PRICES

The introduction of the Equitek series microphones signaled the most signifivant improvement in microphone technology in decades. The extraordinary transparency resulting from our unique servo design and exceptional flexibilty have created a new 'bechmark' for cost and performance.
These mics have received stunning reviews in all pro-audio and hi-tech magazines why not come in and let your ears be the judge!

E-200 £449

ESSEX - 01245 354777 BIRMINGHAM - 0121 2124777
LEEDS - 01943 850533 SOUTHAMPTON - 01703 233444

KORG

Korg's new D8 digital multi-track recorder is packed with new and improved features for you to drool over. 16 - bit uncompressed recording and playback at 44.1 Khz, 12 channel 4 bus mixer, non-destructive editing and 1.4 GB internal hard disk come as standard and to list all it's other features we would have to double our advertising space.
To get the full details, come in and try one at your leisure.

The KORG 1212 I/O brings the price of full function multi-channel computer based recording to a point that just about anyone can afford. The card features 12 inputs and 12 outputs configured as two analog I/O's, an S/PDIF I/O and an 8 channel ADAT optical I/O. All I/O's can be used simultaneously for maximum interfacing flexibility. The only sensible choice for those looking for Professional quality at a sensible price!

Roland

Roland's new VS840P brings the technology of their acclaimed VS880 to the level of a home studio owner. The drop in price has not brought down the list of features, 8 tracks of digital audio, built-in Zip and multi-effects processor, 64 'virtual' sketch pad track and non-destructive editing just top of the list.
Call us for an unbeatable price.

AKAI

This digital personal studio is a 12 track, 18-bit in, 20 bit out digital multitracker incorporating a MIDI-automatable digital mixer. Sample at 32, 44.1 or 48 kHz without data compression to an internal Iomega 1Gb Jaz drive or other drives via SCSI. With an estimated recording time of 270 minutes at 32 kHz you must not miss this little wonder, or any of AKAI's other products that we hold in stock for that matter.

Buy TASCAM's 564 for £699 and you can have an ART Tube MP for £69 a Presonus Bluemax for £129 or the stunning new ART QuadraFX for just £199!

Buy YAMAHA's MD4 for £599 and you can have an ART Tube MP for £69 a Presonus Bluemax for £129 or the stunning new ART QuadraFX for just £199!

THE IMMACULATE COLLECTION

Buy YAMAHA's MD8 for £949 and you can have an ART Tube MP for £69 a Presonus Bluemax for £129 or the stunning new ART QuadraFX for just £199!

fostex

FOSTEX D90 & D160 Proffesional Digital Multitrack Recording.

Choosing to 'go digital' is fast becoming one of the easier equipment decisions you have to make when considering a new multitrack. But choosing the right digital multitrack can be somewhat more difficult.
Before this decision can be made, you have to be sure that your chosen recorder excels in four critical areas: audio quality, expansion, synchronization and editing.
This is just what Fostex concentrates on when designing a product, their D90 8-track non-linear digital recorder provides all of these points in abundance as well as not breaking the bank. The D160 bears the same hallmarks as it's smaller brother yet with 16 tracks.

It's finally here ... the affordable ... which offers 8 true tracks of non-compressed quality recording and mixing.
Introducing the great Fostex DMT-8VL.
While the competition expect you to join the 'digital recording revolution' with less than 8 tracks and compromise the integrity of your audio with cost-cutting compression techniques, Fostex know better.
After all, it was Fostex who invented the first digital multitracker and have been innovators of ground-breaking recording products for the past 15 years. The DMT-8VL is quite simply the best package with which to enter the exciting world of digital audio. Quality, easy expansion, instant integration and a great sound. It's everything you need.

NEW FOSTEX FD-4!

The latest dream machine from Fostex promises to be a real winner for quality multitracking on a budget. Designed to look and operate like an analogue multitracker, the FD4 uses a SCSI II port so you can record directly to any suitable SCSI drive, including ZIP's Syquest EZ Flyer and Jaz formats. Call for the best prices!

MUSIC CONNECTIONS

MC

EVENT

LONDON - 0171 7315993
BRISTOL - 0117 9467700

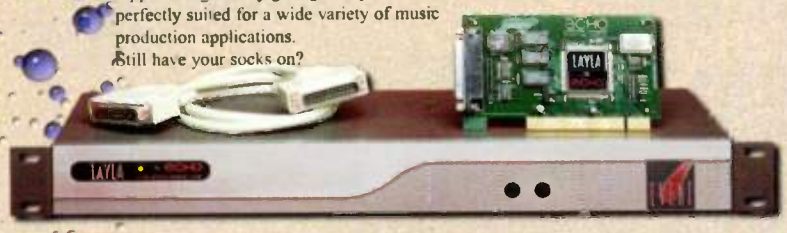
Stunning New deal

Gina is proving to be one of the most popular Multitrack recording cards we've ever stocked! Gina features S/PDIF I/O with up to 24-bit resolution, 2 in 8 out 20-bit digital to analog converters, full duplex operation and easy trim automatic input gain. A dedicated card for dedicated professionals, come and put it to the test! You won't be disappointed with it's performance or our price!

Darla is designed for musicians who think computer-based multitracking is an expensive hassle. It's also the perfect step-up solution for those who have tasted the awesome power of digital multitrack recording, but who aren't satisfied with the audio quality or channel limitations of their current audio card.

LAYLA 20-BIT

First the basics: Layla is designed to knock your socks off. It starts with a cross-platform PCI bus-master host card that connects to the rack-mount audio interface. The interface sports eight balanced 20-bit analog inputs, ten balanced 20-bit analog outputs, and 24-bit S/PDIF stereo digital I/O. It's also got massive on-board DSP, word clock (for sync and expansion), a 24-bit signal path, and MIDI in/out/thru. Then we topped things off by giving the system broad-based software compatibility, making Layla perfectly suited for a wide variety of music production applications.
Still have your socks on?



DARWIN

No need to ever buy a tape-based system again!

Just when you thought you had made up your mind on what hard disk recording package to buy, EMU arrive to spoil your plans. Do you remember the DARWIN??? this wonderful piece of equipment developed by EMU but unaffordable to you. Well EMU thank God have had a change of heart.
Exclusive to Music Connections we bring you that exact piece of equipment for the amazing sum of £1495 inc vat. Yes that's right just £1495. Now when we heard this news we had to stop and think? Is there anything that's comparable at anywhere near the price to this amazing piece of equipment. To tell you the truth, we don't think so. And could this now, really be the end of tape based recorders as we know them?
This machine is so capable that it is impossible to tell you everything about it in an advert, and really you should see it in the flesh to see just what amazing value this represents. So if you were thinking of a tape based machine, maybe you think again. Give us a call, come and try it, or forever stay in the dark ages. This offer is limited to first come, first served.

exclusive

ENSONIQ PARIS

ENSONIQ PARIS™
20-bit Multitrack Recording system

PARIS is the most advanced digital audio recording system ever developed. PARIS seamlessly integrates digital audio recording, object-orientated editing, digital mixing with automation, real-time effects processing and MIDI sequencing into an intuitive and flexible environment. PARIS grows to meet your needs with a dedicated control surface and a family of expandable input/output modules. Powered by ENSONIQ DSP technology on a cross platform PCI card, PARIS delivers a total audio recording solution at a revolutionary price.

ESSEX - 01245 354777 BIRMINGHAM - 0121 2124777
LEEDS - 01943 850533 SOUTHAMPTON - 01703 233444

digidesign
A division of Avid

If you rely on Pro Tools, Mackie's HUI studio console can boost your productivity and your creativity!

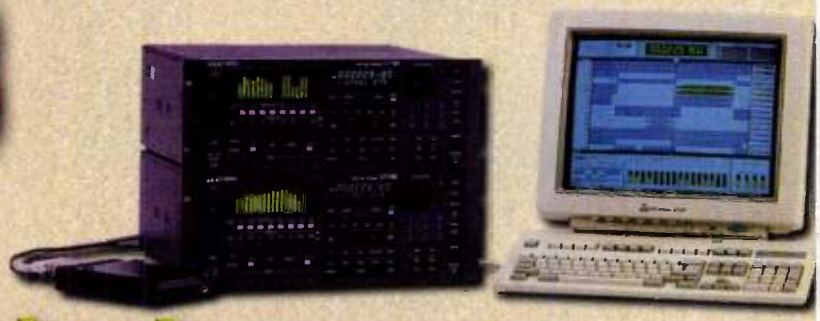
Now you can literally get your hands on ProTools digital audio workstation software. Mackie Design's HUI is designed to control and respond to Digidesign's ProTools Version 4.0 and in the near future, DAE compatible software too. HUI lets you mix via a real, tactile control surface complete with motorized faders...rather than with a mouse or a unidirectional fader pack. Perform real-time, hands-on multi-channel fades, mutes, select and adjust sends; create subgroups, and change dynamics. In short ; track and mix down just the way you would on a large, automated console, yet with complete bi-directional interaction with ProTools 4.0. HUI will immediately reflect all standard mixing values, functions and pointers. HUI controller architecture supports standard MIDI protocol in either 7-bit or higher resolution 9-bit applications as well as utilising simple controller and note values. Rear panel I/O includes analog jacks (three stereo audio pairs), a footswitch jack, ADB mouse thru, MIDI in and out and RS422 port for direct computer connections.

PRO 24 TOOLS

COMPUTERS

ATTENTION!

How many stores are advertising computer packages in this magazine, that frankly are virtually out of date? At Music Connections we don't do this, it's pointless. We will only spec a computer for you when you are ready to purchase. This policy ensures that you receive only the latest and best specified computer. Whatever computer package you see in this magazine it is almost certain we can better that package for you. So call us with your requirement and allow us to provide you with a system that will work, and one that we are prepared to give back-up and technical assistance to. Please do not go and buy a system off the shelf, when it doesn't work these people will not be able to help, as they have no idea how the system is supposed to work. You must buy the system from a specialist like Music Connections.



AKAI

GREAT NEW PRICES, CALL FOR DETAILS!

The AKAI DR range comes highly recommended as Digital Hard Disk Recorders with sophisticated non-destructive editing functions allowing near instant data access. The DR16 features a 16 channel programmable mixer as easy to use as a conventional MTR machine but gives true 16 track performance from a single hard disk at a highly cost effective price level.

We also stock all AKAI's other products as they excel in quality and value....just what you would expect from AKAI, and we offer exceptional prices on package deals...just what you'd expect from Music Connections.

DR8 GREAT DEAL (6 ONLY)	£1595
DR16 GREAT DEAL	£2495

MUSIC CONNECTIONS

TUBE SOLUTIONS

The Tube EQ provides you with stunning musical results at a truly remarkable price. Whether your a experienced recording engineer, live sound technician, or home amateur, you need at least one channel of high-quality studio equalization. Unfortunately, the EQ stages in affordable mixers simply cannot deliver the superior sound and flexibility offered by the tube EQ.

The Tube PAC from ART is a combination of the world's most popular tube mic/line preamplifier and optical tube compressor. ART engineers took the Tube MP and Tube Compressor and combined them into a single convenient aircraft-quality, extruded aluminium chassis. This new table-top design allows for easy placement in the studio or on the stage with immediate access to all the controls, features, and metering. In addition to being a tremendous vocal and instrument preamplifier and compressor package, this may well be the ultimate in tube direct boxes! Check these little monsters out at our stores!

LONDON - 0171 7315993
BRISTOL - 0117 9467700

factory

NO DISTRIBUTER PROFIT!

NEW

NEW

ART QUADRA-FX

ART pioneered the development of affordable professional multi-effects over ten years ago, now they are redesigning the very concepts that set the standards in the music industry, resulting in the design of a processor capable of superior effects quality and, just as importantly, superior functionality. The Effects Network is truly a sound solution for the real world.

Dedicated processing enables you to dedicate all DSP horsepower to reverb or dely-based effects resulting in superior sound quality that stems from the abscene of memory limitations. Add ART's benchmark Acoustic Room Modeling, and you have the most realistic-sounding reverbs algorithms ever designed by ART. By the way, the Effects Network retains all of the Dual Processing multi-effect functionality of ART's legendary FXR Elite as well, but with added programmability.

switchable dedicated processing or multi-effects require only one keystroke for you to be up and running. No multiple pages of "add/delete effect" and "edit parameter value" are required to achieve studio-quality results. 100 of ART's most usable effects presets are included, which are all user-definable and storable. These are 100 Real world presets with Real world titles to generate immediate productivity, not immediate frustration.

We have exclusive Factory Direct Prices on this product, you won't buy any better!

PORTABLE SOLUTIONS

ART's Tube MP, they're low cost, high performance tube mic preamp has redefined warmth for both digital and analog gear. Simply plug in your mic and dial in your sound. Great as a direct box. Nothing could be easier. nothing could sound better!

The FX-1 brings ART's Dual processing technology to musicians and recordists of all levels, in a compact all steel chassis. Two banks of thirty single and multi-effect algorithm chains are arranged in logical order for ease of use. With ART's exclusive More feature, every program can be enhanced with more of just the right effect instantly. Dual mono processing allows you to process two individual channels with totally separate effects. The ultimate in personal digital processing!

With all of the same awesome sonic advantages as the Dual Levelar and Pro VLA, the new Personal Levelar delivers classic, transparent, punchy and music-friendly compression in a handy, single channel, table-top package. The benefits of Vactrol based levelling are now for everyone!

PRO MPA/PRO VLA

The PRO MPA Mic Pre-amp provides phantom power, phase-reversal, variable bass roll-off and balanced operation. It is all the more useful due to it's two large VU's making it easy to see during a gig. Ideal for use in live and studio applications, the PRO MPA is an essential part of any musicians set-up.

New to the tube MP family is the PRO VLA, this vactrol tube leveling amplifier is prestigious owner of the title 'Best Signal Processing Unit under $1000' according to Electronic Musician USA. Not surprising when you realise that it uses a VCA-less design for premium performance, opto-electrical and vacuum tube electronics and complete control over compression parameters and metering.

These units are tomorrows classics available today, and as we are offering them at Fcatory Direct prices you won't get a better deal. Come and try them for yourselves at all of our stores.

ESSEX - 01245 354777 BIRMINGHAM - 0121 2124777
LEEDS - 01943 850533 SOUTHAMPTON - 01703 233444

direct

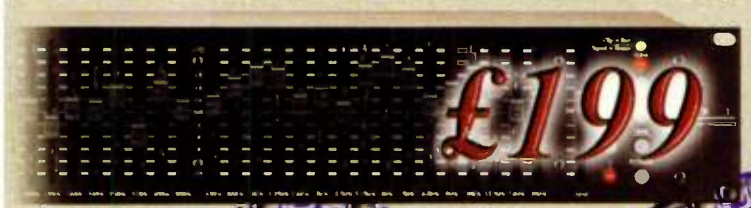
PreSonus
Audio Electronics

Blue Max is the world's first and only full-featured smart compressor/limiter - a true dream toy. Through innovation, comes a revolutionary product dseigned to take the worry out of using dynamics processingfor studio recording, live sound reinforcement, broadcast applications and permanent sound system installations.
Blue Max boasts fifteen studio proven preset compressor and limiting settings for those instruments that need dynamics processing the most. Imagine, dialling up the perfect compression setting for that killer snare sound or putting vocals in your face without losing the rest of the mix. How about getting that bass guitar under control? With Blue Max it's as simple turning the detnt knob to the setting you want. Don't worry about threshold and ratio, attack or release, soft knee or hard knee ever again. We did it all for you in one beautifully designed, easy to usehalf rack space unit!
In addition to fifteen presets, Blue Max can be run in manual mode that gives you full control over compression parameters including variable input/output, attack and release times as well as ratio settings from 1:1 to 20:1. Full on-borad metering allows shows input/output levelsand gain reduction. Blue Max can be operated in stereo or mono with high gain mono inputs for plugging in instruments. Blue Max aslo includes a side chain for de-essing, ducking and other forms of spectral processing.
Inputs and outputs are 1/4" TRS unbalanced. Operation is switchable +4dBu or -10dBV. The power transformer is switchable for international operation. Blue Max is housed in a single rack space, all steel chassis and in keeping with the Presonus "no wall wart" tradition has an internal power supply. Using our proven dynamics processing technology.

Spectral Audio's Syntrack is an amazing analogue/digital hybrid synth rack. Audio is generated from a wave table oscillator before passing through a 24dB/oct analog MOOG filter and an analog VCA with distortion control. An external audio input allows anything to be passed through the filter and distortion sections. All parameters are controllable in real-time over MIDI. It sounds absolutely unique. Amazing DX-like basses, jungle dope-basses, squealing leads, and all manner of bleeps and thwaps can effortlessly be coaxed out of this little baby. It really hits the sweet spot!

The ACP-22 is a two channel dynamics processor designed to provide compression, limiting and noise gating in a variety of applications: such as multitrack recording, live sound reinforcement and broadcastand permanent sound installation. In any application , the ACP-22 provides two cchannels of crystal clear compression with full control over compression threshold, ratio from 1:1 to infinity, variable attack and release times and switchable hard/soft knee. An auto mode takes the worry out of setting the compressor by offering program dependent attack and release times. A link button allows for true stereo link operation. The ACP-22 has onboard metering for gain reduction as well as input/output meters. Independent LED's show soft/hard knee, auot in/out and channel bypass positions. de-essing, ducking and other forms of spectral processing can be accomplished using the sidechain provided on both channels.
The noise gates on the ACP-22 are unparalleled by giving control over threshold, variable attack and release and switchable gate range (-60dB/-6dB). The ACP-22 also has a unique Lo Pass gate filter which eliminates cymbals and other higher frequency range instruments from opening up drum and/or vocal gates without effecting the audio output. Independent gate key side chain is included in for external triggering and precise filtering. LED's on the gate show gate position open or closed and gate range (-60dB/-6dB).
Inputs and outputs on the ACP-22 are either XLR balanced or 1/4" TS unbalanced. Each channel operates at +4DBU or -10DBV, selected via rear panel switch. The ACP-22 is housed in a one rack space, all steel cahssis. In keeping with the Presonus "no wall wart" tradition, an internal power supply with voltage (for international use) is standard.

ART's Dual Levelar, Dual MP and HD31 Graphic Equalizer all provide outstanding performance for home, studio or live applications. These rack units have received critical worldwide acclaim in every field of audio recording.
The subtle, mildly distorted sound is ART's and makes for an unmistakable final mix.



MUSIC CONNECTIONS

DEALS ex Part-ex

For your copy of the 'Music Connections Pro-audio Brochure' call Jessica on 0171 731 5993.

For Part-exchange call your nearest Music Connections store for an up-to-date list. Alternatively call and check out the latest audio innovations for yourself.

Steinberg

It's common knowledge that Steinberg is the industry standard for Audio manipulation, it is also well known that Music Connections is the largest and most qualified chain of stores to represent such a brand name. From Cubase VST to Recycle and Rebirth we stock it all, and now you can get your hands on the superb 'Producer Pack.' This new audio package includes the renowned Cubase VST, Wavelab and Audio Track.

Cubase VST

Steinberg's revolutionary Virtual Studio Technology is at the heart of the latest Cubase VST 3.5 for Mac OS and windows platforms.

It's this combiation of software power and flexibilty with hardware sound and feel that makes VST a uniquely productive studio system.

***Wavelab 1.6** for windows*

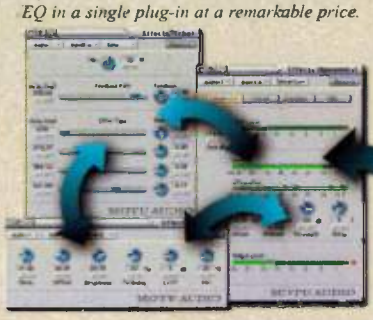
Wavelab 1.6 is a dedicated audio processing and editing system for stereo mastering applications, including CD burning with PQ encoding and master listing.

Highly regarded for its ease of use and amazing processing speed, the programme has a comprehensive spec, including:

Time stretching/pitch correction
Parametric & compression
File format converter/Batch processor
Markers/Audio access database
Spectrum analysis/Realtime plug-in interface with 9 effects.

Audio track

High quality Compression/Expander/Gate
EQ in a single plug-in at a remarkable price.



MOTU

Digital Performer 2.1

"Plug and play" Mark of the Unicorn MIDI interfaces ship with "plug and play" settings so you can begin using them right away with your sequencer, patch editor/librarian, and other music software, without touching the unit's front panel or running the control panel software accessory. They support both Macintosh and Windows and our Express and Timepiece families even support both computer platforms in a single unit. In fact, the Express XT and Timepiece AV can connect both a Mac and a PC at the same time, each with full access to all MIDI devices (and each other).

Call in to your local Music Connections for the best deals in the country.

E-mu sound technology moves inside

The E-mu AudioProduction Studio is a professional, yet affordable PCI audio card for multi-channel digital sampling and sound design.

- *64 hardware voices*
- *DSP engine for real time effects*
- *Studio-quality balanced I/O*
- *Bundled software and much more!*

***Call MUSIC CONNECTIONS** for the most up-to-date information on all EMU's latest releases.*

WAVES

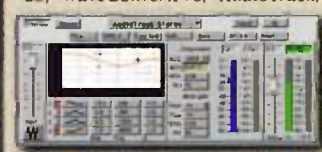
New form Waves comes three packages to cater for every need.

*The **Native Power Pack** includes TrueVerb (virtual room/reverb processor), S1 (Stereo Imager), L1 (Ultramaximiser), WaveConvert (Multimedia Batch File Processor), C1 (Compressor/Gate) and Q10 (Parametric EQ). A complete Pro-Audio system of Waves processors.*

GOLD Bundle

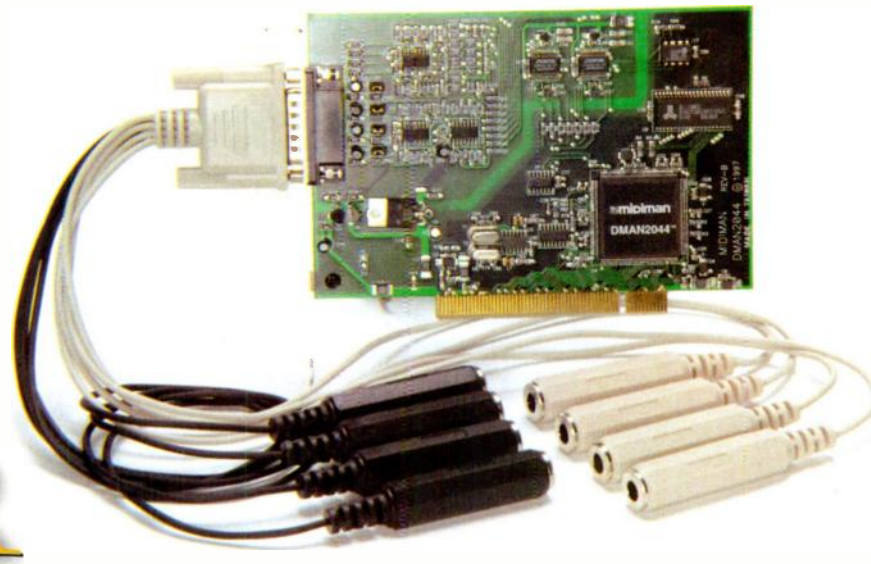
***EasyWaves** includes AudioTrack EasyVerb and the Waves Multimedia presentation including demos for all Waves plug-ins. EasyWaves provides users with the basic audio processing tools including Parametric EQ, Compressor, Gate and Reverb. It supports both Mac™ and PC native platforms straight out of the box!*

*With the **Gold Bundle** you will get ALL the TDM Plug-ins plus: PS-22, WaveConvertPro, AudioTrack, Renaissance and the newest plug-in MaxxBass™ not forgeting FREE updates and all the PLug-ins that Waves release in 1998.*



SONIC FOUNDRY

Imagine an audio editor that offers non-linear hard disk editing; features tons of audio effects, processes, and tools; transfers to and fom many popular samplers, reads and writes just about any file format out there; rearranges material in playlists and regions lists for CD mastering; manages and edits voice prompts for phone systems; processes audio files headed for the internet or computer games; cleans up background noise and tape hiss; hosts DirectX and proprietary plug-ins; executes studio quality audio for broadcast ...and comes in one really cool looking box.



4 FOR YOUR MONEY

MIDIMAN DMAN 2044 PC SOUNDCARD

If audio performance and price are higher on your list of desirable soundcard features than bells and whistles, Midiman's Dman 2044 could be just the job. MARTIN WALKER discovers a 4-input card that's as easy on the wallet as it is on the ear.

A clutch of soundcards have been released recently which offer eight simultaneous channels of analogue output and a single stereo input, but those who want to do a bit more live recording to a MIDI + Audio sequencer have been waiting for an affordable card offering more inputs. Enter Midiman's Dman 2044, which offers 20-bit converters, increases the number of simultaneous analogue inputs to four, and gives you the same number of analogue outputs (hence the 2044's name). Thse facilities would enable you to record a basic drum kit (bass drum, snare and a couple of overhead mics to capture the rest), or a small ensemble, all at a single sitting.

FEATURES

The contents of the 2044 cardboard box are vacuum-shrunk onto a sheet of card, and the reason for this is apparent even before you carefully cut away the polythene: the audio connections are brought from the soundcard to the outside world via a breakout cable, featuring unbalanced quarter-inch jack connections of the female in-line variety. These are attached to the 15-way D-type soundcard connector, unusually, using eight individual, thin, shielded co-ax cables of around two feet each in length. Although Midiman could not have squeezed thicker ones into the plug, I just hope that they are more robust than they look. Careful owners should have no problems, but ham-fisted individuals should be gentle.

The soundcard itself is of the PCI variety, and is six inches long, which makes physical installation quite easy. As there are four jumpers on the card, I read through the manual before installing the card, to save the trouble of removing the card later on to adjust them. The jumpers select -10/+4 operation for each of the inputs (the default factory setting is -10dBV), and Midiman say that the +4dBu settings give the best signal-to-noise performance.

The converters used in the 2044 are from Crystal Semiconductor (whose range of components is used in a wide variety of soundcards). Two of the CS4222 consumer codec chips are used, and these each contain a stereo pair of A-D and D-A converters, with 20-bit resolution and 128x oversampling (which, again, seems to be the current standard in the low to mid-price bracket). Both A-D and D-A converters have a quoted 99dB dynamic range, which compares very favourably with the 100dB dynamic range quoted for the CS5334 A-D converters used in the Midiman Flying Cow external converter box (reviewed in the March '98 issue).

INSTALLATION

The 2044 requires only a single IRQ, and one block of 256 I/O addresses (see Figure 1). Since I had one IRQ left on my machine, and acting on my gut feelings about well-designed soundcard hardware and drivers, I plugged the new card into my one remaining PCI slot, and re-booted. Five minutes later, having found the new hardware and prompted me to insert the Midiman driver floppy disk, my PC was working beautifully with the combined talents of the 4-in/4-out Midiman 2044, the 2-in/8-out Event Gina, and the 2-in/2-out AWE64 Gold — a total of eight ins and 14 outs. I know my way around the inside of my PC pretty well, and I think you can assume that you're most unlikely to get installation problems with the 2044.

The drivers appear to Windows 95 as two pairs of stereo playback channels (1/2 Playback and 3/4

pros & cons

MIDIMAN DMAN 2044 £249

pros
- Clean, quiet 20-bit signal path.
- Excellent price.
- Basic on-board reverb and chorus provided.

cons
- No digital I/O.
- Flimsy breakout cables.

summary
A quality card with an excellent sound that should be ideal for basic live recording, leaving only a small dent in your bank balance.

SOUND ON SOUND

Figure 1: You can't get much simpler than this, with only a single IRQ and I/O address needed. With plug and play these are allocated automatically.

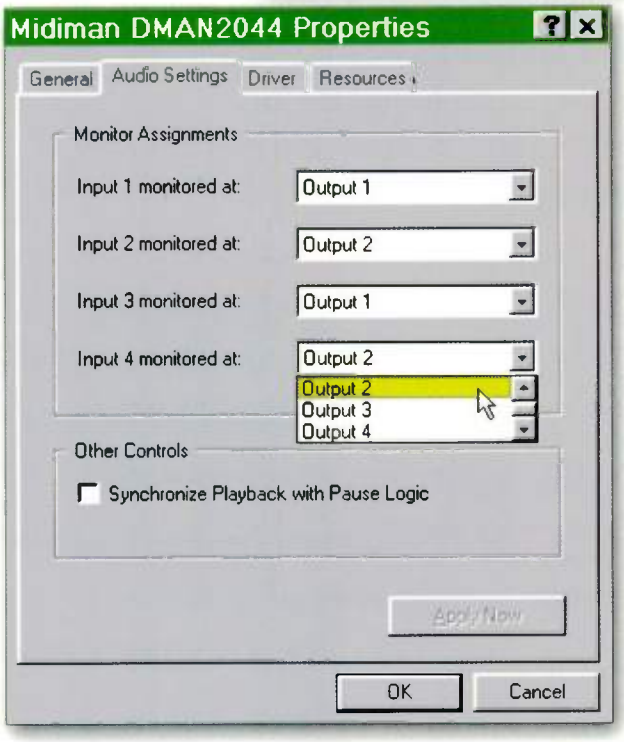


Figure 2: Within the Control Panel this page can be accessed by clicking on the Properties button for the Dman 2044 driver. It gives comprehensive input monitoring options.

▶ Playback) and two pairs of record channels (1/2 Record and 3/4 Record). All these inputs and outputs can be used with the *Cubase VST* and *Cakewalk Pro Audio* 6 MIDI + Audio sequencers, but only a single stereo pair of inputs and outputs will be usable within the *Logic Audio* 3.0 package.

From the DMAN2044 Control Applet inside Control Panel you can access the card's Monitor routing selections. Each of the four inputs can be monitored on any of the four playback channels (in addition to being recorded to its own channel). This makes it easy (for instance) to hear all four inputs through a single pair of stereo speakers while recording to four discrete channels (see Figure 2). Also beneath the monitor selection is a small box labelled 'Synchronise Playback with Pause Logic'. The 2044 has a special mode of operation that ensures sync between all four outputs, but if by any chance you notice the Out 1/2 pair leading or lagging with respect to the Out 3/4 pair, clicking this box will use a different type of sync, which should sort things out.

Monitor levels themselves are controlled through the standard Windows 95 Mixer applet, as are playback levels. Midiman have decided not to provide input (recording) level controls, so you must set up levels using an external mixer. The reasoning behind this is that providing input adjustments in the analogue domain requires more circuitry (and therefore a higher price), and providing *digital* input-level adjustment can compromise the dynamic range of the card. The best noise performance will probably be obtained by simply allowing the user to set up the level externally, preserving the cleanest signal path on the soundcard.

AUDITION TIME

As I always do when I'm reviewing a soundcard, I started by testing the 2044's noise performance using Sonic Foundry's *Sound Forge* digital editing package. My tests revealed an excellent signal-to-noise ratio of 90dB (81dB peak, both unweighted), which beats my Event Gina by a rather academic 0.4dB. There was no measurable DC offset during recording, which is a sign of a well-designed soundcard. At first, when I tried playing back a series of 0dBFS test tones, I got some distortion, until I realised that the monitor input-level controls for the 2044 were unmuted, and the playback signal had been re-routed through my external mixer and back into the inputs of the 2044. Once I muted the monitor inputs using the standard Windows 95 Mixer controls, everything sounded great. I used the 50_16.wav test signal (see the March '98 PC Notes column) and could hear the -90dB tone, which proves that the card's dynamic range is greater than this, although, just as when I tested the Gina, I couldn't hear the -100dB tone at all.

Overall, the 2044's sound quality was very good, bearing out the card's technical specification, with ▶

FEATURE LIST

- **Analogue Inputs: 4 quarter-inch in-line jack sockets, 10kΩ impedance**
- **Analogue outputs: 4 quarter-inch in-line jack sockets**
- **Full scale input signal: +14dBV (+4dBV operation), +2.2dBu (-10dBu operation)**
- **Full Scale output signal: 2 volts RMS**
- **Frequency Response: 20Hz-22kHz (+/-0.5dB)**
- **Channel Separation: 90dB**
- **A-D and D-A converters: 20-bit, delta-sigma, 128x oversampling**
- **Sample Rates: 48, 44.1, 24, 22.05kHz (full-duplex recording and simultaneous playback)**
- **A-D signal-to-noise ratio: 93.3dB (A-weighted)**
- **D-A signal-to-noise ratio: 94dB (A-weighted)**
- **Dynamic Range: 99dB (A-weighted)**

CR1604-VLZ

First read the mixer ads. Then listen to the mixers. You'll discover why our original CR1604-VLZ® is the overwhelming choice of audio professionals.

Ultra-wide 60dB gain range for both microphone and line inputs handles everything from close-miked kickdrums and ultra-hot digital multitrack inputs to the most timid vocalist or delicate wind instrument.

To test mix amp headroom, load every channel of a mixer with HOT inputs. If you hear distortion, the mix amplifier is overloading. The CR1604-VLZ uses a special negative gain mix amp architecture to add 6dB more headroom than the competition.

Solid steel main chassis. Not aluminum. Not plastic.

Smoother, more accurate fades. The CR1604-VLZ's true logarithmic taper potentiometers give you precise control throughout the fader's travel — instead of giving out about 3/4 of the way down. Try it at your Mackie Dealer and you'll hear what we mean.

One mixer. Five physical configurations to fit your space and applications. Only the CR1604-VLZ can be switched in minutes from a table top or rack-mount mixer with input/output jacks on the top (1 & 2) to a space-conserving 8-rack space mixer with jacks to back (3) — rack rails are included. Add our optional RotoPod-VLZ bracket and rotate the input/output pod to the same plane as the mixer's controls (5 & 6) for patching-intensive applications.

More aux send gain. All six CR1604-VLZ sends on each channel have 15dB more gain after Unity. This lets you boost weak effects or create a "super-wet" sound.

Musical, natural EQ with sweepable midrange. Others have copied our frequency points, but nobody can equal our sound.

Plus every channel has a true 18dB/oct. **low cut filter** that lets you use LF EQ on vocals without boosting mic thumps infrasonics and room rumble.

Hypersensitive Signal Present LED on every channel.

Very Low Impedance (VLZ) circuitry uses high current and low resistor values to dramatically reduce thermal noise and crosstalk. A Mackie Designs exclusive with very audible benefits.

Feature for feature, the most versatile, flexible, CREATIVE master section of any compact mixer.

The definitive, big-console-quality mic preamps with all discrete (no hybrid) circuitry, astonishing headroom and a real, verifiable E.I.N. (noise) spec of –129.5 dBm. When you compare mixers, bring a familiar condenser microphone and prove to yourself just how much better our mic preamps sound.

If imitation is the sincerest form of flattery, we have a lot to be flattered about. But now that some competitors are even borrowing our ad copy, we figured it was time to come up with a devastatingly nasty come-back.

Greg Mackie put a quick stop to that idea. He pointed out that the **REAL test of a mixer is how it sounds. And the more you listen, the more our CR1604-VLZ's low noise, high headroom, pristine mic preamps & natural EQ put it ahead of the pack.**

Musician Magazine thinks the original is clearly the best.

Sound quality, Greg pointed out, is why the CR1604-VLZ has a longer roster of famous users than any other 16-channel compact mixer... major groups & artists, Emmy-winning TV composers, Academy Award-winning sound engineers, network news & sports departments. So why dis the competition?

Call your Mackie distributor for complete info and that long list of famous users. Then make your final mixer buying decision with your ears. Anyone can write an ad. Only Greg can make a mixer as good as the CR1604-VLZ.

Below: a few of the 300+ folks (and one incontinent Chihuahua) who work at Mackie Designs in Woodinville, WA 20 miles north of Seattle.

©1997 Mackie Designs Inc. All rights reserved. The following are trademarks or registered trademarks of Mackie Designs Inc.: "MACKIE.", the "Running Man" figure, and "VLZ". All specifications subject to change without notice.

www.mackie.com • email: sales@mackie.com

MACKIE®

All products made in Woodinville USA by certified Mackoids

Represented in the UK by:

Key Audio Systems Ltd. 37 Robjohns Road Chelmsford Essex CM1 3AG

Tel: 01245 344001 Fax: 01245 344002 email: info@keyaudio.co.uk Web: www.keyaudio.co.uk/keyaudio

WRH

THE COMPETITION

There's a wide range of multi-channel soundcards available (see the Buyer's Guide in the March '98 issue for full details). However, if you specifically want four inputs and outputs, the field narrows considerably. Gadget Labs have the Wave/4 at £299, which has a 1-in, 1-out MIDI interface and a daughterboard socket for smaller WaveBlaster compatible cards. This is a plug and play ISA-buss card, so you may be swayed by how many spare slots you have available. If you fancy going more upmarket, SEKD have the ISA-buss Arc44 card at £478, which has no more features than the Dman 2044 and is almost double the price.

Midiman UK tell me that an updated driver will shortly be available for the 2044, which will allow several cards to be run in sync from the same driver, as well as giving more control of on-board DSP effects. With two cards you'd get an 8-in, 8-out specification for £498, which is a bargain. However, you may still need digital I/O, and the cheapest option is the DIO card at £249, again from Midiman. This brings the total for an 8-in, 8-out analogue, 1-in, 1-out digital system to £747, but it does take up two PCI card slots, and one ISA slot. It's still feasible, especially considering how easily the 2044 fitted into my PC, but if you want this many inputs and outputs you should also consider an integrated solution such as the SEKD Arc88 or the Event Layla, both with similar specifications, and digital I/O built-in, which only take up a single PCI card slot.

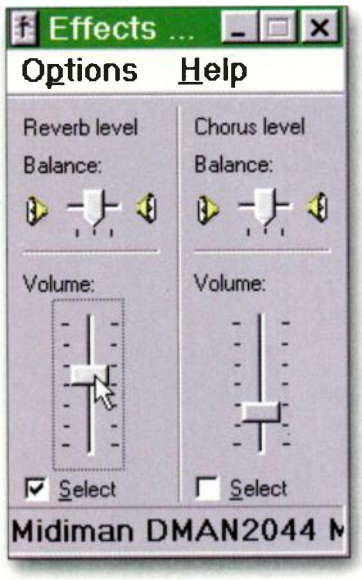


Figure 3: Reverb and chorus are available from the Windows 95 Mixer applet, and while control is still basic in this initial driver release, Midiman promise more extensive options in the next update.

"Its specification is excellent, and compares well with cards at a £500 price point (which simply have more channels)."

very low noise, wide and flat frequency response, and a simplicity in use that made this review easier than many others. I did a few comparative listening tests between my Gina and the 2044, and they sounded extremely similar. The only slight difference I could detect was when playing the 50_16.wav file: at very low levels the 2044 had a slightly more 'buzzy' quality, which would indicate a slightly higher level of harmonic distortion. However, you would be unlikely to detect this in normal use, and in a side-by-side comparison I very much doubt that you would hear any difference between the two. The Dman 2044 sounded great, and I'm sure that anyone buying it would be extremely happy with its audio quality.

I didn't get any sync problems between the four outputs, and in fact I was enjoying myself so much that I nearly forgot that Midiman have implemented reverb and chorus on the 2044, using some of the available DSP power. These effects are global, and the only controls at the moment are for level (accessed through the standard Windows 95 volume applet), but Midiman UK tell me that the next version of the driver will provide far more control over this aspect of the card. However, even at this early stage, the effects work well: the reverb, although a bit lumpy and fluttery, is fine as long as you don't try to use it with critical source material such as drums, and the chorus is rich and creamy. If Midiman can manage to add individual level controls for each of the four channels, rather than global controls, these effects will be well worth having.

SUMMARY

Soundcards seem to be splitting into two camps — those that feature onboard synths, sampling, and total 3D immersion, and those that concentrate on providing high-quality WAV recording and playback. People often ask me whether a particular soundcard is of professional quality. I suppose that in the case of a soundcard, professional quality is determined by whether you would use it to help create a music album for general release on CD. If you really intend to do this, games compatibility is a bit of a red herring, and while onboard GM MIDI synths occupying 1Mb or 2Mb of ROM can be pressed into service on occasion, most professionals would want the higher quality of external MIDI devices.

The Dman 2044 ignores most of these bells and whistles to provide a good workhorse of a card that does what it sets out to do very well — all the production budget has gone into the WAV recording circuitry. If you want four inputs, this is the cheapest soundcard available, but it's far from being a cut-price option: its specification is excellent, and compares well with cards at a £500 price point (which simply have more channels). Installation is a doddle, and essentially the Dman 2044 is a 'fit and forget' device, which performs well with most standard Windows 95 MIDI + Audio software. There are no complicated manuals to absorb, and no convoluted control panels to fathom.

My only reservation is the lack of digital I/O, since many people working with multitrack audio of this quality will want a way to send the final stereo output direct to another medium, such as DAT, for mastering or backup purposes. However, you may prefer to back up to a removable hard drive such as the Iomega Jaz or Syquest Syjet models, or even decide to try the CD-R route, and burn your stereo direct to a blank CD. In these cases, digital I/O may not be needed, and the Dman 2044 will provide all the features you need.

Ultimately, many people's decisions have to be based on price, but Midiman have managed to put a figure of £249 on the Dman 2044, making it excellent value for money. If you want a 4-in, 4-out card with a good sound and a low price, I don't think Midiman have currently got much competition. SOS

info

£ £249 including VAT.
A MIDIMan, Hubberts Bridge House, Hubberts Bridge, Boston, Lincolnshire PE20 3EU.
T +44 (0)1205 290680.
F +44 (0)1205 290671.
E 106133.2372@compuserve.com
W www.midiman.net

SOUND SOLUTIONS

COMPUTER MUSIC SPECIALISTS

SoundsCards, Software, Master Keyboards.

Cakewalk Pro Audio	£269.00	XG Edit Registration	£ 25.00
Cubase VST PC/Mac	£289.00	Midi Composer, 49 note full size keys	
Yamaha SW60 XG	£119.00	with Cable & Pedal	£ 99.00
Yamaha DB50 XG	£ 95.00	Pinnacle	from £379.00
Event Gina	In Stock	Fiji	from £279.00
Event Darla	In Stock	Maxi Sound 64 H/S Pro	£219.00
Dman 2044 4in 4out	£219.00	Wavecentre	£449.00
Koan X	£ 39.95	Reality	from £299.00
Cakewalk Home Studio 6.1	£ 79.00	ReBirth	£129.00
Finale	£449.00	Zulu 4 In 8 out	£499.00

Please telephone for items not listed, it is likely that we stock it at an excellent price!

Sample CD's, Midi Files, Tone Modules.

Creative Essentials	£ 19.95	Twiddly Bits from	£ 12.95
Newtronic from	£ 14.95	East West SSS Series	£ 19.95
Drum 'n' Bass The Classic Breaks Vol's 1 & 2			£ 29.95 each

All time & Space, East West, Newtronic, Keyfax & Yamaha products available.

Monitor Speakers, Power Amps, Systems and more....

Harbeth Acoustics DPM1	£399.00	DPM1 Pro	£459.00
M31 Subwoofers	£345.00	DPM1 Pro X Active	£749.00
Alesis Point 7	£169.00	Samson Servo 170	£179.00

Here at sounds Solutions we aim to provide the best products at the best prices and will offer a price match or better where possible.
Phone us last for the best deals around.

SOUND SOLUTIONS
FOR ALL YOUR COMPUTER MUSIC NEEDS

Sound Solutions, Data House, 72 Station Road, Southwater, West Sussex RH13 9BB
Telephone: 01403 732606 Fax: 01403 732607
E-mail: sales@soundsol.com or info@soundsol.com
Internet: http://www.soundsol.com

gateway

in partnership with
Kingston University

Call for our latest brochure or Visit us on the WWW

Apply Now for 2 Year Higher Diploma Commencing September 1998

Options include
Service and Maintenance
Broadcast and Live Sound
Post Production and Multimedia.

Gateway, The School of Music, Kingston University,
Kingston Hill Centre, Surrey, KT2 7LB Tel 0181 549 0014
http://www.king.ac.uk/~xe_s516/gateway.html

BEM Music

ALESIS

NanoVerb	£99
MicroVerb IV	£149
MidiVerb IV	£199
DM5 Drum Module	£269

AUDIO TECHNICA

PRICES SLASHED

ATH M40 Studiophony HALF PRICE	£59
ATH D40 DJ phony HALF PRICE	£59
AT 4050 Multi Patern, Large Diaphram Mic (Inc mount)	£499
AT 4033a Large Diaphram Mic (inc Mount)	£319
MB3000 Vocal Mic	£49
MB1000 Vocal Mic	£39
MB4000 Condensor Mic	£69

Studiomaster

Down! Down! Down!

Pro 2 163	£399	Pro 2 203	£499	Trilogy 166	£379
Rotory Club	£169	Club 102	£199	Club 142	£249
Club 182	£299				

KORG

Aphex

Big Bottom Exciter	£149
Easy Rider Compressor	£169

D8 Digital Multitrack	BEST	X5DR	BEST
Trinity	PRICE	N5R	PRICE
ZI	OR	N364	OR
X5D	TRADE	N264	TRADE
TR Rack	IN	N5	IN

AKG EMOTION MICS

A New Range Of Microphone From AKG

- A Clean Cutting Sound
- Excellent Build Quality
- High Sensitivity
- Good Feedback Rejection

D880 Vocal Microphone	£75
D880S Vocal Mic	£79
D770 Vocal Instrument Mic	£69

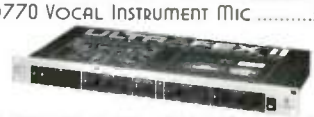
midiman

PC/Mac MIDI Interfaces, Mixers, Thru Merge, Sync Boxes,

BOSS SP202.....£299
Inc Free 4MB Smart Media Card

FOSTEX

DMT8 VL	£799
D90 HD Recorder	£1299
D80 HD Recorder	£999
FD4 Digital 4 Track	£399



BEHRINGER PRICE CRASH

MACKIE

1400 Watt Power Amps.
Top Spec. Made In USA
- Only £499 Each
HR824 Monitors In Stock

ALLEN & HEATH

GL2000	BEST
WZ 28:8:2	BEST
WZ 14:4:2	BEST
WZ 16:2	BEST

Phone for Prices or Details on any other A&H Desk

Roland MC505 MC303 - DJ70
VT! - Technics Decks - DJ
Mixers - Powers Amps. In Fact
Everything for the DJ

E-MU ESI 4000

Planet Phatt, Orbit II
Phone for best prices

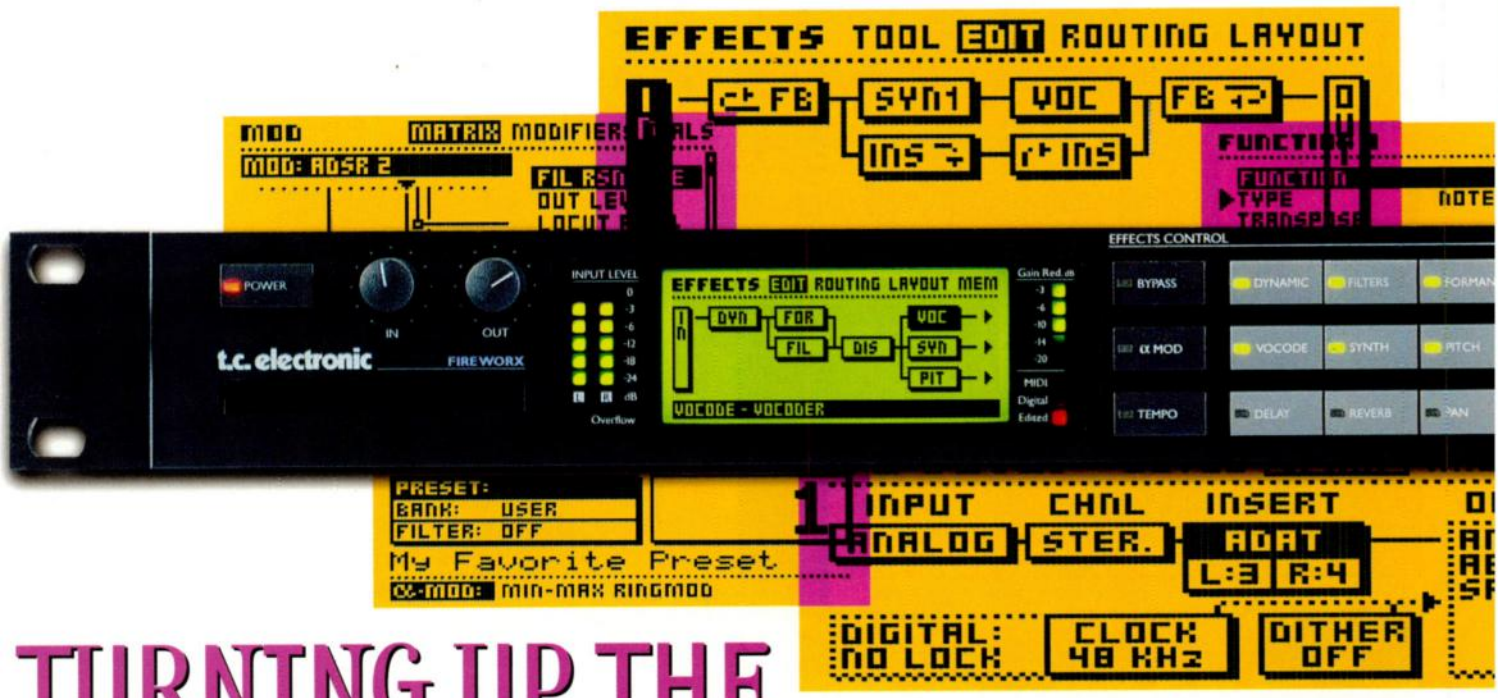
EX-DEMO/SECONDHAND

Korg I3 Work station	£799	Yamaha QX21 Seq	£65
Allen + Heath GL3000 24/8 + bridge + stand	£2750	Zoom 5050 FX	£65
Esoniq Mirage KBD. Sampler	£199	Yamaha RM50 Drum Mod	£250
Fostex 2016 Line Mixer	£119	Roland SC33 Sound Canvas	£189
Aphex Type C Exciter	£85	XRI X300 MKV Time Code	£129
Alesis 3630 Compressor	£120	Yamaha RX5 Drum Machine	£199
Alesis Quadraverb II	£269	Roland SH101	£299
Korg KME 56 5 Way Eq	£189	Roland RA90 Arranger	£349
Roland MC303	£349	Oberheim Systemizer	£89
Marshall JMP1 Pre-amp	£199	Boss DR110 Drum Machine	£79
Evans Tape Echo	£199	ADA Pitchtraq Harmonizer	£150
Behringer De-noiser	£95	Alesis Wedge RVB	£249
MIDI Bass Module	£99	Fostex D80 Digital Multi-track	£899
Casio FZI KBD Sampler	£299	Yamaha FB01 Module	£89
Waldorf Pulse	£225	Roland D550 Module	£299
Akai Meio MIDI Delay	£85	Emu Proteus III World	£359
Korg EX8000 Module	£299	Kurtzweil K150 Module	£599
Mass 75w Monitor Power Amp	£99	Roland S10 KBD Sampler	£199
Boss RB F10 Flanger	£49	Roland S50 KBD Sampler	£399
BBE 362 Sonic Maximiser	£99	Korg DVP1 Vocoder/Harmonizer	£349
ARP 2600 Inc Kbd	£1995	MXR Pitch Transposo	£249
Roland CM32L Module	£85	Rocktron Hush IICX Denoiser	£139
Roland MT32 Module	£89	Rocktron Intellifex	£499
Yamaha FB01 Module	£89	Roland ROM + PCM Cards for D70	£39
Roland MC50	£299	Audio Technica AT873R Condenser	£149
Roland PG10	£139	Shure S450 Unidyne III	£39
Yamaha TQ5 Module	£99	Shure S48SD Unidyne IV	£39
Alesis Data Disc	£199	Spirit Inst Mic	£45
Yamaha TX81Z Module	£179	Roland R5 Drum Machine	£189
Roland D110 Module	£185	Roland R70 Drum Machine	£349
Mackie Combiner for 2 x 1604	£185	Sequential Drumtracks	£249
Studiomaster Mixdown Gold 16/8/16	£799	Zoom 9150 Multi FX	£299
Roland JX3P	£299	Castle Phaser III	£299
Roland JX3P + PG200	£469	Delta Lab DL5 Harmonizer	£199
Wem Copy-Cat	£199	Digitech IPS33 Harmonizer	£199
Cheetah MS6 Module	£199	Eventide Instant Flanger	£350

TEL: 0171-733-6821
FAX: 0171 738 5268

395 Coldharbour Lane Brixton, London SW9 8LQ

In a world brimming over with multi-effects units, will TC Electronic's new FireworX cause sparks to fly amongst the competition? HUGH ROBJOHNS lights the blue touch-paper...



TURNING UP THE HEAT

TC ELECTRONIC FIREWORX

There are probably more effects units on the market today than almost any other type of musical equipment (with the exception of guitar amplifiers perhaps), and with so much competition the leading manufacturers are always looking for that certain something which gives their product the edge over everyone else's. An increasingly popular approach in recent years has been to provide the means to chain multiple effects together, and as affordable digital signal processing has grown ever more powerful, so multi-effects units have become far more capable. However, sheer processing power is not enough on its own — you need a well thought out user interface to be able to control and make creative use of it.

The FireworX is the latest in an impressive line of signal processors from Danish company, TC Electronic. It offers around 40 different high quality, innovative, and extremely configurable effects algorithms, and the typically intuitive TC user interface. Not only does the FireworX allow enormous flexibility in how the different effects programs can be combined, but it also provides an extraordinary degree of real-time control opportunities as well, across literally dozens of different effect algorithm parameters. Building that level of functionality into a 1U rackmount box is impressive enough, but to do so whilst retaining a manageable user interface makes the FireworX worthy of further investigation.

HARDWARE

The FireworX is housed in a standard 1U rackmount box, finished in the traditionally innocuous studio black. The rear panel is quite busy, starting with an IEC mains inlet and power switch on the left, followed by two pairs of XLRs providing balanced stereo analogue inputs and outputs (both software configurable for nominal +4dBu or -10dBV signal levels). Digital interfacing is extremely comprehensive too with AES-EBU and S/PDIF stereo I/Os plus ADAT and/or Toslink optical input and outputs. It makes sense to offer the ADAT interface since it uses the standard Toslink connectors anyway, and TC have provided set-up menus allowing any two channels to be used within the eight-channel ADAT format.

Although not fitted on the review model, an optional word clock input (standard TTL signal on a BNC connector) can be installed to allow external synchronisation in the digital domain. The rear panel of the device is rounded off with the usual trio of MIDI connectors and a quarter-inch jack socket is provided for external hardware controllers, such as a pedal or footswitch (software menus configure the required functionality).

Internally, the FireworX is beautifully engineered, as we have come to expect from these Danish masters. An elegant switched-mode power supply is carefully screened off to one side of the case, while a large and heavily populated motherboard fills most of the remaining floor area. Surface-mount components proliferate and a socket on the motherboard accepts PCMCIA memory cards inserted through a slot in the front panel. The analogue I/Os feature delta-sigma 1-bit, 128 times oversampling AKM converters, which provide a claimed 24-bit resolution and an overall dynamic range of around 100dB.

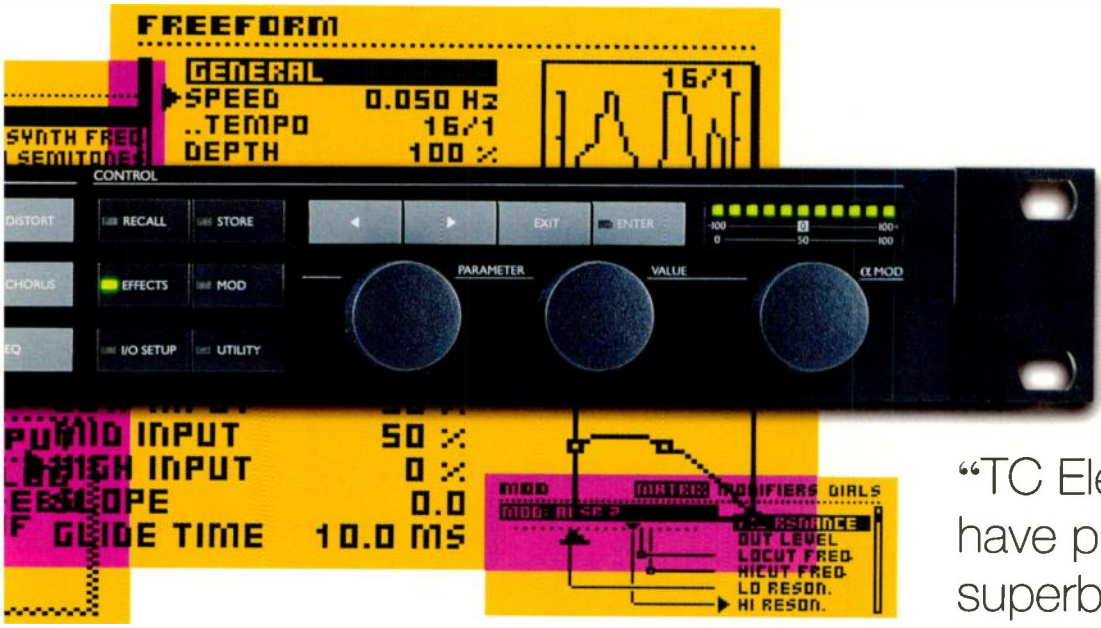
CONTROLS

The front panel of the machine is clean and tidy to look at, with clearly marked controls and buttons (most with internal LEDs). To the extreme left is a power standby button (the mains isolating switch is on the rear panel), accompanied by input and output level trim controls for the analogue I/Os (from -22 to +10dBu). A backlit LCD panel is edged with LED bargraphs — the two on the left showing left and right input level from -24 to 0dBFS. The column of LEDs to the right of the display window indicates the amount of gain reduction (up to -20dB) being applied when a dynamics effect 'module' is in use. Three status indicators show MIDI activity, digital lock (to an external reference signal), and when a preset program patch has been edited.

The main control functions start with a column of three large black pushbuttons which provide a complete signal bypass through the machine, set the tempo (by tapping) for a given effect's modulation, and allow algorithm control parameters to be allocated to the 'alpha-mod' control knob at the extreme right-hand end of the unit (more on this in a moment). A central bank of 12 grey buttons are used to indicate which effects algorithms are in use in the current configuration, as well as allowing them to be individually bypassed and edited. A block of six more black buttons provides access to the preset memory functions, insert effects algorithms in the processing chain, control the 11 internal and nine external effects modifiers (for parameter modulation), configure the audio I/Os, and access the various utility functions.

The last right-hand quarter of the front panel contains just three encoder knobs (without end-stops), four more grey buttons, and a horizontal bargraph of LEDs. The first knob is identified as the Parameter wheel and is used to navigate the menu displays in conjunction with the left/right arrow and Enter/Exit buttons immediately above it. The second knob alters the value of a selected parameter and the last control is the previously mentioned 'alpha mod'.

The alpha mod wheel provides instant real-time control over the key parameter(s) of the effects processing and the bargraph meter above the knob indicates its current value. The alpha mod controller (or 'modifier' as TC Electronic prefer to call it) can be allocated to change an enormous variety of elements within the signal processing algorithms — and can operate several different aspects of one or more programs at the same time. When using the standard factory presets, the alpha mod function is generally predefined to be the most useful or most often used parameter(s), allowing very fast customisation and tuning of the preset effect. However, the precise function of the control can be reconfigured by the user for any purpose through the 'modifier' menu pages.



BUILDING FX BLOCKS

The basic signal processing structure of the FireworX is very straightforward. The input signal can be selected from either the 24-bit converted analogue input, 24-bit AES-EBU, 20-bit S/PDIF or Toslink, or any pair of channels from the 16-bit ADAT interface. The relevant signal is routed through the 'digital engine' for effects processing before being re-dithered at a user selected resolution between 8 and 22 bits, or off, as required. The processed signal is then presented on all outputs simultaneously.

The only *caveat* to my last statement is that since the Toslink and ADAT interfaces share the same physical ports, the user must select the desired operating mode. In the case of the ADAT mode, the processed output can be dispatched to any two desired channels — not necessarily in adjacent pairs either.

As with some other TC Electronic processors, if the main programme inputs and outputs are analogue, the digital I/Os can be reallocated as an insert point (or vice-versa), allowing an external processor to be incorporated into the signal path. The insert send and return points can be freely allocated within the FireworX processing chain.

In terms of the FireworX's signal processing algorithms, there are 12 basic effect processes (or 'blocks' as TC call them), many of which also have additional sub-categories of effects. To build up an ▶

pros & cons

TC ELECTRONIC FIREWORKX £1699

pros

- Extraordinary flexibility and customisation possibilities.
- Wide choice of effect processor types.
- Inumerable parameter modifiers for expressive control.
- Flexible interfacing.
- Graphical menu displays.

cons

- No global dry/wet mixture control.
- Flexibility can be seen as complexity by some users and could be offputting.

summary

A superbly flexible and highly usable multi-effects processor that provides a wealth of effects algorithms with extraordinary degrees of controllability. Even long chains of effects remain noise-free and sparklingly clear, and the host of analogue and digital interface options make connectivity very easy.

SOUND ON SOUND

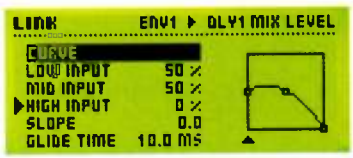
"TC Electronic have produced a superb-sounding and extraordinarily capable machine in the FireworX."

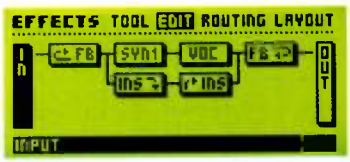
TC ELECTRONIC FIREWORX

effects chain, these blocks are allocated to a position (or positions) within a virtual routing matrix and interconnected in series or parallel according to which positions they occupy. Placing processors in the same row of the grid means the signal flows from one to the other serially. Processes placed in the same column mean that the input signal is processed by them at the same time but independently, ie. in parallel.

The grid allows enormously complex effects patches to be constructed, since it may be any size up to eight rows by eight columns, although this would be rather extreme! Fortunately, rows and columns can be added or deleted as desired such that the matrix is actually very manageable.

The FireworX allocates its DSP resources dynamically so that additional effects processors can continue to be added until the total DSP resource of the machine has been exhausted — there are no rules about which blocks can be used in combination and the machine gives warnings about the remaining DSP resources as you progress.





As already mentioned, there are 12 basic effects blocks and many of these provide sub-categories. The full listing is given in the sidebox (see 'Effects Blocks'). Most of these signal blocks may only be used once in any one patch. However, some may be used simultaneously in different positions within the matrix. For example, the dynamics block may be used up to three times in a single patch and each of the chorus, delay, pan, and synth modules twice.

In addition to the fundamental effects blocks mentioned above, there are also a number of 'house-keeping' blocks, such as the insert send and receive modules which determine the send and return points for external signal processing. There are also feedback send and return modules which allow the signal from one part of the processing chain to be returned to a different part. There is also a 'pipeline' module which simply passes the signal straight through a matrix position and allows multiple processing paths to contain different numbers of processing elements.

PROCESSOR POWER

The Dynamics processing block is available in three sub-flavours (all stereo in/out) and requires around 12% of the DSP power. The options are Expander/Gate, Compressor, and Compressor/Limiter, and each one features all the expected controls. The amount of gain reduction applied by the processing is shown on the bargraph meter on the front panel, and if more than one dynamics function is employed at a time, the user can select which one drives the meter display.

The various Filter and EQ options require around 25% of the DSP's power. Filters are available in no less than five forms: Resonance, Bandpass (both stereo in/out functions), Phaser, Resonator and Resochord (mono in/stereo out); and the two EQ sub-algorithms offer either fixed or controllable parametric sections. This is where things really start to get complicated by the wealth of options and parameters available, particularly since many of them can be controlled by internal or external operators, such as the internal low frequency oscillators (LFOs) or external footpedals. For example, the sweep rate of the Phaser can be set as multiple bars or subdivisions of a tempo tapped in on the front panel button (ie. 1/16ths etc), and the centre of the bandpass filter could be controlled from a pedal.

The Resonator and Resochord algorithm names probably don't mean much but the programs are actually based around rather elaborate flangers, incorporating four separate delays and feedback paths to create very complex resonant peaks and comb filtering effects. The Resochord version has been configured so that these resonances are tuned and scaled according to musical chords, and there are comprehensive options allowing the user to determine the key and the type of chord (major, minor, 6ths and 7ths etc).

If the complexities and sophistication of the Resonator and Resochord effects are too much, there is also a simpler Chorus/Flanger program module. This provides all the classic sounds and still offers a very wide range of controllability and flexibility.

Distortion effects are available in two forms — a fairly conventional but extremely flexible analogue tube-style effect (called Drive), plus a system which deliberately introduces horrible digital distortions in the form of aliasing and quantising errors (Cruncher). Both versions have comprehensive sets of parameters to allow fine-tuning to suit almost any circumstance. I'm not sure about the practical applications for the Cruncher algorithm, but it could help you to recognise the characteristic sound signatures of faulty digital equipment!

Next up are two unusual, but powerful and creative processing blocks: the Formant generator, which requires about 22% of the processing power and creates pseudo-human vowel type sounds; and the Vocoder, which needs a massive 55% or so of the DSP's attention. The Vocoder can also be used to create Ring Modulator effects with external or internally generated carrier signals. As might be expected, these effects can be controlled and modulated in a variety of ways to make extraordinarily expressive noises and/or weird effects.

Useful as an internal signal source for the Vocoder and Ring Modulator, the Synth processor generates tones and musical notes (controllable over MIDI, of course) in sine, triangle, square and sawtooth shapes, plus various flavours of noise and a 'chaos' generator.

The FireworX also offers pitch-shifting algorithms; mono, stereo, reverse and multi-tap delays; elaborate reverberation programs (with the choice of all-encompassing or simplified set-up parameters); automated panners (including a version which provides pseudo-surround sound effects); tremolo ▶

EFFECTS BLOCKS

- Dynamics (compressor, compressor/limiter, gate/expander)
- Formant Filters
- Distortion (analogue and digital effects)
- Filters (resonance, bandpass, phasor, resonator, and resochord)
- Vocoder (vocoding and ring modulation)
- Pitch-shifter (single and dual shifts)
- Delay (stereo, dual, multi-taps, and reverse)
- EQ (parametrics)
- Chorus/Flanger
- Panner (stereo, surround, tremolo, and stereo width enhancer)
- Synth (sine/square/triangle waveform, noise and random signal generator)

VIVE

QUASIMIDI

LA RAVE-O-LUTION!

Rave-O-Lution 309
Dance Workstation

Money back on any Quasimidi product within 7 days if not completely satisfied - please ask for conditions.

FACTORY DIRECT £499.99

NEW LOW PRICE!

The **309** has revolutionised dance music production the world over with its incredible **sound**, immediacy of use and ground breaking **design**.

Join the revolution
- Vive La Rave-O-Lution!

The Rave-O-Lution 309 is undoubtedly the best and most innovative dance product on the market. Imagine the raw powerful sound quality of Roland's TR909 and TB303, give them 50 times as many sounds, add resonant filters to the drums, and you've still only got half the instrument that is the Quasimidi 309!

Knobs for all functions all send out MIDI controllers, built in real-time and step-time sequencer with variable shuffle, 2 on board effects processors & EQ, optional rack ears, typical German build quality - far too many features to mention here! This is the ultimate dance rhythm machine - it must be heard to be believed!

Call now for your free demo CD

"the Rave-O-Lution is one of the most immediately useable products on the market."
"a collection of excellent drum sounds"
"a superb bass synth"
"The filter models on the 309 are superb - really fat and squelchy"
Derek Johnson - Sound On Sound

Future Music Platinum Award - 90%

NEW

SIRIUS

The dance sensation of the year! Following hot on the heels of the award winning Rave-O-Lution 309, Quasimidi bring you the incredible new Sirius keyboard - a complete dance production workstation all in one. The Sirius features the same acclaimed Analogue Emulation Synthesis as used in the 309, but gives you 3 synth parts with 12 note polyphony as well as the usual drum and percussion sections. But the innovation doesn't stop there, the built in Vocoder can take its modulator and carrier signals from any combination of internal or external sources (or the accompanying gooseneck mic), and for any budding DJ producers, the Sirius can be synced directly to a record deck or other audio source by automatic tempo analysis. Built in FX, a 4 octave velocity sensitive keyboard and a mod wheel that's assignable to multiple parameters simultaneously, round off a tour de force product that's sure to be highly desirable. Call now for full details!

FACTORY DIRECT £799.99

309 AUDIO EXPANSION

- re-route sounds for 6 pole filters!
- 2 extra outputs
- 2 synthesizer inputs
- includes version 2 OS

FACTORY DIRECT £119.99

309 SYNTH EXPANSION

- 37 new oscillator models
- 2 new filter algorithms
- 2 extra synth voices
- 64 new sounds

FACTORY DIRECT £79.99

309 VERSION 2 SOFTWARE

"The excellent just got better" - Sound on Sound

V2

- LFO sync to tempo
- Song Position Pointer follow
- motif copy function
- real time loop recording

309 DRUM EXPANSION

- 160 new waveforms
- 10 new percussion sets
- 30 new patterns
- 256 new presets

FACTORY DIRECT £79.99

Fax: 0171 379 0093
114-116 Charing Cross Road
London WC2H 0DT
E-mail: sales@turnkey.demon.co.uk
Web site: http//www.turnkey.uk.com

In Ireland: TURNKEY DUBLIN
01677 9377
34-35 Wellington Quay Temple Bar Dublin 2

For international enquiries, call 00 49 6422 940220

turnkey
LOOPSTATION

0171 379 5148

*Turnkey's factory direct buying policy means that the distributor's profit margin is cut out, and you get to buy premium quality equipment at bargain basement prices!

WRH

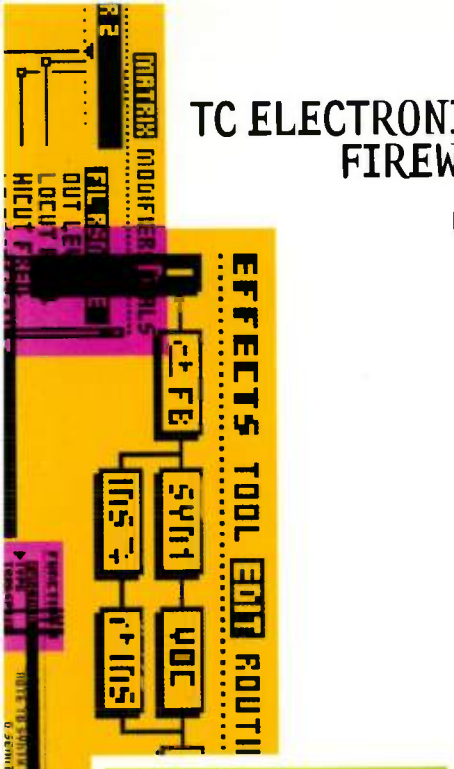
TC ELECTRONIC FIREWORX

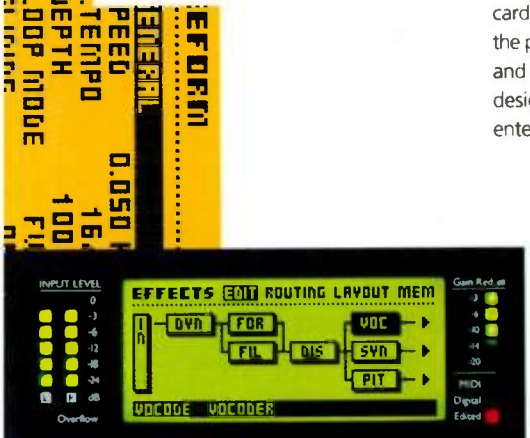
effects; and a simple stereo width enhancer. If there are any effect processes TC Electronic have left off this machine, I can't think of them — and I can't recall a more comprehensive effects unit on the market either.

AN EASY LIFE?

For many, one of the strengths of the FireworX is going to be its enormous breadth of customisation options and the ability to fine-tune every element of every program algorithm. However, for many users, all these effects, parameters, control options and matrix patching is simply too much like hard work and would just get in the way of making music. Fortunately, there is no real requirement to have 'a brain the size of a planet' as the FireworX comes with 199 factory preset effects chains, all available at the touch of a button or two.

In fact, between them the factory presets did pretty much everything I could have wanted, plus a whole bunch more besides, and provided excellent starting points on the occasions when I wanted something slightly different. It probably says more about my life than I should admit, but the most fun I have had in weeks was in trying to guess what kind of effect I would find from each preset, as their program names are even more inventive than the algorithms themselves (how's about trying 'Grut Gut', 'Smart Face', and 'Broadcasting Sick'!). Despite these elusive names, the majority of pre-programmed effects are actually very useful and usable, and the parameter values are well chosen. The alpha mod wheel function for each factory program is also well selected in the majority of cases, providing instant control of some key parameter of the effects chain. Of course, everything can be edited and tweaked to suit any requirements and modified programs stored in the user memories (internally or on external PCMCIA card). An effects machine wouldn't be right without the positively weird and wacky program patches though, and you'll be pleased to learn that the guys at TC have designed a few of the very strangest to amuse and entertain!





FIREWORX DISPLAY

TC Electronic have always managed to provide pretty intuitive user interfaces on their equipment, and if you are familiar with any of their other processors, driving the FireworX will feel quite familiar. The large LCD provides concise and understandable information in a semi-graphic form, with clear sub-menu pages listed across the top of each display and status boxes listing the current settings.

At an 'introductory level', navigating the menus is not too scary at all and a novice operator should have no problem configuring the machine and performing basic effects processing tasks. The detailed adjustment of some of the more intricate processing parameters is perhaps not for the faint-hearted — many of the algorithms have huge lists of parameters — but the handbook is very helpful, providing plenty of clear information plus handy hints and tips.

Similarly, configuring which 'modifiers' control which parameters can be a daunting task. The internal modifiers include two low frequency oscillators (with a variety of wave shapes and output configurations), two triggerable ADSRs, two envelope followers, a pitch detector, a control value sequencer, and two function modules which combine a pair of control modifier signals in various ways and output the result.

The external modifiers include the alpha mod wheel plus eight others which may be configured from the pedal/footswitch input and a host of MIDI functions — aftertouch, note on/off, pitch-bend and program change information can all be used as modifiers.

To determine which modifiers affect which parameters, another matrix system is used, although because of the sheer scale of controllers and controllees, it is often rather cluttered and less than perfectly clear. I would not imagine many users fighting their way through this kind of set-up too often, but it does provide a huge resource of possibilities and creativity for the willing enthusiast.

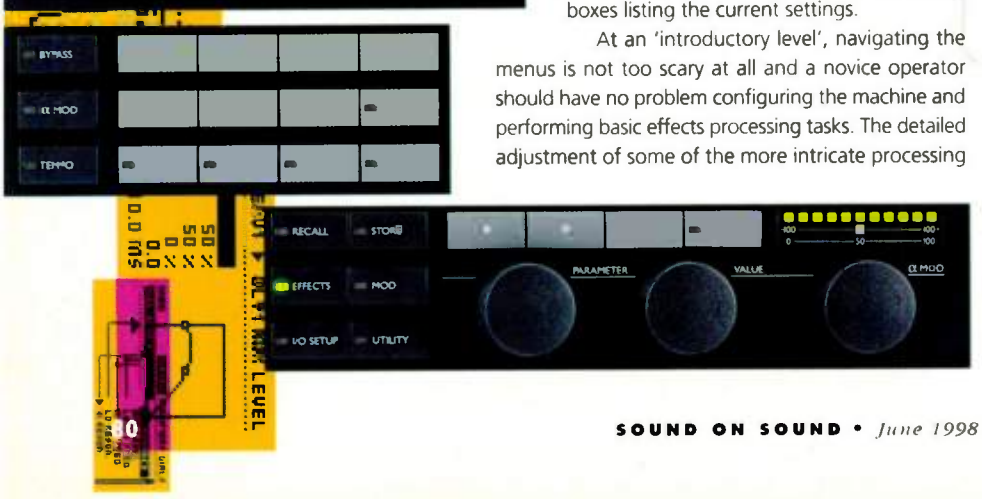
PERFORMANCE QUALITY

From my first audition, the sonic quality of the signal processing within the FireworX is quite stunning. I was extremely impressed with its remarkably quiet and clean backgrounds — in fact, it is almost eerily silent most of the time, even with a fully loaded matrix of effects and analogue interfacing. No doubt the use of 24-bit resolution in both the converters and the DSP number-crunching is the key to this performance success.

Although it obviously depends on the selection of effects in use, my overall impression of the FireworX's sound character is of a bright, sparkly, clean and transparent nature, although the machine can also make very usable 'grunge' effects too. Most of the 199 factory presets are surprisingly usable, although the program names are far from obvious in many cases and the description of the alpha mod function is often a complete mystery! This can make finding a suitable program rather tedious for anyone who is not familiar with the machine, but at least the front panel effects selector buttons illuminate to show which blocks are in use within a chosen patch.

Individual effect algorithms are almost impossible to fault, and they all sound extremely good even when used in isolation. All have comprehensive parameters to adjust so that the sound can be precisely tailored in the finest detail and I couldn't detect any degradation of any kind when combining different effects together. In fact, the only slightly weak element I could find was the pitch-shifting which, like so many other multi-effects machines, tends to sound glitchy and mechanical with larger shift settings. It is hardly surprising though, since this is such a difficult process to achieve anyway — only a very few specialist machines are capable of truly good results — and within typical uses, FireworX's pitch-shifting will be perfectly adequate.

Another very hard effect to get right is reverberation, and although reverbs are hardly the *raison d'etre* of this



machine, they actually sound extremely good and realistic. The algorithm also offers extraordinary flexibility for fine-tuning.

Where I must level a more serious complaint, however, is that there does not appear to be a global setting for the effect wet/dry signal mix. If the FireworX is used as an outboard processor to a mixing desk, it would be usual to control the wet/dry balance at the desk by altering the relative levels of direct signal (channel fader) and wet signal (effects return level). On the other hand, as an in-line processor for a guitarist or keyboard player, the output would have to carry the direct signal as well as the effects.

Unfortunately, the wet/dry mix seems to change with every recalled factory preset, which can be extremely frustrating when recalling and comparing a number of different presets. Indeed, in some cases, recalling a factory preset doesn't produce any 'wet' signal at all until some modifier is activated (typically the alpha mod wheel)! It is possible, of course, to alter the wet/dry balance as required, but that involves diving into the parameter editing pages for every program preset, and re-saving the settings. It seems a great shame in an otherwise excellent machine, that there isn't some kind of global override of the dry/wet mixture.

TC Electronic have produced a superb-sounding and extraordinarily capable machine in the FireworX. I'm not sure how many users would actually make full use of its flexibility and customisation facilities, simply because of the time and complexity involved in setting it all up. Designing and configuring effects patches is made relatively simple thanks to TC's graphical menu pages, but the vast number of parameters, options, and modifiers available make it a time-consuming process. Having said that, if there is something specific that you want to achieve, the FireworX will certainly allow you to achieve it, and the results will sound crystal clear and noise-free.

However, if you just want to dive into a particular algorithm's parameter menu page to tweak some element of its operation, that remains very quick and easy to do. Best of all, when effects need to be synchronised with the music, just tapping out a rhythm on the Tempo button instantly sets the perfect sweep rate or delay time. Superb! SOS

info

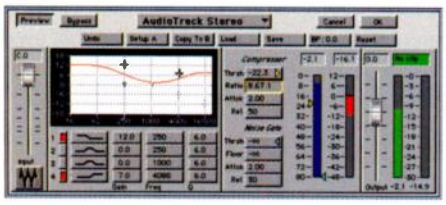
£ £1699 inc VAT.
A Raper & Wayman, Unit 3, Crusader Eatste, 167 Hermitage Road, London N4 1LZ.
T +44 (0) 181 800 8288.
F +44 (0) 181 809 1515.
E r+w.proaudio@dial.pipex.com

Easy Waves

The Easiest Way To Get High-Quality Audio Effects From Your Computer

Audio Track

Mac interface



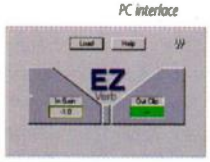
Equalisation Compression Expansion Gating

Features
- 4-Band True Parametric Equaliser
- Compressor / Expander
- Gate

Easy to use
- Single window interface
- Volume & Gain Reduction meters
- Sample-Accurate peak hold & clip meters
- Set-up library for music, voice & much more

Reverb

PC interface



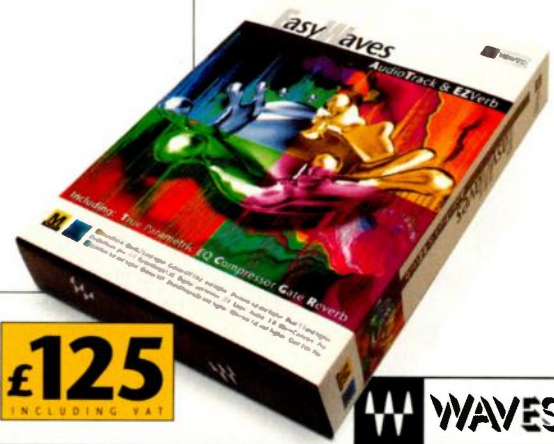
EZVerb

Mac interface

Features
- Gain control
- Load button for a quick set-up loading
- 21 different reverb "dry" & "wet" setups

Easy to use
- Single window interface
- Set-ups include concert halls, plates, rooms, tight drum rooms, cathedrals & more
- All created with Waves acclaimed TrueVerb

Easy Waves gives you the basic studio processing tools and effects which are essential for creating audio including Equalisation, Compression, Gate and Reverb in one simple bundle. 'Plug them into' your favourite sequencer, sound shaping or multimedia package*.



*Please call for list of supported applications. All prices include VAT. E&OE

For Macintosh & PC Platforms

Also includes Waves Multimedia presentation including demos for all Waves plug-ins

£125 INCLUDING VAT

WAVES

SCV LONDON

Exclusively distributed in the UK by SCV London
6-24 Southgate Road, London N1 3JJ.

Telephone: 0171 923 1892. Fax: 0171 241 3644. email: waves@scvlondon.co.uk web: http://www.scvlondon.co.uk

Solid as a Rock?

OPTIMISING PC INTERNAL TIMING AND AUDIO RECORDING WITH *CUBASE VST*

Many PC owners still seem to have trouble tying MIDI and audio together, and timing remains the main problem area. MARTIN WALKER attempts to pull all the strands together.

It all seemed so easy in the days when the Atari ST reigned supreme. *Cubase* came on a single floppy, and getting it up and running was a simple matter of putting the disk in the drive and turning on the computer. A few seconds later, *Cubase* would appear on screen, and that was it.

Now things have changed, and despite the huge leaps in technological progress over the last few years — and the fact that the current feature list for the latest Mac and PC versions of *Cubase VST* is enough to make anyone's mouth water — this progress has also increased the potential for problems.

One of the reasons the ST was so easy to deal with was that it included a built-in MIDI port. The story goes that Jack Tramiel (boss of Atari at the time) asked his son if there were any other features that ought to be designed into the ST. Being a musician, the son suggested a MIDI port, and so it was incorporated from day one. The beauty of having MIDI built into the hardware was that every software developer could access MIDI In and Out signals directly, in a completely standard way.

GETTING A BUZZ

Early PCs had only primitive audio support — their only audio component was a tiny buzzer (or a 3-inch loudspeaker if you were lucky) which produced a beep if an error message appeared on screen. Despite the best efforts of early developers, musical offerings were restricted by the speaker's pitiful 1-bit resolution (ie. either a high or low voltage value), and even a simple sound like a 1kHz square wave tone needed software code to switch this voltage up or down 1000 times a second.

Faced with this situation, additional hardware was the only way to allow PCs to produce real music. Early soundcards such as the Adlib had 2-operator Yamaha FM synth chips on board, but these were swiftly followed by the original

Left: Cubase VST v3.551 for PC — an amazingly powerful MIDI + Audio sequencer. But keeping both MIDI and audio data in time with one another is not always as easy as it seems...

Soundblaster card, which added 8-bit digitised sound and a very basic MIDI interface. For professional musicians, however, it was only the arrival of the Roland MPU401 MIDI interface standard that enabled the PC to stand tall amongst its rivals, since the standard removed a host of problems that had plagued users of the early Soundblaster's MIDI sockets.

The standard PC MIDI interface (in the form of a plug-in expansion card) enabled any external MIDI sound to be played back from a PC, but because the hardware expansion card was not a standard part of the computer, it had to be correctly set up so that it could be accessed by software running on the host computer. Most people are now reasonably familiar with the IRQ (Interrupt Request), DMA (Direct Memory Access), and I/O (Input/Output) addresses, all of which have to be correctly adjusted before PC software and hardware can communicate. Problems arise because the availability of these addresses depends entirely on what other hardware is installed in the PC.

Every hardware device accessed by your sequencer will take some processor overhead to run its software drivers, and audio hardware needs to be updated on a regular basis. The computer needs to look at the MIDI inputs regularly to deal with incoming data, and the sequencer will also be sending MIDI output data to one or more ports. At the same time, audio data must be read off the hard drive and sent to the soundcard's D-A converters, and software synths may also be running in the background... You get the idea — every process needs to be updated regularly to keep everything in sync.

To achieve perfect sync, both MIDI and audio must be referenced to a high-resolution internal clock. The highest resolution for audio is a single sample, whereas MIDI is generally referenced to 'ticks' (or 'pulses'), which are a tiny fraction of a quarter note (crotchet) in length. *Cubase* has a switchable resolution (found in the Synchronisation page) of up to 384ppqn (pulses per quarter note). At maximum resolution, a typical tempo of 120bpm, and assuming a sample rate of 44.1kHz, there will be about 57 samples per tick [*he's right, you know — Maths Ed*].

However, even music software capable of such high-resolution sequencing is worthless if the connected hardware cannot cope with such a high resolution. There are all sorts of reasons why timing can be compromised, and many of them relate to hardware rather than the software. Only by understanding the issues can you resolve such hardware problems, and only then is it worth looking at problems that may be caused by *VST* itself. Incidentally, if you are running *Logic Audio* or *Cakewalk Pro Audio*, many of the hardware problems described here will be equally relevant, as will some of the software problems, though the parameters that require adjustment may go by different names.

SOUNDCARD SETTINGS

Before you do anything else, it is vital to ensure that you use the settings recommended for your soundcard. Inside the Start menu folder for *Cubase* you should find the Troubleshooting text file (if not, you can find it manually wherever the *Cubase* files are stored, inside the Readme folder). This not only explains some basic principles of dealing with timing problems, but also has recommended settings for a range of soundcards. Steinberg provide a list of tested and recommended cards on their web site, and update it as new cards become available.

The first of these settings relates to the buffers, which are areas of RAM used to (hopefully) ensure steady audio output by storing enough audio data to cope with unexpected system glitches. The optimum number of audio buffers and their size can be found in the Troubleshooting text file, but if you are still not sure that your settings are right, you can use the Check Buffers and Sync option in *Cubase VST* (available since version 3.55). This is not infallible, however. The Buffer Size should be the same for all inputs and outputs on your soundcard.

There are several other settings that need to be adjusted to suit the make and model of soundcard and, although this information is readily available for major soundcards, it is still worth explaining what they are — not only for those of you using non-recommended soundcards, but also because it helps to highlight some of the problems faced by software developers when attempting to support the full range of soundcards.

Sync Reference determines how *Cubase* synchronises MIDI playback to audio. The preferred setting (if your card supports it) is Sample Position, because this allows the soundcard itself to tell *Cubase* the current sample position during sample playback, and MIDI can then be synchronised to this. Since MIDI is locked to sample position, this mode is equivalent to sync'ing to a sample-accurate external clock.

Sadly, not all soundcards support this mode, so if *Cubase* issues a warning to this effect when you first try it, you will instead have to select DMA (Direct Memory Access) Blocks as the sync reference (according to the Troubleshooting file, this issue should arise only with DAL's CardD+ and the Terratec EWS64XL). In this case, the software must keep track of the number of blocks that are transferred to the soundcard, and the number of audio buffers and their size must also be set accordingly. In the absence of specific settings, these values can be derived automatically using the Detect Buffer Size button under Advanced Options in the

GENERAL MIDI Chart Busters NEW

NEW MONTHLY SERIES OF UP TO DATE CHART SONGS - AS MIDI FILE ALBUMS

MIDI Chart Busters hit music shops near you from early April. The first issue gives you an unbelievable offer of ***two*** MIDI file compilation disks, for the price of one - that's 16 of the best songs of 1997 - for just ***£10.99***

At the beginning of each month, starting May '98 a new MIDI Chart Buster album will be released, featuring songs from the current, and previous months chart hits.

With both MIDI Lyric, *and* Harmony data, MIDI Chart Busters are as up to date with technology, as they are with the songs. MIDI Chart Busters are programed by Hands On MIDI Software, so they sound terrific too!!!

DON'T MISS THE INTRODUCTORY ISSUE WITH TWO GREAT DISKS

AT MUSIC SHOPS NOW* FOR JUST £10.99...

WHILE YOU'RE THERE ASK FOR A FREE CATALOGUE...

64 full colour pages stuffed full of MIDI file albums, styles, keyboard and computer music accessories, plus amazing new hardware products.

BCK PRODUCTS **...OR CALL**

* Early April '98

BCK Products. Stationbridge House
Blake Hall Road, Nr. Ongar, Essex. CM5 9LN
Phone: 01992 524442
Fax: 01992 524004
E-Mail: BCKproducts@compuserve.com
International Enquiries Welcome

OPTIMISING PC TIMING WITH *CUBASE VST*

▶ ASIO Multimedia Setup window. If you choose an inappropriate setting, audio and MIDI will drift apart in DMA Blocks mode.

There are also three Card Options to set. Full Duplex should be used when you want to record audio whilst playing back previously recorded material. Most soundcards released in the last couple of years can do this, but even if yours can't, you can still keep yourself in time whilst recording audio by monitoring MIDI playback, even though you can't hear any previously recorded audio at the same time. Be aware that there is a significant difference between versions 3.0 and 3.5 of *Cubase* in the way they handle full- and half-duplex cards. Whereas *Cubase* v3.0 would work with half-duplex cards (playback being suspended during recording), *Cubase VST* v3.5 was optimised for full-duplex cards, a change that caused problems for some people when upgrading. If you want to make effective use of *VST*, you really do need a full-duplex card.

For most cards the Start Input First option should be ticked, ensuring correct full-duplex operation by always opening the input (recording) before the output (playback). The third and final option is Open All Devices Before Start, which is relevant only for multi-channel cards. If you have such a card, you should turn this option on so that all the input and output ports will be in absolute sync.

Certain soundcards cause specific problems, though these can often be solved simply by obtaining an updated soundcard driver. Steinberg keep up-to-date information about specific driver problems on their web site, but if you are unsure whether your drivers are the latest versions, it is better to contact the individual card manufacturer (or look on their web site).

GETTING THE JITTERS

Various types of timing problems can arise in MIDI + audio sequencers with both MIDI and audio playback. One very basic problem, related to MIDI, is that of timing instability. This is when MIDI events recorded with strict timing are played back with a slightly random delay. This is particularly obvious in very rhythmic music, since any slight change from rock-steady timing sticks out like a sore thumb. Instability such as this makes music sound unsure, or 'jittery'.

MIDI devices also always suffer from some latency (a delay between triggering and hearing a sound); this ranges between several milliseconds to several tens of milliseconds with particularly bad hardware designs. This is nothing to do with the sequencer software, but is due to the finite time required for the MIDI device to receive an input (MIDI) signal and then produce an output (audio) signal. In general, analogue synths tend to be faster in this respect than digital ones, and the delays involved are normally fairly constant, although they may vary with the number of notes played. If you have 'golden ears' where timing is concerned, you may find the offset facility useful. This is offered by most sequencers (including *Cubase VST*), and allows you to offset individual tracks in time relative to the others, by adding or subtracting a fixed offset. ▶

> "To achieve perfect sync, both MIDI and audio must be referenced to a high-resolution internal clock."

GENERAL TWEAKS

Although it might be said that *Cubase VST* either works or it doesn't, many people are straining to squeeze the last drop of performance out of their PC, or even desperately tweaking a low-end machine in a struggle to achieve the performance required for reliable operation. Steinberg provide several adjustments in Audio System Setup that you can try, which may help in some cases.

The File Cache Scheme settings adjust the way *Cubase* stores audio from the hard drive before sending it to the soundcard. The Virtual Tape Recorder option is most suitable if you record long tracks in one take, since file caching is not very helpful in this case. The Audio Sequencer option is ideal if you record with lots of short repeated snippets of audio (like drum loops for instance) — caching can then give a healthy performance boost, as the same audio data is likely to still be in the cache, rather than having to be re-read from the hard drive. The final Tape Recorder/Audio Sequencer option is a compromise between the other two settings.

The other main parameter for general tweaks is Priority (again in Audio System Setup), which lets you decide the relative importance of MIDI and audio, as far as timing is concerned. The Normal setting gives equal priority to each, but you can select Low if you use relatively little audio and want to give MIDI more importance. The other two settings, High and Highest, give more importance to audio timing — if you need lots of audio tracks and are struggling, selecting these may help you, but at the expense of MIDI timing and the sluggishness of the user interface. Priority is saved in the DEF.ALL preferences file, and so is set every time you boot up *VST*; other settings are saved on a song-by-song basis — see the *Cubase VST* electronic manual for more details.

Panasonic SV-3800

SEE THE PANASONIC SV3800 AT THESE AUTHORISED HHB DAT CENTRES

ANDERTONS MUSIC CO
Guildford Tel: 01483 456777

BLUE INDUSTRIES LTD
Saffron Walden Tel: 01799 584095

DAWSONS MUSIC
Warrington Tel: 01925 632591

DIGITAL VILLAGE
Barnet, Herts Tel: 0181 440 3440

DIGITAL VILLAGE
Croydon Tel: 0181 407 8444

EDDIE MOORS MUSIC
Bournemouth Tel: 01202 395135

FUNKY JUNK
London N7 Tel: 0171 609 5479

THE GUITAR & AMP CENTRE
Brighton Tel: 01273 676835

THE M CORPORATION
Nottingham Tel: 0115 9474070

THE M CORPORATION
Ringwood, Hampshire Tel: 01425 470007

MUSIC CONNECTIONS
Birmingham Tel: 0121 212 4777

MUSIC CONNECTIONS
Bristol Tel: 0117 946 7700

MUSIC CONNECTIONS
Chelmsford Tel: 01245 354777

MUSIC CONNECTIONS
Chelsea Tel: 0171 731 5993

MUSIC CONNECTIONS
Leeds Tel: 01943 850533

MUSIC CONNECTIONS
Southampton Tel: 01703 233444

MUSIC VILLAGE
Chadwell Heath, Essex Tel: 0181 598 9506

MUSIC VILLAGE
Cambridge Tel: 01223 324536

RAPER & WAYMAN
London N4 Tel: 0181 800 8288

SOUND CONTROL
Dunfirmline Tel: 01383 733353

SOUND CONTROL
Edinburgh Tel: 0131 557 3986

SOUND CONTROL
Glasgow Tel: 0141 204 0322

SOUND CONTROL
Manchester Tel: 0161 877 6262

SOUND CONTROL
Newcastle Tel: 0191 232 4175

SUTEKINA
London WC2 Tel: 0171 836 0127

TURNKEY
London WC2 Tel: 0171 379 5655

HHB

HHB Communications Limited
73-75 Scrubs Lane · London NW10 6QU · UK
Tel: 0181 962 5000 Fax: 0181 962 5050 E-Mail: sales@hhb.co.uk
Visit HHB on line at http://www.hhb.co.uk

THE PANASONIC SV3800 AND HHB DAT TAPE

AN UNBEATABLE MIX

Look in the rack of any major studio and chances are you'll find a Panasonic SV3800. Legendary sound quality, solid engineering and a price tag of just £935 + VAT* have made it one of the most popular professional DAT recorders of all time.

Press 'Eject' and chances are you'll find an HHB DAT Tape.

Independently proven to be the highest performing DAT tape on the market**, leading recording facilities the world over simply won't trust their valuable masters to anything less.

The Panasonic SV3800 Professional DAT Recorder and HHB DAT Tape. An unbeatable mix from leading pro audio dealers.

* Suggested selling price excluding VAT

** Studio Sound 'DAT On Trial'

DAT
Digital Audio Tape

Panasonic DAT Recorders and HHB Advanced Media Products distributed by:
HHB Communications Ltd · 73-75 Scrubs Lane, London NW10 6QU, UK
Tel: 0181 962 5000 · Fax: 0181 962 5050 · E-Mail: sales@hhb.co.uk · HHB On-line: http://www.hhb.co.uk

HHB
DISTRIBUTION

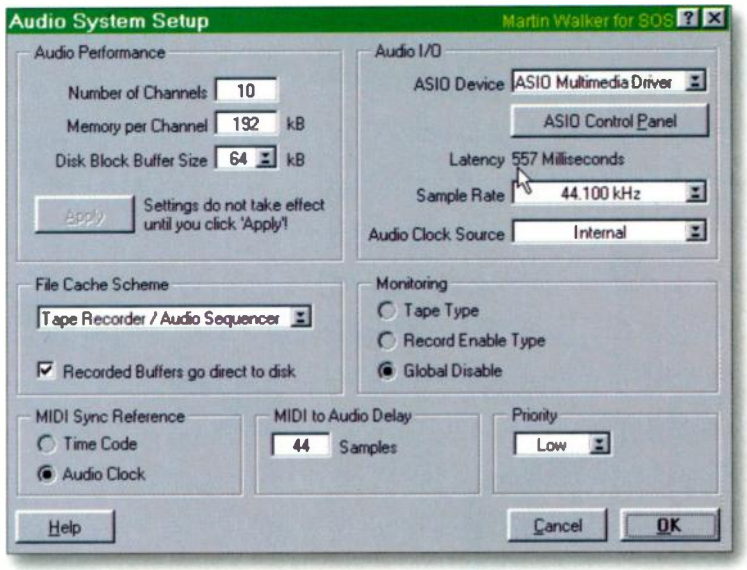


Figure 1: Once you have finished entering the correct parameter values for your particular soundcard you will see a figure for latency in the Audio System Setup window, as shown here. The MIDI to Audio Delay compensates for slow MIDI hardware, and its setting is discussed in the main text.

This can compensate for a noticeably slow MIDI device, although you may find that (apart from drums and percussion) you already tend to compensate for these delays by adapting your performance technique during recording.

So what are typical delay times produced by MIDI hardware? I took measurements of the average time taken to play back a single note. The delay for my DB50XG soundcard averaged out at an excellent 1ms, whilst a selection of external MIDI gear, including a Korg M1, Wavestation SR, and an Akai S2800i sampler, all came in at about 3ms — a more typical figure. Even Seer Systems' *Reality* software synth managed 8ms in Faster Response mode, and 18ms in More Voices mode, despite the fact that software synthesis is a notoriously difficult thing to do in real time. A Roland SC55 and Yamaha MU50 both measured about 6ms, and the Peavey DPM3, which appears to be one of the slowest MIDI devices around, could only manage 10ms (and up to 70ms to play 10 MIDI notes).

Cubase VST has a global MIDI to Audio Delay setting (see Figure 1) that you can use to provide an average adjustment to suit your selection of MIDI devices. If you want to try tweaking this, you need to set up a dummy sequence which plays a short clicky WAV sound at exactly the same time as a short MIDI sound (such as a woodblock). Route your audio outputs to your external mixer, and the output of the mixer back to the inputs of the soundcard. Then set up another *Cubase VST* stereo audio track, and record the audio click to one of the two mono channels of the pair, and the MIDI click to the other, both via the mixer. Now examine the stereo WAV file in an editor such as *WaveLab* to measure the time delay between the audio and MIDI. It is worth doing this several times, as the value will vary a little. Remember that it will also vary between each of your MIDI devices. A value of 44 samples at 44.1kHz sample rate corresponds to 1ms. Dan Duskin's excellent web site (www.instanet.com/~thedusk/) has detailed step-by-step instructions on measuring time delays, as well as a huge range of other tweaks and optimisations for *Cubase VST*.

Since the average soundcard may be called upon to perform several tasks at once — replay audio, run an on-board MIDI synth, and maybe even run a second software MIDI synth as well — timing may be better on some jobs than on others. Some soundcards are also better than others where MIDI interface timing instability is concerned. There is nothing you can do in *VST* to change this, although updated soundcard drivers can sometimes improve matters.

THE LATENT SOLUTION

Another problem is that all Windows 95 audio recording applications have what is known as a latency value; effectively a delay between action and reaction, and a value that depends on buffering. For reliable glitch-free audio operation in *Cubase VST*, each soundcard will need a certain size and number of buffers which in turn determine the latency value. This does not mean that the audio will actually be delayed, just that it is being prepared ahead of the time when it is actually sent to the soundcard for playback — the only time you notice the full delay is when you press the play button, since it takes this long to initially fill up the buffers.

Whilst the audio playback is automatically adjusted to remain exactly in sync with MIDI, there will also be an unavoidable delay on the audio recording side, and if you try to monitor the signal you are recording in real time, particularly if you are applying effects or EQ that require processor time, you will hear this delay. The reason why soundcard-specific ASIO drivers are now so eagerly awaited (as an alternative to the generic ASIO Multimedia driver) is that a specific ASIO driver is much more closely integrated with *Cubase VST* than a driver that goes through the standard Windows 95 MME system, and so the delays that arise tend to be significantly lower. Not only does this make monitoring an audio input with real-time effects more feasible, but real-time items such as channel meters will be far less sluggish,

CUBASE VERSIONS

The first version of *Cubase VST* was 3.50, so named because it was a major update from *Cubase* v3.0, and this was quickly updated with a few bug fixes to version 3.501.The only ones that I noticed were that the Shift+Page Up keyboard shortcut for Fast Forward hadn't worked, and that if the mouse was clicked on the transport bar, the Alt key didn't activate the main menus.

Some people also found that the Save As function was not working in their systems; this was fixed in version 3.502, along with a bug causing problems with ActiveMovie (now known as DirectX) if Microsoft's *Internet Explorer 4* had been installed (*Internet Explorer* arrived after 3.501, so it was impossible for Steinberg to anticipate this problem).

The next major change was the launch of version 3.55, which added optional effect inserts to each audio channel. Previously, setting up in-line effects such as compressors was a bit involved, but they were now easy to add to the audio chain. DirectX plug-in handling was improved, with the ability to selectively disable any plug-in that was only relevant to another package, and support was added for DirectX soundcard drivers. The ASIO Multimedia Setup was tweaked, with the addition of the Check Buffers And Sync option, and the Disable Audio option provided a way to return to MIDI-only operation, without draining extra resources when not using audio.

The most recent version is 3.551, released at the 1998 Frankfurt Musikmesse. The entire driver architecture has apparently been "rewritten and optimised for even more solid synchronisation of MIDI and audio and external devices as drum machines, hardware sequencers or tape or video machines". Steinberg also added the higher quality EQ1 option (originally only provided with *WaveLab*), which extends the normal +/-12dB EQ range to +/-24dB.

New MIDI Controller Unit Available Shortly

KENTON electronics

8 Sliders / 8 Buttons - Call for details

Also, just introduced... CV, Gate & Filter Sockets for the JEN SX1000 & Jen SX2000 YAMAHA CS-01

Pro-4 Now Includes 4Ch Hz/V Card
Pro-Solo Now ONLY £99.99

WORLD RENOWNED SPECIALISTS IN MIDI FOR PRE-MIDI INSTRUMENTS

The One-Stop Shop For All Your Analogue Needs... We Stock...

MIDI-CV Converters / MIDI-DCB Converters / MIDI-Drum Trigger Converters
Synth Retrofits & Retrofit Kits / Socket Conversions & Kits / Thru Boxes / Merge Boxes
Leads / Connectors / Power Supply Adapters / . . . . . And Much, Much More !
For further details of our full product range & price list, call now for a FREE CATALOGUE

PRO DCB	MIDI-DCB & DCB-MIDI polyphonic converter for JUNO-60 & JUPITER 8* Just plug-in & go.Plus aux output (for filter control) with MIDI syncable 9 waveform LFO, clock output for syncing the arpeggiator and Thru socket
£124.90	(*Jupiter 8 must have DCB or OP-8 socket.)
PRO KADI	Versatile MIDI-Trigger Unit - Trigger anything with any MIDI note or patch change 13 polyphonic configurable outputs for drum voice triggering, start/stop cartridge machines, amplifer channel switching, lights, smoke machines etc.
£124.90	Includes DIN Sync 24 socket, programmable clock output jack & Thru socket.
PRO SOLO	This single channel converter features V/Oct & Hz/V, 5 gate options(inc. S-Trig) pitchbend, portamento, transpose, 3 note priorities, single/multiple trigger, MIDI syncable 9 waveform LFO, auxilliary CV (for filter sweeps etc.), sync mode,
£ 99.99	MIDI analyser mode,Thru socket, 3 digit display, non-volatile setup memory.

The New Control FREAK MIDI command centre has Eight 60mm sliders & Eight buttons each capable of sending the following parameters in real-time... *Sysex, Controllers, RPN's, NRPN's, Notes, Pitchbend, Aftertouch, Program Change etc.*
100 User Memories Plus Many Preset Profiles For Popular Synths
Please Call For Further Details. Predicted Price Only £199.99

Pro-2000 Now Drives Up To 5 CV/Gate Synths - Each With Own MIDI Channel !

The Pro-2000 is easy to use & will drive up to 5 CV/Gate synths (plus optional Wasp / DCB / KADI synth) each with their own MIDI channel. Features V/Oct & Hz/V, Gate / S-trig, pitchbend, transpose, portamento, single/multi-Trigger, selectable note priority, 2 LFOs each MIDI syncable with 9 waveforms, 2 CV, 2 Gate & 6 fully programmable outputs (can be CVs, gates, velocities, controllers etc.) Programmable clock out jack (for arpeggiator clocking etc) DIN Sync 24 output, built in MIDI channeliser, MIDI Out & Thru sockets, 7 memories, backlit 2 x 16 LCD display, easy editing & tuning, rugged steel case.
Pro-2000 optional extras: 1U rackmount kit, polyphonic DCB port, KADI/Wasp port Just £229.95

The Pro-4 can run up to 10 instruments & has features similar to PRO-2000 above, but for 4 monosynths. It includes 4 LFOs & 8 auxilliary CVs and a polyphonic mode, extensive control via MIDI sysex, also DCB, KADI & Wasp ports fitted as standard. Din Sync 24 & clock outputs, 1U rackmount case, Out & Thru sockets and much more. Now includes 4 channel Hz/V card as standard ! £499.96

KENTON make MIDI kits for most pre-MIDI synths & drum machines and can either fit them for you or supply them as self-install kits. We also fit & supply socket kits for TB-303, MC-202, SH-101, Prodigy, Odyssey, & many other monosynths, to enable, or enhance their control from our MIDI-CV converters.

All KENTON Products Are Fully Guaranteed
All Prices Shown Include 17.5% VAT

NEXT DAY DELIVERY is available on most items to most parts of the UK and some parts of Europe & USA

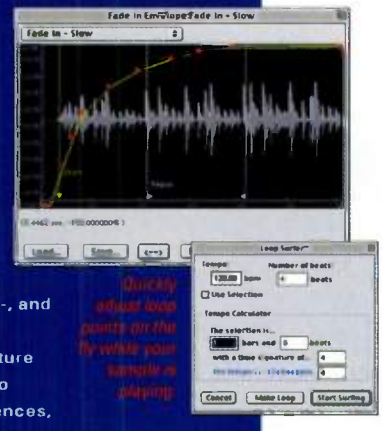
CALL OUR SALES LINE TODAY
0181 337 0333
Overseas Orders & Trade Enquiries Are Also Welcome
12 Tolworth Rise South,
Surbiton, Surrey KT5 9NN, UK
Tel: +44 (0)181 337 0333
Fax: +44 (0)181 330 1060
Email : sales@kenton.co.uk
www: http://www.kenton.co.uk
KENTON electronics

An improved user interface in Peak 2.0 includes a new customisable tool bar and floating palette that gives instant access to the editing tools.

Peak 2.0
The Innovation Continues

Following the success of Peak, their acclaimed audio editing software, BIAS have announced Peak 2.0, a major new version that expands the comprehensive set of audio editing tools and adds some exciting new possibilities to the software that will reinforce Peak's position as the standard for audio editing on the Macintosh.

High end features include:
Real-time Adobe Premiere plug-in access that allows effects to be changed and auditioned while Peak plays. Peak 2.0 also includes access to TDM and AudioSuite plug-ins. DAE support has been provided for direct support for third-party audio cards from Digidesign. SMPTE time code synchronisation is perfect for multimedia and audio-for-picture production and Peak's new QuickTime support allows digitised movies to be imported and synchronised to the audio with better-than-frame accuracy.
Peak has the ability to record, edit and process in 8-, 16-, 24-, and 32- bit resolutions.
The new Playlist feature offers an easy way to arrange audio sequences, apply real-time effects and burn the audio sequence directly to a CD-R recorder. This enables Peak 2.0 to take a project from initial recording, editing, processing to final CD production.



Peak's integrated RealAudio™ support makes it ideal for web users. The new Overview window offers instant markers, regions and loop points.

MacOS **peak**

Peak 2.0 Highlights

- Playlist with CD burning
- Record, Edit & Process in 8, 16, 24 & 32 bit
- DAE support, TDM, Audiosuite plug-ins
- Real Time Adobe Premiere Plug-ins
- Ultra fast audio editing
- Unlimited undo and redo
- Flexible batch File Processor
- Peak integrates with Digidesign, Macromedia, MOTU, Steinberg, Emagic, Opcode and more.
- Support for almost all major samplers

ELECTRONIC MUSICIAN EDITORS' CHOICE
MacUser ★★★★

bias
berkley Integrated audio software

All prices are inclusive of VAT. E&OE

Exclusively distributed in the UK by SCV London, 6-24 Southgate Road, London N1 3JJ
Tel: 0171 923 1892 Fax: 0171 241 3644 email: bias@scvlondon.co.uk web: http://www.scvlondon.co.uk

SCV LONDON

WRH

and will appear more closely in sync with the signals they are monitoring.

Apparently the single biggest cause of *Cubase VST* timing problems is one related to the latency value, in the form of an incorrect Preroll setting — the UK Steinberg helpline reports that upwards of 80% of MIDI timing problems have been solved by changing this value. The System Preroll parameter can be found in the Synchronisation window, and its default value is 250ms (increased to 500ms in later versions). Given that the wrong value can cause so many problems, there is still little in the *VST* electronic manual to indicate its importance (what there is can be found on page 437). So: what is it and, more to the point, why is the default value not suitable in so many cases?

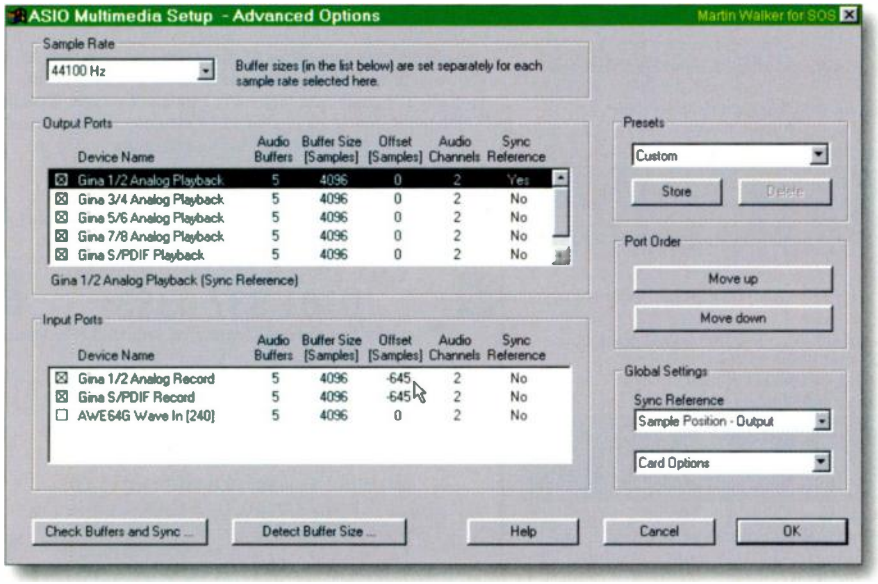


Figure 2: You can compensate for delays between audio input and output by adjusting offsets in the ASIO Multimedia Setup (see also Figure 3).

The Preroll is a buffer used to store MIDI information before it is needed. If enough information has been prepared in advance, it can emerge at a steady rate despite occasional pauses due to other factors in the system. This is very much like the buffer in a CD-R drive, which ensures that the writing process carries on smoothly despite the hard drive pausing occasionally to do other things — as long as there is still data in the buffer, it will continue to emerge at a steady rate, and the processor can top it up as soon as it has finished with whatever caused the interruption.

The most suitable value for this Preroll setting is the same as the latency value, which you can find in the Audio System Setup window (see Figure 2). Since the start of audio playback will be delayed by the latency time, if the Preroll value is shorter than this then the MIDI tracks may start before the audio is ready, with the result that the first part of the audio is missed altogether. By setting its value to at least the same as the audio latency, it can never start before the audio, so both MIDI and audio have time to be totally prepared before the music actually starts. Increasing the Preroll setting still further can occasionally overcome other problems, but you will begin to notice a very sluggish start to your music.

DRIVERS & OTHER PROBLEMS

Your soundcard's software drivers, coupled with the design of the soundcard hardware, may also affect timing. When the program tells the soundcard to start playing back an audio file, there will be a finite delay before any sound is heard. These delays will be relatively small, but again it is possible to measure their size and compensate for them. You can do this by importing and playing back through *Cubase VST* a WAV file of a short, clicky sound, and then re-record this using the *VST* audio input. By comparing the timing of the re-recorded version with the original, you will discover the exact offset caused by the audio passing through the output and then returning through the input. You can therefore adjust the input timing offset (again, Dan Duskin's site has more details on a way of measuring this, and you can see in Figure 3 how my system was improved).

Some of you might think that Steinberg ought to provide an automatic adjustment for these delays, but the fact is they are not under the control of *Cubase*, and the only solution is to measure them as detailed above. For those of you wondering whether it is worth the effort, consider the scenario where you attempt to use external hardware effects with *VST* — unless you compensate for the soundcard delays, the returning 'wet' signal will be slightly delayed with respect to the 'dry' signal, and will therefore give

INTERMITTENT AND SHORT TIMING GLITCHES

These can be caused by an incorrectly adjusted graphics card driver (see the October 1997 PC Notes for more details), or a badly fragmented hard drive, which may spend too much time jumping about trying to read all the fragmented audio segments, such that audio playback becomes intermittent or is interrupted.

Sadly, some older soundcards (or even newer ones without the latest drivers) can cause performance problems. Some *VST* crashes have also been traced to MIDI interface drivers, so make sure you have the latest versions. Peter Buick (author of the *Cubase Power Users Guide*) found that his Pentium 120MHz machine couldn't manage any audio tracks at all with an elderly Aztec 32 Duplex card (which only supports DMA Block transfers), but when he managed to borrow an Event Gina soundcard he immediately got eight playback tracks!

Look under the performance tab of System Properties in Control Panel — if it says 'Your system is configured for optimal performance', then your PC is not using any DOS drivers. If it is, they will be listed, and will affect disk access quite heavily, slowing everything right down. CD-ROM drivers are the worst for this, although happily, most drives now have Windows 95 drivers. The solution is to contact the manufacturer of the hardware that needs this driver, and obtain a Windows 95 version.

The Steinberg web site reports that Ultra DMA/33 hard drives have been found to cause MIDI timing instabilities with certain motherboard/BIOS/soundcard combinations. If you have only experienced problems since installing a new faster drive, there is a fix involving a change to the plug and play Configuration page in the BIOS that has helped some people. Full details can be found at the Steinberg UK site at dialspace.dial.pipex.com/town/road/gbp97/.

Finally, don't blame *VST* if your system becomes a little 'clunky' when you try to run too many plug-ins — the amount of processor power used by these is independent of *VST*, and depends solely on the plug-in and your CPU speed. One thing to watch out for is that the *VST* Performance window indicates total CPU power available, and not just that available for *VST* alone. You should try to keep this below about 70%, or you may experience bad audio glitching.

Realise the full POWER of your SOFTWARE

Steinberg

with

LDI-12T 12-channel interface

LEXICON STUDIO

A suite of hardware tools that let you get the most from your software with:

Superior Sound
High quality 24-bit A-D converters.

Lexicon Effects
Dual lexichip architecture. PCM 90 reverbs algorithms.

System Acceleration
Gives your computer the speed to tackle complex audio processing.

Synchronisation
Wordclock BNC, SPDIF, ADAT optical and SMPTE timecode.

Open Architecture
A multiplatform future-proofed investment that currently runs with Cubase VST for PC (the same hardware will also be supported on Mac and with further software platforms).

LDI-16S 48 input and 56 output fully assignable channels

PCM-90 style digital reverb

Lexicon

http://www.lexicon.com

LEXICON STUDIO

SPECIAL DEMO DAYS AT THESE DEALERS

Monday 1st June
Active Sound, Watford
01923 246262

Tuesday 2nd June
Turnkey, London
0171 379 5148
Media Tools Pro Div – 0171 379 3555

Wednesday 3rd June
Music Lab, London
0171 398 5392

Thursday 4th June
M Corporation, Ringwood
01425 470007

Friday 5th June
Musical Exchanges, Birmingham
0121 248 5866

Saturday 6th June
Dawsons, Warrington
01925 632591

Tuesday 9th June
Andertons, Guildford
01483 456777

Wednesday 10th June
Marcus Music, Belfast
01232 322871

Thursday 11th June
CTI, Dublin
00 353 1 454 5400

Monday 15th June
Eddie Moors Music, Boscombe
01202 395135

Tuesday 16th June
M Corporation, Nottingham
01159 474070

Wednesday 17th June
KGM, Leeds
01924 371766

Phone for times and further information

Kimberley Road, London NW6 7SF Tel: 0171 624 6000 Fax: 0171 372 6370
Internet: http://www.stirlingaudio.com • e-mail: sales@stirlingaudio.com

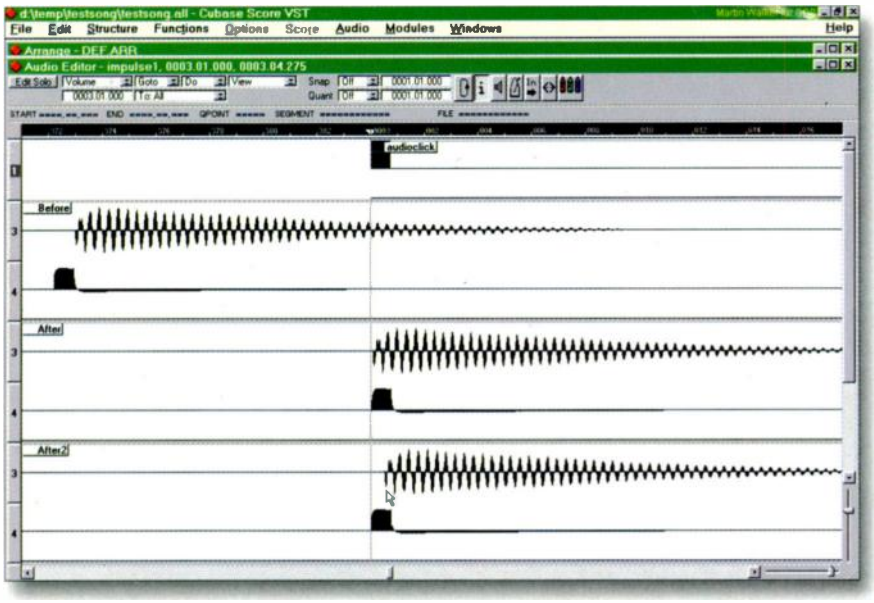


Figure 3: The top track in this window, the Audio Editor, shows the 1ms WAV file click that I used for playback testing. Beneath this, the 'Before' waveforms show the 15ms pre-delay that I measured when re-recording this click back into the VST audio input, along with a synchronised MIDI woodblock sound. After adjusting the MIDI to Audio Delay (Figure 1), and the input offset (Figure 2), 'After' shows how everything is now perfectly in sync with the original audio click. However, 'After2' shows the variance of MIDI hardware timing — this next recording shows that the MIDI delay has changed by about 1ms. There is nothing that can be done about this.

▶ an additional slapback delay which you may not want. Remember that this measurement only needs to be repeated if you change your soundcard (and possibly your soundcard drivers), since *VST* compensates internally for its own delays.

LONG-TERM DRIFT PROBLEMS

If you want to run another audio recorder (such as an ADAT or an analogue tape machine) alongside *VST*, you will need to consider how to keep them synchronised. Normally, the clock for digital audio is provided by the soundcard hardware, and *VST* slaves the MIDI playback to this — you just select Audio Clock in the Audio System Setup window under MIDI Sync Reference.

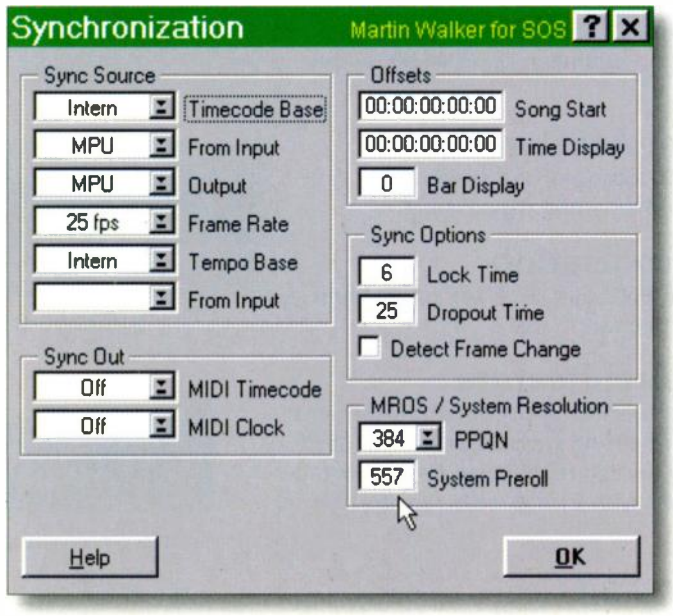


Figure 4: Having noted down your latency figure from the Audio System Setup window (see Figure 2), go to the Synchronisation window and change the entry for System Preroll to exactly the same value. This alone will cure many timing problems (see main text for more details).

If you want to sync MIDI to incoming MTC (MIDI Time Code), however, in order to reference to an external recorder, you select the MTC option instead. The audio will still start at exactly the right place, but it will probably drift out of sync as playback continues, since its internal hardware clock is entirely unconnected to MTC. You may be able to work like this on short pieces, though it is not really a good idea since the audio playback is effectively 'free-wheeling'.

This is the cause of most long-term drift problems, along with attempting to run several soundcards at the same time without any form of hardware sync between them. In this latter case, you are totally dependent on the stability of each of the soundcard internal clocks; some people have managed to run for several minutes without noticing any drift between them, and using two cards of the same make or model certainly helps.

To sync both MIDI and audio to an external source, you need a hardware sync signal for the audio, which means an appropriate digital signal input to the audio soundcard. The best solution is word clock, but some soundcard drivers offer a similar facility from an S/PDIF digital audio input. With multiple soundcards, you should lock the cards together — as an example, the latest version of the Event Gina/Darla drivers permit this by connecting the S/PDIF output of the first to the S/PDIF input of the next, so that the clock for the second card is provided by the first.

SUMMARY

Personally, I haven't had any major problems with *VST* on my Pentium 166 MMX system, but I can think of several reasons why this is so: firstly, I use a Gina card (other users have reported miraculous cures for their system problems as soon as they have installed one); I rarely use more than three or four audio tracks (most of my music is still MIDI-based); and I visit the Steinberg web site regularly and implement all the settings they recommend. The most annoying problem (which still crops up occasionally) is that the audio playback disappears altogether. I have still not tracked down the cause, partly because there seems to be an easy cure if this happens — go into the Audio System Setup window, change the Number of Channels (any different number will do), click on Apply to make this take effect, change the Number of Channels back to what it was before, and click Apply again. This hasn't failed me yet, although it doesn't make the problem any less annoying.

It does seem that most *VST* users with a Pentium 166MHz or better are achieving at least eight audio tracks, and that most of the reported MIDI timing problems are cured instantly when the Preroll value is set as recommended. The remaining problems seem to be largely caused by rogue soundcards or MIDI interfaces, or indeed by their drivers. Try to make sure that any card you buy supports Sample Position (most modern ones do), since this makes the sync between audio and MIDI a lot easier to achieve. SOS

The single source supplier

NEXT DAY DELIVERY NATIONWIDE

Acoustic Analysers
Acoustic Treatment
A.DAT Tapes
Amalgamating Tape
Amplifiers

Batteries
Books

Cable
Cassettes
CD Players
CD-Rs
Compressors
Connectors

DAT
DI Boxes

Effects Units
Equipment Stands
Fibre Optical Leads
Fish Poles
Floppy Discs
Fuses

Glands
Goosenecks
Graphic Equalisers

Headphone Amps
H/Phones/Headsets
Heatshrink

Infra Red H/phones
Isopropyl Alcohol

Littlelites
Leads
Looms

Microphones
Mic Stands
MIDI Accessories
MiniDiscs

M/Disc Recorders
Music Stands

Patch Cords
Patch Panels
Phantom Power
Plastic Spools
Plugs
Pop Screens
Porta Studios
Power Amps
Pre Amps

Racks Lights
Racks Strip
Racks Trays
Radiomics
R-DAT Tapes
Reverbs
RFI Filters
Roadcases
Rockwool

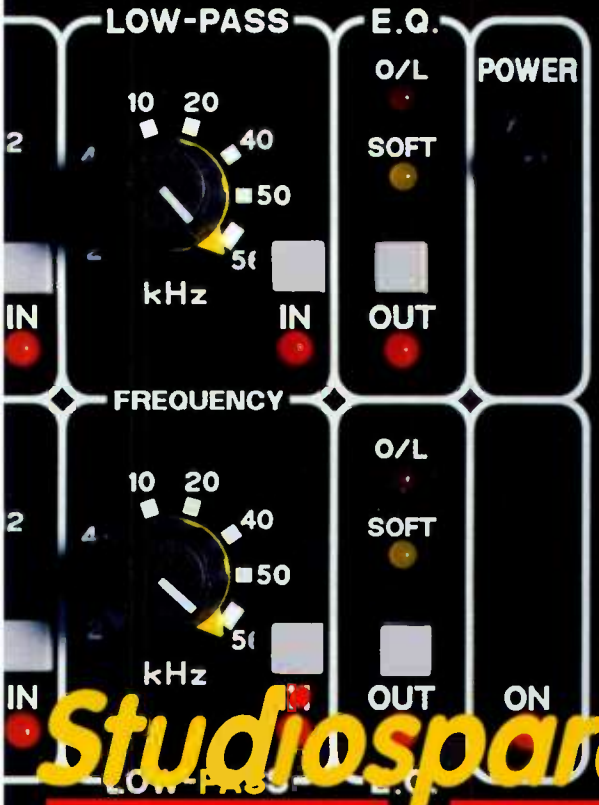
Sleeving
Snakes
Solder and Irons
Speakers
Stack Rack
Stage Boxes
Strato Rack
Syquest Discs

Tape
Tape Recorders
Tools
Transformers
Turntables

Vent Panels

Wall Boxes
Windshields

Zimmer Rack
Zip Drive Carts



DRAWMER 1961

VACUUM TUBE EQUALISER

Studiospares make things better

61-63 ROCHESTER PLACE, LONDON NW1 9JU
tel 0171 485 4908 fax 0171 485 4168

STUDIOSPARES DEUTSCHLAND GmbH
195-7 KÖLNER STRASSE D-50224 FRECHEN KÖLN
tel 02234 922 710 fax 02234 922 715

Please send the new 150 page free catalogue to

NAME .....

ADDRESS .....

.....

POST CODE .....Sound On Sound 6.98

the m corporation

HARD DISK RECORDING

Mackie Hui Bringing total control to your ProTools and TDM system, this external controller comes complete with motorised faders, jog shuttle, transport controls as well as to adjusting DSP parameters in realtime.....

We supply the complete Digidesign range including Samplecell II, Audio Media III and Protools S/W as a bundle

Pro Tools 24 has landed. Properly configured this offers
- True **24 bit** audio performance
- Up to **32 tracks per card**
- Up to **72** channels of discrete analog and Digital I/O
- Complete **Dynamic control** and recall,
- Exceptional signal routing flexibility,
- **MIDI** integration
- Integrated **Digital mixing and DSP** environment
- Comprehensive **sync** facilities
- Optional control via Mackie HUI

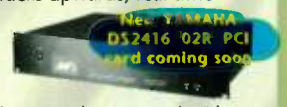
Pro Tools 24 is amazing, but to get the best out of it you need to speak to a specialist.. CALL US TODAY

Any hard disk recording systsem is only as good as the A/D and D/A convertors that bring audio into the

digital domain in the first place. Why not invest in a dedicated converters that will set your sound apart such as the acclaimed Apogee AD8000

Get yourself plugged in with Focusrite D2, D3, D-Fi, Vocalalign, TC Tools, Hyperprism, Waves, Truverb, Qsound, DVerb and the new Aphex and Lexicon plug-ins & new PCI Expansion Chassis

Soundscape V2. 8 tracks upwards, real time digital EQ, digital mixing. Expandable up to 128 tracks, Timestretch Option, Removable Drive Option, Accelerator card with TDIF and 8 channel I/Os with ADAT i/f options As the Top Soundscape dealer for 1997 we call tell you more about it than anyone else..... **CALL US**



Ensoniq PARIS...
At last, this truely affordable, cross platform 128 track 24 bit digital audio workstation with PCI card, EDS1000 controller and plug-in expandability is with us and available in 3 variations. You'll love PARIS in the spring summer, autumn and winter!

Audiowerk8 Home studio kit..PCI card, 8 out, 2 in, stereo dig I/O & **FREE logic Audio discovery 3.0** - 16 tracks of audio & realtime effects! **Opcode Studiovision** for PC, **Cubase VST, Score & Audio** Mac,PC

Emagic Logic 3/ SL extension Mac & PC ..... In stock

Event Layla ... Incredible Cross-platform PCI card with rackmount interface, 8 ins, 10 out analog (20 bit A/D and D/A), SPDIF, onboard DSP, word clock and MIDI..... CALL

Also available Darla and Gina

Mark of the Unicorn 2408 ... Remarkable cross platform PCI card and interface giving 24 independent inputs and outputs, 24 channels ADAT, 24 channels TDIF, 2 channels SPDIF, 8 channel analogue, 16 or 24 bit recording, word clock includes Software

NEW

Midiman 2044.. 4 ins, 4 outs for just £249m... new drivers allow 2 card sto be used at once.
Korg 1212 ...Versatile, Multichannel PCI card with 2 analog I/Os, SPDIF & ADAT I/O
Pinnacle... Soundcard with Kurzweil sound engine, up to 48Mb of sample RAM
Steinberg Wavelab...professional audio sound processor & database.....**In Stock**
SoundForge 4.0 .....Features include p/graphic eq, sync support , multilevel undo/redo & more.

MICS

Rode NT2....professional condenser mic, gold plated diaphragm, 10dB pad & bass roll off, Pro studio quality for less than £500.
Rode Classic....Versatile valve mic in an aluminium flight case
Rode NT1.. Stunning inexpensive condenser with gold sputtered diaphragm.... Call to arrange a demo

Available on our 7 day loan Service

AKG Solidtube... This new mic makes classic, warm **tube vocal** sounds attainable in every studio AKG **C3000** & **C1000** in stock and available for over night delivery

Microphones also from Neumann, Sennheiser, Earthworks, Audio technica, Beyer, Shure, Bruel & Kjaer and many others

SYNCS & INTERFACES

Mark of the Unicorn Miditime Piece AV Features all the best of the Midi Timepiece II plus a host of sync facilities including **Digidesign Superclock**, ADAT sync and **Video Genlock Call for more details of this and incredible Digital Timepiece which crams a huge number of syncing facilities into a 1U case.**

• BRC • CUEPOINT •
UNIVERSAL/VIDEO/SMPTE SLAVE DRIVER
• PPS 2 • PPS 100 • ACI • AI2
• VIDEO SYNCMAN • MIDIMAN •
• EMAGIC UNITOR 8 • OPCODE STUDIO64X
• OPCODE 64XTC • OPCODE 8 PORT SE •
SYNCMAN • DATASYNC II • DATAMASTER

Can't make up your mind? Call one of our experts for some free, friendly advice. We look forward to your call.

COMPUTERS

G3 is here!
The amazing new Apple G3 machines have landed bringing faster processing than ever before and a 'mid-range' price! Already **on demo** here running **Protools 24**

Call now and speak to one of our PC experts - We are able to supply fully configured PCs to suit your requirements as well as advice and technical support on soundcards, upgrades and compatibility

EDUCATIONAL DISCOUNT
We supply a great many educational customers with everything from DAT tapes to complete studio design. Call us to register on our educational mailing list and receive limited offers and our regular newsletter 'Outout'

We are a registered Apple reseller and have the full range of Power Macintoshes available inc configurations of the 9600s, 8600s and G3 machines. These can be Configured, inhouse, to your specific needs with any card s and software that you require be it the Korg 1212 or similar PCI card, additional drive or **Logic Audio** or **Cubase VST 3.5**

• 24hr CD-R Service •
• Studio Sessions •

• Pro Tools Editing •
• Mastering •

• Installation Service •
• Training •

THE M CORPORATION - YOUR PARTNER IN PRO-AUDIO

0115 947 4070

The M Corporation
Midlands Regional Office
Alfred Street North
Nottingham NG3 1AA
Fax 0115 947 5050

DEDICATED HARD DISK

Fostex D90... Simultaneous 8 track recording & playback with caddy held IDE hard disks

Fostex D160.16 bit, CD quality format,16 track recording & playback with ADAT digital interface, 8 ghost tracks and SCSI backup

Roland VS-1680 ... 24 bit, 16 tracks, instant recall FX & EQ, huge display, dynamically allocated disk space

NEW

NEW

Korg D8 ...12 channel, 8 track hard disk recorder with edit facilities, built in drive, drum rhythms, 16 bit, 44.1KHz, FX and more

Fostex DMT8 VL..Built in IDE drive and mixing facilities, parametric EQ, digital outputs, cut & paste editing, built in MIDI time sync.....available for demonstration

Roland VS880 .... Compact 8 track HD recording, 64 virtual tracks, 14 mix channels, 8 buss routing etc

Roland VS840 ... Most of the features of the VS880 plus zip drive and more all at an incredible price..... CALL

AKAI DPS12 ..... 12 track digital multitrack has much to offer including a 1Gb jaz drive, 250 virtual tracks, powerful editing, snapshots mixer memory, 20 channels at mix down & optional FX

AKAI DD8 .....
This incredibly versatile machine offers powerful track layering features ideal for dubbing facilities when used in the conjunction with the **DL1500 controller** and pristine digital audio whether used with or without DL1500

Akai DR8 and DR16...Superb 18-bit AD/DA conversion. Jog shuttle. locate points. Extensive sync options. Optional EQ board, ADAT I/F and much more! **Call for more information**

Tascam MR8..... New Digital Dubber out soon!

Fostex FD4... 4 track hard disk.....Coming soon

NEW

Yamaha MD8... Putting the WOW into digital multitrack by squeezing 8 tracks onto the humble minidisc

Yamaha MD4..The first of the Minidisk multitrack recorders with instant access, editinmg facilities and no wow and flutter.

Sony MDMX4 offers 37 mins of recording at 44.1KHz, on a 74 min disc, 6 channels and 2 aux.

MIXING CONSOLES

Tascam TM-D8000... Digital desk with instantly familiar 'uptop' controls, and extensive interfacing making this the digital desk for recording engineers.

Yamaha O2R... Digital mixing with motorised faders and automation

Yamaha 01v... Another new mixer from Yamaha with 24 inputs inc 8 digital, motorised faders, 14 outputs, automation over MIDI, internal FX & 02R EQ and dynamics

Spirit 328 ... NEW 42 input, 8 bus digital console refer an analogue desk but want the facilities of a digital desk. Includes motorised faders, 2 ADAT and 2 TDIF interfaces, 16 mic/line inputs and built in Lexicon effects

NEW

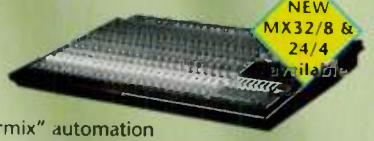
Mackie CR1604 VLZ....four submaster buses, 16 studio grade mic preamps, swept mid EQ, AFL/PFL solo, signal present indicators, & more.....

Mackie's 1202 VLZ..3 band EQ, balanced XLR outs

Mackie 1402 VLZ.. Phantom powerable mic inputs, Mackie quality pre-amps, 60mm faders

Behringer Eurodesk is now available with"cybermix" automation

NEW MX32/8 & 24/4 available



Behringer Eurodesk MX8000....24/8/2, superb EQ, 6 stereo aux returns, 48 channels mixdown

Behringer Euro-racks... New 2642 and 2804 configurations of these compact and cost effective mixers combining mono and stereo channels, 3 and 4 band EQ, LED metering and solid construction

Studiomaster ... Full range of desks available

Check out our web-site www.m-corp.com

PRICE CRASH

Yamaha 03D...Yamaha 's compact digital mixer range offers 02R functionality at an new and unbelievable price .....CALL US

Yamaha Promix01 ....NEW LOW PRICE

NOW ONLY £729!

Korg 168 Digital Mixing desk... 2 ADAT I/O, 8 analogue ins, 2 effects processors, 3 band EQ, SPDIF, automation over MIDI

We can supply the range of Soundtracs desks that now includes the new all singing all dancing RX-8 range and the incredible Virtua desk with configurations to suit all needs

We supply the Soundcraft and Spirit range including the amazing **Ghost** in-line console

RECORDING SERVICES
As well as supplying equipment, we also use it. Recording, editing, mastering and CD cutting are all available in house.

Spirit Folio SX...20 inputs, 12 mono, 4 stereo, 3 band eq, 3 auxs, direct outs on 8 mono channels, 60 dB gain on mic inputs & loads more Call for new low prices on Spirit Studio 16:8:2 and 24:8:2

MULTITRACK RECORDERS

NEW ADATS

Alesis Adat LX20.....The lowest ever costing ADAT is no compromise, offering full 20 bit performance, 5 locate points and ADAT II machine compatibilty

Alesis XT20 ... Direct replacement for the XT, Offering 20 bit ADAT II format and 44.1 or 48KHz

Alesis M20 (Meridian).....New high spec. 20 bit ADAT II format, built in timecode, analogue aux track, multispeed jog/shuttle and much more

Tascam DA38.....108 minutes recording time, 44.1Khz & 48Khz, un/balanced analog inputs, int digital routing & bouncing!.....New Low Price

Tascam DA88.....post production quality, digital linear 8 track, over 100 minutes recording time.

Tascam DA98.....New flagship to the range featuring an improved transport plus on board MMC and Sony P2 + LCD screen

• CD-ROM Service •
• Friendly Service •

• Technical Support •
• Loan Service •

• The Best Advice •
• The Best Prices •

WHEREVER *YOU* ARE, WE ARE JUST A PHONE CALL AWAY

The M Corporation
Head Office & Mail Order
The Market Place Ringwood
Hants BH24 1AP
Fax 01425 480569

01425 470007

the m corporation

SYNTHESIZERS

Product of the Month

AKAI DPS12

The incredible, compact, Akai DPS12 offers 12 tracks of uncompressed 16 bit digital audio on removable jaz media... A feat in itself, but when you add excellent digital EQ snapshots memories and automation over MIDI, the possibilities seem limitless...

- 6 mic/line inputs
- 12 tracks of Dig audio
- 250 virtual tracks
- Nondestructive editing
- Jaz drive media
- Optional fx board
- 20 Channels at mixdown
- Analog and Digital stereo outputs

DAT

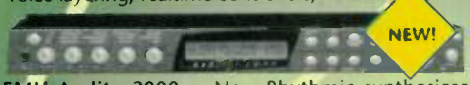
Panasonic SV3800.....exceptional sonic quality, multiple digital interfaces, shuttle search.....CALL

Tascam DA20 MK II Improved error correction and transport, SCMS defeat function, 2 heads, 32, 44.1& 48KHz sampling rates and a lower price it's predecessor!

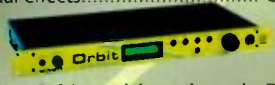
Tascam DA30 MKII.....the price has never been so low! 44.1, jog & shuttle wheel, balanced I/O, AES & SPDIF.....One of our best selling units

Sony DAT players....we have the largest selection of DAT machines including the **TCD-D100** portable, **DTC-A8, PCM R300, PCM R500 & PCM R 700s Tascam DAP1, Fostex D5 & D15** always in stock **Mini Disk**, and **Cassette** recorders available for budget mastering

Emu E-Synth...16Mb soundset, 76 note KB, on board E4 sampler, 64 voice poly, 64 dig filters, 32 voice layering, realtime controllers, 48 track seq.



EMU Audity 2000.... New Rhythmic synthesizer with 16 channel arpeggiator/rhythm genrator and dual effects..... Call for more details



Emu Orbit and launch pad...Dance module with E4 filters and over 600 samples,

Emu Planet Phatt...640 presets, 32 note polyphony, MIDI synced LFOs, 100 drum loops

Roland JX-305 "Groovesynth"
- MC505 sounds +
- Phrase sequencer
- Arpeggiator
- 9 realtime knobs

- 512 dance sounds
- 28 kits

Roland XP-60..
- 16 track 60,000 note sequencer
- 3 FX processors
- 61 note keyboard
- Advanced arpeggitor
- Phrase sequence
- MMC compatibility
- Takes up to 4 JV-2 expansion cards

Roland SC-880
- 32 part multitimbral
- 64 voice polyphony
- 1117 internal tones
- Computer terminal
- Full MIDI specification
- 5 FX processors

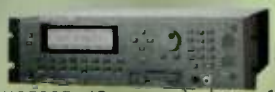
Roland JP8000.. "Vintage synth" with Roland's classic analogue modelling in the digital domain..

Roland .MC303, MC505, SC88 Pro, XP10 & XP80.....CALL FOR THE BEST UK DEAL

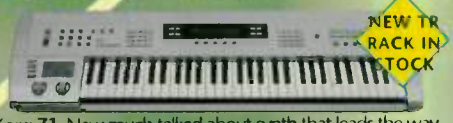
Roland JV2080..... Expandable synth module with 3 independent FX sets and 8 expansion slots!

CALL FOR MORE DETAILS

Roland JV1080.. We can now offer the 'Industry standard' expandable module at a NEW LOW PRICE



Kurzweil K2500R..48 note polyphony, 192 oscillators, dual SCSI ports, 32 track sequencer, digital I/O, up to 128Mb RAM, optional digital multitrack I/F & sampling.
Kurzweil K2500.. 76 and 88 note version Keyboard versions of the above also available from stock



Korg **Z1**..New much talked about synth that leads the way for a whole new generation of synthesizers

We stock the entire **Korg** range including the **Trinity** and **Prophecy, NEW TR Rack** and **N5**

Korg NS5R.....
64 note polyphony, 32 channel multitimbral, 1049 programs and 128 RAM programs, GM compatible and it's expandable!

Korg N264 and N364.....loads of features! CALL!!

Yamaha AN1X..... .....Call
CS1X .....also available

Yamaha EX5/EX5R.....
128 voice polyphony plus analogue modelling, 6 realtime controllers, expandable sampler, optional SCSI i/f..... **CALL FOR MORE DETAILS**

Yamaha MU100R...Incredible GX module with 1500 normal voices, 45 drum kits + VL virtual acoustic sound source with 256 presets, A/D inputs, 7 FX processors, host connector

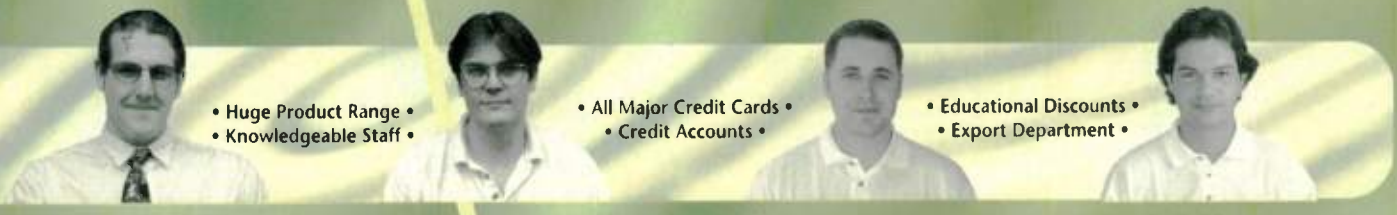
Yamaha VL70m.Physical modelling synthesis.
Akai SG01V, SG01P & SG01K modules all available from stock..... ..... **Call Now**

Novation Drum Station.classic TR808 & TR909 sounds, extensive MIDI spec, up to 12 note polyphony, 4 assign banks.....**LOWEST UK PRICE**
New Superbasstation and drumstation .....**Call**

Whatever you needs, we stock a range of piano modules such including **Kurzweil Micropiano, Yamaha P50, Akai SG01p, Alesis Nanopiano and the Korg SG** module giving you access to just about any piano related sound you'll need ..... **CALL NOW**

EXPORT DIVISION
Join our many customers in Europe, Africa, Asia and the USA. We will arrange documentation and shipping anywhere in the world.

K2000s and K2000Rs available from stock fully upgradable with RAM, P-RAM, ROM 'Blocks' and sample options to your requirements on site



- Huge Product Range •
- Knowledgeable Staff •
- All Major Credit Cards •
- Credit Accounts •
- Educational Discounts •
- Export Department •

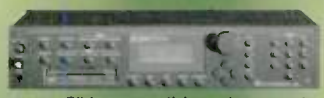
AS THE DIGITAL AUDIO REVOLUTION CONTINUES WE CAN HELP

0115 947 4070

The M Corporation
Midlands Regional Office
Alfred Street North
Nottingham NG3 1AA
Fax 0115 947 5050

SAMPLERS

Emu ESI4000..64 voice, 4Mb, 4outs .Call for more info



Emu ESI32 ...32 voices, filters, time comp, EIV compatible... demo unit available

EMU Calamari expansion board for ESI32.... 6 analog outs, Digital I/O and 24bit dual f/x processor expansion board

Emu E4K Kybd, E4XT and E6400 in stock

Roland SP-808 Groove sampler./hard disk recorder with 8 tracks and 16 assignable pads per bank. Built in Zio drive, On-board effects, dual D-beam controller, 3 control knobs

Yamaha A3000... 64 note poly, upgradable to 128Mb, In built effects i, 4 band EQ, , digital input option, stereo output and assignable outputs...

AKAI MPC2000 Simply one of the most creative pieces of equipment that you can put in your studio! Sequencer, Up to 6 minutes of sampling. 16 pads make it easy to add subtlety to your programming .. **Call**

Akai S20.....**budget sampler** .....**CALL**

• S2000 • S3000XL • S3200XL • CD3000XL

We offer the entire Akai range of *drive options* all *upgrade options*, the best *service*, the best *support* the *lowest prices* & all upgrades done in house. Call our product specialist now!

Exclusive AKAI deals

AKAI CD3000XL/.S3000XL... We are able to offer the best prices on these units in the configuration of your choice. CALL FOR DETAILS

Hard drives, Simms and flash ROM available from stock and fitted on the premises Free of Charge

MONITORS

Soundcraft **Absolute 2s**..... still one of our best selling monitor systems, **call now** for the very best deal across the UK. Also check out our prices on the **Absolute Zeros** and **Absolute 4ps**

Alesis Monitor 1 .....
Popular compact monitors ....CALL

Spendor and Tannoy monitors in stock and available for demo including the shielded Tannoy Reveal monitors and the system 600 nearfield reference monitors

Mackie HR824..Powered monitors with good stereo imaging, and variable frequency tailoring to suit your room.
PMC TB1S..... **CALL FOR DETAILS**

MANY WAYS TO PAY
Choose whichever option best suits your needs, we accept Cash, Cheque, Bankers Draft, Credit Card, Switch, or we are more than happy to arrange Personal Finance, Leasehire or a free 30 Day Credit Account

We have the stunning **Genelec 1029**s in stock as well as the **1030**s, **1031A**s and the **1092 subwoofer** system. Call us now to discuss your particular requirements or to arrange a personal audition.

Dynaudio Call for a demo of the Dynaudio BM5s and BM10s BM15s and NEW BM6A in one of our studios

AMPLIFIERS

DEALS, DEALS, DEALS,

Bend Me, Shape Me

FLEXTONE PLUS 100 WATT STEREO GUITAR AMPLIFIER

Line 6 claim to have put physical modelling technology into a combo amplifier that any guitarist will feel immediately at home with. PAUL WHITE puts their claims to the test.

You may not have heard of American company Line 6, but it is an organisation with impressive credentials. It's headed by Marcus Ryle and Michel Doidic, a team which, over the years, has been involved in the design of Oberheim's synths, the Alesis ADAT and the Alesis Quadrasynth range, as well as many other high-profile music products. Now they look set to scale similar heights in the guitar amp market under their own company name, sidestepping the solid-state versus valve argument by using software physical models as an alternative to either technology.

Their new range of physically modelled, DSP-powered guitar amplifiers purports to offer all the classic amplifier sounds, along with effects and reverb. This is obviously attractive to the gigging player who wants to be able to switch between several different sounds during the course of an evening, but the fact that the stereo headphone outlet (which includes a speaker simulator) can also be used for DI recording makes these amplifiers very useful in the studio. Line 6 are also doing a TDM software equivalent for Pro Tools system users.

The first amplifier from Line 6 was the AxSys 212, a fully programmable beast capable of emulating a number of leading amplifiers and speaker cabinets, complete with fully programmable effects. The 212 is a great amplifier — in fact I use one myself — but it isn't particularly pretty, and the number of editable parameters it offers may frighten off the more traditional guitar player, even though it's actually very easy to use.

LOOKS FAMILIAR

Under review here is the Flextone Plus, one of a series of three new amplifiers comprising the 60W 1x12 Flextone, the 100W stereo 2x10 Flextone Duo and the 100W 1x12 Flextone Plus. The Flextone Plus is actually a stereo amplifier but normally operates in mono via its internal 12-inch speaker, unless an extension speaker cabinet is used. Without the extension speaker, the power is limited to 60W, whereas connecting the external speaker produces up to 50 Watts per channel. Having an extension speaker rather than two speakers in one cabinet produces a wider stereo spread, but even with only one speaker a stereo recording output is still available via the phones jack. The preamp used is essentially a computer/DSP engine with a 24-bit analogue-to-digital converter on the input, while the power amps are based around dedicated ICs, of the type used to power large in-car sound systems.

Looking like a cross between a Fender Deluxe and a Vox AC30, the Flextone Plus appears very much like any other guitar amp, right down to the controls. The usual Drive, Channel Volume and Master Volume controls are on traditional knobs, as are the Bass, Mid and Treble tone controls, plus Reverb Level, but two rotary switches, seven push-buttons and a knob labelled Effects Tweak signal a definite departure from conventional guitar amp design. Between the Master Volume knob and the Drive control is a 16-way rotary switch used to select the amp model you're listening to, while another 16-way switch provides a choice of effect type.

MCD 100

WITH THE WORLD'S FIRST DIGITAL MICROPHONE EMPLOYING STATE OF THE ART TECHNOLOGY,

M 58

BEYERDYNAMIC EXTENDS IT'S RANGE OF BROADCAST QUALITY PRODUCTS, INCLUDING

DT 280 HEADSET

THE WORLD'S SMALLEST LAPEL MICROPHONE.... REDEFINING TRANSDUCER TECHNOLOGY.

MCE 7

CALL US TODAY.
LEARN MORE ABOUT THE
COMPANY THAT SETS THE
STANDARDS BY WHICH
OTHERS ARE JUDGED.

beyerdynamic

Germany
Tel. 071 31 617 0
Fax 071 31 604 59
e-mail: beyerdynamic@t-online.de

United States
Tel 516. 293.3200
Fax 516 293.3288
e-mail. beyerUSA@cris com

Great Britain
Tel. 01444 258258
Fax 01444 258444
e-mail: sales@beyerdynamic co uk

France
Tel 1. 44 09 93 93
Fax 1. 44 09 82 33
e-mail beyerFrance@compuserve com

"The Flextone amps are extremely loud and punchy when required to be. Indeed, if you didn't know differently you'd probably swear they were valve amps."

PHYSICAL MODELLING

The Line 6 design team studied and measured both individual valve amp gain stages and complete amplifiers from a number of manufacturers, then set about designing DSP signal algorithms that would have exactly the same effect on a guitar signal as the real amplifiers. These models include emulating the EQ frequencies and ranges of the original amp types, right down to the interaction between EQ controls, as well as the touch responsiveness of amplifiers, where playing the guitar harder makes them overdrive more. (For a complete list of the amplifiers modelled, see the 'Model Performer' box.) All the amps that originally had built-in spring reverbs are given a spring reverb effect, whereas all the others get a room simulation reverb.

When the Manual button is active and illuminated, the amp behaves like any other — the controls do as their position indicates and the amp model is the one selected by the rotary Amp Models switch. It's also possible to dial up one of 15 effects or effect combinations independently of reverb and to control one parameter of the effect via the Effects Tweak knob. The effects are mainly delay-based and include hybrid chorus delays, where the delay time/modulation rate can be set up using a Tap Tempo button on the control panel. Traditional effects such as Tremolo and Chorus sit alongside Compressors and Rotary speakers, and a nice touch is that although only the delay time and intensity is editable, the feedback amount is automatically adjusted so that slower delays have more repeats.

Though there's no display, no MIDI and no elaborate programming system, it's possible to set up four 'snapshots' of the control settings, for instant recall, using four buttons labelled A, B, C and D. Pressing Store, followed by one of these buttons, then Store again, saves all the amp settings other than the Master Volume level. When a stored patch is called up, the controls will no longer match the selected parameters, but if you hold down the Store button and watch the LED on the Manual button, you can turn the controls one at a time until the LED indicates that they match their stored values.

Using the optional Floor Board pedalboard, it's also possible to access further amp setups and to add a wah-wah pedal to your repertoire (see 'Floor Board' box). The Floor Board (or the smaller optional FB4 channel selector footswitch) connects to the amp via the included networking cable. Unfortunately, there's no basic footswitch socket for bypassing the effects section, which would have been useful for players needing only minimal control.

In order to keep the amplifier reasonably quiet, there's a built-in noise gate that shuts out low-level hum and buzz from the guitar when it's not being played. You can't adjust this gate, but you can bypass it, if you prefer, by holding down Tap Tempo, then selecting Bypass on the Effects switch. Though it's fine for heavier styles, the noise gate can be a little too eager to shut down if you like playing with the guitar volume control at any position other than maximum, so leaving it off may be a better option for some players.

THE SOUNDS

The Flextone Plus may not be as versatile as my AxSys 212, but it allows you to set up a sound incredibly fast, and the palette of tones on offer should cover most styles, from hard rock, through blues, to jazz. Line 6 have managed to capture the low-end thump and touch sensitivity of a real valve amp remarkably well, and though the real thing is still a touch more responsive, they've managed to get very close indeed. What's more, unlike a typical valve amp, the Flextone sounds the way you want it to at any Master Volume setting. Certainly the main amp types are broadly like the originals, and I'm also amazed at how spring-like the spring reverb emulation is. I find myself wanting to kick the amp to see if it will go 'thoing' — which, of course, it doesn't! In terms of noise, the circuitry seems on a par with most 'real' amps, and, as you might expect, the hum and buzz you get from your guitar

pros & cons

LINE 6 FLEXTONE PLUS £749

pros

- Traditional styling.
- Incredibly easy to use.
- Huge range of clean and overdriven sounds.
- *Authentic valve modelling with good* touch responsiveness.
- Costs around the same as a regular amp plus a budget effects unit.

cons

- Limited effects controllability.

summary

This Flextone amplifier really is the Rory Bremner of the guitar amp world, yet it's as easy to use as a regular amp and it looks just like a traditional guitar amp. The built-in speaker-simulated DI output makes it just as useful in the studio as on stage.

SOUND ON SOUND

FLOOR BOARD

Originally developed for the AxSys 212, the Floor Board provides access to additional features as well as providing a means to control existing Flextone parameters. The two pedals provide volume and a classic wah-wah, and there's a digital tuner and on/off controls for the amp effects. Furthermore, you can store two additional banks of four amp setups, as well as being able to access 16 new preset amp setups directly from the footswitches.

The Floor Board is strongly constructed from steel and doesn't require a separate power supply. It can operate in either Channel Select mode or Effect On/Off mode, and the amp's Tap Tempo facility is duplicated on one of its footswitches for easy live use.

serious about

music

Full Time Study

- Higher Diploma in Contemporary Music
- Diploma in Contemporary Music

- Funding & Finance Available
- Fully Accredited
- Limited Places Available for September 1998

Professional Opinion:

"This is the first programme I've seen that really addresses the challenges faced by today's top producers" (Steve Harris, producer - Kula Shaker, The Bluetones, Longpigs)

Course consultants include:

- Kevin Nixon (Manager, Kula Shaker)
- Wez (Mushroom Records-Garbage, Ash)

Call us today!

for your Free brochure & enrollment details

01483 456788

fax: 01483 456070

91 Haydon Place, Guildford, Surrey GU1 4LR

- Music Production & Technology
- Guitar
- Bass
- Drums
- Vocals

ACM
THE ACADEMY OF CONTEMPORARY MUSIC

The Academy Of Contemporary Music

Overview:

The Academy of Contemporary Music is more than simply tuition, it is about creating opportunity for musicians by combining world class training with unparalleled insight into how the Music Industry functions.

Facilities:

Situated in Guildford city centre, the schools operate from two specially converted buildings that offer a 16 track digital / 32 track hard disk recording studio, a dedicated music production suite with the latest PC hardware and software, four fully equipped teaching studios, a concert hall, resource centre and modern reception.

"The best equipped music school I have ever seen" (Dave Widdecombe, Fender Guitars)

Instructor Profile:

All ACM instructors are world class performers, composers, arrangers and technologists. Our Music Production & Technology instructors and consultants have experience working for the BBC, Top Studios, Commercial Radio, Theatres, The Music Press and have worked on numerous Top 10 albums and Top 40 singles. In addition to this instructors from our Guitar, Bass, Drum and Vocal schools have toured & recorded with top professionals including: George Michael, Gabrielle, Lisa Stansfield, Jools Holland, Bryan Adams, Chris Rea, Guns & Roses, Bon Jovi and Aerosmith giving our music technology students unique insight into high end studio and live production.

Full Time Study:

The school offers full time study at two levels, the Diploma in Comtemporary Music and the Higher Diploma in Contemporary Music. Both programmes have been written by some of the countries top producers, writers and session players to formalise a study path for students wanting a realisitic and intense training which will prepare them for a professional career in the Music Industry. Students studying at ACM are able to form a strategic approach to their career drawing on advice from our course consultants including Kevin Nixon (Manager, Kula Shaker), Wes (Mushroom Records - Garbage, Ash) & Steve Harris (Producer, The Bluetones, Longpigs). These programmes are fully accredited and are run in collaboration with Guildford College of Further & Higher Education.

Free Consultation:

All students applying to study at the school are entitled to a 'Free Consultation Session' to evaluate their musicianship skills and career objectives ensuring that they select the most appropriate course.

pickups is no better or worse than it ever was unless you use the gate to keep it out.

All the usual guitar pedal effects can be emulated by the Effects section, and the compressor is particularly good for adding warmth and sustain to clean sounds. The flanged and chorused delays are strong and dynamic, without being too overpowering, and the Tremolo gives you that old '60s surf sound but without the thumping. Monitoring via the rear panel headphone jack, or using the extension speaker, gives a nice spread to the reverb and chorus, though I'm pretty sure the delays remain in mono.

Because the modelling includes speaker simulation, taking a feed from the headphone socket produces a tonality that is broadly similar to listening to the amp in a room, but just a little brighter at the top end, no doubt due to the limited bandwidth of the 12-inch speaker. This may necessitate a little EQ adjustment, either on the amp or your mixing console if you choose to DI. For a more live sound, it would be nice to be able to combine the DI'd sound of the amp with an ambience mic or two set up across the room from the amp, but as plugging into the headphone socket kills the speaker ouput, you can't do this.

Just in case the on-board effects don't do all you want, it's also possible to patch in a stereo external effects unit, via the Effects Send and Return jacks on the rear panel. These tap in before the Master Volume control and are optimised for line-level rack units rather than low-level pedals. Any pedals you do have can be plugged into the amp's input, as usual.

SUMMARY

The Flextone Plus will probably appeal most to guitar players who need an amp both for gigging and for studio work. This one does a pretty good job in either capacity. Its main strength is the wide tonal range offered by a choice of amp models and effects, though being able to call up an amp sound which has the right type and level of effect with a single button is pretty great too.

In the studio, that tonal variety means that you can get very close to just about any musical style with a single amplifier, and because the sound remains consistent at all but the very lowest volume levels, you can choose whether to mic the amp or DI it. The only limitation here is that inserting a jack into the phones socket mutes the speaker output, which may not be what you want if you're recording as part of a band or want to combine DI with miking. You could take a DI feed from the insert send, but then you'd need to add an external speaker simulator.

While the Flextone is exceptionally good, it isn't perfect, and as a user of the very flexible 212 AxSys, I found the inability to adjust delay feedback independently of delay time rather frustrating, even though the amp tries to do this for you automatically. I also think it would have been useful to have access to more glassy, clean sounds, even though these tend to be associated more with studio DI techniques than amp characteristics. These limitations are a function of making the amplifier very simple to use, so I suppose it would be unfair to whine too loudly, though the lack of an effects bypass jack will probably be a frustration to those players who have no need to use one of the more elaborate foot controllers.

There's no denying that the Flextone Plus is infinitely better looking than the AxSys 212, and it's rather lighter to carry, but considering how little extra money the 212 costs, if you're working mainly in the studio I feel that the 212 is a more useful amplifier. However, if you want to get a wide range of good sounds quickly and you're also after an amplifier that's reasonably portable, the Flextone Plus has a lot going for it. Being able to add an extension cab gives a wider stereo image than the 2 x 10 Flextone Duo, but then the Duo might be better suited to people who want to walk away from a gig or session with their guitar in one hand and their amp in the other.

The Line 6 modelled amplifier simulations come closer to the real thing than any of the competition I've tried so far, and this latest generation will appeal strongly to the guitarist who wants loads of classic valve amp sounds and effects, but doesn't want to be confronted by menus and displays. These new Flextones also look like traditional guitar amplifiers, and, despite their solid-state output stages, they are extremely loud and punchy when required to be. Indeed, if you didn't know differently you'd probably swear they were valve amps. SOS

> "The Flextone Plus will probably appeal most to those guitar players who need an amp both for gigging and for studio work."

THE EFFECTS

- Compressor
- Tremolo
- Chorus 1
- Chorus 2
- Flanger 1
- Flanger 2
- Rotary Speaker
- Delay
- Delay/Compressor
- Delay/Tremolo
- Delay Chorus 1
- Delay/Chorus 2
- Delay/ Flanger 1
- Delay/ Flanger 2
- Delay/Swell

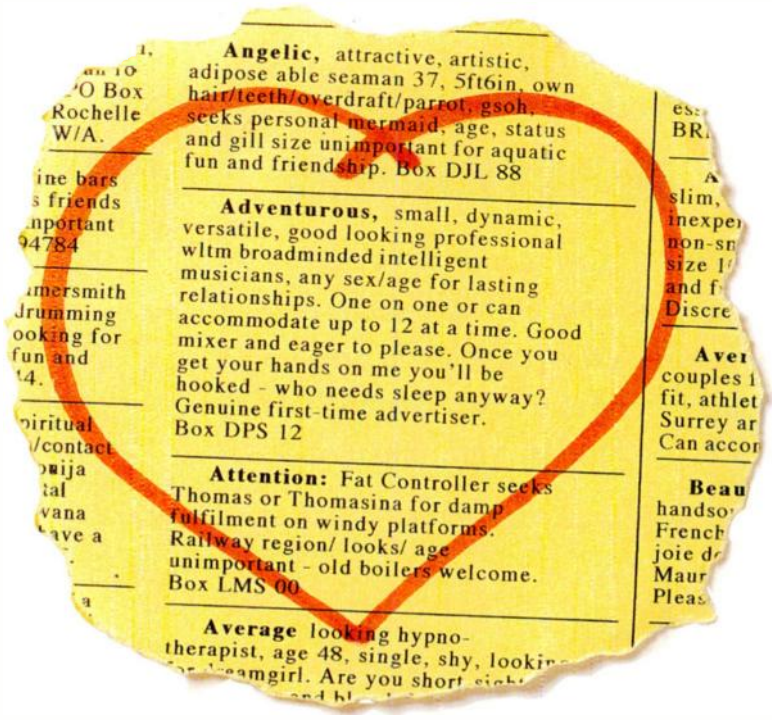
MODEL PERFORMER

Jazz Clean	1987 Roland JC120
Small Tweed	1952 Fender Deluxe
Black Panel	1964 Fender Deluxe
Modern Class A	1996 Matchless Chieftain
Brit Class A	1960 Vox AC15
Brit Blues	1964/5 Marshall JTM-45
Brit Classic	1968 Marshall Plexi
Brit Hi Gain	1986 Marshall JCM800
Rectified	1994 Mesa Boogie Dual Rectifier
Modern Hi Gain	1989 Soldarno SLO
Flextone Clean	21st Century Clean
Flextone Crunch	Thick Grindage
Flextone Drive	Industrial Strength OD
Flextone Layer	Clean plus Drive
Fuzz	1960s Arbiter Fuzz Face

All trademarks respected as property of their existing owners.

E Flextone £699; Flextone Duo £799; Flextone Plus £749; Floorboard £249.
A Sound Technology, Letchworth Point, Letchworth, Hertfordshire SG6 1ND.
T +44 (0)1462 480000.
F +44 (0)1462 480800.
E info@soundtech.co.uk
W www.soundtech.co.uk

Love at 1st Sight



Angelic, attractive, artistic, adipose able seaman 37, 5ft6in, own hair/teeth/overdraft/parrot, gsoh, seeks personal mermaid, age, status and gill size unimportant for aquatic fun and friendship. Box DJL 88

Adventurous, small, dynamic, versatile, good looking professional wltm broadminded intelligent musicians, any sex/age for lasting relationships. One on one or can accommodate up to 12 at a time. Good mixer and eager to please. Once you get your hands on me you'll be hooked - who needs sleep anyway? Genuine first-time advertiser. Box DPS 12

Attention: Fat Controller seeks Thomas or Thomasina for damp fulfilment on windy platforms. Railway region/ looks/ age unimportant - old boilers welcome. Box LMS 00

Average looking hypno-therapist, age 48, single, shy, lookin- -eamgirl. Are you short sight-

AKAI *professional*

Akai's new DPS12.
Under its sleek skin is a full professional quality 12 track digital recorder with internal Jaz drive fitted as standard, no-loss random access editing and an automatable digital mixer. High levels of sophistication without complexity; multi-functional yet logical, forgiving and easy to use:
And all for £1299 inc. VAT.
Personal recording has now reached the Akai digital age. 12 track uncompressed recording (8 simultaneous)/Connection to optional external hard disks/SCSI and DAT backup/Stunning sound quality/250 virtual tracks/Powerful instant replay editing with jog-shuttle and 256 level Undo/Digital mixer with 20 channel capacity in mixdown mode, automatable via a MIDI controller/Digital EQ. Optional EB2M multi-effects board/Backlit graphic LCD display with waveform editing for total control. Compact and portable.

A.K.A.Innovation

Akai (UK) Ltd EMI Division, Haslemere Heathrow Estate, Parkway, Hounslow Middlesex TW4 6NQ Tel 0181 897 6388 Fax 0181 759 8268
http://www.akai.com/akaipro

WRH

Against all odds

THE TRUTH ABOUT DEMOS

PART 2: Last month BIG GEORGE looked at what demos actually are. This month he tells you how to prepare for recording one and avoid wasting lots of time, tape, and money.

Yearly turnovers in the hundreds of millions of pounds, playing on live broadcasts to a worldwide audience of 10 billion adoring fans, cover star of *Sound On Sound* and all the other glamour magazines across the world, T-shirts, tea towels, caps and badges with your face on, your own range of make-up and dolls. That's all you want, isn't it? And just how do you expect to achieve this minor feat? Oh yes, by sending off a demo. Well, it better be a pretty shit-hot demo, then.

I did my slagging-off of totally inexperienced, self-important artists with no idea of what they're doing in a studio last month. And obviously none of you took the slightest bit of notice, so this month we're going to look at the best way to prepare yourself for making that hot demo. Before we go any further, this isn't an article about how to save money doing demos — it's an article on how to spend wisely and not end up wasting a fortune. Make no mistake, doing things on the cheap (and that means both financially and in terms of preparation time) is a waste of time, money and tape (or hard disk space).

PRE-PRODUCTION

Only the very rich and directionless go into the studio and make it up as they go along. It's usual for most acts to spend a considerable amount of time routining their studio timetable. Pre-production is when the tempo and key is set for a song, when the drummer gets comfortable with the click, when it's decided which instruments will get recorded at the beginning of the session. That's not to say thinking of last-minute changes in the studio is a bad thing, but going in clueless from the start very much is!

LIVE AND KICKING

If your *forté* is playing live, and you want to capture that spirit of excitement, why go into the sterile confines of a studio in order to capture your magic? The problem with recording live gigs is that unless you hire a mobile studio to mic everything up, it's next to impossible. The mix off the desk is no good — it's always just the kick drum, brutally clear vocals, a bit of keyboards and nothing else.

A cheap, effective and controllable way of

A bedroom studio is a cheap and effective place to mix down live recordings, or prepare your mixes before venturing into an expensive pro studio.

capturing the essence of your live sound is to get a decent multitrack recorder and set it up either at your place of loud rehearsal, or at a gig where you can soundcheck for at least a few hours. Once you've sorted out where to place the mics and come to terms with having one track for the bass and drums, record the band without vocals. Next, take the tape into a more controlled environment — someone's bedroom with a small mixer, a set of headphones, a mic, and any reverb unit will do — and add the vocals live as you mix down to DAT or similar. You now have a perfectly usable live recording, costing next to nothing. For a little atmosphere, record a home-town gig on a ghetto-blaster (for the general crowd din), then take your witty in-between-songs banter and edit that in between the songs you did earlier. I suggest you nick the applause from a live album of your choice.

Talking of ghetto-blasters: singers, if you want to work on your harmonies — and I really think you should — take one into rehearsal and record the band. Then take the tape into a studio, on your own and try out your harmonies, and different ways of singing the melody. All it takes is a bit of time putting your boom box in the right place, usually under a cardboard box, to get a decent backing track. For the sake of a few quid (and none of the rest of the band giving you grief) it's the best way of getting comfortable in the studio. The one thing it won't help you sort out is whether the musical key of the song is the most comfortable one for you. That's an issue which needs careful consideration earlier in the proceedings, but sadly hardly ever gets it. And here's a thought for everyone in the band: when you're in the studio, be positive and encouraging about other peoples' performances. There's nothing more likely to bring a session down, or to fisticuffs, than telling the singer they're singing like shit or the bass player they're crap.

This (Abbey Road studios) is the sort of place you WON'T be using to record your demos — unless you're completely deranged, and/or U2. Yes, it has an enormous desk, acres of space, total soundproofing and not a cable or wire in sight — but at this stage, you shouldn't even think about it, unless your dad is the Sultan of Brunei.

MAKE IT COUNT

Even if you do land a massive deal and the rest of your long and fruitful recording career is spent in Hawaii at a cost of hundreds of thousands of dollars, the recordings you're doing now should ▶

All you need is in the box!

If there's one thing you're looking for these days it's value for money.
And when a real bargain comes along you had better be ready to take advantage.
So check out the new SoftStudio package from Opcode. In the box you'll find one easy-to-install CD featuring Vision 3.5, the industry-standard audio recording and sequencing software; Overture 2.0, professional music notation and publishing software; and Galaxy Plus Editors, a universal MIDI editor librarian, all for an incredible £499 inc VAT.
Are you ready?

OPCODE VISION DELUXE
- Digital audio recording and MIDI sequencing software
- More than 16 audio tracks are available (Fast Power Macs)
- On-board digital signal processing (DSP) effects
- Also included: Waves E/Verb, TrueVerb, Paraphonic EQ, Compression, Noise Gate & Feedback plug-ins + 75 MIDI grooves, 50 audio loops & 8 files of live recorded drummers - FREE

OPCODE OVERTURE
- Professional notation and publishing software
- Up to 32,768 measures per score plus complete MIDI playback of all dynamics, repeats and endings
- Automatically notates drum parts
- Powerful sequencing capabilities. Quality print options
- Capture notation to PICT or EPS for presentations

OPCODE GALAXY +
- Universal librarian software for organising, storing, retrieving and editing sounds and set-ups for synths and other MIDI devices
- Compatible with the most popular synths from Roland, Alesis, Yamaha, Korg, Kurzweil and many others
- Easy to use graphic representation of synthesizer parameters
- Fully integrated with Vision transport control

All prices are inclusive of VAT. E&OE

OPCODE
your music first

Exclusively distributed in the UK by SCV London, 6-24 Southgate Road, London N1 3JJ.
Telephone: 0171 923 1892. Fax: 0171 241 3644. email: opcode@scvlondon.co.uk web: http://www.scvlondon.co.uk

Mac OS

THE TRUTH ABOUT DEMOS

> "Only the very rich and directionless go into the studio and make it up as they go along."

be good enough to appear as an extra track on a single, or make up part of an album of bits and pieces which will come out at the end of your contract with your record company when they bleed every last drop out of you. Last month I said there has never been a better time to put out your own small-scale release. Digital editing facilities and short-run CDs make this easy, and if you're not prepared to invest, you can't expect to be rewarded.

The crunch question is: exactly how much is it going to cost you? And the answer is... It's impossible to answer. A quarter of a century ago, the Beatles recorded 10 of the 14 tracks for their first album in less than 10 hours, using a couple of stereo tape recorders. By my reckoning, at today's prices (£10 an hour for a decent 4-track studio — and that's more flexibility than the Fab Four had) it'd cost you around a tenner per track to sound as good as the early Beatles (Indie bands everywhere take note). Then again, a decade and a half ago Trevor Horn spent three months and a shade over a quarter of a million pounds recording Frankie Goes To Hollywood's classic Synclavier solo 'Two Tribes'. And nowadays? For £25 an hour you can get a facility that Trevor Horn could only have dreamt of when he spent a week listening to snare sounds at £1500 a day.

FROM THE HORSE'S MOUTH

There are impressively equipped, very affordable studios available in just about every street right across the country. The last couple of jobs I've done (*Eurovision Master Class* for Channel 4 and a whole heap of stings for the so-called 'saviour of

Make sure your drummer can deal with a click track. Getting him/her to play along while you feed them different rhythms at a variety of tempos through a set of headphones is good practice for future studio sessions.

Mike up your kick drum in pre-recording rehearsals — unless you've played with proper monitoring you simply can't hear what the kick drum is doing.

Radio 1', Chris Moyles) have been at such a studio. Run by Rupert Cook, Lost Boys Studios in Bedford is an excellent example of a typical owner/engineer small studio. I asked Rupert how much an act will usually spend producing a good demo, and what some of them do wrong.

"We've all heard of established bands taking months and months to record an album, but the majority of bands doing demos are essentially amateur, they've only been together for six months to a year, they're under 25, and more importantly, they haven't got anyone kicking their ass and arranging things for them. So they're doing it absolutely off their own back.

"As for how long they should spend on recording and mixing a song, it generally takes between 35 and 50 hours to record three songs (£875-£1250), or approximately 16-20 hours (£400-£500) to do one. That includes getting a gorgeous drum sound, backing tracks, overdubs, vocals, harmonies, mixing and mastering."

"If it's an all-MIDI and sampling affair, the way to cut those costs in half is to get the whole track programmed up beforehand and choose a studio which runs the same sequencing software as you, although here at Lost Boys we can convert pretty much any system into anything else. Then bring whatever bits of gear you need — sampler, old Roland Juno, whatever — wire it into the studio system, and by the time you've drunk a cup of tea the track is up and running. Then you've got the advantages of being in a studio, separating the sounds, sticking things through a valve compressor and adding a few live instruments.

"But if someone comes into a studio with nothing programmed up, and they just have a couple of samples and an idea as to what they want to achieve, it's going to take a very long time. For instance, programming up something as simple as a 2-bar bassline can be a major part of the creative process.

"I'm a great respecter of the punk ethos of "let's go in, drink 10 pints of lager and bang the bastard out" — this is music, not rocket science — but if you've only got £500 and this is your one stab at doing a demo I think you can afford to be anal about things in the rehearsal room. Breaking the arrangement down to bass and drums is well worth trying, as a good proportion of tracks start with just the bass and drums. Also work out ▶

SONG DEMOS

Some people reckon the more fairy dust (layered strings and too much reverb, mainly) you shove on a demo, the better chance you have. I don't agree, particularly if you're trying to sell a song to Tom Jones, Shirley Bassey, Cliff Richards... I think that's it for British singers who don't insist on writing their own songs, whether they can or not.

So if you want the likes of Tom Jones, Whitney Houston, Tony Bennett, Tina Turner, or any international artist, to cover one of your songs, don't try and impress them with the amount of echo you can drown the sax intro in. They'll have had enough of the song before the singing comes in.

If you're looking at selling the song rather than the act that's performing it, make it as basic as you can. Now that doesn't mean boring — far from it. Producers/Singers/Artists want to hear a pared-down, well sung and played version of a song. A simple two-bar looped rhythm (or even a hi-hat just keeping time) and a two-handed keyboard part on a well-defined pad sound is all you need, although if there's a particular bass groove or counter melody line which completes the song you put it in — but don't crowd it with a load of self-indulgent semi-pro twiddling. Give them a version with and without the vocal track, and include a copy of the lyrics. Unless the musical structure is mega-complex there's no need to include a chord chart — stars usually have very competent musical directors who can handle four chords. What d'you mean, there's more than four chords? Not in most of the hit songs of the past 40 years there's not.

ANDERTONS Music Co.

HI-TECH'S NO.1 SUPERSTORE

In the Spotlight

STOP PRESS... Save over 30% on the best selling brands

Alesis Nano Piano — WAS £299 **£269.00**

Alesis Midiverb IV — WAS £249 **£199.00**

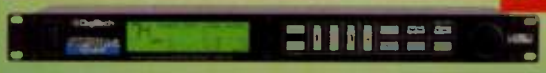
Alesis Microverb IV — WAS £190 **£149.00**

Alesis Nanoverb — WAS £129 **£99.00**

Behringer MX2642 Mk2 — WAS £449 **£359.00**

Behringer MX 1602 — **Special deal** While stocks last **£call**

Digitech Studio Quad V2 — WAS £349 **£259.00**



VOTED "Best Music Retailer in the UK 1997"

By Who? The Music Industry Association

Why? Because...

We stock over £1.5 million of guitars, keyboards, acoustics, modules, synths, home recording and professional recording gear, computer software, multifx, basses, drums, PA, plus 1000's of accessories all under one roof.

We offer cut-throat discount prices on all the best selling brands.

We have a 7,000 sq. ft. air conditioned showroom with 7 soundproof demo rooms.

We have 20 fully trained and experienced staff to give valuable, unbiased advice as well as unbeatable aftersales care. (And they're not paid on commission, so you won't get sold anything you don't need!)

Our exclusive Gold Warranty covers everything we sell, so even when your gear lets you down – we won't!

And if that's not enough we also offer 0% finance, next day mail order, part exchange, second hand gear, on site repairs, specialist education sales division, plus much much more.

Come and see us soon, just 5 minutes from jct 10 on the M25 or 35 minutes on the train from Waterloo. Alternatively give us a call, (we have 8 telephone lines so you'll always get through), and find out for yourself why Andertons Music Co has been voted "Best Music Retailer, 1997".

Pro Studio & Recording Equipment

Roland VS-1680 inc. Hard drive and FX board — Price £2195 — £279 — 24 x £80 — 0%

	Price			
Soundcraft Spirit Studio 16 with Fostex D90 + looms	£2150			
Soundcraft Spirit Studio 16 with Fostex D80 + looms	£1935			
Akai DSP 32	£1295	£147	18 x £64	0%
Alesis Monitor one's with RA100	£499	£50	12 x £41.24	19.9%
Behringer MX3000 with Fostex D90	£2490	£249	18 x £125	0%
Behringer MX2442	£549	£55	12 x £45.76	19.9%
Behringer MX3000 with Alesis Adat LXT 20	£1499	£349	18 x £175	0%
Fostex FD4	£399			
Fostex D160	£2095	£295	24 x £90.18	19.9%
HHB CDR 800	£1295	£299	12 x £100	0%
Korg D8	£ call			
Korg RM8 Monitors	£289			
Phillips CDR 870	£499	£50	12 x £41.24	19.9%
Nuckle24 88000 + D90/AdatXT	£call			
Soundcraft Spirit Studio 16 with Alesis Adat LXT 20	£1799	£329	18 x £165	0%
Soundcraft Spirit Studio 16 with Fostex D90 + looms	£2389	£409	18 x £110	0%
Soundcraft Absolute 2 with Samson Servo260	£469	£69	12 x £36.73	19.9%
Soundcraft Absolute Zero with Samson Servo170	£389			
Yamaha MT50	£269			
Yamaha MT4X	£169			
Sony MDM X4	£559	£99	12 x £45.92	19.9%
Yamaha MD 4	£559			
Yamaha MD 8	£999	£99	12 x £75	0%

Pro Keyboards

Yamaha AN 1x

	Price	Deposits	Payments	APR
	£729	£129	12 x £50	0%
Alesis QS6 + 2 x PCM cards	£699	£99	12 x £50	0%
Roland JP50	£850	£85	12 x £70.26	19.9%
Korg N5	£670	£59	12 x £50	0%
Korg N364	£749	£99	12 x £59.69	19.9%
Korg Z1	£1699	£169	18 x £85	0%
Korg Trinity	£call			
Korg SG ProX	£1799	£179	18 x £90	0%
Roland JP8000	£1099	£109	18 x £55	0%
Roland XP80	£1419	£169	18 x £70	0%
Roland RD600	£1649	£259	24 x £60	0%
Roland Apex	£1649	£259	24 x £60	0%

Modules Master Keyboards

Korg X5 DR — Price £299

	Price	Deposits	Payments	APR
Alesis DM5	£269			
Evolution MX149	£98			
Evolution MX161	£149			
Fatar 49	£79			
Studiologic SL361	£199			
Studiologic SL880	£499	£49	12 x £41.23	19.9%
Studiologic SL880 with Alesis Nanopiano	£799	£99	12 x £64.28	19.9%
Studiologic SL880 with Yamaha MU90R	£890	£99	12 x £73.47	19.9%
Korg Trinity Rack	£999	£99	12 x £75	0%
Korg N5EX	£499			
Roland PC200	£159			
Roland JV2080	£ call			
Roland JV1080	£829	£121	12 x £58	0%
Yamaha MU90R	£395	£40	12 x £32.97	19.9%
Yamaha QY70	£ call			
Yamaha QY700	£760	£75	12 x £62.90	19.9%
Yamaha MDF2	£229			
Yamaha MDF3	£329			

Samplers

Yamaha A3000 with 32 Meg

	Price	Deposits	Payments	APR
	£1199	£199	18 x £60	0%
OR				
Yamaha A3000 with 32 Meg plus zip drive	**£1349**	£179	18 x £85	0%
Akai S3000XL with 32meg and zip drive	£1499	£149	18 x £75	0%
Akai S20 inc. free 5 meg	£449			
Akai S3200XL	£ call			
Boss SP202	£259			
Emu ESI4000 and Calamari Board	£ call			
Emu E4400 with 16meg and Zip drive	£2099	£299	18 x £100	0%

Computer Software & soundcards

	Price
Cubase VST3.5 PC/Mac	£299
with Event Data	£529
with Gina	£699
Cubase Producer Pack inc. Cubase Audio Wavelab 1.6 Waves Audio Track	£599
Cubase VST3.5 PC/Mac with Korg 1212IO	£799
Cubasis AV PC/Mac	£129
Digidesign AudioMedia3	£599
Digidesign Session 8 PC and 882I/D	£1499
Steinberg Recycle PC/Mac	£ In stock
Steinberg Rebirth V1.5 PC	£149
Steinberg Wavelab 1.6	£call
E-Magic Logic Audio 3	£339
E-Magic Hometudio	£499
E-Magic Logic Audio PC with AudioWerk8	£759
E-Magic Mac V3	£call
Midiman Dman	£99
Midiman 2044	£229
Cakewalk Pro Audio V6	£299
Cakewalk Professional	£179
Cakewalk Hometudio	£89
SoundScape	£call
Turtlebeach Cards	£call
E-Magic Hometudio	£499
Opcode Studio 64x	£259

Mixers

	Price
Behringer MX2642mkII	£359
Behringer MX802	£149
Behringer MX1602	£call
Behringer MX2804	£399
Behringer MX8000	£call
Soundcraft Fi 14/2	£249
Soundcraft Fi 16/2	£299
Soundcraft FX16	£849
Soundcraft Studio 16	£899

Effect Processors

	Price
Digitech Vocalist Workstation	£499
Digitech Vocalist Performer	£279
Digitech Studio Vocalist	£699
Lexicon LXP15 mk2	£499
Alesis Nanoverb	£99
Alesis Nanocompressor	£89
Alesis Midiverb 4	£199
Aphex 104 Big Bottom	£159
Behringer Composer	£169
Digitech Studio Quad 400	£598
Yamaha Rev 100	£89
Yamaha Rev 500	£call
Zoom1204	£call
Zoom1201	£99

Dance

	Price
Roland MC303 (used)	£799
Waldorf Microwave XT	£1099
Emu Orbit	£699
Emu Planet Phat	£749
Joe Mac X09	£call
Novation Drum Station	£379
Novation Super Bass Station	£179
Roland Techno Card	£call
Syntechno Tee Bee	£579
Waldorf Pulse	£319
Waldorf Pulse+	£419
Waldorf Microwave 2	£849

Demo Clearance

	Price
Akai S6000	£1795
Akai S3200XL	£1799
Alesis QS8	£549
Digitech Mid. Vocalist	£299
Digitech Studio Vocalist	£599
Digitech Studio 400	£499
Dod R312	£79
Fostex DMT 8VL	£999
Kawai K5000S	£799
Kawai K5000R	£669
Mackie Otto 1604 software	£499
Phillips SKC 730	£199
Roland MT80s	£149
SoundCraft Powerpad	£199
Yamaha PSR8	£249
Yamaha CBX K1 XL	£199

Arrange your finance by phone

1 You phone our hotline on 0870 602 0131 and we will fill in a quick and easy finance form with you.

2 We send you the forms for you to sign, then you send them back with a deposit.

3 We despatch the goods to you on a NEXT DAY delivery and you get up to 24 months to pay back the balance.

CREDIT EXAMPLE

0% APR - Cash Price £499 Deposit £87 Balance £412 12 monthly payments of £34 Total repayable £499

19.9% APR - Cash Price £499 Deposit £87 Balance £412 12 monthly payments of £39.47 Total repayable £561.04

All credit subject to status. Written details on request.

58-59 WOODBRIDGE ROAD, GUILDFORD. SURREY GU1 4RF

TELEPHONE - 0870 602 0131 FACSIMILE - 01483 456722

WRH

"I suggest that once the mix is perfect you turn the vocals up a bit more and compress the whole thing by a colossal factor."

harmonies beforehand — the number of times I've heard people in the studio say "let's try some harmonies" and then not have a clue. Another thing which bands constantly decide they want is a tambourine. It's sometimes worth seeing if anyone in the band can actually play the damn thing beforehand, as it's not just waving something around, it's a tricky operation — otherwise there wouldn't be session players charging more than £50 an hour to play one."

FROM THE BEDROOM TO TOTP

Another reason why bedroom sound magicians might want to think about going into a professional studio is that the engineer probably knows some nifty moves on the sequencer and sampler that you didn't know were possible. My own personal total mastery of MIDI sequencing has come not from the manual but from watching someone else who uses the sequencer more than I do. (Particular thanks go to Dave Lockwood, one of my slave-driving *SOS* editors).

Part of the problem with acts going into the studio for the first time is they haven't been listening to what everyone else has been playing. They've spent hours rehearsing in a dingy room, where they can't hear the vocals and the kick drum. Then they come into the studio and get a gorgeous drum sound and suddenly there's a look of panic on everyone's faces, as they can hear that everything's out of sync with everything else — the bass and the drums are completely out to lunch and the singer's voice is a bit ropey. The vocals can be worked on, but getting an inexperienced rhythm section to nail their parts together under the glare of the red light is tough. If there's one bit of advice I'd give any band thinking about going into a studio it's this: stick a mic into the kick drum. Because unless you've played with proper monitoring you simply can't hear what the kick drum is doing, and it's the most vital part of a track, aside from the singing. No amount of studio gadgetry can make up for not having a tight, well-rehearsed rhythm section, whereas the majority of singers in the charts have had the cutting edge of modern studio technology smoothing out the wrinkles in their performances.

LEARNING TO LIVE WITH LOOPS

One of the best ways to cock up a session is to have a live drummer playing along to a click for the first time. If you have a drummer, or you have a drummer in mind for your session, make sure they can play with a click track. It's a skill easily attained, if it's not under the pressure of getting the backing track to the most important recording in the world (your demo). Some drummers like a straight clave click with no distinction for beat 1, some like a clap on the first beat of the bar, and others like a conga pattern that goes across the beat. Most western pop music, from Metallica to Aqua, Shed Seven to Celine Dion, has a constant beat. The ironic thing about drummers and click tracks is that the ones who can play with one don't really need to, and the ones that can't really ought to.

The two best ways for a drummer to get good at this most important skill for recording are, firstly, setting up a drum machine, programmed with a click, a conga counter-riddum, or whatever feels right, strapping on a set of headphones and getting to it, over a wide variety of tempos; and, secondly, through the same pair of headphones, piping Radio 1 into your brain and playing along to all the songs, regardless of whether they're rubbish or not.

Playing with a click is not a mathematical test of accuracy, designed to make the drummer sound mechanical; the click is there to help the drummer keep a constant tempo for the duration of the song. The art is to play *around* the click, constantly. If the first chorus is 14.5 seconds long, then all the choruses are going to be the same length, although the feel can change.

Now if the plan is for the drummer to play with a click and then later on you want to add a looped beat, stop right there! The drummer may well play with pinpoint accuracy to a metronomic click, but will the loop? Most loops, whether they're samples of live performances or programmed machine triggers, have an element of swing. Trying to match up a loop to a live drum performance is like sync'ing a CD and a cassette of the same song together — it should work but it never quite gels. So if you're planning to add a loop, *start with it* (more pre-production).

While we're on drummers, a simple tip when going into a studio is that new heads sound better than old ones. Learn to tune your drums — it will take less than half the time to extract a far superior sound in the studio from a cheap old kit with new heads that have been tuned than it will from a top-of-the-range solid-gold kit with knackered

WORDS OF WISDOM

One of the most profound things I have ever heard came from Kate Bush. This was way back in the early 1980s when she was spending days at a time recording lead vocal tracks. I thought this was a cover for her not being able to sing her songs properly, but in hindsight it was Zen and the Art of Immortality.

What she told me was this: "When you're doing a lead vocal for a record it's got to be the ultimate performance of that song". And she's right, too — at the time she was into her second day of getting the lead vocals on the hit 'Babooshka' onto tape, in the same Abbey Road studio the Beatles lived in (number two). She wanted to "tap into all the ghosts that live in the walls" and whether she did or not doesn't really matter: what does matter is that she gave a true performance of the song, like she always does, which will last until the end of time. Let's face it, no matter how many times the Rolling Stones have played '(I Can't Get No) Satisfaction' in their massive career, the only performance which counts is the one which Mick sang at around 4 o'clock in the afternoon at RCA studios in Los Angeles, Wednesday May 12th 1965.

Kate Bush: the performance is the thing, you know.

skins which have never been tuned. And if you don't know how to tune a kit, go to the local drum kit shop and get the name of a good drum teacher, who will be delighted to give a lesson in how to tune a kit.

MIX AND MASTER

Once you've finished recording all the singing, playing, and everything you want to put on the track, do a rough mix and go straight home. It's an impossibility, but don't listen to the tape for at least 24 hours. It's important to get some space between the recording process and the mix — at least a couple of days. Recording is a sweaty, heads-down, adrenalin-loaded affair, whereas mixing needs a clear head and as few distractions as possible. There's nothing worse than trying to finalise the most important thing in your life (at that moment) after a 12-hour slog, with the bass player who finished hours ago and has spent his/her time wisely getting completely pissed and the drummer lugging the drums through the control room to the car, in a bad mood because he/she is sober and giving his/her brother in riddum a lift home. Mixing is best done with as few people in the room with the engineer as is diplomatic. If anyone — or, more likely, everyone — has a comment, get them to write it down.

Big George perfects his microphone balancing technique.

You've heard the saying 'Too many cooks spoil the broth'. In the recording world that translates to 'Too many musicians want to turn their bit up louder than everybody else'. The only thing which needs to be louder than you think is the vocals. Turn them up until they're much too loud, then turn them up a bit more and they'll be almost at the right level. Probably the most important thing to have with you when you mix is at least three massive hit tracks, on CD, of the type of music you make. Then, as you build up your mix, compare the sound you're getting with the CDs.

Apart from wishing you good luck, I suggest that once the mix is perfect, you turn the vocals up a bit more and compress the whole thing by a colossal factor. SOS

Imagine an audio editor that ...

Offers non-linear hard-disk editing; features tons of audio effects, processes, and tools; transfers to and from many popular samplers; reads and writes just about any file format out there; rearranges material in playlists and regions lists for CD mastering; manages and edits voice prompts for phone systems; processes audio files headed for the internet or computer games; cleans up background noise and tape hiss; hosts DirectX and proprietary plug-ins; executes studio-quality audio for broadcast ... and comes in one really cool looking box.

3 FOR 2 LIMITED OFFER

Buy any 3 Sonic Foundry products but pay for just 2!

Limited offer valid between March 20, 1998 and June 30, 1998 only. Purchase two higher value items at the same time and get third lowest value item free. Free choice fulfilled directly by SCV London. Excludes SoundForge XP, Driver Library & Acid. Other conditions apply. Contact your authorised Sonic Foundry dealer or SCV London for full terms and conditions of offer. E&OE.

Sound Forge 4.0
- Powerful editor for the PC
- Uses Direct-X plug-ins
- Talks directly to most samplers
- Non-destructive editing

CD Architect
- Professionally compile audio for CD mastering
- Add indexes, track markers and sub-code

Noise Reduction
- Reduces low level hiss or hum
- Includes click removal and Vinyl restoration tools
- Adjustable frequency bands

Batch Converter
- Automates time consuming and complicated processes
- Can employ any effect, tool or Direct-X plug-in

Spectrum Analysis
- Performs precise FFT analysis
- Display result in Graphical or Sonogram format
- Exceptional interface

Acoustic Modeler
- Impart acoustic responses onto audio signals
- Simulate any room from large halls to small rooms

XFX1 & XFX2 (Direct-X)
- Reverb, Multi-Tap Delay and Chorusing (XFX1)
- Noise gate, multiband dynamics and EQ (XFX2)

SONIC FOUNDRY

Exclusively distributed in the UK by
SCV London 6-24 Southgate Road London N1 3JJ
Tel: 0171 923 1892 Fax: 0171 241 3644
email: sonicfoundry@scvlondon.co.uk
web: http://www.scvlondon.co.uk

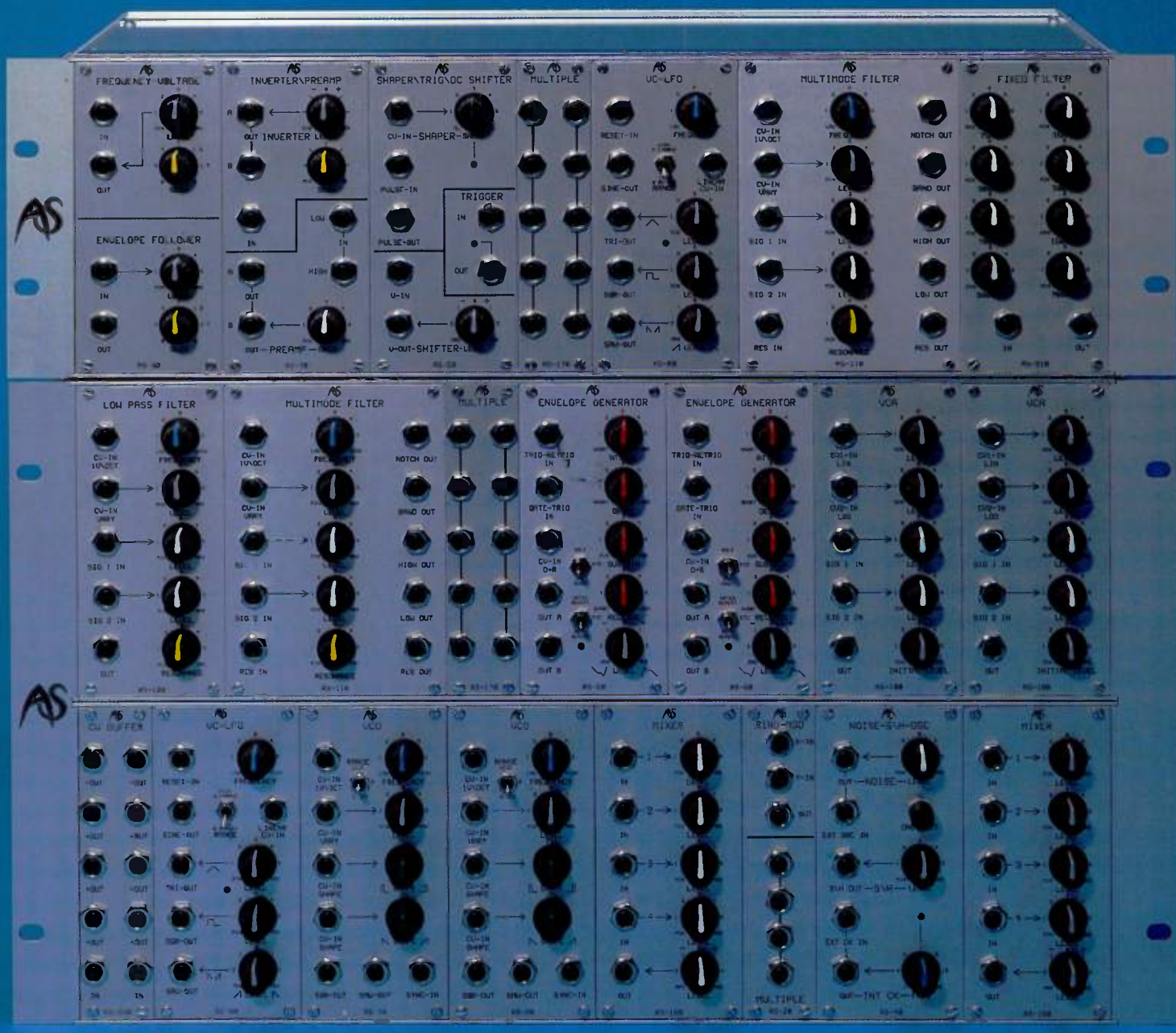
0171 923 1892
www.scvlondon.co.uk

ANALOGUE SYSTEMS RS INTEGRATOR MODULAR SYNTH

mod-u-like

Once upon a time, all synths were like this — discrete analogue sound-generating and sound-processing modules, connected in any configuration the synthesist cared to dream up. If you like that idea, Analogue Systems are providing a new alternative to expensive antique systems. CHRIS CARTER does the time warp again...

If the rumours are to be believed — and, according to a record company exec I had a chat with the other day, they are — a Britpop/guitar band backlash is just around the corner and electronic music is the Next Big Thing, just in time for the millennium. Many of you reading this magazine will say that electronic music never really went away — it just got absorbed into Dance, Trance, Ambient, Electronica and all their mutant hybrid variations. But if, like me, you enjoy making electronic music the



old-fashioned way, by patching and twiddling banks of knobs, the Analogue Systems RS Integrator modular synthesizer is like manna from heaven — controls and sockets galore!

Before I get into the meat of this review, it's worth directing anyone who is not familiar with modular synths to the helpfully titled 'What is modular synthesis?' box on page 110. Those who already know their Inverters from their Voltage Quantisers may read on...

BURSTING AT THE SEAMS

Following a growing trend, Analogue Systems have designed the RS Integrator around a standard Eurocard Sub-Rack system, with two types available: the 3U-high RS10 and 6U-high RS15. Each 3U case will hold six or seven modules, depending on size. In theory, this means that you could install additional synth modules made by other manufacturers conforming to the same Eurocard width standard (see 'Building And Expanding' box). Currently, around 20 different modules are available from Analogue Systems, with another seven or so in various stages of design and production.

For this review we were supplied with two racks bursting with modules. The first is a standard RS Integrator 'off the shelf' configuration called System 1, comprising:

- RS15 case
- RS90 VCO (x2)
- RS100 VCF
- RS110 Multi-mode VCF
- RS180 VCA (x2)
- RS60 ADSR (x2)
- RS80 VCLFO
- RS20 Ring Mod/Multiple jack link
- RS40 S&H/Noise/Clock
- RS160 Mixer (Lin)
- RS160 Mixer (Log)
- RS230 CV Buffer
- RS170 Multiple jack link.

The second rack we were supplied with is a customised unit comprising:

- RS10 case
- RS30 Pitch-Voltage/Envelope Follower
- RS70 Pre-amp/Inverter
- RS50 Trigger Generator
- Pulse Shaper/Level Shifter
- RS80 VCLFO
- RS110 Multi-mode VCF
- RS210 Filter Bank

LIVING IN A BOX

The Integrator modules and racks have a slightly unfinished look about them, being plain brushed aluminium with black screen printing, smallish 'soft feel' knobs and mini-jack sockets throughout. To assist with programming, the knobs are colour-coded: white for audio/signal paths; grey for CV/control; blue for frequency/clocks; red for ADSR; green for waveshape/width; yellow for res/slew/pan; and orange for anything else. A set of similarly coloured patch cords is supplied with each system, which is a nice touch. Both the RS10 and RS15 system cases include a built-in power supply with power input socket and mains switch on the rear panel (which could be an annoyance if the unit were mounted in a rack or transit case). Overall, construction quality is high, everything feels solid and well built, and the units would probably take life on the road quite easily. However, I'm not sure I like the current vogue for aluminium with a semi-industrial appearance — it looks a little cheap to me.

BLOCK BY BLOCK

Because of the number of different modules that can make up an RS Integrator system, I won't be describing every single feature of every single module (and some functions are quite self-explanatory anyway), but I will try to give as much detail as I can on the most relevant modules. Unfortunately, an instruction manual wasn't available for the review, so I had to make the odd educated guess or resort to my ageing oscilloscope for some of the specifications.

One feature common to both the VCF and VCA modules in the Integrator system is the inclusion of two audio inputs, each with a level-control knob. This is welcome, as it cuts down on the need to feed signals into the mixer module first, which would just add to the number of patch cords hanging around (literally). Also, most of the CV modules have a direct 1V/Oct input (for keyboard or sequencer) and a variable CV input with level knob (for modulation).

RS90 VCO

Currently, Analogue Systems only produce one VCO module, but it contains most of what you'd expect to find, plus a few surprises. There are five controls (Frequency, CV input level, Waveform shape, CV input (X2), and Range) and five inputs (1V/Oct in, Variable CV in, Square wave shape CV in, Sawtooth shape CV in, and Sync in). The sawtooth output shape can be adjusted from a rising ramp, through a triangular waveform, to a falling ramp. The sawtooth shape is voltage controllable, as is the square wave shape, and some nice fattening effects can be achieved by modulating these two independently. The range of the VCO is a respectable 0.3Hz to 17kHz (about 20 octaves) and I found it to be stable, with no drifting.

Left: A typical RS Integrator system, comprising the following modules (from left to right and top to bottom): RS30 Pitch-Voltage/Envelope Follower; RS70 Preamp/Inverter; RS50 Trigger Generator/Pulse Shaper/Level Shifter; RS170 Multiple Jack Link; RS80 LFO; RS110 Multi-mode VCF; RS210 Filter Bank; RS100 VCF; RS110 Multi-mode VCF; RS170 Multiple Jack Link; RS60 ADSR; RS60 ADSR; RS180 VCA; RS180 VCA; RS230 CV Buffer; RS80 LFO; RS90 VCO; RS90 VCO; RS160 Mixer; RS20 Ring Mod/Multiple Jack Link; RS40 S&H/Noise/Clock; and RS160 Mixer.

pros & cons

ANALOGUE SYSTEMS RS INTEGRATOR

pros

- Excellent range of sounds and features.
- All analogue, yet stable.
- Almost infinite patching possibilities.
- Compact and well built.
- Easily expanded using standard Euro HP modules.
- Individual modules affordable.

cons

- You'll have to supply your own MIDI-to-CV interface or CV keyboard.
- Current VCO module could do with more options.
- Modules have no input/output level LEDs.
- There's probably a waiting list.

summary

A well designed system, with excellent expandability and limitless patching options. Beginners may feel a little intimidated by all those controls, but this is a superb, affordable modular synth for anyone serious about analogue synthesis.

SOUND ON SOUND

Next to the Frequency knob is a 3-way switch for Wide, Tune or -2 Oct. At the Wide setting the frequency can be swept in one continuous turn (a nice touch), while the Tune position allows the VCO to be fine-tuned by approximately a fifth. The -2 Oct control is similar to the Tune control, but also reduces the pitch by two octaves. In its lower ranges, the VCO can be used as an additional LFO (Low Frequency Oscillator). There are control inputs for 1V/oct (for keyboard or sequencer) and variable CV (for modulation), and a Sync input is also available for resetting the cycle of the waveform to another VCO signal, to get those great edgy lead synth sounds.

RS100 LOW-PASS VCF

Unlike most VCFs made in the last 10 or 15 years, which are usually designed around Curtis chips, this filter uses a traditional Moog design, the so called 'ladder' resistor type. While this may not be a bells and whistles, state-of the-art filter, it is, according to the designers, about as close to a Moog filter as you can get without buying a Moog. Controls are kept to a minimum and comprise only Frequency, Resonance, and input-level controls for audio and CV signals. There are no fancy features — this is just a bread-and-butter low-pass filter. But what a filter! The sound is what you might call sweet with musical overtones, and, I must admit, very 'Moog sounding'. By my measurements, the frequency response isn't as wide as some other filters (including Analogue Systems' own RS110) but who cares when a VCF can sound as sexy as this? Feed it with a couple of VCOs and the world is your lobster — beautiful bass lines, screaming lead lines, growling pulses, resonant saws... You name it, this filter can handle it.

RS110 MULTI-MODE VCF

This is an extremely versatile filter with four simultaneous outputs: Notch (phase), Band-Pass, High-Pass, and Low-Pass. The frequency range is approximately 20Hz-20kHz, and with the resonance control turned fully clockwise the filter self-oscillates and turns into a very nice sine wave VCO. Where you might normally expect to find a voltage-controllable resonance, this filter instead has a unique separate resonance output with a corresponding resonance input. This is an 'insert' point in the resonance path which allows you to send the resonance signal to an external modifier, such as a filter bank, second VCF, VCA, or even a delay line or effects unit. The results can be quite exciting and can change the characteristics of the filter pretty dramatically, and sometimes a little unexpectedly. An eye has to be kept on the position of the Resonance knob when using some configurations, as it's quite easy to overload the VCF, but once you've tried this unusual feature you tend to find yourself thinking of more and more devious routes for the resonance to take. The overall character (or timbre) of the filter falls a little short of the RS100, but that's just a subjective impression, and considering how talented the RS110 is, this slight failing is forgivable.

RS180 VCA

Like the modules above, this is another essential 'building block' module. Apart from audio and CV input level knobs, the only other control is for Initial Level. This control lets you add an offset voltage to the CV inputs, which 'opens' the VCA output and allows you to hear an audio signal even if no other control voltage is present. Interestingly, this VCA allows for both Linear and Logarithmic voltage control simultaneously. Rather than getting bogged down in explaining the theory of Log/Lin control, I'll just say that Log inputs sound better with dynamic voltage-control signals such as ADSR envelope generators, while Linear inputs perform better with traditional CV signals such as LFO waveforms and keyboard voltages.

This VCA performs as you'd expect — cleanly and transparently, with no artifacts. Also bear in mind that it's quite happy handling control voltages through its two audio inputs, which can allow for some complex mixing and controlling of CV signals from other CV sources.

RS60 ADSR

This envelope generator has the usual Attack, Decay, Sustain and Release knobs, plus an output level knob. This is adjustable from normal output (+V), though zero (centre position) to inverted output (-V). There are two 3-way function switches: one provides Hold, Standard, and One Shot

WHAT IS MODULAR SYNTHESIS?

Modular synthesizers were originally developed in the '50s and '60s and were frequently called wallpaper synths because of the sheer size of the things, which often stretched across an entire wall. (If you wanted a system like this nowadays, it wouldn't cost quite as much as the Lord Chancellor's famous wallpaper, but not far off...). Modular synths came into their own and into popular culture in the 1970s, with bands such as Tangerine Dream, Kraftwerk, and Tonto's Expanding Head Band, and artists such as Tomita, Keith Emerson, Rick Wakeman and, of course, the ultimate modular evangelist, Walter/Wendy Carlos.

A typical modular system consists of banks or blocks of sound-generating, sound-modifying and controller modules such as oscillators, filters, amplifiers, envelope generators, modulators, mixers and sequencers. Every module has input and output sockets that are used for interconnecting with the others. They don't have MIDI, memories or presets and they very rarely have hard-wired connections internally — everything is connected across the front of the modules using patch cords.

The underlying principle of modular synthesis is Voltage Control. For example, a typical analogue keyboard generates a different voltage (CV, or Control Voltage) for each key, plus a separate on/off voltage for each key, called a Gate or Trigger. The CV signal can be used to control a Voltage Controlled Oscillator (VCO) to produce different pitches, while the gate control signal is used to trigger an envelope generator (ADSR — Attack, Decay, Sustain, Release) to give dynamics to the sound. So to produce a basic playable sound you would need a keyboard controller, a source such as a VCO, a VCF (Voltage Controlled Filter) to add tonal variation to the sound of the VCO, and an envelope shaper connected to a VCA (Voltage Controlled Amplifier) to vary the dynamics of the sound.

Another fundamental aspect of modular synthesis is that there is little or no difference between audio and 'modulation' signals, and practically any input or output can be connected to anything else. The audio output of a VCO can be used to modulate the control input of a second VCO, a VCA can be used to modulate a control voltage, and a mixer can mix CV signals just as an audio mixer would.

Dimensional shift

Maximum power/Minimum cash

ESI-4000 Turbo-Zip model shown

The new ESI-4000

Starting at £1199* Inc. VAT

Get ready to shift into a new dimension of sound and value with the new ESI-4000:

Massive sound library – The ESI-4000 comes with 2 CD-ROMs with thousands of sounds so you can start making music right out of the box. And, there are over 20 CD-ROMs available from E-mu® Sound Central with fresh sounds arriving daily so your music will never sound stale.

64 voice polyphony – The ESI-4000 gives you 64 voices of music power so you can layer and sequence thick, lush sounds and never drop a note.

Easy to use – The ESI-4000 provides you with an intuitive user interface that is easy to learn and a pleasure to use—you'll spend more time making music and less time reading manuals.

Powerful DSP and sample editing – The ESI-4000 gives you incredibly powerful digital signal processing that lets you massage and manipulate samples to create your own unique sounds. Built-in sample editing tools such as automatic truncation, normalization, and cross-fade looping allow you to edit samples quickly and easily.

Unmatched filter technology – The ESI-4000 has 64 digital 6-pole filters with 19 different types available that make your sounds come alive as never before.

Highly expandable – Your ESI-4000 can hold up to 128 MB of RAM using 72-pin SIMMs and you can easily upgrade the number of outputs, add dual 24-bit effects, and digital I/O with the ESI Turbo Option Kit.

Unbeatable value – The ESI-4000 starts at only £1199* with 4 MB of RAM, making it the best value sampler in its class. Shift dimensions and see the ESI-4000 at your local E-mu dealer today!

*Manufacturer suggested retail price. Prices subject to change without notice

A new dimension in sound—developed for the ESI-4000

Call E-mu Sound Central at **1-888-ESC-1-ESC** (US) or find us on the web at **www.emusoundcentral.com**.
E-mu Sound Central • CD-ROM • CD-Audio • Software • Accessories

E-mu Systems, Inc.

P.O. Box 660015, Scotts Valley, CA, USA, 95067-0015
Tel. 408.438.1921 • http://www.emu.com

United Kingdom Office: Suite 6, Adam Ferguson House, Eskmills Industrial Estate, Musselburgh, Scotland EH21 7PQ Tel. +44 131 653 6556

© 1997 E-mu Systems, Inc. E-mu Systems, E-mu, and the E-mu logo are trademarks of E-mu Systems, Inc. registered in the United States of America as well as numerous other countries worldwide. All other trademarks are property of their respective owners.

triggering options, while the other activates a very useful built-in trigger LFO whose options are Gated Repeat, Standard, and Auto Repeat. In Gated or Auto Repeat mode the internal LFO rate is adjusted by the Release knob, and if the switch is in the Auto position the LFO constantly triggers the ADSR function. If it's in the Gated position, the LFO only triggers the ADSR when an external control signal is present at the gate/trigger inputs. An LED shows the rate of the LFO or the presence of an external gate/trigger. I haven't seen a facility like this built-in trigger LFO since the EDP Wasp. It's a brilliant little featurette and makes it dead easy to set up funky, syncopated triggering effects when using the ADSR with a sequencer or another LFO.

The RS60 ADSR also has a voltage control option which, while welcome, is a bit limited, as it only offers simultaneous control over Decay and Release time.

RS80 VCLFO

Regular readers of *SOS* might know of my love of LFOs — you can never have enough of them, I say. This one is pretty well specified, with a frequency range that extends from sub-sonics into audio (0.02Hz to 1.4kHz, in two ranges), and an LED indicating the LFO rate. There are four waveforms (sine, triangular, square, and a variable sawtooth, with rising or falling ramp). All are available simultaneously and all except the sine have output-level controls. The waveforms don't exhibit any uneven swings or lumpiness, and the LFO sounds perfectly stable. It's worth noting that although the RS80 doesn't use a 1V/Oct CV input it will track a Hz/Volt CV signal, which could be useful if you have an old Korg or Yamaha analogue synth.

A Reset input allows you to sync the LFO waveform cycle to keyboard or sequencer trigger control, or, alternatively, lets you sync it to a VCO. With the right settings the LFO can track a VCO over a wide range, making it a perfectly serviceable audio oscillator. It would be nice if a variable delay was included (for fading up the waveform), but this is an effect that can be patched together with a spare ADSR/VCA.

RS20 RING MODULATOR/ MULTIPLE JACK LINK

There are no controls on this module — just sockets and a great sounding ring modulator. As is usually the way with ring modulators, it's tempting to do all the clichéd effects — Daleks, metallic sounds, FM-type stuff — but this module also tolerates control signals and, unlike some ring modulator designs, responds well to slow-moving control voltages, to produce classic 'bowing' effects of the type which are characteristic of the vintage EMS VCS3 synth. This is logical, because the RS20's design is based on the type used in EMS synths. Another interesting 'scrambled' effect can be achieved by feeding a complex signal (such as a guitar, MIDI synth, or even a mix) into both inputs simultaneously. But I must admit to being mildly disappointed with this module, as it has only one

ring modulator section and four interconnected mini-jacks, for making multiple connections from one connection, extending links when your patch cords are not long enough, and so on; personally I think they should have included two ring modulators and left out the extra sockets.

RS40 NOISE/S&H/LFO

This is another useful module, containing a white noise generator, which produces a basic white noise signal at control level, with a single knob for output level (to get other types of noise, sometimes referred to as pink or red noise, you'd need to feed the noise signal into a VCF or filter); a Sample & Hold circuit with an external source input, a One Shot push button and an output level knob and socket; and an LFO/clock, which produces a basic square wave output (with LED and Rate knob) covering a few Hz. I must admit to a few minutes of initial head-scratching with this module. Usually (in my experience) a Sample & Hold circuit would be internally connected to the noise generator and LFO/clock, to produce a random CV signal as a default setting without any patching. However, to produce any meaningful results with this module you need to patch the noise generator output into the S&H external source input and the LFO/clock output into the external clock input. This patch produces a basic, stepped random voltage at a rate set by the LFO/clock. However, you can substitute the noise signal with any control voltage and the internal clock signal with any LFO or gate-type control.

RS70 INVERTER/PREAMP

This module is used primarily for interfacing with the outside world. The Preamp section has a low-level input suitable for microphones and guitars, and a high-level input for line signals, though line-level signals can also be fed into the low-level input for overdrive effects. The Inverter section is unusual because it performs different functions according to whether the input is an audio or control signal. There are two control knobs, labelled Level and Slew. When used with an

WOT, NO MIDI?

Keen eyed readers may spot the mention of a MIDI-to-CV module in the 'Systems' box. Unfortunately this won't be ready until the latter half of '98. Instead they recommend one of the Kenton range, but there are plenty of other suitable MIDI-to-CV units also available. Alternatively, you could go for a second-hand analogue CV keyboard, such as a Juno 106 or SH101, or any old analogue synth with a CV output. Either way, if you don't have a suitable controller you need to allow for one in your budget.

BUILDING & EXPANDING

Currently RS Integrator and Doepfer modules are interchangeable, as both fit in the same 3U Eurocard case, using the HP measurement system. A Eurocard rack is 84HP wide (see 'Systems' box for an explanation of HP measurements), so it's just a question of checking the width of the modules you wish to use and add them together; any spaces can be filled with a blanking panel. Both manufacturers use a triple rail power supply (+/-12V, 5V), but a custom PSU cable is needed to connect a Doepfer module to an RS Integrator rack, and vice versa. This compatibility is going to appeal to a lot of users, as will the news that Analogue Systems also sell the internal power supply separately for anyone adventurous enough to build their own systems from scratch — an ideal situation for DIY-ers and anyone on a restricted budget. If you intend building your own additional modules, using kits from the likes of PAIA or projects in books and magazines, a good place to find Eurocard panels, parts, and even complete rack cases, is the current Maplin catalogue (available from WH Smith). Mind you, I wouldn't advise this route unless you have some experience of electro-mechanical design and construction. Also, if you blow up your brand new RS Integrator synth in the process, Analogue Systems won't be interested in fixing it under guarantee.

The Final Word In Digital Dynamics Processing

THE NEW dbx DDP

Every Dynamic processor you'll ever need; Compression, Gate, Limiter, De-esser and More with the quality of ultra-wide dynamic range 24bit A to D convertors but with TSE™ (Tape Saturation Emulation) for the warm overload characteristics of analogue tape. Add to this total peak and VU meter coverage of ALL parts of your signal, a choice of Stereo or Dual Mono I/O. AND 50 factory and 50 user presets to remember your settings. And it's by dbx...

...Need we say more?

50 factory presets, 50 user programmable presets

Dual mono or true stereo linked operation

OverEasy® with VariKnee™ or hard knee thresholds

All the classic dbx trademark sounds in gating, compression, limiting, de-essing, and sidechain EQ.

Compression controls: threshold, ratio, gain, OverEasy©, auto, attack, hold, and release

Variable Transient Capture Mode™

Wide-ranging gain control allows for +4/-10 operation

8-step analog input and output metering

Digital input and output meters measure internal digital processing levels

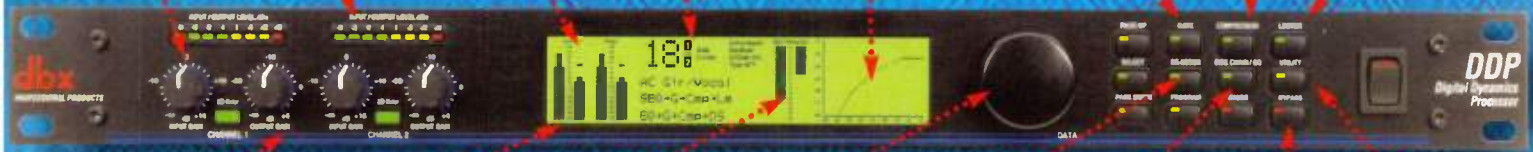
Hybrid display technology. Combines the best of graphics, character and icon based displays

Hi-res graph shows composite output vs. input plot of audio signal

Gate controls: threshold, ratio, attack, hold, release

Ultra-smooth continuous Auto mode.

Limiting from -60dB to 0dB, with gain, attack and release.



Ultra wide dynamic range 24 - Bit A/D and D/A converters with TSE™ Tape Saturation Emulation on board

Digital meters show both peak and average levels

High resolution gain reduction metering

Precision control over every parameter

De-ess from 800Hz to 8kHz, vary the amount.

Sidechain functions for advanced filtering applications. Sidechain monitor included

Midi bypassable via midi program changes.

Utils: sample rate, A/D input and output, Midi functions, Sysex functions.

Gate

Set parameters for threshold, ratio, attack, hold, release, and output gain. See the effect of your settings on the graphical display, as well as on the gain reduction and audio level meters, they all interact in real time with your manipulation of the parameters. Start with a threshold setting of about -60dB to clean off the noise in between the vocal takes.You can save your final gate settings as a "gate preset" building block and recall it into any other setup you do.

Compressor

The effects of the gate settings are visible on the graphic display to help you determine where to set your compressor threshold. Move through all the regular parameters (displayed in real time), like threshold, ratio, attack, release, and output gain. For vocals use a threshold of about -25dB, a ratio of about 3:1 or 4:1, and a slow attack and fast release for the most natural sounding effect. Your compressor settings can also be saved as a building block to be called up into any other preset.

Limiter

Changes you make to the limiter settings are also seen on the graphical display. You can adjust the level and also the speed at which the limiter lets go of the signal as it goes below the threshold. This is truly smooth limiting, with patented dbx PeakPlus™ algorithms, so rest assured that wherever you set your threshold level, your tape will not distort. And like the other parts of the processor, your limiter settings can be named and saved for later recall.

De-esser

De-essing works the same way; see the effects of your settings displayed on the graph. Parameters here are the common ones: threshold (800Hz to 8kHz), and amount (%). Other processing includes EQ - both in-path and sidechain - for special-effect types of processing. When you are editing any of the building blocks, its icon is visible on the display, and the parameters are shown on the graph, so it's always easy to know where you are.

and More

You can also work in stereo, or set up a completely different and independent processing chain for the other channel. Optional digital output with the TYPE IV™ Conversion System with TSE™ (Tape Saturation Emulation) provides up to 24-bit output in either AES/EBU or S/PDIF formats with the trademark digital processing of TYPE IV™. The DDP also has full MIDI/Automation capability, with separate midi in and thru jacks.

Dynamic Range...

266XL • Compressor /Gate • 2 channels of classic dbx compression • Auto Dynamic™ attack and release • Program-adaptive expander gates

286A • Studio quality Microphone Processor • 5 dynamics processors in one • Compressor • De-esser • Exp/Gate • Balanced/Line level inputs

1066 • Dual Channel Compressor /Limiter/Gate • V2™ VCA • Hard knee or Overeasy® compression • PeakStopPlus™ limiting

1086 • Mic Preamp/Processor • 48V Phantom power • Optional digital I/o • Variable frequency low-cut filter • VU meter

1605 • Stereo Compressor/Limiter • From industry standard 165 • High precision input stages • World's largest dynamic range (127dB) V8 VCA

786 • Solid State Mic. Preamp • Purest source reproduction electronically possible • 130dB dynamic range • 104dB S/N ratio

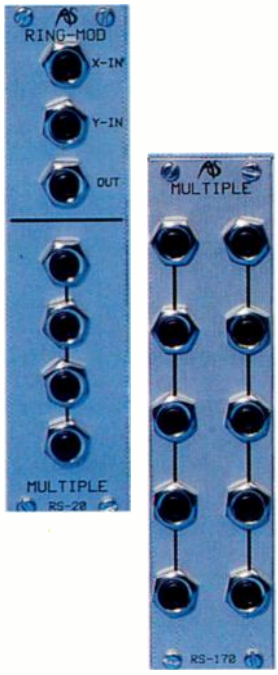
MC6 • Minicomp • Full stereo with True RMS Power Summing™ • Auto mode for vocal or instrument • Full 8 stage metering • Great for studio or live • Switchable hardknee or Overeasy™ compression

586 • Dual Vacuum Tube Preamp • 2 channels • Hand selected & matched 12AU7 valves directly in the signal path • Drive control • Peak Plus™

Call for a 1998 dbx full colour brochure

dbx PROFESSIONAL PRODUCTS

Distributed exclusively by **ARBITER GROUP PLC**
Wilberforce Rd. London NW9 6AX
Tel: 0181 202 1199 • Fax: 0181 202 7076
http:www.arbitergroup.com



audio signal, the Level knob's null centre position mutes the output. Turning the knob clockwise results in a normal but boosted audio signal (maximum gain x10), while turning it anti-clockwise produces an out-of-phase signal. In this context, the Slew control acts like a simple low-pass filter and attenuates any high frequencies. If a control voltage rather than an audio signal is passed through the Inverter, the Level knob allows the signal through unchanged in the null position, boosts it when the knob is turned clockwise, and boosts and inverts the voltage in the opposite direction. This function is useful for phase reversing LFO waveforms, for panning-type effects, and for inverting sequencer notes (although you can achieve a similar function using the RS230 CV Buffer module, which also contains an inverter). When it's used with control signals, the Slew knob slows down (or smooths out) the changes between stepped voltages, and is handy for adding glide or portamento to a keyboard or sequencer CV signal.

RS30 PITCH-TO-VOLTAGE & ENVELOPE FOLLOWER

Like the previous one, this is another module for interfacing with the outside world. The envelope follower works by analysing an input signal and producing an envelope control-voltage based on the amplitude of the signal. It works well with most sources, but I found that regular audio signals (off-tape, guitar, mic, sampler, and so on) needed to go through the Preamp module first, to get a decent drive level. A useful Slew knob allows transient signals to be smoothed out, but I would like to see an LED to show when an input and/or output signal is present.

Don't expect too much from the Pitch-to-Voltage section of this module: it's basic, functional, and monophonic. To get any sort of usable results you need to feed it a non-complex, monophonic signal (otherwise the results will be random gibberish) and patch the control output signal into a VCO CV input. When I used the Pitch-to-Voltage facility to follow a VCO square wave signal, it tracked over approximately half an octave before drifting out of tune, but it fared better when fed a basic four-note synth bass line.

RS50 TRIGGER GENERATOR/ VC PULSE SHAPER/DC LEVEL SHIFTER

With this module, things start getting a little esoteric, and Analogue Systems inform me that they have plans for more weird modules in the future.

The Pulse Shaper can take a signal (audio or control) and produce 10V gate pulses derived from the peaks and transients the signal contains. This works well, and is useful for syncing analogue sequencers and envelope generators to bass lines, drum machines, or other sequencers. It also features a knob for varying the pulse (gate) width and a voltage controllable pulse-width input.

The Level Shifter section is for transposing CV or trigger/gate signals by +/-10V, using a variable control where the centre null position allows the CV signal through unaffected. The Shifter also produces a +/-10V control voltage output without any input signal present. This could be useful for manually sweeping or controlling multiple CV sources simultaneously from one knob.

The Trigger section is one of the most innocuous-looking parts of this whole system, with just an input socket, output socket, and an LED. Yet it's capable of performing all sorts of weird and wonderful functions. Its primary purpose is similar to the Shaper — to output a 10V trigger pulse from an input signal, which it does admirably. However, while the Shaper literally strips out the input and replaces it with a series of on/off trigger pulses, the Trigger works by detecting pitch changes in the signal, with altogether different results. Its input doesn't have to be audio, either, as it can detect changes in CV signals also — such as keyboard and sequencer patterns or joystick movements. When you feed in a complex audio source and monitor the control output as if it were an audio signal, the control output 'adopts' (for want of a better word) the characteristics of the input signal. The sound is like a cross between a ring modulator and a fuzz box. Because there are no controls for this section, you need to use a pre-amp or a source with a variable output level to get manageable results — the slightest change in level can dramatically alter the sound. I had great fun trying out different sources,

SYSTEMS

There are currently two RS Integrator 'off the shelf' systems available:

• MINI SYSTEM: £595
RS10 3U rack case; RS90 VCO; RS110 Multi-mode VCF; RS180 VCA; RS60 ADSR; RS80 VCLFO; RS20 Ring Mod/Multiple jack link; RS40 S/H/Noise/Clock; assorted patch leads; instruction manual.

• SYSTEM 1: £949
RS15 6U rack case; RS90 VCO (x2); RS100 VCF; RS110 Multi-mode VCF; RS180 VCA (x2); RS60 ADSR (x2); RS80 VCLFO; RS20 Ring Mod/Multiple; RS40 S&H/Noise/Clock; RS160 Mixer (Lin); RS160 Mixer (Log); RS230 CV Buffer; RS170 Multiple jack link; assorted patch leads; instruction manual.

Wooden cabinet systems are also available.
The full List of RS Integrator modules, current and still in development, is as follows.
Prices include VAT.

RS10 (£185)	3U, 84HP 19-inch case with internal power supply
RS15 (£215)	6U, 2x 84HP 19-inch case with internal power supply
RS20 (£45)	Ring Mod/Multiple jack link
RS30 (£45)	Pitch-to-Voltage & Envelope Follower
RS40 (£60)	Noise, Sample & Hold, LFO/Clock
RS50 (£55)	Trigger Generator, VC Pulse Shaper & DC Level Shifter
RS60 (£65)	VC ADSR with auto repeat
RS70 (£55)	Pre-Amp, Inverter, Slew
RS80 (£65)	VC LFO: Square, Saw, Sine, Triangle, Sync
RS90 (£65)	VCO, Square, Saw, CV variable wave shapes, Sync
RS100 (£65)	Low-Pass VCF (Moog 'ladder' type)
RS110 (£65)	Multi-mode VCF
RS120 (£TBA)	Comb Filter (phaser/flanger)
RS130 (£TBA)	Programmable Scale Generator
RS140 (£TBA)	MIDI-to-CV Converter
RS150 (£55)	Sequential Switch Mixer/VCA
RS160 (£32)	4:1 Mixer, 2 types: Log (for audio) or Lin (for CV)
RS170 (£17)	Dual 5-way Multiple jack link (3.5-inch mini jacks)
RS180 (£45)	VCA with log and lin CV inputs
RS190 (£TBA)	Advanced clocking device
RS200 (£TBA)	3-row, 12-step Analogue Sequencer
RS210 (£65)	8-octave Fixed Filter Bank
RS220 (£TBA)	Joystick
RS230 (£35)	CV Buffer/Inverter
RS240 (£TBA)	Envelope Generator (EMS trapezoid type)
RS250 (£17)	Trunk Line; brings audio to rear panel
RS260 (£TBA)	Voltage Quantiser
RS270 (£25)	Adaptor/Converter: 3.5mm-5mm, and phono sockets

Each RS Integrator rack is 3U high and 84HP wide (the module widths are measured in horizontal pitch, or HP). To work out how many modules will fit in a case, add together the widths of each module using the HP measurements (1HP = 5.08mm)
All modules are 12HP wide except: RS20, 150, 170, 230, 250, 260, which are all 6HP; RS110 and 130, which are 18HP; and the RS200, which is 84HP.

The AKAI Family Album

The close-knit Akai family of professional hard disk recording products all share the advanced component design of the DD1500, the mother of all audio post-production workstations. Entirely purpose designed for the dedicated recording, editing and syncing of audio to picture, the line is continued by the Akai DR8, an 8 track hard disk digital recorder/player as easy to use as a conventional MTR and its bigger brother, the DR16 which shares the family's powerful non-destructive editing facilities and gives a surprisingly low price level per track. Up to eight DR16s and DR8s can be chained together in combination to give a maximum of 128 tracks. **The family that plays together, stays together.**

Akai DD1500
Digital audio post-production workstation

- All primary functions accessed from dedicated keys
- No mouse or drop-down menus
- Smooth, fast operation thanks to proprietary LSI chips and multitasking operating system
- 8 track recording on a single M/O disk or 16 tracks on a hard disk
- Powerful, easy to use editing with all 16 tracks visible on screen
- Highly sophisticated synchronisational abilities including reverse play and slow motion
- 16 channel digital mixer
- Remote operation up to 200 metres away
- Disks compatible with DR8, DR16 and DD1000

Akai DR8
8 track hard disk digital recorder/player

- 16 bit linear professional quality 8 track simultaneous recording/playback
- Logical format of conventional MTR tape machine
- User choice of hard disk fit, fixed or removable
- Non-destructive editing facilities
- Disk random access allows instant playback or edit
- Standard digital interface allows 16 track backup to DAT
- Built in 16 channel programmable mixer
- Same synchronisation performance as DD1500
- Optional VGA output board
- Extensive range of common DR8/DR16 interfaces for upgrading
- Disks compatible with DR16 and DD1500

Akai DR16
16 track hard disk digital record/player

- 16 tracks of 16 bit linear digital performance from a single SCSI hard disk, fixed or removable
- Highly cost-effective price level per track
- As easy to use as a conventional MTR
- Standard digital interface allows 16 track backup to DAT
- Total editing with zero loss
- 16 channel programmable mixer
- Same synchronisation performance as DD1500
- Optional VGA output board
- Extensive range of common DR16/DR8 interfaces for upgrading
- Disks compatible with DR8 and DD1500

AKAI DIGITAL **Akai (U.K.) Ltd** E.M.I. Division, Haslemere Heathrow Estate, Parkway, Hounslow, Middlesex TW4 6NQ. Tel. 0181 897 6388 Fax. 0181 759 8268
Contact Akai Electric Co Ltd for details of your local Akai Digital distributor

including tapes, samples, bass lines, and drum machines, and I got some outrageous effects. Taking things a step further, some interesting results can be achieved by feeding the control output into other voltage-controllable sources and modifiers.

According to Analogue Systems, the Trigger can also operate as a frequency doubler, and you can plainly hear this effect if you use the right input levels on some audio material. One of their suggestions is that it could be used to transpose a Sync24 drum machine clock signal to 48ppqn (pulses per quarter note) to drive some older drum machines, although I wasn't able to check this out). Experiment!

RS160 4:1 MIXER

There are two types of mixer: Log for audio signals, and Lin for control voltages. You're not restricted to how the mixers are used, though — control voltages can be put through the Log mixer and audio through the Lin mixer. Each mixer has unity gain and a variable master output capable of producing positive or negative signals, with a null point in the centre position.

RS210 8-OCTAVE FILTER BANK

This is a basic, single-channel, no-frills affair, with eight fixed bands at 75Hz, 150Hz, 300Hz, 500Hz, 700Hz, 1.5kHz, 3kHz, and 7kHz. The eight knobs simply attenuate, or pass through (without boosting) each band.

Other modules include the RS230 CV Buffer, which is used to distribute a single CV or gate signal to multiple sources and offers an inverted output, and the RS170 Multiple, which consists of two rows of five interconnected mini-jacks.

SPAGHETTI LOOPS

I find little to complain about with the RS Integrator. I'd like to have seen an input- and/or output-level LED on some of the modules (as on the venerable Roland System 100M modular synth), to help the user track down signals and rogue levels. I'd also like a few more options on the VCO, such as a sine wave output and a soft/hard option for the sync input. A few more octave steps for frequency range would be useful, as would a separate fine-tune control, and for really complex modulations, a third CV input wouldn't go amiss either.

Including only one Ring Modulator in the RS20 module is a bit mean, and I also expected to find some form of common buss system to assist in sending keyboard CV, gate and trigger signals to modules such as the VCO, VCF and ADSR, as this would cut down on using patch cords unnecessarily.

Comparisons between the RS Integrator and Doepfer's A100 modular system (see p.12, *SOS* November '97) range are inevitable, as these are the main new modular systems on the market at the moment. And I'm sure it must have crossed a lot of people's minds that the RS Integrator and Doepfer 100 system look spookily alike. Well, they would, because they're based around the same rack case, and if this means the beginning of a new 'standard', that's probably a good thing. (Incidentally, the Roland System 700 and Moog Series 3 looked almost the same, but their modules weren't interchangeable.)

EURO SYNTH

The custom system supplied for review here will set you back about £1450 (including VAT). However, try buying an equivalent, second-hand, 22-module Roland 100M system and you'd probably have to pay in the region of £2500 or more. I'm not even going to consider the cost of a similar Moog, ARP or Roland System 700! (When compared to a Doepfer system using similar modules, the RS Integrator works out slightly cheaper, partly due, no doubt, to the fact that Doepfer modules have to be imported from Germany.)

On the whole, this is a superb analogue modular system — well designed, full of comprehensive features, solidly built, expandable, and reasonably affordable. Even the basic Mini System (see 'Systems' box) should be capable of producing some pretty complex sounds; at £595 it's competitively priced (though no MIDI-CV interface is included) and makes a good place from which to start building a larger system. The oscillators are wide-ranging and stable, and the filters are particularly well specified for this price.

The RS Integrator may not be the best choice for beginners or 'MIDI heads', but if you're an analogue purist, or analogue appeals to you and you're not too intimidated by all those knobs and sockets, it's definitely worth considering. Instruments like this also make extremely useful teaching tools because of the very graphic and obvious way signal paths and connections can be seen and implemented. Modular synthesis is, after all, what many electronic instruments are in basic form — a collection of sources, filters, modulators, modifiers and controllers. The only problem with the RS Integrator could be availability, as Analogue Systems are selling them as fast as they can make them. If I were you, I'd place my order now. SOS

ABBREVIATIONS & TERMS

VC:	Voltage Control
VCO:	Voltage Controlled Oscillator
VCF:	Voltage Controlled Filter
VCA:	Voltage Controlled Amplifier
ADSR:	Attack, Decay, Sustain, Release
LFO:	Low Frequency Oscillator
Clock:	A basic LFO, with a single-waveform output and a limited range, so called because they used to be used for clocking sequencers
RM:	Ring Modulator
S&H:	Sample and Hold, a circuit for sampling an input voltage when given a trigger. That signal will then be held at the output until re-triggered. It's a bit like a sampler, but just for voltages
Gate:	An on/off control signal. When you press a key, a gate signal will be sent out for as long as you keep your finger on the key
Trigger:	A short on/off pulse, similar to Gate. The difference is that a Trigger signal is sent only at the beginning of a note, and is unaffected by how long you hold a key down
Log:	Logarithmic scale
Lin:	Linear scale
1V/Oct:	Chromatic control standard used by Moog, ARP and Roland. A change of one Volt in the control signal would mean a change of one octave in pitch. Each Volt is sub-divided into 12 for the notes of an octave, with each sub-division corresponding to one semitone
Hz/Volt:	Different chromatic control standard used by Yamaha and Korg
Slew:	A type of portamento; acts like a low-pass filter on audio signals
Res or Q:	Filter resonance
Null Point:	Zero output

info

£ See 'Systems' box.
A Analogue Systems, 17 Cannis Road, St Austell, Cornwall PL25 4EB.
T +44 (0)1726 67836.
F +44 (0)1726 67836.
W www.netkonect.co.uk/a/analogue/

EASY PARKING - FRIENDLY SERVICE

GIG SOUNDS

MON-FRI 10AM 6.30PM SAT 10AM 6.00 PM

Established 1978

GIG Sounds Ltd
86/88 Mitcham Lane,
Streatham, London SW16
Tel: 0181 769 6496 or 5681
Fax: 0181 769 9530

GIG Sounds Ltd
195 London Road,
Croydon, Surrey CR0 2RJ
Tel: 0181 686 4546
Fax: 0181 681 5755

The Music Retailers Association

The Original The Best
Mail Order - Part Exchange

Call with Confidence
All prices include VAT

DRUMS - GUITARS - WOODWIND & BRASS - BOOKS & MUCH MORE

SECONDHAND GOODS BOUGHT AND SOLD. GUITAR & HI TECH SERVICE DEPARTMENTS

Soundscape PC HARD DISK RECORDER
8 TRACK REAL TIME WAVEFORM EDITING AND RECORDING
EXPANDABLE TO 192 outputs, OPTIONAL TIME STRETCH, IN BARS, BPM, OR FRAMES, PITCH SHIFT, LOCK TO VIDEO, FULL MIDI CONTROL, EFFECTS SSHDR1, EQ, VOL £1999.00
VER 2 12 TRACKS WITH REAL TIME EQ, MIXING, EFFECTS
FREE 2.1Gb DRIVE WITH EVERY SOUNDSCAPE £3199.00
LET GIGSOUNDS BUILD YOUR SYSTEM
200MMX, 2.1Gb HARD DRIVE, 32Mb RAM, 15" Monitor, 24X CD ROM, SOUNDSCAPE SSHDR1, FREE 3.1gb DRIVE £2899.00

SONY PCM R300 DATS RRP ~~£798.00~~
HI RECORDING
while stocks last.....£499.00
Mackie 1202 VLZ £299
Mackie 1402 VLZ £399
Mackie 1604 VLZ £799
Mackie 8 Buss 24:8:2 ..... £2199
Kawai N5000S £1099

CALL WITH CONFIDENCE FOR SOUND ADVICE ON THE PA SYSTEM FOR YOU. COME DOWN TO OUR P.A. SHOWROOM AND ALL YOUR QUESTIONS WILL BE ANSWERED. *FOR FRIENDLY HELP CALL OUR FREE PHONE NUMBER NOW!!!*
PA
All Major Brands In-Stock

KORG
D8 Digital 8 Track £849
TRINITY £1449.00
TRINITY PLUS £1639.00
TRINITY PRO £1999.00
TRINITY PRO X £2399.00
Z1 ..... £1449.00
NS5R £479.00

TIME+SPACE
jukebox in our Streatham Branch

E-MU Orbit, Planet Phatt & Carnival while stocks last.....£699.00
DANCE SYSTEMS
Roland XP10 ..... £399
Roland XP50 ..... £1029
Roland XP60 ..... £1299
Roland XP80 ..... £1429
Roland VS 840 ..... £999
Roland VS880 Expander £1499
Roland VS 1680 20 Bit 16 Track £2199
Roland MC 505 ..... £949

ALL AKG MICS INCLUDE A FREE CABLE
MICS
AKG D3700 (20Hz - 18Khz VOCAL) £65.00
AKG D3800 (20Hz - 20Khz PRO VOCAL) £85.00
AKG C5900 (PHANTOM ONLY 20HZ - 20KHZ PRO VOCAL) £149.00
AKG C1000S (INDUSTRY STANDARD CONDENSER) £149.00
AKG C3000 (PRO STUDIO) £199.00
AKG WMS51 (TRUE DIVERSITY RADIO MIC) £229.00
PRICES ONLY WHILE STOCKS LAST

FREEPHONE STREATHAM 0500 123 616

Finance. Written details on request
Overnight Delivery
Streatham Tel: 0181 769 6496 Croydon Tel: 0181 686 4546

HUGE RANGE OF ACCESSORIES. SOUND ADVICE IN PA. RECORDING, KEYBOARDS ETC.

The Specialists in PowerMac Hard Disk Recording Systems

MacMusic

Our best selling G3 VST pakage...

PowerMac G3/233 64/4Gb 24xCD
Apple Multi-Scan 15av Monitor
Keyboard & Mouse
Steinberg Cubase VST
MacMan Midi Interface
only £1,999
including VAT & Delivery

Computer Options: *(instead G3/233 Desktop)*
G3/266 Desktop with Zip ..... add £240
G3/266av Minitower with Zip ..... add £580
Upgrade to 96Mb SDRAM ..... add £55
Additional Hard Disks:
Seagate 4Gb AV Hard Disk ..... add £265
Seagate 4Gb Barracuda Hard Disk ..... add £435
Monitor Options: *(instead of Multi-Scan 15av)*
17in. Multi-Scan Monitor ..... add £95
17in. Multi-Scan Trinitron Monitor ..... add £205
19in. Multi-Scan Trinitron Monitor ..... add £425
CD Writers & Storage:
Sony 2x 6x CD Writer £299
Yamaha 2x 2x 6x CD Re-Writer £349
Sony 4x 8x CD Writer £399
Yamaha 4x 2x 6x CD Re-Writer £459
Jaz Drive 1Gb £249
Software Options: *(instead of Cubase VST)*
Emagic Logic Audio Gold ..... add £90
Emagic Logic Audio Platinum ..... add £230
MOTU Digital Performer v 2.3 ..... add £200
Emagic LA Discovery & Audiowerk 8 ..... add £200
ProTools Powermix & Audiomedia 3 ..... add £400
Midi Interfaces: *(instead of MacMan)*
MOTU Micro Express ..... add £212
MOTU Midi Express XT ..... add £302
MOTU Midi Timepiece AV ..... add £512

MacMusic Systems are also available at all **Sound Control** stores throughout the UK

All prices include VAT

Complete Studio Solutions

We can supply complete digital studio solutions, with multi-channel audio cards, mixers, monitor speakers, amplifiers and effects processors. Whether you need 8, 16, 24 or more individual outputs, we can advise you on what hardware you'll need, and configure a complete system that meets your requirements.

Call for more details on...
KORG MOTU YAMAHA DIGIDESIGN

G&N Computers
9 East Bridge Street, Falkirk, FK1 1YD.

01324 887007
fax: 01324 887004
email: gandn@post.almac.co.uk

Apple Authorised Reseller

North London · 0181 440 3440
230 High Street · Barnet · Herts · EN5 5TD
Fax · 0181 447 1129
South London · 0181 407 8444
562 - 562b Brighton Road
South Croydon · CR2 6AW
Fax · 0181 407 8438

THE DIGITAL VILLAGE & digidesign

Everything you ever wanted...

How would you like to mix your next track with **10 Focusrite Red 3 stereo compressors** (normal cost around **£22,000**) or maybe use **9 Focusrite stereo Red 2 EQ's** – not enough? Well what about **3 master quality Lexicon reverbs?** or a mix of **Focusrite EQ & Compression** and **Lexicon Reverbs** and while we are at it let's pop in a **TC Electronics Chorus.** This is the reality of a Pro Tools III or Pro Tools 24 system – with some of the available plug-ins. Other options include Valve and Tape simulation, Dolby surround, Autotune (tune those dodgy vocals in real-time), Vocal alignment (for tightening up BV's etc), Pure pitch (real-time harmonies)...The basic philosophy is – **Why buy another outboard box when you could run multiple copies of the same effect on the Pro Tools DSP chips?**

NEW on-board Lexicon Reverb option

HUI Now In Stock

Pro Tools

DV Pro Tools Packages

- Pro Tools III v4.1 (16 track package):
- Apple PowerMac 9500 (six PCI slots)
- 17" Formac monitor
- 2 GB External AV hard drive
- Pro Tools III Core (with v.4.1 software)
- Digidesign 882/20 I/O
- **Only £5,999+VAT**

(£7,048.88 inc.VAT)

The Professionals Choice

24 or 16 bit, State of the Art AD/DA converters, Total recall including all FX, EQ, Level, Pan. Up to 32 track, up to 72 in/outs, 24bit Internal FX processing.

Free with this package (until end of June) either a Focusrite Green Dual Mic/Pre or an 882/20 20bit Interface or a Digidesign Adat Bridge

- Pro Tools 24 (32 track package):
- Apple PowerMac 9600 (six PCI slots)
- 17" Formac monitor
- 4 GB External AV drive + SCSI accelerator
- Pro Tools 24 Core (with v.4.1 software)
- Digidesign 888/24 bit I/O
- **Only £9,999+VAT**

(£11,748.82 inc.VAT)

Add Logic Audio Platinum & MTP AV for Just £899.99+VAT

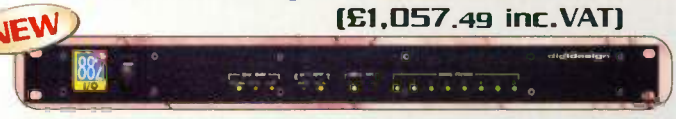
(£1,057.49 inc.VAT)

NEW

ADAT Bridge I/O

- 16 channels of ADAT optical inputs/outputs for connection to ADATs or to Digital mixers
- Supports ADAT sync (including BRC)
- 20bit D/A for Monitoring
- Replaces or augments existing interfaces on your ProTools rig
- Separate AES/EBU & S/PDIF

NEW



882/20 I/O Interface

a quality leap in A/D D/A converters

- 8 Balanced ins & outs (20bit A/D and D/A) +4dB & -10dB switchable S/PDIF digital in/out
- Compatible with ProTools PCI cards

Barnet: 0181 440 3440 · Fax: 0181 447 1129
Croydon: 0181 407 8444 · Fax: 0181 407 8438

Errors and omissions excepted

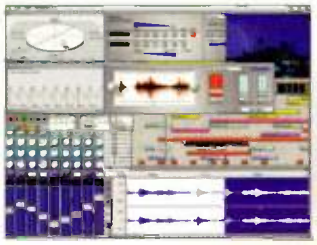
East London · 0181 597 3585
10 High Road · Chadwell Heath
Essex · RM6 6PR
Fax · 0181 599 7236

Cambridge · 01223 316091
86 Mill Road · Cambridge · CB1 2AS
Fax · 01223 353857

ADVENTURES IN AUDIO

emagic

Logic Audio the Professional Choice – Now becomes affordable



Logic Audio has been the most popular Audio Midi sequencer at the Pro Level for many years – used in conjunction with Digidesign ProTools and now with version 3.0 a lot of these features become available on a budget and without any additional hardware.

Here Is just a selection of features:

- Up to 32 tracks of Audio (depending on Computer and Hard drive)
- Audio Inserts on every track: Fully Parametric EQ, Delay, Reverb, Chorus, Flanging
- Formant Pitch shift – Create harmonies that still sound like a real person
- Premiere plug-in compatible – Use Peak SFX or Hyperprism for amazing Audio FX generation
- Quick access windows with one key stroke
- Audio quantize – Tighten up that live hi-hat
- Exceptionally tight timing
- Groove Audio – Put swing into straight audio
- Audio Noise and hiss removal

Watch out for new Silver, Gold & Platinum Logic versions coming soon – Ring for details

£ GUARANTEED £ BEST PRICE

RRP £449

NEW

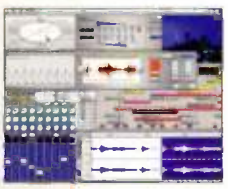
Audiowerk8

2 analogue ins, 8 analogue outs and S/PDIF In/Out. Bundle including FREE Logic Audio Discovery and Cool Edit Pro.

Digital Village G3 Pro Audio Package

Why buy a (soon to be discontinued) 604e clone when you can have a just released state-of-the-art REAL Apple Macintosh G3 processor with 150% more power for the same price? – Get this spec...

- Apple PowerMac G3 233Mhz, 32Mb, 4Gb HD, 512k cache, CD
- Logic Audio Gold with in-line & aux Realtime Reverbs, EQ, Delays etc.
- Audiowerk8 card – 2 ins, 8 outs, Digital In & out
- 26b AV drive for Audio recording
- 17" Trinitron Colour Monitor
- Midi interface 1 in 3 outs



The system is supplied pre configured and backed by our second to none support (ask ANY of our existing customers!)

Package Price only £2999 inc VAT

Finance available subject to status – please call for a quote

VST package – same package replacing Logic Audio/AW8 with Cubase VST with Korg 1212 I/O **£3299** inc VAT

CD Writer – Stay digital through to CD 74mins Audio (or 650Mb data) and backup your songs for later remixing – add an external CD writer & Toast to the above package for £349 inc VAT.

VST on the PC – Now Is stock!

Now on permanent demo the much awaited Cubase VST 3.5 for Windows PC which features up to 32 audio tracks and a real-time studio environment complete with effects. We will also be demo-ing the new WaveLab 1.6 which allow Red Book compatible CD-burning complete with mastering and PQ encoding.

Pro Audio

Do you want to configure a studio set-up?
If you need advice on Desks, Mics, EQ, Compressors, Exciters, Multi-FX, DATs, etc. Speak to DV for: Avalon, Drawmer, Lexicon, TLA, Eventide, Joe Meek, Alan Smart, Tube-Tech, Mackie, Neumann, Octava, Nevaton, Sennheiser, AKG, Røde, TC Electronics, Focusrite, SPL, DBX, Yamaha, Dynaudio, Spendor, KRK etc. etc.

NEW

Antares Autotune Perfect pitch In a box

Boxed version of the ProTools plug-in.

- Realtime processing
- Stand alone operation
- Pitch correction of vocals and solo instruments

Requires an audio source, electricity and an operator intelligent enough to breath without assistance – IT WORKS!

RRP £999

Credit terms available subject to status. Call for a quote

All major Credit cards accepted

Same day despatch for Mail-order items when in stock

Leasing terms available to companies or self-employed customers

North London · 0181 440 3440
230 High Street · Barnet · Herts · EN5 5TD
Fax · 0181 447 1129
South London · 0181 407 8444
562 - 562b Brighton Road
South Croydon · CR2 6AW
Fax · 0181 407 8438

THE DIGITAL VILLAGE

THE COMPUTER EXPERTS

Steinberg CUBASE VST rules the world – it's official!

Still our best-selling Audio sequencer and now even more powerful on the Apple G3 (32 tracks of Audio playback, EQ on every track and 4 x FX without even trying).

Take the strain off your sampler – Use VST for vocals and drum loops etc, and keep the sampler for the keyboard parts. Audio is much easier to loop, time stretch and edit on a computer (and hard disk space is much cheaper than RAM).

Audio card support – VST supports the Korg 1212I/O card, Digidesign's Audiomedia III card (and Lexicon's new system) on the Mac and PC along with numerous PC sound cards.

New Free Plug-Ins – Along with VST, Steinberg have included a new Reverb, Binaural Stereo Enhancement, a Fuzz Box, a Chromatic Tuner and an Oscilloscope – **all bundled in FREE with VST!**

VST – £GUARANTEED BEST PRICE

STOP PRESS – VST HAS NOW GOT INSERTS ON EVERY CHANNEL ON THE PC VERSION (AND SOON ON THE MAC)

Plug-Ins Waves Native Powerpack (the same FX as ProTools TDM) can run on your VST system, including: L1 Maximiser – make your DAT or CD sound really loud, Trueverb – a great quality reverb, Q10 – fully parametric 10 band EQ, C1 compressor/limiter and S1 – stereo widening for just £399 Inc.VAT

Other recommended Plug-Ins

Audiotrack – compressor / 3 band full parametric EQ	RRP £169
Magneto – tape saturation and analogue sound for just	RRP £299
Autotune VST – tune those dodgy vocals in realtime	RRP £299

We still don't think that many users have realised the power of plug-Ins – which can greatly enhance your system.

If you own a computer and you make music, how could you possibly live without...
24 Ins + 24 Outs for under £1000

NEW

Mark of the Unicorn 2408

- 24 Digital Ins + 24 Digital Outs (both ADAT plus TDIF)
- Ready for **ANY** PC sequencer that supports Windows drivers
- Optimised for I/O to prevent strain on computer – Doesn't reduce FX or EQ
- 8 Analogue Ins & Outs plus S/PDIF
- Works with Digital Performer on the Mac
- Drivers being written for other Mac sequencers

At £995 Inc.VAT this system is simply amazing value for money!

Digital Performer – the feature loaded audio sequencer

Why buy Digital Performer over the other Mac Midi/Audio Sequencers? Here are 8 good reasons:

1. The E-Verb – a smooth brilliant sounding reverb that uses the Mac PowerPC processor as its engine.
2. Dynamics – Compression / Expansion / Limiting / Gating – this is the only sequencer with Audio dynamics available on each channel and on the master output (outside of ProTools TDM).
3. Harmonising – Still the best sounding software harmoniser (outside of ProTools TDM plug-ins).
4. Digidesign Cards & TDM support at no extra cost
5. Korg 1212 support at no extra cost
6. The EQ is modelled on a very expensive mixing desk (starting with N) – this EQ is excellent.
7. Inserted FX – Everb, Chorus, Delay etc, available on every channel (or you can set them up as aux channels)
8. Sample editing via SCSI – Import samples from your Sampler, edit and send them back without leaving the sequencer!

If you are new to Computer sequencers you should take a long hard look at Digital Performer and compare it facility for facility against the competition. Alternatively, if you already own another software sequencer (and are open to new things) the DP package is available for just £299 with proof of ownership.

Barnet: 0181 440 3440 · Fax: 0181 447 1129
Croydon: 0181 407 8444 · Fax: 0181 407 8438

East London · 0181 597 3585
10 High Road · Chadwell Heath
Essex · RM6 6PR
Fax · 0181 599 7236

Cambridge · 01223 316091
86 Mill Road · Cambridge · CB1 2AS
Fax · 01223 353857
THE COMPUTER EXPERTS

The PC Centre of the Universe

For the last five years Digital Village has earned its reputation CONFIGURING, SUPPLYING AND SUPPORTING Digital Hard Disk Recording Systems – Go on, Pick up the phone...TALK TO THE EXPERTS

It would be impossible to list all the permutations of systems we can supply, but check out these PENTIUM SYSTEMS we prepared earlier!

System 1

- Pentium 200MMX
- 32Mb EDO RAM
- 2.1 Gb Ultra DMA Drive
- 1Mb S3 Virage Video Card
- 24 x CD Rom Drive
- 14" SVGA Digital Monitor
- Steinberg Cubase VST V3.55
- Turtle Beach Malibu

For only ..... £ 1149.99
(Configured and Delivered!)

System 2

- Pentium 233MMX • Intel TX Chipset
- 32Mb EDO RAM • 4.3 Gb Ultra DMA Drive
- 24 x CD Rom Drive
- 2Mb Stealth Video Card
- 15" Digital Monitor
- Steinberg Cubase VST V3.55
- Soundblaster AWE64 Gold

For only ..... £ 1399.99
(Configured and Delivered!)

System 3

- Pentium II 266Mhz • Intel LX Chipset
- 32Mb SDRAM • 24 x CD Rom Drive
- 1 x 2.1 Gb Ultra Drive Program Drive
- 1 x 2.1 Gb Ultra DMA Audio Drive
- 4Mb 3D Stealth Video Card
- 15" SVGA Digital Monitor
- Logic Audio Discovery
- Cool Edit Pro LE • Audiowerk 8 Card
- Midiman 1x1 Midi Interface

For only ..... £ 1799.99
(Configured and Delivered!)

System 4

- Pentium II 333Mhz CPU
- DDI ATX Motherboard (Intel LX chipset)
- 512Kb Pipelined Burst Cache
- 64Mb SDRAM
- 24 x CD Rom Drive
- 2.1 Gb Ultra DMA Program Drive
- 4.1 Gb SCSI Audio Drive
- Adaptec PCI SCSI Interface
- 4Mb AGP Graphics Card
- 17" SVGA Digital Monitor
- 1.44Mb Floppy Drive
- ATX Midi Tower Case
- Windows 95 OSR2.5 CD and License
- PS2 win95 Keyboard & Mouse
- Yamaha CDR400 4xW 6xR CD Writer
- Steinberg Cubase VST V3.55
- Steinberg Wavelab (red book compatible)
- Event GINA Audio I/O
- MOTU Micro Express 96Ch Midi Interface
- 10 Blank CDR Media

Now ONLY ..... £ 3599.99
(Configured and Delivered!)

An O2R for only £699.99?

At Digital Village we believe that the DS 2416 PCI Card is the most exciting product of the year. Imagine ALL the automation, all the dynamics and all the professional FX of the O2R inside your PC + 16 Tracks (expandable) of Hard Disk Recording without making your CPU break into a sweat. Check out these specs:

- 5 DSP3 DSP Chips = 24 Channels of O2R!! • 20bit A/D & D/A Converters
- >100db dynamic range • Stereo RCA Input & Output and Digital I/O
- Four Band Parametric EQ + Multi Dynamics on each channel • 6 Internal Auxiliary Buses
- 2 x 32bit FX processors from REVSOO / ProR3 • 2 x AX44 I/O Converters

Creamware T-DAT16

16 channel PCI card (2 x ADAT I/O's) Up to 2000 Audio tracks (If needed!), Realtime FX, CD Red Book Mastering ..... £ 1599.99

Optional

A8 8 channel Analogue I/O expander (can be used with 030/02R) ..... £ 595.99

A16 16 channel Analogue I/O expander (can be used with 030/02R) ..... £ 995.99

Korg 1212I/O ..... RRP £ 599.99

MM Port
(I/O Card only) NEW ..... £ 399.99

Masterport
Now only ..... £ 499.99

TripleDat
Was £1299 Now only ..... £ 899.99

Osiris (Sonic Restoration Plug-In) ..... £ 395.99

Firewalkers (Realtime DSP Suite) Both on Demo ..... £ 249.99

Terratec

EWS64XL 4 In, 4 out, S/PDIF I/O, 32 channel Midi Daughterboard connector ..... £ 379.99

Waldorf Wave Daughterboard for EWS64 only ..... £ 499.99

Sonic Foundry

Sound Forge 4.0 Pro Audio Editor for Windows ..... £ 299.99

CD Architect Red book CD creation tool plug ..... £ 299.99

NT Driver Pack Sound Forge Windows NT Drivers for Turtle Beach cards ..... £ 59.99

Waves

Native Power Pack (C1 compressor, TrueVerb etc..) ..... £ 399.99

NEW – Easy Waves Includes: AudioTrack (Compressor, Gate, Parametric EQ) and EazyVerb (Reverb) ..... £ 120.99

Opcode

Studio 64X Interface
4x4 Midi Interface with SMPTE ..... £ 249.99

Turtle Beach

Malibu ISA Soundcard, 64 voice, Digital Out ..... £ 119.99

Daytona PCI Soundcard (Coming Soon) ..... £ 129.99

Pinnacle

Project Studio 8Mb Kuzweil Synth, Digital I/O ..... £ 549.99

Enhanced Full-Duplex Soundcard ..... RRP £ 449.99

Digidesign

Session 8 Core and 882 Interface 1 only ..... £ 1499.99

Event

Darla ..... £ 299.99
Gina ..... £ 499.99
Layla ..... £ 899.99

Steinberg Producer Pack-Village Exclusive

£449.99
RRP on individual items £1277

includes: **Cubase Audio XT (VST)** – Cubase VST with SCORE and full support for Akai DR16, Yamaha CBX05 Extensions etc. Plus with an upgrade to the new VST 24 you get full support of the 24 Bit Yamaha DS2416 Card RRP £649

PLUS Wavelab 1.6 (Includes upgrade to New Version 2) – Audio editor, Mastering Software can use VST / Direct X plug ins. True 32 Bit program that can run on Windows 95 and NT. Offers RED Book Compatible CD Burning. The upgrade to version 2 offers full sampler support a' la RECYCLE ..... RRP £329

PLUS Waves Audiotrack – VST / Wavelab dynamics plug in offering Compression / Gate / EQ etc ..... RRP £299 (EZ Waves!)

North London · 0181 440 3440
230 High Street · Barnet · Herts · EN5 5TD
Fax · 0181 447 1129
South London · 0181 407 8444
562 - 562b Brighton Road
South Croydon · CR2 6AW
Fax · 0181 407 8438

THE DIGITAL VILLAGE & YAMAHA

Picking a Digital Mixer is as easy as o1V, o2R, o3D
The choice is yours...TALK TO THE EXPERTS

While other manufacturers are promising or unveiling prototype digital desks in the near future, Yamaha have been quietly supplying full recall Digital desks for years. These desks are working in professional studios all over the world and have all the advantages of Yamaha's 10 years of experience of digital desk design and the users feedback this generates which is put back into the next designs. On top of this Yamaha's proprietary processor chips give them a great price advantage.

02R
• Up to 44 Inputs, 4 band fully parametric EQ & dynamics on every channel • Sparkling 20 bit A/D and D/A
• 16 track Digital I/O–AES/EBU, ADAT or TDIF via optional (8 In/out) cards
• Perfect Partner for: Alesis ADAT, Tascam DA38/88 and many stand alone Hard Disk recorders like the Fostex D90/D160 and of course computer based systems – i.e. ProTools, Soundscape, Korg 12121/0, MOTU 2408 etc.
• 24 bit ready with Internal 32 bit processing
• Digital Cascade option for more Inputs

02R + TLA PA-2 and Neumann TLM103
Was £8,155
Village Exclusive Package **£5499.99**

Yamaha 02R + TLA Classic PA-2 and TLA Crimson 3011
including all leads PLUS Loom Was £8,200 ... Village Exclusive Package £4999.99

Yamaha 02R + CD8AT (Yamaha ADAT Digital I/F) + Alesis ADAT XT + TLA PA-2
– Complete "Valve into Digital Domain" 8-track recording.
Was £11,162.50 ... Village Exclusive Package £6349.99

03D
Up to 26 Inputs / 18 outputs, 4 band fully parametric EQ & dynamics on every channel

The 03D is truly the son of the D2R, the same spec, just fewer channels.

Yamaha 03D + TLA Classic PA-2 and Audio Technica ATM4033
Was £4,000
Village Exclusive Package **£2499.99**

Yamaha 03D + CD8AT (Yamaha ADAT Digital I/F) + Alesis ADAT XT
– Complete "Valve into Digital Domain" 8-track recording.
Was £5,992 ... Village Exclusive Package £3649.99

Yamaha Promix 01 including FREE LOOM ... £995.99

01V
Up to 24 Inputs/14 outputs, 22 dynamic processors & motorised faders
• 99 scene memories for storing mix snapshots • Built In MIDI Interface
• Host port for connection to personal computer

The 03D's baby brother, pretty much the same, but smaller.

01V + FREE TLA Classic PA-2
Village Exclusive Package **£1499.99**

Barnet:	0181 440 3440	Fax:	0181 447 1129
Croydon:	0181 407 8444	Fax:	0181 407 8438
Chadwell:	0181 598 9506	Fax:	0181 599 7236
Cambridge:	01223 316091	Fax:	01223 353857

Errors and omissions excepted

Music Village

Incorporating Digital Village

10 High Road, Chadwell Heath, Essex · 0181 598 9506
86 Mill Road, Cambridge · 01223 316091
562 Brighton Road, South Croydon · 0181 407 8444
230 High Street, Barnet · 0181 440 3440

THE MIXING DESK CENTRE OF THE UNIVERSE!

63% off the Korg Soundlink 168RC!

- 16 digital inputs and outputs (adat optical) • 2 superb internal fx processors
- 8 analogue mic / line inputs (2 with phantom power)
- 3 band EQ (sweepable with 'Q' on mic)
- automation – 100 'scenes', MIDI control

£729.99 (was £1899)

M.V EXCLUSIVE PACKAGE DEALS

Adat XT+168RC	TLA PA2+168RC	Fostex D160+168RC
only £1999.99	only £929.99	only £2699.99

Mackie

Compact desks at new low prices!

Unbeatable deals on SR Series and 8 Bus Consoles.

1202VLZ	£299.99
1402VLZ	£399.99
1604VLZ	£799.99

Allen & Heath MixWizard WZ 20:8:2

Superb new true 8 bus mixer at an astonishing price!

- 28 inputs on mixdown • 6 aux sends • 100mm faders
- 4 band EQ with 2 swept mids on mic/line channels
- 2 band EQ on stereo channels • phantom power
- inserts on all mono channels and LR output mix

RRP £960 only £699.99

BEST BEHRINGER DEALS

PLUS FREE Mics

MX32/8/2

- 32 inputs
- 8 aux sends
- 8 groups
- 24 mic inputs
- sweepable mids
- 4 auxilliary returns

RRP £1495 £949.99

MX24/4/2

- 24 inputs
- 6 aux sends
- 4 groups
- 16 mic inputs
- sweepable mids
- 2 auxilliary returns

RRP £995 £529.99

MX8000

£1099.99

Professional Ultra-low noise 48/24 channel dual input 8-bus Mixing console

MX2004 Professional Ultra-low noise, 20 input, 4-bus Mixer
VILLAGE PRICE £259.99

MX2804 Professional Ultra-low noise, 28 input, 2-bus Mixer
VILLAGE PRICE £359.99

MX2642 Professional Ultra-low noise, 26 input, 4-bus Mixer
VILLAGE PRICE £399.99

MX1602

Professional Ultra-low noise 16 input 2-bus mixer

VILLAGE EXCLUSIVE PACKAGE £189.99
(including AKG D65S mic worth over £50)

MX802

Professional Ultra-low noise 8 input 2-bus mixer

VILLAGE EXCLUSIVE PACKAGE £149.99
(including AKG D65S mic worth over £50)

Soundcraft Spirit 328 Digital Desk

- 24 Bit with 128 times oversampling
- 100mm motorised faders
- Parametric EQ
- 100 Scene recall or via dynamic MIDI automation
- 16 Mono mic/line inputs
- 2 x 8trk digital inputs and outputs in ADAT optical format
- 2 x 8trk inputs and outputs on TDIF
- 1 x AES input and and output on XLR
- 1 S/PDIF input and output on phono
- SMPTE & Sony 9 Pin
- Studio clock on BNC
- MIDI in, out & thru

ONLY £3499.99

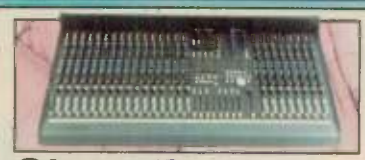
Spirit Studio

These superb mixing consoles are available in 3 configurations: 16/8/2, 24/8/2 & 32/8/2 and feature:

- In line design
- Up to 72 inputs at mixdown (32ch)
- Up to 32 discrete tape sends
- 8 Buss group section and stereo master
- Fader flip to save repatching • 6 Aux sends
- 4 Stereo FX returns with EQ
- 4 Band EQ (2 swept mid)
- EQ Switchable between signal paths
- 2 Band EQ on each group bus
- PFL soloing on all channel and monitor inputs etc.

Legendary Soundcraft quality at a fraction of the original price!

16-8-2 ONLY	£899.99
24-8-2 ONLY	£1465.99
32-8-2 ONLY	£1995.99



Ghost

LE and automated versions always available

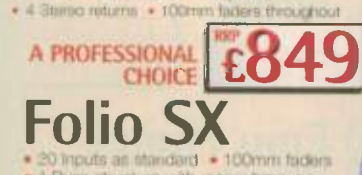
- Ultra low noise inputs • Up to 12 aux sends
- MIDI mute automation • MTR transport control
- 4 Band EQ with fully parametric mids

GUARANTEED BEST PRICE IN EUROPE!

Folio FX16

- 16 chanels, 4 buss with Lexicon DUAL FX!
- 28 inputs to mix as standard
- 16 Mic/line inputs with ultra mic
- 4 Auxs • 3 Band EQ • Swept mid
- 4 Stereo returns • 100mm faders throughout

A PROFESSIONAL CHOICE RRP £849



Folio SX

- 20 inputs as standard • 100mm faders
- 4 Buss structure with rear subgroups routable to mix • 3 Band EQ with swept mid
- 3 Auxs • Direct outputs from channels 1 – 8 for multitrack recording

GUARANTEED BEST PRICE

Folio 10/2

- 6 Mono input channels • 6 Mic inputs
- 3 Band EQ with swept mid and hi-pass filters
- Phantom powering for condensor mics
- PFL solo buttons • 2 Aux sends

WORLD EXCLUSIVE £219.99

Folio F1

- 2 Versions: 14 & 16 input frame sizes
- 4 Stereo inputs & 100mm faders
- Inserts on every mono channel and mix outputs
- British 3 band EQ with creative swept mid control
- 3 Aux's with up to 2 pre or post-fader for foldback or FX

FROM ONLY £299.99

Folio Notepad

- 10 inputs as standard • 4 Mic inputs
- 2 Stereo inputs

ONLY £149.99

Music Village

Specialists in modern music technology

10 High Road, Chadwell Heath, Essex · 0181 598 9506
86 Mill Road, Cambridge · 01223 316091
562 Brighton Road, South Croydon · 0181 407 8444
230 High Street, Barnet · 0181 440 3440

THE SAMPLING & SYNTH CENTRE OF THE UNIVERSE

If you take your sampling seriously there's only one place to call – all our sampler packages come with FREE unlimited access to the famous Digital Village sample library!

Emu e6400

The sampler that breaks the mould!

- 64 note polyphony
- Up to 64 Meg
- **FREE** CD-Rom drive + 5 **FREE** CDs + 16 Meg

FREE DIGITAL VILLAGE LIBRARY ACCESS

SCOOP – Village can offer you the best prices on 64 Meg upgrades – PLEASE RING!

VILLAGE EXCLUSIVE **£1799.99**

ESI-4000 & ESI-4000 Turbo

FREE DIGITAL VILLAGE LIBRARY ACCESS

- 18 Filter types
- Expandable to 128 Meg
- 16 Meg + **FREE** Zip drive + **FREE** CD-Rom drive + 5 **FREE** CDs
- 64 Voices
- Up to 10 outputs

VILLAGE EXCLUSIVE **£1199.99**

Turbo version – just a few dollars more.

E-Synth & E-Synth Dance

- Up to 32 Meg of onboard waveforms (16 Meg Orbit & Planet Phatt waveforms on the dance model)
- Expandable to 128 Meg
- Up to 16 outputs
- Includes 5 **FREE** CD-ROMs

GUARANTEED BEST PRICE

External CD-ROM drives from only £99.99
Zips & EZ Flyers always available

Planet Phatt and Orbit ROM

All the sounds of these classic EMU modules on one 16 meg Rom board – The ultimate dance upgrade for the E6400, E-Synth, E4X

ASK FOR SPECIAL DEALS ON THE DANCE ROM WHEN YOU BUY AN EMU E SAMPLER

£399.99

Emu Audity 2000

Digital Modular Rhythmic Synthesizer (DMRS)

- 640 presets
- 16 part multitimbral
- 4 layers per preset

RRP **£1399.99**

Emu Orbit

The Ambient, Trance and Techno **TOTAL PRODUCTION TOOL**

GUARANTEED BEST PRICE

Emu Planet Phatt

The Hip Hop, Trip Hop, Swing, R & B, 70's Groove machine

GUARANTEED BEST PRICE

THE VILLAGE STRIKES AGAIN – UP TO 53% OFF AKAI SAMPLERS!

Akai S3200XL

- Top of the range
- 20 Bit (Balanced)

FREE DIGITAL VILLAGE LIBRARY ACCESS

Sampler with the **IB304F Filterboard** and the **IB208T 4 Bus FX Board** plus **32 MEG** pre-installed for only...

£1649.99

Akai S3000XL

- Expandable to 32 Meg
- 10 Outputs
- Industry Standard

FREE DIGITAL VILLAGE LIBRARY ACCESS

GUARANTEED BEST PRICE

Akai S2000

- Expandable up to 7 outputs
- Same spec & quality as S3000XL

FREE DIGITAL VILLAGE LIBRARY ACCESS

- Including **FREE** Zip drive + 32 Meg for under **£799.99**

Akai MPC2000

- Sequencing/Sampling Drum machine
- Expandable to 32 Meg
- SCSI
- Waveform editing
- Rock solid timing

GUARANTEED BEST PRICE

Akai CD3000XL

GUARANTEED BEST PRICE

Akai S20

Brilliant new low cost sampler

- High quality 16 bit Stereo sound
- Great build quality
- 16 part multitimbral
- Expandable memory
- Easy to use

GUARANTEED BEST PRICE

IB208P	8 outputs + digital I/O for S2000	£ 249.99
IB304F	2nd filterboard for S2000/S300XL	£ 299.99
EB16 Multi-FX	for S2000/S3000XL	£ 299.99
8 Meg	for S3000,S2800, S3200, CD3000i	£ 399.99

Novation Supernova

THE BEST SYNTH EVER – WE LOVE IT!!

- 16 Note poly
- 8 Part
- Effects on every part

from **£1299.99**

Super BassStation/DrumStation

These home grown winners are always in stock at the best prices

GUARANTEED BEST PRICE

Waldorf Pulse and Pulse+

The big brother of the ever popular pulse. This monster features 3 oscillators, an excellent arpeggiator, intuitive matrix editing, MIDI syncable LFO, CV-gate in/out and processing of external sound through the on board filter.

prices from **£299.99**

Studio Electronics ATC-1

Analogue Mono Synth

£469.99

Waldorf Microwave 2 + Microwave XT

The highly upgraded wavetable synth still has distinctive character of it's predecessor as well as 10 note polyphony, ring modulation, programmable arpeggiator and incredibly flexible modulation routing. The is the synth programmers dream come true, all the tools you need to create rich resonant sweeps and g.it wrenching subs.

prices from **£749.99**

Nord

NEW

Nord Lead, Modular rack and keyboard and entire Nord range always in stock and on demo.

Prices from £995.99

Phone our mail order Hotlines now

INCORPORATING DIGITAL

0181 598 9506

or fax us on 0181 599 7236

0181 440 3440

or fax us on 0181 447 1129

TALK TO THE EXPERTS

0% Finance available on many items – No deposit necessary! Please call for details

- The very best deals on all Hi-Tech & Pro Audio products!
- Friendly, professional, knowledgeable staff!
- Fastest possible insured mail order facilities!
- Unsurpassed after sales service!
- Access, Visa, Amex, Switch

3 YEAR WARRANTY ON ALL Roland PRODUCTS

Guaranteed best prices on all Roland professional equipment including: JV1080 · JV2080 · MC303 XP60 · XP80 · RD600 A33 · SP202 · etc All boards for the JV1080 etc.

50% off XP50
- Total workstation
- 4 Expansion slots
- Multi FX & Reverb & Chorus
- 61 Note studio master keyboard

RRP £1499
ONLY £749.99

NEW

MC505
- 8 Track total groove sequencing
- 0-Beam MIDI controlling
- Live Fi • The slicer (MIDI gating)
- 6 Outputs
- Creative scratch and radio noise

RRP £949

NEW

JX305
- All the sounds of the MC505
- 8 Track total groove sequencing
- Extra sounds include: Piano, Strings, Organs etc.
- Easy user interface

RRP £949

NEW

Hip Hop Board

If you've got a space in your JV1080, JV2080, XP50, XP80 etc., and you're into any kind of dance music you can't avoid needing this new card – not just for Hip Hop, R & B, but for any style of dance production.

RRP £255

Techno Board

A replacement for the infamous Dance board – GREAT SOUNDS and for a very limited period – a GREAT PRICE.

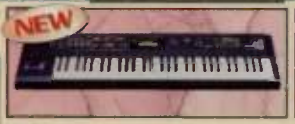
Ring for details

MBD1 Bass & Drums module £169.99

KORG

TR Rack 32 Mbytes of PCM Rom, 8 Meg more than the Trinity, 40 more multi samples, 8 effects simultaneously, 512 programs / 512 combinations

GUARANTEED BEST PRICE



NEW

N5 64 voice poly, 1169 programs, resonance filter effect, arpeggiator, realtime control.

GUARANTEED BEST PRICE

NEW **N1** Now available – Ring for details

Z1 The stunning new multi oscillator synth for the 21st century! Much much more than 12 Prophecys! Real polyphonic physical modelling! Incredibly realistic models: wurlitzers, claws, guitars, basses, brass, reeds, and of course THAT Korg analogue model!

GUARANTEED BEST PRICE

SG Pro X Superb sounds, 88 note responsive weighted action and master keyboard functionality, 64 voice poly and much more!

SG Rack The Pro X in a rack

GUARANTEED BEST PRICE

Trinity

GUARANTEED BEST PRICE

Trinity Series up to 39% off! Other mega deals include:

X5D	£ 399.99
X5DR	£ 299.99
NS5R	£ 429.99
N364	£ 749.99
N264	£ 849.99

ALESIS

NanoPiano 256 presets, 64 note poly, high quality true stereo Bosendorfer grand piano plus many more great sounds and FX.

£249.99

NanoBass 256 preset bass programs, techno, jungle, acid, hip hop, house and R&B featuring resonant filter sweeps etc + all the classic basses.

£199.99

NanoSynth 8 Mb 512 brilliant presets plus 128 user programs, 64 note poly, 16 part multitimbral and 15 drum kits.

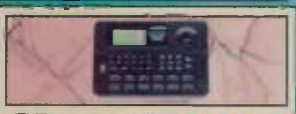
£249.99

QS6 64 note polyphony, 640 sounds, 500 multitimbral mixes, GM bank, 61 note velocity sensitive keyboard with aftertouch, on board 4 bus multi-effects, Mac / PC interface, 8 meg of waveform ROM, flashcard compatible.

£599.99

Or with 2 x 8 meg expansions £ 749.99
Or expansions at only £ 99.99

Phone for best deal on QS6



SR16
- 50 Rhythms
- 223 Voices

£189.99

DM5 Superb Drum module RRP £429

GUARANTEED BEST PRICE

ONLY YAMAHA COULD... RE-INVENT THE WORKSTATION

WITH... The rock solid timing of the QY700 • The Analogue Physical modelling of the AN1X • The Acoustic Physical Modelling of the VL7 • All effected by 12 types of Reverb, 14 types of Chorus and 78 types of insertion and of course FDSP (Formatted Digital Signal Processing) • The AWM2 chip developed for the MU100 • The Analogue Samples of the CS1X • The Sampling Capabilities of the A3000

EX5 £1899.99 EX5R £1599.99

AN1X : Analogue physical modelling • Great arpeggiator • 10 note poly

GUARANTEED BEST PRICE

CS1X
- Perfect analogue sampled waveforms
- Basses, Drums, Pianos etc
- Control of resonance, filters etc. via knobs

£499.99

A3000 • 64 note poly • SCSI as standard • Expandable to 128Meg • On-board FX

£999.99

SU10 64 seconds of stereo sampling, on board sequencer, filtering, pitch-shifting, cross fading etc with ribbon controller

£239.99 Including AKG 65s

QY70 THE GROOVE BOY

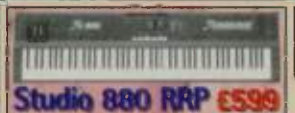
Total production in the palm of your hand – Living proof that small is beautiful. Unbelievable sound and features. We love the QY70 and promise you the best price.

QY700 TOP OF THE RANGE

All the features of a software package within rock solid hardware. Total Sequencing solution.

GUARANTEED BEST PRICE

Studio 161 RRP £229

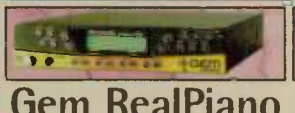


Studio 880 RRP £599

Mother Keyboards – GREAT LOW PRICES!!

From the little Studio 37 (RRP £59) to the superbly specified Studio 2001 with its revolutionary new piano weighted hammer action (RRP £1049), we have just the right keyboard for your needs AND pocket! PLUS of course our famous 'mother keyboard / sound module' packages can save you even more money.

e.g. Studio 880–88 note piano weighted hammer action PLUS Akai SG01P piano module RRP £899 only £699.99



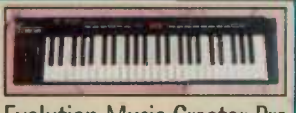
Gem RealPiano The Best Piano module ever • incorporates samples from world famous Piano manufacturers and physical modelling for total realism.

YOU'VE GOT TO HEAR IT!

RRP £699 VILLAGE EXCLUSIVE £349.99

Kurzweil Ring for the best price on MicroPiano, PC88, K2000, K2500 etc.

GUARANTEED BEST PRICE



Evolution Music Creator Pro Full size MIDI keyboard PLUS FREE Sequencing Software
- 49 Full Size Keys (Velocity sensitive) • LED Display
- Pitch Bend Wheel • Modulation Wheel • Transpose
- Octave Shift • Pgm & Bank Change
- Connecting Cable for Soundcard
- 6 Program Memories

only £99.99

Evolution Pro 61 61 note model now available with on board stereo speakers only £159.99

Music Village

Specialists in modern music technology

10 High Road, Chadwell Heath, Essex · 0181 598 9506
86 Mill Road, Cambridge · 01223 316091
562 Brighton Road, South Croydon · 0181 407 8444
230 High Street, Barnet · 0181 440 3440

THE OUTBOARD & STUDIO CENTRE OF THE UNIVERSE

Up to 78% off TLAudio Crimson

3011 2 Channel 4 band EQ

Continuously variable upper and lower mids. Frequency response 20Hz to 40kHz, based on the EQ1

was £700 VILLAGE EXCLUSIVE **£149.99**

3012 2 Channel Parametric EQ

Each band offers +15db of gain and variable Q between 0.5 and 5 front panel dual sensitivity input (for guitar, keyboards etc). Frequency response 20Hz to 40kHz.

was £700 VILLAGE EXCLUSIVE **£179.99**

3013 2 Channel Parametric EQ

The CRIMSON equivalent of the classic EQ2 – 2 channels each with 4 bands of fully parametric EQ. Each band/channel has individual EQ bypass switch, continuously variable high and low cut filters with bypass switch, insert points on each channel and Stereo link.

was £821 VILLAGE EXCLUSIVE **£349.99**

3021 2 Channel Compressor

Attack and release times switchable between "fast" and "slow", dual mono or stereo linked modes. Dual sensitivity auxiliary input (for guitars, keyboards etc.) and side chain insert points for frequency conscious compression.

was £700 VILLAGE EXCLUSIVE **£249.99**

3051 Mono Voice Processor

Continuously variable upper and lower mids, compression section identical to that of the 3021, 4 band EQ section identical to that of the 3011. EQ pre switch allows EQ to be positioned ahead of compression section. Link facility allows two 3051's to be used in stereo mode with side chain insert point for frequency conscious compression.

was £700 VILLAGE EXCLUSIVE **£199.99**

TLAudio Classic PA2

The fattest sounding stereo mic Pre and DI unit in existence!

- Classic valve sound for mics
- Balanced XLR microphone inputs
- Phase reverse switch on channel B
- Unbalanced instrument inputs with switchable sensitivity (guitar/keyboard)
- Peak LED's with variable brightness indicate degree of valve drive
- For warming digital keyboards
- Balanced XLR outputs
- Continuously variable input gain controls
- Wonderful for guitar
- 48 volt phantom power

was £410 WORLD EXCLUSIVE **£229.99**

TLAudio Classic EQ1

Dual 4 band EQ – configurable as one 8 band

- High performance transformerless pre-amp
- 4 valve stages per channel

was £821 WORLD EXCLUSIVE **£349.99**

Check out these Mega Bundles!

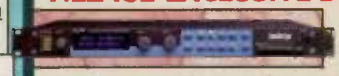
TLAudio PA2 plus Audio Technica AT4033	£499.99
TLAudio PA2 plus Audio Technica AT4050	£699.99
TLAudio PA2 plus AKG C3000	£399.99
TLAudio PA2 plus Rode NT1	£399.99
TLAudio PA2 plus Octava MK219	£369.99
TLAudio PA2 plus Octava MK319	£399.99
TLAudio PA2 plus Neumann TLM103	£749.99
TLAudio PA2 plus TLAudio Crimson 3011	£339.99
TLAudio PA2 plus TLAudio PA2	£399.99
TLAudio PA2 plus Fostex DMT8VL	£949.99
TLAudio PA2 plus Yamaha 03D	£2399.99
TLAudio PA2 plus Korg Soundlink 168RC	£899.99
TLAudio PA2 plus Lexicon PCM80	£1599.99
TLAudio PA2 plus Lexicon PCM90	£1799.99
TLAudio Crimson 3011 plus 3011	£289.99
TLAudio Crimson 3011 plus 3012	£319.99

Up to 46% off PCM80 & PCM90

Lexicon PCM80

THE KING OF FX PROCESSORS!

PCM80 **PLUS** The Dual FX card (splits the PCM80 into two fx processors)
PLUS Pitch Shift, Auto Tune card (for correcting vocals etc)
Bundle RRP £2599
VILLAGE EXCLUSIVE BUNDLE PRICE **£1399.99**



Lexicon PCM90

Featuring 2 Lexi2 ships totally dedicated to Reverb. A classic that will survive generations.PCM90 **PLUS** The Dual Reverb card (splits the PCM90 into two separate reverb processors)
Bundle RRP £2829
VILLAGE EXCLUSIVE BUNDLE PRICE **£1599.99**

Lexicon MPX1

The MPX1 combines the legendary Lexicon reverbs into a true multi-fx unit.

STUNNING SONIC PERFORMANCE **£699.99**

Lexicon Alex Legendary Lexicon quality reverb at a once in a lifetime price **£149.99**

+ A JoeMeek from under £170

VC3 Pro-channel classic photo optical pre-amp compressor & enhancer. RRP was £299

VILLAGE EXCLUSIVE Only **£169.99**

VC6 Voice channel, fully variable threshold ratio etc. RRP £349

VILLAGE EXCLUSIVE Only **£299.99**

VC1 Voice channel rackmount top of the range optical pre-amp compressor & enhancer. RRP was £704

VILLAGE EXCLUSIVE Only **£469.99**

SC2 JoeMeek's flagship, best selling stereo compressor that recreates the warm and powerful sound of the 1960's

VILLAGE EXCLUSIVE Only **£1099.99**

New TLAudio Ivory Range

5001 4 Channel Valve Mic Pre-Amp

RRP £469 GUARANTEED BEST PRICE

5013 2 Channel Valve Parametric Equaliser

RRP £469 GUARANTEED BEST PRICE

5021 2 Channel Valve Compressor

RRP £469 GUARANTEED BEST PRICE

5051 Mono Valve Voice Processor

RRP £469 GUARANTEED BEST PRICE

5050 Mono Valve Mic Pre-Amp & Compressor

RRP £289 GUARANTEED BEST PRICE

Phone our mail order Hotlines now

INCORPORATING DIGITAL VILLAGE

0181 598 9506

or fax us on 0181 599 7236

0181 440 3440

or fax us on 0181 447 1129

TALK TO THE DEAL-MAKERS

THE OUTBOARD & STUDIO CENTRE OF THE UNIVERSE

DigiTech

Studio 100 • 20 bit Multi FX unit • Dual engine processor • MIDI

VILLAGE PRICE including FREE cables Only £179.99

The Talker
P-FUNK IN A BOX
• Classic Vocoder • Talk Box (without the tears)
ROGER TROUTMAN EAT YOUR HEART OUT!
WAH WAH WAH Only £249.99

Studio Quad • 4 ins & 4 Outs
• 4 Multi-FX • Auto level • Large LCD display • Limitless FX and combinations
THE VILLAGE STRIKES AGAIN! Only £259.99

The Vocalist Access
• 5 part vocal harmony with reverb • Mic/Pre • Comprehensive Midi • XLR and Jacks • Detune, vocoder, chordal and scalic modes
Only £499.99

MIDI Vocalist
• 4 voice • Vocoder • Chordal mode • Automatic harmonies • XLR + Jack • Comprehensive Midi control
Only £249.99

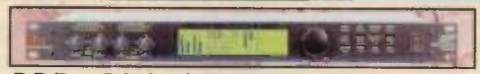
Vocalist Workstation
• Chordal • Chromatic • Vocoder • Pitch correct • Reverbs • Detune • Gender change • Vibrato • Balanced • Midi
GREAT PRODUCT! GUARANTEED LOWEST PRICE

Studio Vocalist
• Top of the range • Dual mic inputs • 48volt phantom power • Balanced • 4 individual harmony outs • Midi • Aux send + return • 5 part harmonies gender change
GUARANTEED LOWEST PRICE

Vocalist Performer
• Balanced mic inputs • Stereo outs • Reverb • Perfect for live • Auto-doubling
GUARANTEED LOWEST PRICE

Europe's best dbx Deals!

MC6 Mini Compressor
THAT dbx sound with sliding parameter controls
Only £99.99



DDP – Digital Dynamics Processor
• 24 Bit A/D conversion • Programmable • Compression/Gating/De-essing • EQ • Balanced Ins & Outs • 24 Bit digital I/O option
RRP £599

266 Full featured, high performance dual compressor/gate using the new dbx autodynamic attack and release circuitry and gate circuitry, to deliver a truly musical and versatile unit at an unbeatable price.
Only £149.99

dbx 286 Mic pre/Comp/De-esser/Enhancer/Exp/Gate £179.99

dbx 120XP "Boom Box" £249.99

dbx 1066 THE Stereo Compressor/Limiter/Gate £325.99

STUNNING ALESIS PRICES!

Alesis Midiverb 4
• 16 Bit • 128 Presets and 128 User-editable programs • Superb reverbs, delays, flange, chorus, pitch shift
Only £199.99

Alesis Microverb 4
• 16 Bit • Easy to use • Reverbs, delays etc. • Totally professional sound
was £229 Only £149.99

Alesis Nanoverb
Classic Alesis quality at a fraction of the price
was £149 Only £99.99

NanoCompressor
RMS / Peak stereo comp / Limiter with sidechain input. 1/3 rack size
Was £149 NOW Only £99.99

GUARANTEED LOWEST BEHRINGER PRICES IN EUROPE

The Composer
Interactive 2 channel Compressor/Limiter/Expander
Composers are currently compressing more tracks than any other compressor in Europe!
VILLAGE PRICE Only £169.99

Virtualizer DSP1000
Digital 20-bit dual-engine Multi-FX
VILLAGE EXCLUSIVE Only £149.99

Feedback Destroyer
Digital 20-bit Feedback destroyer / Parametric EQ with 24 full Parametric filters
VILLAGE EXCLUSIVE Only £149.99

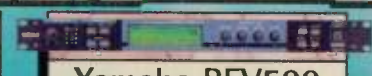
The UltraCurve
Digital 24-bit dual-DSP Digital Mainframe
• 31 band graphic EQ • Real-time Analyzer • Parametric EQ • Auto EQ • Limiter • Feedback destroyer • Level Meter • Gate
VILLAGE EXCLUSIVE Only £299.99

UltraMatch SRC2000
Sample rate converter / Copybit-killer / Jitter remover / Digital patchbay / Format converter
VILLAGE EXCLUSIVE Only £169.99

Phone for best price on Ultrafex 2, Autocom, Autoquad, Multicom, Multigate, Intelligate etc.

Zoom 1201
• 363 presets • 24-bit processing • 44.1 kHz sampling frequency • Karaoke, Lo-fi & Vocoder effects • true stereo
GUARANTEED LOWEST PRICE

Zoom 1204
• Up to 2 mono effects simultaneously • Vocoder style effects • Leslie Simulation • Midi
GUARANTEED LOWEST PRICE



Yamaha REV500
• 100 programs • 100 user programs • 4 realtime control knobs on front panel • 20 bit A/D conversion • true stereo • +4dB inputs & outputs
RRP £399 GUARANTEED LOWEST PRICE

SPL Stereo Vitalizer
• Stereo width control • Top-end mix sparkle • Big bottom • Easy to use
Only £159.99

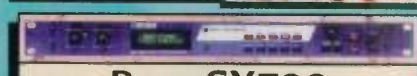
SAVE OVER 49% on Aphex 104
Type C2 with Big Bottom
The original exciter that does it all!
RRP £299 Only £149.99

SAVE OVER 30% ON EVENTIDE
VILLAGE EXCLUSIVE
Eventide DSX upgraded to DSE
only £1699.99

TC Electronic Finalizer
Multiband compressor, 5-band EQ, 20-bit converters, digital in/out, phase metering, normaliser and 120 professionally engineered presets.
True quality at an unbelievable price! from £1499.99

STOP PRESS! Green 6 Quad Compressor Only £995.99

Focusrite RED 7
The absolutely ultimate mic pre-amp/compressor
RRP £1760
VILLAGE EXCLUSIVE Only £1499.99



Boss SX700
• RSS, Reverbs, Delays, Pitch shift, Space chorus, Midi clock tempo, 18 bit A/D & D/A, large LCD
LET THE SX700 FREAK OUT YOUR SOUND
GUARANTEED LOWEST PRICE

Drawmer MX30
• Noise Gate • Limiter • Automatic Attack & Release • Balanced Ins & Outs
RRP £225.99

WRH

Music Village

Specialists in modern music technology

10 High Road, Chadwell Heath, Essex · 0181 598 9506
86 Mill Road, Cambridge · 01223 316091
562 Brighton Road, South Croydon · 0181 407 8444
230 High Street, Barnet · 0181 440 3440

THE RECORDING CENTRE OF THE UNIVERSE!

NEW

Akai DPS12 Digital Personal Studio

Drop dead digital dozen!!

- 12 audio tracks
- 250 virtual tracks
- backlit graphic LCD
- SCSI-2 interface
- built in Jaz drive
- 16 bit linear (no compression)
- 8 track simultaneous recording
- MIDI automatable digital mixer
- 48kHz, 44.1kHz, 32kHz

PLUS FREE TLAudio Classic PA2 – ONLY **£1299.99**

NEW

Korg D8 HARD DISK RECORDING JUST GOT EASIER!

8 tracks of uncompressed fully editable hard disk recording.

- 12 Channel Desk
- 2 Band EQ
- Save Scenes
- Internal 1.2Gig Hard Drive
- 4 Buss System
- SCSI and S/PDIF
- Punch In and Out

PLUS FREE AKG C5900 Condensor Mic RRP £245 ONLY **£849.99**

NEW

Yamaha MD8

- 8 Tracks simultaneous recording and playback
- Balanced XLR inputs (with phantom power)
- Ping Pong all 8 tracks to one or more
- Fast accurate search and locate
- Zero wow and flutter

PLUS FREE TLAudio Crimson 3011 RRP £700 ONLY **£999.99**

Sony MDM-X4

Digital 4 track on Minidisk

• 10 Input/4 Bus input system • 4 Mic/Line mono inputs • 1 stereo input and 2 stereo return inputs **PLUS** 2 Aux sends • 3 Band EQ on mono ins • 2 Band EQ on stereo ins • MMC/MTC compatible • Mix write function - Stereo bouncing • Track/section/song edit • 11 point Locate function • Undo/Redo • Jog Shuttle • Large Display

UNBELIEVABLE EXCLUSIVE only **£449.99**

Tascam 564

Digital 4 track on Minidisk

- Sequencer style editing
- Non-destructive track bouncing
- Bounce forward gives 10 tracks before erasing
- 4 Mic/Line inputs with 3 Band EQ
- Individual track outs & S/PDIF digital out
- 4 Stereo inputs with 2 Band EQ
- 4 Balanced XLR inputs

Plus FREE TLAudio Crimson 3011 RRP £700 only **£749.99**

Roland get it right – Again!

NEW

VS-1680

- 16 Tracks
- 24 Bit MT Pro recording
- Fully automated mixing
- 20 Bit A/D,D/A converters
- Non-destructive editing
- 26 Channels
- 256 Virtual tracks
- FX
- 10 Inputs 12 outputs
- Master direct to CD

FREE TLAudio Classic PA2 worth £410
ALL THIS FOR ONLY **£2199.99**

VS-880 VXPanded

- Fully automated mixer
- 64 Virtual tracks
- FX as standard
- Built-in Midi sync
- 10 Band graphic EQ

Bundle RRP £2699 WORLD EXCLUSIVE
FREE TLAudio Classic PA2 worth £410
£1499.99

NEW

VS-840

- 8 Tracks
- 64 Virtual tracks
- Built-in Zip drive
- EZ Routing
- Superb FX

FREE TLAudio Crimson 3011 RRP £700 RRP only **£949.99**

"THE BEST ADAT DEAL IN THE WORLD...EVER!"

ADAT XT

16 bit digital tape recording which has been the standard for years. Ideal for recording in the digital domain connected via optical cable to a digital desk or equally at home with an analogue mixer. The same robust build as the XT20, with 10 locate points and audio editing functions and both balanced and unbalanced ins and outs. In blind listening tests top engineers chose the XT's sound over much more expensive digital tape formats.

EXCLUSIVE ADAT tapes, 10 for **£59.99**
(or even cheaper when purchased with an ADAT)

£1399.99

These are a few of the ADAT bundles we can offer:

ADAT XT + Korg 168RC Desk.....Village Exclusive £ 1999.99
ADAT XT + Lexicon PCM80 .....Village Exclusive £ 2799.99
ADAT XT + Yamaha 02R.....Village Exclusive £ 5899.99
ADAT XT + Behringer MX24/4/2 ...Village Exclusive £ 1899.99
ADAT XT + TLAudio Classic PA2 ....Village Exclusive £ 1549.99

NEW

ADAT XT20

At last the 20 bit successor to the industry standard ADAT XT – The Professional's choice for digital tape recording.

- Technology developed on the flagship M20 20 bit AD/DA
- 10 locate points • Advanced editing • Aluminium heavy duty chassis
- Servo-balanced ins/outs and unbalanced -10dBv phono connectors
- Editing features include: track copy, tape offset and tape delay
- Compatible with ADAT sync and optical cables

GUARANTEED BEST PRICE

NEW

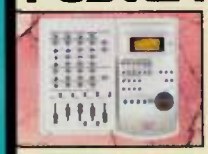
ADAT LX20

20 bit digital tape recording on a budget. Offers the same 20 bit ADAT type 2 digital recording format as the Alesis XT20 and M20 recorders.

- Technology developed on the flagship M20 20 bit AD/DA
- Unbalanced -10dBv phono connectors
- Compatible with ADAT sync and optical cables

GUARANTEED BEST PRICE

Fantastic Fostex Deals

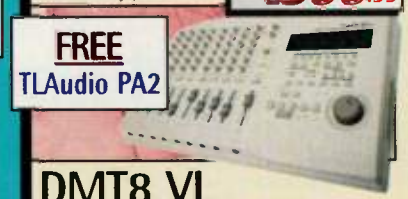


FD4

Fostex Hard Disk recording quality at a portastudio price

- SCSI as standard
- Compatibility with Zip, Jaz and Syquest

from **£399.99**



FREE TLAudio PA2

DMT8 VL

8 tracks of CD quality digital recording for under a grand!

- 1.6GB internal hard drive – user upgradable
- 3.5" expansion bay for soon to be released EIDE & SCSI interface options
- 16 bit, 44.1kHz, no compression

SCSI only – £199.99
Price includes FREE TLAudio PA2
Package Price
RRP £1399
only **£899.99**

D80 8 Track HD Recorder

- S/PDIF digital Ins & Outs
- Removeable drive
- Cut, copy and paste
- No compression

D80 PLUS TLAudio Classic PA2 – ONLY **£1099.99**

D90 8 Track HD Recorder

D90 PLUS FREE SCSI PLUS FREE Hard Disk PLUS TLAudio PA2
ONLY **£1499.99**

D160 16 Track HD Recorder

• 20 Bit • SCSI • No compression • 3.6GB drive

D160 PLUS TLAudio Classic PA2 – ONLY **£2199.99**

Phone our mail order Hotlines now

INCORPORATING DIGITAL VILLAGE

0181 598 9506

or fax us on 0181 599 7236

0181 440 3440

or fax us on 0181 447 1129

TALK TO THE EXPERTS

THE WALL OF SOUND

At each one of our Village outlets, all these monitors and more are on permanent demo fighting for audio excellence.

NEW

K-ROK

extra 10% off

We launch the Rokit!

Outstanding flat response monitors, totally accurate at low listening levels.

RRP only £269.99

PLUS

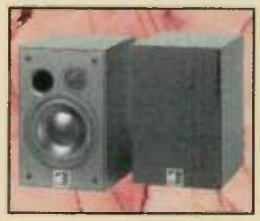
The classic original K-Roks are now even cheaper!

only £369.99

EXCLUSIVE PACKAGES

Samson Servo 170 & Rokits only £399.99

Samson Servo 170 & K-Roks only £499.99



Dynaudio BM5's

- Andy Munro design
- Exceptional linear response
- Brilliant stereo imaging
- 2-way passive design

was £699 Village Price only £399.99

NEW

Spendor QT100 Active monitors

The new industry standard – Always in stock, along with Dynaudio, NS10 etc.

RRP £699

24% off Alesis Point 7's

Superb small nearfield monitor, magnetically screened.

RRP £249 only £189.99

Samson Servo 120 PLUS Point 7's

RRP £478 Our Price only £299.99

Soundcraft Absolute Zeros

GUARANTEED BEST PRICE

Soundcraft Absolute 2's

Still a best seller

GUARANTEED BEST PRICE

50% off JBL!

4208's

8" woofer,1" titanium dome tweeter, magnetically shielded, multi radial baffle, 300w (peak) power handling.

RRP £504 Our Price only £229.99

Control 1's

Quality on a budget

only £99.99

Samson Servo 120 & Control 1's £249.99

Samson Servo 170 & 4208's £379.99

Harbeth Xpression! DPM-1 Monitors

Don't just read about these monitors, come and hear them for yourself! They offer mid range clarity & stereo imaging unrivalled in this price bracket. Harbeth are the Speakers of choice for the BBC. One listen and they'll be yours too.

only £369.99

Power Amps

	R.R.P	Special
Omniphonics Footprint - 75w + 75w, 1U	£ 399	£ 279.99
Samson Servo 120 - 75w + 75w	£ 199	£ POA
Samson Servo 170 - 120w + 120w	£ 229	£ POA
Samson Servo 260 - 250w + 250w	£ 299	£ POA

Yamaha, C Audio, Crown, Alesis – Great Prices!

Absolute Zero's PLUS Samson Servo 120 bundle RRP £398 only £329.99

DIGITAL MASTERING

MINIDISC

Sony MZR30

Something to fit your pocket – literally! The tiny portable version of Sony's wonderful minidisc technology.

GUARANTEED BEST PRICE

Sony MDS-JE510

Another coup for the Village buying department – Now you can digitally master at this popular format for an unbelievably low price! Editing features such as combine, move and autocue, jog dial, digital input, full function remote control.

GUARANTEED BEST PRICE

DAT

Stunning deals on: Sony DTC A8, PCM-R300 (no SCMS), Tascam DA20MkII, DA30MkII, Panasonic SV3800, Fostex D5. Ask about special deals on timecode DATs – Fostex D15, D25 etc.

GUARANTEED BEST PRICE

CDR

Pioneer and Philips CD Recorders

Yes it's true – now you can master direct to CD, for the price of a budget DAT machine. No computer needed, these are stand alone units!

PDR-04 / PDR-05 / CDR 870

GUARANTEED BEST PRICE

MV Portastudio Added Value Packages

Pack 1 (worth £49) Cables, CD quality Headphones, 3 Maxell 90 chrome tapes, Head Demagnetiser, Head Cleaning Kit.

Pack 2 (worth £100) AKG D65s mic and Cable, CD quality Headphones, 3 Maxell 90 chrome tapes, Cables, Head Cleaning Kit.

	Pack 1	Pack 2
Fostex XR14	£149.99	£169.99
Fostex X55	£299.99	£389.99
Tascam Porta 02	£145.99	£165.99
Tascam 424 MkII	£399.99	£419.99
Fostex XR3	£219.99	£239.99
Fostex X77	£389.99	£389.99
Tascam 414	£329.99	£349.99
Yamaha MT50s	£279.99	£299.99

Second Hand

Key: Ch=Chadwell · B=Barnet · C=Cambridge · Cr=Croydon

Mixers

Keyboards

Modules

Drum Machines / Sequencers

Recording

Music Village

Specialists in modern music technology

10 High Road, Chadwell Heath, Essex · 0181 598 9506
86 Mill Road, Cambridge · 01223 316091
562 Brighton Road, South Croydon · 0181 407 8444
230 High Street, Barnet · 0181 440 3440

THE A–Z OF MICROPHONES

If it's worth singing into or recording with, we've seen it, heard it and no doubt we're probably stocking it...TALK TO THE EXPERTS!

A Neumann you can afford!

Neumann TLM103

Delivers the industry standard Neumann sound "Warm, Airy with excellent presence" Totally recommended...

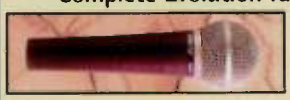
A VILLAGE 10 STAR WINNER

RRP £699

Sennheiser Evolution

E835	£69.95 each	or 3 for	£185.99
E835s	£74.95 each	or 3 for	£199.99
E845	£89.95 each	or 3 for	£239.99
E845s	£94.95 each	or 3 for	£249.99
E855	£129.95 each	or 3 for	£339.99

Complete Evolution range in stock



Shure

SM58	£89.99	or 3 for	£249.99
SM57	£85.99	or 3 for	£235.99
Beta 58	RRP £194	SPECIAL	£149.99
Beta 87	RRP £381	VILLAGE PRICE	£279.99

Røde NT2 £NEW LOW PRICE!
Røde NT1 £VILLAGE SPECIAL DEAL!

Octava MK219 £199.99
Octava MK319 £229.99

Guaranteed lowest prices on all Mics

Up to 59% off AKG

C5900 – Exceptional condensor hypercardiod performance microphone which is equally at home in the studio.
RRP £245 VILLAGE PRICE £99.99

D3700 – Professional dynamic vocal mics
RRP £129 VILLAGE PRICE £65.99

C1000S – Cardiod/Hypercardiod vocal mic
RRP £281 VILLAGE PRICE £149.99

C3000 – Cardiod/Hypercardiod, large diaphram
RRP £363 VILLAGE PRICE £219.99

THE SOLID TUBE

- Large diaphragm capsule
- Ground lift switch
- 20db attenuation switch
- Switchable bass cut filter
- Shockmount suspension

The SolidTube recreates that Vintage C12 sound at only RRP £799

3 FOR 2

AKG D65s

The best value recording and live microphone in existance.
£49 each or 3 for just £99.99

Wireless Centre

AKG WMS51
Up to 35% off these superb quality handheld and lapel diversity systems.
RRP £309 (£299 on lapel version) FROM £169.99

WMS300 16 channel UHF system.
With D3700 capsule RRP £894.95 VILLAGE £649.99

Huge savings on Shure SM58 Wireless Systems

Shure EVT58S Single channel
SM58 system RRP £309 VILLAGE £229.99

Shure EVT58D True diversity
SM58 system RRP £399 VILLAGE £279.99

Audio Technica Liberator Systems
Handheld and Lapel RRP £199 VILLAGE £149.99

up to 50% off Audio Technica

ATM 4033

Superb studio condensor mic at an all time low price.
was £695 Only £319.99

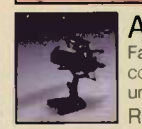
ATM4054

The Ultimate Stage Vocal Mic

Stage condensor mic based on ATM4050 large diaphragm studio condensor (RRP £945).
RRP £395.99

Pro 25 High SPL dynamic mic with a hypercardioid (unidirectional) pick up pattern. Ideal for drums, piano, bass etc. Bundled with Bass drum mic stand.
RRP £130 Our Price Only £79.99

ATM 31a
Battery/Phantom cardiod condensor mic, superb for vocals.
RRP £150 Our Price Only £89.99



ATM 4050
Fantastic studio quality condensor mic at an undreamed of price!
RRP £945 Our Price Only £499.99

Electro-Voice

N/Dym Series Mics

ND967 Concert Vocal
ND767 Lead Vocal
ND367 Female Vocal
ND267/267s Performance Vocal
ND168 Snare Drum

Call us for great introductory offers on these high performance mics.
Also available, EV MC150. £59.99 each or 3 for £149.99
Complete with 6m cable.

Beyerdynamic

Beyer M01	£59.99	each or 3 for	£149.99
Beyer M05	£89.99	each or 3 for	£239.99
Beyer TGX60	RRP £233	VILLAGE	£189.99

Nevaton CMC51

In tests this quality Mic has more than held its own against competition costing up to 3 times its price. (Neuman U87's, U47's etc)
Only £499.99

Deals on headphones and all studio accessories

ATH 910 PRO
Enclosed studio monitors, perfect for recording and monitoring.
RRP £150 Our Price Only £49.99

Beyer DT100 £ PLEASE RING
Audio Technica ATH4A ~~£45~~ £29.99
Audio Technica ATHD40 Extended bass studio monitor ~~£120~~ £99.99
Sennheiser Manhatten ~~£25~~ £19.99

Philip Rees TS1 – synchronizes your tape machine to your sequencer using MIDI. Generate and read all four SMPTE formats then convert to MTC or SPP/SRT format ... only £ 89.99

6 metre Jack–XLR £ 6.99 6 metre XLR–XLR £ 7.99

Best prices on looms and all cables and wiring!

Phone our mail order Hotlines now

INCORPORATING DIGITAL

0181 598 9506 · 0181 599 1146

or fax us on 0181 599 7236

01223 324536 · 01223 316091

or fax us on 01223 353857

TALK TO THE DEAL-MAKERS

THE PA CENTRE OF THE UNIVERSE

PLEASE CALL FOR AN APPOINTMENT FIRST

A dedicated soundproofed demonstration studio featuring the best in modern P.A equipment:

Soundcraft – Studiomaster
JBL – CAudio – Electrovoice
Animation – Soundtracs
Mackie – Carlsbro – Shure
AKG – Yamaha – Crown etc.

Electro-Voice

NEW

EV's New SX500

is in stock and on demo. Using EV's RMD technology, SX500 handles 400 watts in a lightweight injection moulded cabinet.

Call us for the best possible deal on SX500 GUARANTEED!!

SX300

The new SX300 is now in stock and on demo. Successor to the classic SX200.

RRP £1539 **VILLAGE £1129.99** per pair

The last few **SX200's** are now available at **£969.99** a pair

SX100 200 watt version of SX200.

27% off S15ME Monitors and S15E Speakers

250 watt 1 x 15" system available as a monitor (ME version) or as a front of house speaker (E version).

S15ME RRP £1233
VILLAGE PRICE £899.99

S15E RRP £1257
VILLAGE PRICE £899.99

(All prices are for pairs)

NEW

Soundcraft Powerstation

350, 600 and 1200 are now in stock and shipping.

Packages with Stands and Cables

Powerstation 350 + JBL EON 10
RRP £1423 ..... **Village Price £1159.99**

Powerstation 600 + JBL EON 15
RRP £1867 ..... **Village Price £1395.99**

Powerstation 1200 + JBL TR225
RRP £2217.95 ... **Village Price £1749.99**

NEW

Folio FX8/16

The new FX8 and 16s are now in stock. Compact, powerful mixers with on board **Lexicon** effects.

Call for best possible deal Guaranteed.

Yamaha

NEW

New EMX2000

in stock. 12 channel stereo mixer with digital effects, and a 2 x 200 watt power amp section. All in a compact package weighing in at a mere 14kgs.

RRP £649 **VILLAGE £579.99**

Packages with Cables and Stands

EMX2000 + JBL TR125 RRP £1357.95 . **Village £1049.99**
EMX2000 + EV SX100 RRP £1736.75 . **Village £1339.99**

EMX640

Great deal on this 6ch, 8 input PA head with digital reverb and **two** 200 watt amplifiers.

RRP £499 **VILLAGE £389.99**

Packages with Cables and Stands

EMX640 + JBL EON10 RRP £1297.95 . **Village £899.99**
EMX640 + EV SX100 RRP £1586 . . . **Village £1099.99**

NEW

New P-Series Power Amps

New series of 2u power amps offering outstanding watts per pound value. Using EEEngine technology, these amps have very high power output in compact chassis at great prices.

P1600 2 x 230w RRP £449 . . . **Village £389.99**
P3200 2 x 520w RRP £599 . . . **Village £499.99**
P4500 2 x 720w RRP £699 . . . **Village £599.99**

All output measurements are at 4 ohms

JBL TR Series Mega Deals

All systems have 1" compression drivers and Sonic-Guard protection.

TR125 1x15 225w system RRP £629.95 . . . . . **£499.99**
TR126 1x15 225w horn loaded system RRP £799.95 **£629.99**
TR225 2x15 450w system RRP £929.95 . . . . . **£699.99**

All prices are for pairs

Huge Savings on JBL EON Series

Always amongst our best sellers every month, Eon series offer great sound and high power handling in very portable, lightweight enclosures available in passive and powered versions.

Eon 10 Passive RRP £699.95 . . . **Village £529.99**
Eon 15 Passive RRP £829.95 . . . **Village £629.99**
Eon 10 Powered RRP £899.95 . . **Village £599.99**
Eon 15 Powered RRP £1249.95 . **Village £899.99**

All prices are for pairs

Matrix Audio

NEW

UK Power Series

New range of high quality power amps at truly astounding prices. Features include active clip limiting thermistor controlled fans, mono and bridge mode, 5 way LED metering, XLR or jack inputs and speakon outputs, all in compact 2U chassis. **All amps carry a two year warranty so you can order with complete confidence.**

UK Power500 2 x 250 watts RRP £430 **£329.99**
UK Power1000 2 x 500 watts RRP £499 **£399.99**
UK Power1300 2 x 650 watts RRP £585 **£449.99**

Also available: M-Series Amps

M300 2x150w . **£239.99** **M400** 2x200w . **£269.99**

All measurements are RMS power, 4 ohms

Animation

Series 1 Range of 'State of the Art' high performance speaker systems. In stock and on demo. Including the amazing G1 500 watt 1 x 15.

G1 500watt 1x15 **S1** 300watt 1x12 **C1** 500watt 1x15 sub

Call for the very best deal possible on these amazing systems or to arrange a demo

Stageworks Series A range of great sounding, high powered systems at unbelievable prices, including the new **System 8** 1 x 18 bandpass system. 300 watts of deep, powerful bass in a compact enclosure for only **£799.99**

System 2 300 watt 1 x 12 . . . **Village £699.99**
System 5 300 watt 1 x 15 . . . **Village £799.99**
System 8 300 watt 1 x 18 sub **Village £799.99**

Chevin Research

Superb quality lightweight power amps at new low prices! **A500** takes up just 1U of rack space and weighs only 4kg, yet it delivers 2 x 350 watts RMS.

RRP £846 . . . . . **£579.99**

PC1200 weighs only 7.5kgs and delivers 2 x 600 watts RMS.

NEW LOW PRICE!
RRP £938 . . . . . **£629.99**

Call for Chevin's free technical guide that tells you why these amps are so good.

50% off Dynacord Powermate

Own the ultimate one-box gigging machine for less than half price! 10 channel, 14 input mixer section with 3 band mid-swept EQ and vocal enhancer on first six. **Two** 18-bit Dynacord effects with individual sends. 2 x 500 watt LPN power amplifier. 2 x 7 band graphic EQ. **All with a 3 year Warranty!**

RRP £2583.83 . **Village Special £1289.99**

Powermate 1000 + EV SX300 RRP £4123 . . . **£2299.99**
Powermate 1000 + EV SX500 RRP £4282 . . **£2599.99**
Powermate 1000 + Animation G1 RRP £4513 . . . **£2799.99**

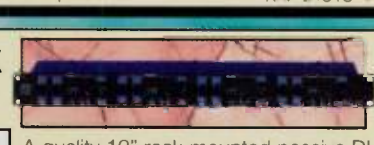
All packages include heavy duty speaker stands and quality 10m cables

Multicore Stagebox

30 metre high quality 20-way balanced stage box fitted with 16 XLR inputs and 4 outputs (left, right and 2 sends) with numbered tails also on XLRs.

£299.99

16 and 24-way versions also available – Call for prices!



4 Way 19" Rackmount DI Box

A quality 19" rack mounted passive DI box with 4 independent inputs plus link (to amp) 0, -10,-20db attenuation switching and ground lift plus XLR outputs on front and back.

only **£99.99**

Prices and specifications subject to change without notice. E&OE

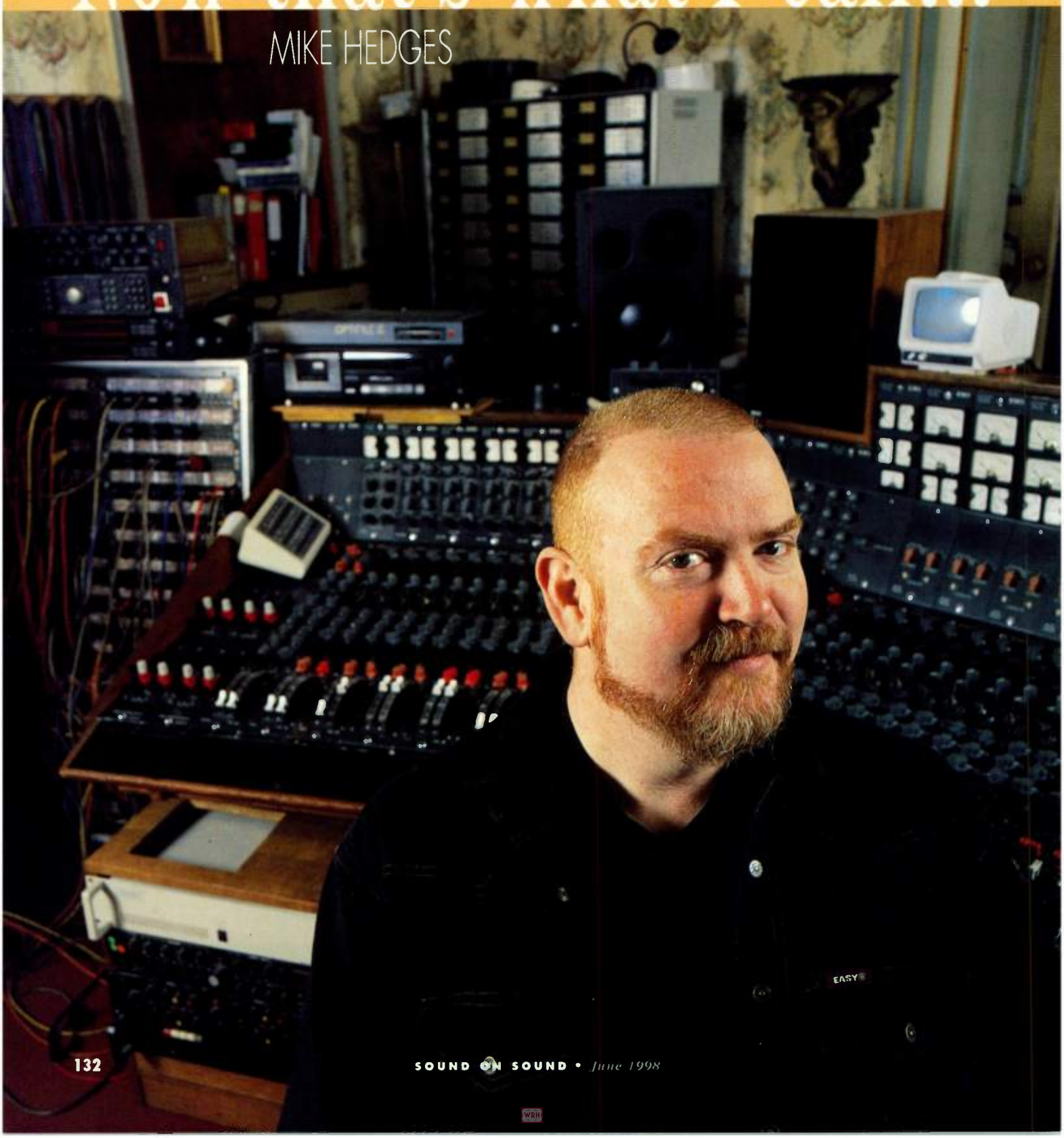
WRH

Acclaimed producer Mike Hedges has filled his studio with equipment that is almost as antique as the ancient French chateau that houses it. PAUL TINGEN catches up with a man who's far from manic but quite ready to preach the virtues of analogue.

Somewhere deep in the heart of the French countryside, acclaimed British producer Mike Hedges lives in a chateau. It looks rather like a gigantic mansion house, and is royally placed on the side of a hill, with a spectacular 180-degree view of rolling countryside up to 16 miles away. Hedges himself is equally striking: well over six feet tall, sturdily built, with flaming red hair and beard, he strides rather than walks. He's been said to look like a Celtic nobleman, and with a

Now that's what I call...

MIKE HEDGES



All photos Simon Gamper.

...a home studio

bit of imagination it's not hard to imagine him holding court at this very chateau centuries ago.

In short, Hedges, like his house, looks as if he doesn't quite belong in modern times. But that's not all. Enter this idyllic, oversized *pied-a-terre* and you'll find an exquisite collection of recording gear, much of it not quite belonging to modern times either. The heart of this studio is formed by historic equipment from Abbey Road Studios, designed in the '60s and dating from the very early '70s. *Dark Side Of The Moon* was recorded on it, John Lennon's *Imagine* was recorded on it, Kate Bush's first two albums were recorded on it. You get the picture: priceless, classic stuff.

The historic chateau, the historic gear and the historic-looking producer form an entirely fitting set of extremes, but the producer's pedigree provides an interesting contrast. Normally, 40+ producers gradually tend to lose touch with the cutting edge of the youth culture of the day. But rather than becoming an old-timer as a producer as well, the 44-year old Hedges has remained entirely up to date. Synth or sequencer-based music is not his thing, so dance music in all its variations is out, but in the category of live playing musicians he has maintained his position at the forefront ever since he became known for producing indie and alternative bands in the '80s.

Hedges started his career as the proverbial tape-op-cum-tea-boy at Morgan Studios in London in the late '70s, graduated to engineer, went freelance in 1981 and quickly moved on to make his mark as an engineer/producer. He's worked with the likes of Bauhaus, The Shamen, The Undertones, Everything But The Girl, The Associates, Siouxsie & The Banshees (five albums), The Cure (three albums), The Beautiful South (three albums) and Marc Almond (again three albums). In more recent years, he's been involved with hits and albums by Geneva (*Further*), Texas (*White On Blonde*), McAlmont & Butler (*Sound Of*) and Manic Street Preacher's *Everything Must Go* — which was voted best album of '96 by *Q*, *Vox*, *Select* and *Music Week*, and which won the Brit Award for Album Of The Year.

THE ROUGE MOTTE TREATMENT

Hedges moved to his Normandy chateau from his previous home in Willesden, North London, in 1990, after a fruitless search around the British Isles for an affordable and large enough residence. Instead he found Chateau De La Rouge Motte, meaning something like 'castle of the red (or ginger) hill'. (Motte can mean something solid or sturdy, so ironically the name can also be interpreted as a tongue-in-cheek reference to Hedges himself). Since ▶

The ground floor offers two huge rooms with oak floors, one set up as the control room and the other used for recording acoustic instruments.

▶ he moved to Normandy, he has recorded most of his productions at his home, where castle, equipment and 'rouge'-haired owner have combined their classic, old-time qualities to produce some very contemporary music, usually positioned left of centre. (The Hedges credited next to Boyzone and the like is producer Ray Hedges, who is no relation). Recent recipients of the Rouge Motte treatment were The Audience ("pop with a dark edge"), Pure Essence ("a guitar band") and the Manic Street Preachers recording the follow-up to *Everything Must Go*. In all these cases, and as with many other previous productions, Hedges didn't produce the whole album, but produced only a number of tracks. Producing album segments is a relatively recent development, and one which he welcomes, because "it's less stressful and time consuming, and it keeps me on my toes. When you do five tracks on an

album you want them to be at least as good as the other tracks. So there's an element of competition that makes it a challenge."

Recording the follow-up to the very successful *Everything Must Go* must count as a sizable challenge in itself, for both Manic Street Preachers and their producer. Hedges produced almost all of *Everything Must Go*, sharing production credits with hit-producer Stephen Hague on one track, and leaving one other track to the band's regular engineer Dave Eringa. Most of the new album, which is due out in September, is again produced by Hedges, with Eringa taking production credits for the remaining tracks. Hedges explained that the album was recorded "at my chateau over three lots of 18 days, in October, end of November/early December, and February." Some overdubs, mainly orchestral, and mixes took place at Abbey Road Studios over the course of March and early April. Before entering more deeply into the story of the making of the as-yet untitled album it's necessary to put all the ingredients that are the essence of Rouge Motte fully in the picture. First there's the chateau itself. Its original 12 bedrooms and one bathroom have been renovated and transformed into 10 bedrooms and four bathrooms. On the second (top) floor live Hedges and his family. The first floor is the residence for bands and musicians, and the ground floor and basement house the control room and recording areas.

Hedges expands: "There are two huge rooms on the ground floor with oak floors. One of them, the former salon-cum-ballroom, we've set up as the control room. The other, the former study which is separated from the salon by sliding doors, is a recording area for acoustic instruments. Next to that is a very large conservatory, which has a very live sound. In the basement there are four recording rooms: one small and very dead room, one very live-sounding mid-sized room that we use for recording drums, one medium-dead, mid-sized room where we record guitars and basses and where there are several cupboards that can house amplifiers and speaker cabinets, and then there's a hallway which is also pretty live. All the rooms in the basement are connected to the control room with closed-circuit TV. The cupboards are quite sizeable in some cases: there's one made out of stone which sounds quite live, one is medium live, and one is dead sounding. I had them purpose-built as part of the renovation process so that I could record bands together in one room and still have separation. The basement needed to have the most work during renovation, because it used to flood after heavy rains, so we had to drain it. Other than that, I spent quite a lot of money on the roof, and on plumbing and rewiring."

Pride of place in Chateau De La Rouge Motte goes to the huge, ex-Abbey Road EMI TG12345 Mark IV desk: "The best and biggest they ever made."

COOL, TRENDY, EXCLUSIVE...

Pride of place in Chateau De La Rouge Motte goes to the huge EMI desk that fills up the former salon-cum-ballroom, and the ancient 16-track Studer A80 Mark I tape recorder. These are complemented by assorted late '60s/early '70s gear from Abbey Road Studio 2, which Hedges rescued about 10 years ago from the studio's vaults, way before the current vogue in vintage gear: "The desk is the ultimate EMI desk, the best and biggest they ever made. It's a Mark IV and it has 60 inputs — 40 channels, four echo returns and 16 monitoring channels. It was installed in the legendary Studio 2, where The Beatles used to work, in 1970, and removed in 1981. They dismantled it and stored it in a rather humid place, so it required quite a bit of renovation work after I bought it in 1989. The TG12345 Mark II is a 28-input mobile desk, which I also own and which I use when I mix in Abbey Road. Mark III was used by The Rolling Stones at the legendary Pathe Marconi studios in Paris, and the original Mark I was used by The Beatles. EMI made no more of these desks after the Mark IV, so it's unique. I also have an old Siemens patchbay that comes from Studio 3 and that contains self-cleaning plugs, so it doesn't crackle. The Studer 2-inch 16-track is from 1969, and is really an updated 1-inch 8-track machine with new 2-inch heads. I use it at 15ips with Dolby A, because the low end sounds better at lower tape speeds."

The desk, tape recorder and other assorted '60s/'70s gear all look quite spectacular, but Hedges didn't acquire it for the reasons that, say, vintage car owners buys their cars — looks, exclusivity, image, and certainly not performance. According to Hedges, the real reason is that it simply sounds better than today's gear: "There is a very short signal path in the EMI desk. It's a hundredth, or maybe a thousandth the length of that of an SSL. That means that it sounds very natural. I had Optifile automation retrofitted on it, but it's separate from the desk, so we can switch the VCAs off when we're recording and not lose any sound quality. The EMI may not be as easy to use as an SSL and it needs more maintenance, but it sounds better than any other desk I've ever worked with. The EQ is limited but very musical (2-band with bass cut on all echo sends and returns), and the desk has amazing compressors on each channel, as vicious as Pultecs, plus there's an oscillator to check internal connections. As far as the tape recorder is concerned, 2-inch 16-track simply sounds better than 2-inch 24-track, and certainly better than digital."

"When you record a sound with analogue it will come back at you enhanced. So it's a tool for improving the sound purely through recording it, rather than just getting the same thing back..."

MIKE HEDGES

"There's no way I'd use a hard disk to replace a tape machine, because firstly they don't sound as good, and secondly I just don't see the point."

The Studer 2-inch 16-track is a converted 1-inch 8-track from 1969. Hedges prefers the sound of it at 15ips with Dolby A.

SECRET INGREDIENTS

If all this makes you think that Hedges is another one of the growing number of producers and engineers who are defenders of the analogue faith, you're right (though he also has a great fondness for Digidesign's Pro Tools digital editing system — more on this later). His passion for vintage equipment also extends to outboard, of which Chateau De La Rouge Motte has an enormous collection, much of it rare and esoteric. Hedges' favourites include the Watkins Copycat tape delay, the Roland RE201, 301 and 555 echo machines, and the Roland SVP vocoder. Then there's his extensive microphone collection, in which almost two dozen Sennheiser microphones play a crucial role. Just as we begin to discuss mics and mic techniques, Ian Grimble, the engineer with whom Hedges has worked for 12 years, walks in, and the two of them join forces in talking microphones and microphone techniques, in the context of the forthcoming Manic Street Preachers album. Hedges: "I do very little pre-production with this particular band. They recorded their own demos for this album in a studio in Cardiff

Engineer Ian Grimble, who has worked with Hedges for the last 12 years: "There's not a lot of EQ in the EMI desk, so you have to get the sound right at source, and use the right mic in the right position."

called Big Noise, and they sounded fantastic. They did everything on a Tascam DA88, and got a really good drum sound, which we used in a couple of tracks. In one song we actually kept the drums and bass, transferring the DA88 material to the 16-track. Overall their demos focus more on the feel of the song and less on the arrangements, so when they came to the chateau we rehearsed and worked on arrangements and playing things at the right speed. As with *Everything Must Go*, all backing tracks were recorded live by the band, usually without a click-track, in the two basement rooms, with the drums in one room and the guitars, bass and keyboards in another. They're a very good live band, and it tends to be the first, second or third take that's the master. I didn't want them to do more takes. When you keep trying to get a perfect take, the band gets tired and you lose the life that you get in the first few takes. So if there were mistakes or problems with these first takes we'd stick things in Pro Tools and fix them in there, rather than do drop-ins or extra takes."

Everything Must Go was characterised by the striking contrast between the heavy, aggressive playing of the band, and the use of very gentle, acoustic sounds, such as harp, acoustic guitars, strings and some environmental sounds. The new album, remarked Hedges, is "darker, with even stronger melodies", and doesn't thrive so much on these stark sonic and textural constrasts. There are a few tracks that feature strings, but there's no harp and there are no environmental noises. Moreover, they went for a very different drum sound this time, a much more close-miked sound with less ambience. Hedges: "We recorded the drums in a separate room because we wanted to have enough separation to be able to use the guide vocals. The guitar, bass and keyboards amps were in the custom-made cupboards, and all their monitoring came through headphones. This means that the headphone balance is very critical for a good performance. Ian took care of this."

Ian Grimble: "Sean (Moore) has a Yamaha kit, and we surrounded it with four '60s-style very dead baffles, to stop the low-end reflections from creating a boomy sound. I used a lot of compression on the drum mics, so boom could have been a problem. For the last album I miked up the drums with old valve mics, such as Telefunken and old Sony models, but this time I used a Shure SM57 and Neumann KM84 on the snare, an AKG D12 close to the bass drum and a Sennheiser MKH20 three feet away, a Sennheiser 421 on the toms, and for overheads we used Sennheiser MKH20 or BPM microphones."

ZEN AND THE ART OF MICS

BPM are a relatively little-known German company. Hedges comments: "They make very good modern valve mics. We used the TD94 and the TD95. They're great for ambience and to add a little 'valviness' to the sound. We were in part inspired by the drum sound on the band's demos, and were initially going for an ultra-close sound with no ambience at all. Later we decided to add some room sounds." Grimble: "We recorded especially the low-end drum sounds at a very high level, because the tape compression makes it sound better. This rounds off the transient a little bit, so we might record other drum sounds at a lower level." Hedges: "In the '60s, before noise reduction, people tended to put on a lot of level to avoid hiss, and then in the '70s, when Dolby came out, they recorded drums at lower levels, because tape hiss was less of a problem, and the transients aren't rounded off so much. In the '80s, creative use of tape compression came into its own and people started to use the tape recorder not just as a recording tool, but also as a sonic tool, as an effect."

Grimble: "Another crucial factor is mic positioning. There's not a lot of EQ in the EMI desk, so you have to get the sound right at source, and use the right mic in the right position. This results in a much cleaner sound. So I tend to fiddle around with

Dare to Compare...

HiSys™ XT

...the award-winning Peavey HiSys™ Series with any other line of enclosures in its market!

The HiSys line offers the best of both worlds: the finest European designs, acoustical voicing, and manufacturing processes, combined with 32 years of American ingenuity and experience.

Exclusive features include Black Widow® and Scorpion® woofers with field-replaceable baskets and 22XT™ titanium compression drivers with Sound Guard™ HF protection. A voicing switch, featured on the HiSys™ 1 and 2, contours the sound for standard playback reproduction or a smoother, more American frequency response.

The Peavey HiSys™ 6XT enclosure was awarded the prestigious 1997 Making Music "M" plaque for Best PA Speaker.

HiSys™ XT Series

It's Time You Heard

PEAVEY ELECTRONICS LTD.
Great Folds Road • Oakley Hay • CORBY • Northants NN18 9ET • England
Telephone: +44 (0) 1536 461234 • Fax: +44 (0) 1536 747222
http://www.peavey.com

PEAVEY®

mics a lot, and often spend more time downstairs in the basement, trying out mic positions, than in the control room.

"Mics used on the other instruments included a Sennheiser MKH40, stuck up close to the guitar and keyboard cabinets. The keyboards were mostly analogue — Wurlitzer, Rhodes, Vox Continental — all put through guitar amps. I used an MKH40 and Neumann U87 on the bass cabinet. I usually stuck the microphones through a Vortexion 4-channel mixer and mic pre-amp and then straight onto 16-track. Occasionally we would record upstairs in the room with the oak floor, especially for acoustic guitars. I recorded them with a Neumann 87 or BPM pencil mics as close mics, and Sennheiser MKH20s as ambient mics. The vocals were recorded with a Sennheiser 4032, or Sony C800G valve, and the acoustic piano with the C800G or two Sennheiser MKH40s."

"How I work depends entirely on what the band is after, how they work and how they sound. They write the songs and usually know what they want."

Hedges: "The Sennheiser MKH series are our favorite microphones at the moment, and they played an important part in the making of the new Manic Street Preachers album. There's the MKH20, which is an omni, the MKH30 is a figure-of-eight, the MKH40 is a cardioid, the MKH50 is a hypercardioid, and the MKH80 is a multi-pattern mic. These are our workhorses really. I started using Sennheisers when I was working with The Beautiful South. I started off with two, and now have more than 20. I think they were originally designed for classical recording, because they have very high gain and very low noise. This means that you don't have to use a lot of gain on the mic pre-amp, and you get a very clean sound. They also accept massive amounts of volume, so you can put one against a guitar amp on full and it will take it."

BIGGEST STEP FORWARD

After the Manic Street Preachers laid down their basic tracks, various overdubs were added, usually recorded in the same room with the cupboard doors open to get some room sound, and guide vocals were replaced. All material was initially recorded on the 16-track, but when Hedges and Grimble ran out of tracks they recorded the other material on a Studer A80 Mark I 24-track. (Hedges: "We locked things with the Adam Smith synchroniser, and recorded 16-track (15ips, Dolby A) on BASF 911 tape, and 24-track (30ips, no Dolby) with high level BASF Maxima tape. BASF is the most reliable tape, and it gives us the least slipping problems.")

Aside from the EMI TG12345, the 1969 Studer A80 16-track and the assortment of Sennheiser microphones, the fourth essential ingredient of Rouge Motte is Digidesign's Pro Tools. The chateau houses an impressive three systems (one 32 I/O and two 16 I/O, totalling 64 tracks). Hedges explains that they're mainly used as post-recording editing and effects tools: "Pro Tools is probably the biggest step forward in recording in the last 25 years. But not because it's a replacement for the tape recorder. Most hard disk recorders are designed to replace the tape recorder, and to me that's just weird. There's no way I'd use a hard disk to replace a tape machine, because firstly they don't sound as good, and secondly I just don't see the point. Hard disk recorders can't record backwards, you can't turn the tape over, you can't record half and double speed, and get the same same effect as a tape recorder.

"So I don't use Pro Tools as a tape recorder. Instead I see it as a very easy interface for experimenting with and manipulating sound. The editing possibilities in Pro Tools are just streets ahead of anything else. Most other hard disk recorders are basically tape machine equivalents, with some mediaeval editing facilities. They are meant to be intuitive to an engineer who is used to multitrack tape machines. That's ridiculous. The whole reason for using a hard disk recorder is that it isn't a tape machine. It can't record music any better than a tape machine. The very point of hard disk recording is that it can do things that tape can't do. The manipulation possibilities of Pro Tools are so extreme: 99% of it you wouldn't even dream of doing with analogue tape. The stuff it can do is mind-blowing. I'm not going to say much about what I do with it — people should play with it to find out for themselves what it can do. I don't use it for its EQ or compression, because it's too drastic. But I do use it for things like turning sounds over, changing the relative pitch of a section of the sound, changing the position in the stereo spectrum, whilst changing the pitch, whilst having it go partly backwards and partly forwards... Things like that. I don't know how to describe it, really. It does anything. It's fantastic."

Hedges' enthusiasm for Pro Tools appears to be on par with his passion for his ancient gear and his Sennheiser collection. But what, then, about this minor detail that was so important before — namely sound quality? Hedges: "Well, analogue still sounds better. But there are digital tape machines that sound good. The thing with digital is that it now gives things back to you that sound very close to the way they sounded at source. Digital has finally, and only just, surpassed the 'toddler' stage. But there are still problems. When you do lots of bouncing and comping on digital, it doesn't sound good to me. Something changes. To my ears it gains a strange kind of distortion. Analogue bouncing also results in phase distortion and stuff like that, but it's much more forgiving. Secondly, when you record a sound with analogue it will come back at you enhanced. So

it's a tool for improving the sound purely through recording it, rather than just getting the same thing back. Digital doesn't offer you that possibility. Thirdly, digital EQ and dynamics still sound very crude to me. A digital compressor is a nasty thing. Having said all that, the 24-bit version of Pro Tools is as close as you can get to a good digital sound. It definitely sounds better than 16-bit."

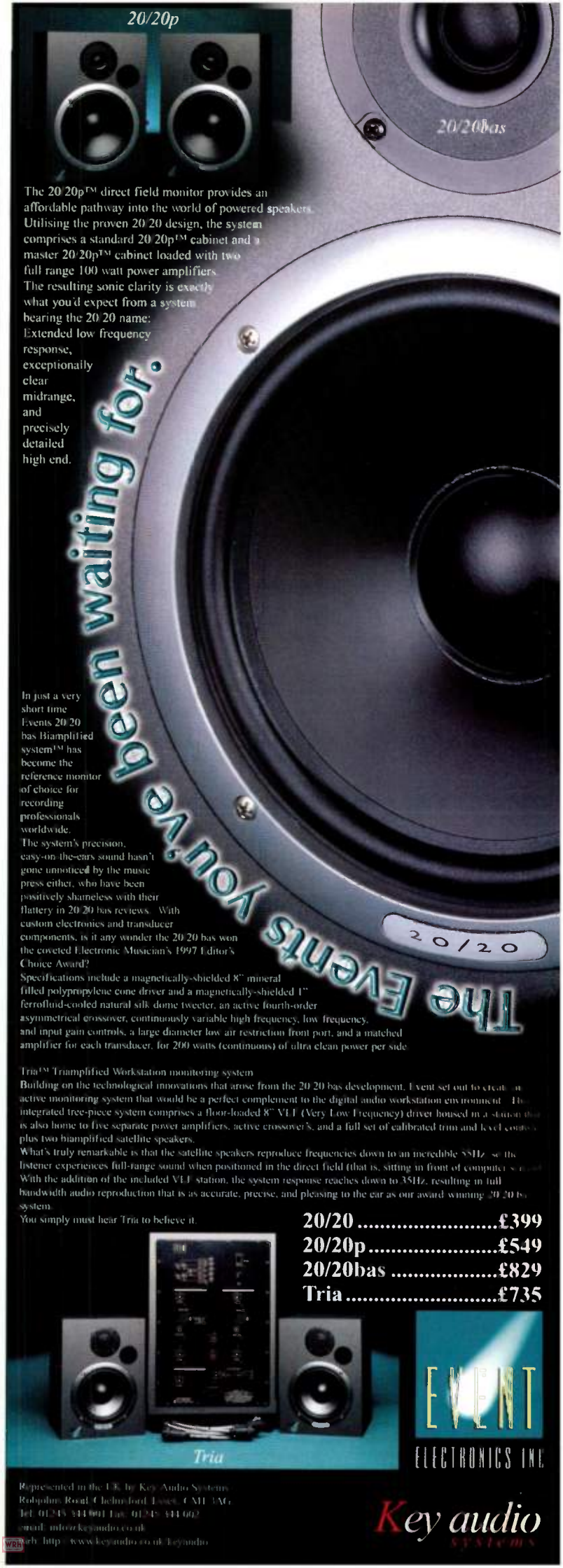
ANALOGUE EDGE

So Pro Tools gives amazing options for manipulating sound, and it sounds pretty good for a digital system, according to Hedges. But why have three systems? Is this not overkill? What does he use them for? Hedges: "I do different things on them. You have to be careful with Pro Tools that you use it to enhance the music, and not to the detriment of it. So I have different things set up on different systems. We use one to run certain kinds of effects, the other will be chopping up pieces and creating other effects, and I may use one as a slave machine. When I have 16 tracks of strings, I may put them into Pro Tools and lock it up to the 16- and 24-track analogue tape machines. I'll occasionally use Pro Tools in the mix as well, as an effect. The stuff in Pro Tools can be slipped in time against other instruments, or done backwards, or re-pitched, or the sound changed dramatically, or put into QSound, or treated with any of the other TDM plug-ins.

"We mix to half-inch analogue (30ips, no Dolby), DAT and Pro Tools. At the chateau that's to a Telefunken 2-track tape recorder and a 20-bit Panasonic DAT. Half-inch tape is my mastering medium of choice, and the DAT becomes the listening copy, so we don't have to touch the master for playback. We may do additional editing and sequencing and crossfades in Pro Tools after the mix, and then we'll put that down to half-inch as well."

So is it a good thing or a bad thing that hard disk recorders should replace tape recorders? It's all very well for someone in Hedges' position to criticise this trend, but for many poorer musicians, including readers (and writers!) of this periodical, the hard disk recorders that are put on the market at the moment for £700 and upwards are an absolute godsend. Hedges sees the point: "I agree that that's a good development and that it's totally valid to use these hard disk recorders as replacements for tape recorders in those situations. The fact is that the difference in quality between analogue and digital recording equipment is not huge. It's a slight difference. And analogue is now the more expensive medium. Just consider the cost of tape: 24-track tapes cost £120 each for 15 minutes of tape running at 30ips! So you're paying a lot of extra money for a small increase in quality. Having said this, that small increase in quality does give you an edge. It's an edge that's especially important if you want your record to last for 10 years or more. It's possible to record very good-sounding albums on home systems that cost a fraction of what a studio costs. It's just that as one progresses one should really explore all possibilities for improving the sound to the highest possible level, whilst keeping in mind that the performance and the song are the most important things. Capturing a great performance with fantastic sonic quality means combining the best of both worlds, and that's what it's all about."

As we near the end of the interview, Hedges muses a little on his exact role as a producer, asserting that a lot of it has to do with being "almost like a counseller to the band", getting them into the "best psychological frame of mind to play a great take." According to him, the essence of much of his work is "definitely a vibe thing. I don't think there's a Mike Hedges sound. I don't have a formula. How I work depends entirely on what the band is after and how they work and how they sound. Most of it comes from the band. They write the songs and usually know what they want. You occasionally get a band that needs a lot of production input and where you have to change a lot, but that's rare. Most bands know what they're after, if not in production terms, then in terms of the emotional effect they want to have on the listener. That's the central issue, and my job is to help them create sounds and arrangements that evoke those atmospheres and emotions in the listener."



How to get...
Audiowerk8
AKAI
KORG
digidesign
TASCAM
Steinberg
YAMAHA
emagic
FOSTEX
Roland
EVENT
E-MU

a better deal!

We all want to spend our money **wisely**. Whether you're buying a single memory chip, a sampler or a mixing console, you want to be **sure** you have made a **good investment**. And never more so than when you purchase a complete recording system or studio package.

Our **expertise** in computer-based recording systems, in particular, has led to our supplying suitable solutions to the complete spectrum of audio enthusiasts, from home studio owners to top producers and artists, programmers and composers, sound editors and multimedia companies, leading studios and a very well known British broadcasting company!

Being part of one of the largest groups of companies in the UK also means we benefit from the **best pricing** on all major brands of professional audio equipment; a benefit that will pass on to you.

At Natural Audio we want to provide you with the right equipment and the **very best in aftercare**. After all, **your satisfaction**, referrals and repeat business are ***our investment.***

So it may come as a surprise that the **advantages** of dealing with Natural Audio will not cost any extra. In fact, almost certainly less.

Spend your money wisely by getting a **better deal** with Natural Audio.

Natural Audio Ltd.
Dixies Barns
High St.
Ashwell
Hertfordshire
SG7 5NT

Tel: 01462 743300
Fax: 01462 743344

email: naturalaudio@compuserve.com
Only 4 minutes from A1(M) and railway connection. All major credit cards accepted.
Finance available

Natural .audio

WRH

you can with a Neumann

NEUMANN TLM103 CARDIOID CONDENSER MICROPHONE

The new TLM103 is, of course, a complete impossibility — it has supposedly been designed to a project studio price whilst retaining the qualities of Neumann's top-flight, large-diaphragm U87. Studio sleuth HUGH ROBJOHNS pulls on his deerstalker, gets out his venerable U87, and prepares to eliminate the impossible and arrive at the truth.

Ask anyone involved in sound recording to name a mic manufacturer off the top of their head, and the chances are they will say "Neumann". If you then ask for a model number, the reply will probably be "U87". There can be few commercial studios in the world without at least a couple of U87s to their name, along with perhaps several other Neumann models, and it is the one microphone that almost everyone can identify immediately from its slightly conical body and wedge-shaped grille (see the box on the U87 elsewhere in this article for more details).

So why have Neumann remained at the pinnacle of mic production for so long? Probably because they have always paid such careful attention to detail in the mechanical and electrical design of their capsules, head-amplifiers and packaging. Neumann mics have always been rugged, reliable and, although not totally accurate or transparent, they tend to possess a character which is always musical, and which can be used creatively with a huge range of sound sources.

INTRODUCING THE TLM103

A lot of smaller professional and home studios would love to have a mic cupboard full of Neumanns — but quality always costs, and for many, mics like the U87 are outside their available budgets. The TLM103 has been designed to address this problem by providing what is, in effect, a cut-down U87, but at a much more attractive price — about a third that of the U87, in fact.

Although the TLM103 is inevitably less flexible than the U87 — it offers only a fixed cardioid polar pattern — there are no compromises in its design, which means that its appeal will extend across a very broad range, from professional broadcasters and recording studios to the more demanding home studios. Indeed, in several important areas, the TLM103 actually outperforms the U87 — even the latest-generation U87Ai version.

At first glance, the new microphone looks just like a U87, but with a stubby little body instead of the large, slightly conical shape of its antecedent. Certainly the archetypal wedge-shaped wire mesh grille is identical to the U87's. To all intents and purposes, the TLM103 really is pretty much a re-boxed U87 with a few of the frills and expensive bits left out.

INTERNAL WORKINGS

The large-diaphragm capsule unit in the TLM103, the K103, is derived directly from the K87, which has been used in U87s and U67s since their inception. As you might expect, given that the U87 and U67 are both multi-polar, the K87 capsule actually comprises a pair of cardioid elements mounted back-to-back, and internal switching is employed to combine the two diaphragm outputs as necessary to produce the required polar responses.

The new TLM103, however, has a fixed cardioid response, because the new K103 capsule which it employs is effectively only the front half of the original K87. The back electrode and a single-diaphragm assembly are retained, a reduction in complexity that enables the manufacturing cost of the new mic to be significantly lower than that of the U87.

The capsule is fixed on a rubber mount which is, in turn, situated on a small circular circuit board placed horizontally just below the mic's grille. This circuit board is supported by a specially shaped rubber ring that provides further isolation from structural vibrations. The double-sided PCB carries all the head amplifier electronics and, as you might expect, surface-mount components have been employed throughout, so that the complete assembly is extremely compact. Consequently, the new mic does not require the long tubular body of its sibling, and its stubby body is perfectly suited to the compact internals. In fact, apart from the XLR output connector and a short length of ribbon cable, even the bottom 30mm of the minimal casing is completely empty.

The self noise (ie. that of the internal circuitry) of the new mic is stunningly low compared with similar models; presumably this is another benefit of the 103's TLM circuitry (see the 'More On TLM' box for more on this). The equivalent SPL is quoted at just 7dB A-weighted (according to the DIN/IEC 651 measurement specification) whereas the current U87Ai (which is already about 6dB quieter than previous versions) is specified as having a self noise of 12dB (A-weighted) in cardioid mode. The polar response is relevant here because, as the U87 is a multi-polar design, it has higher noise figures in the other two patterns (omni and figure-of-eight) due to the contribution of the rear half of the capsule.

pros & cons

NEUMANN TLM103 £699

pros

- Virtually identical in character to the classic U87.
- Attractively priced — around a third that of its bigger brother, the U87.
- Distinctive looks.
- It's a Neumann!

cons

- Should have been supplied with an elastic suspension.

summary

In most respects, this is a re-boxed U87, with the same legendary warmth and character, a fixed cardioid pattern, and significantly improved electronics that give lower noise and greater dynamic range. Priced attractively, and with the cachet associated with the Neumann badge, what's to criticise?

SOUND ON SOUND

Another very impressive characteristic of the TLM103 is that it can accommodate peak signal levels of up to 135dB SPL at 0.5% distortion. The U87Ai, meanwhile, can only manage 127dB SPL with its 10dB pad switched in! The ability to handle such high volume means that the new mic does not need a pre-attenuator, another factor that has enabled costs to be further reduced; in case you didn't know, a switch is a surprisingly expensive component.

The electrical sensitivity of the TLM103 is very slightly lower than that of a U87Ai, at 21mV/Pa, which means that it should need roughly 3dB more gain. However, the output level is pretty high compared to many other mics, so this is hardly likely to be a problem. The TLM103 can only be powered via a standard 48V phantom supply (there is no provision for internal batteries as on the original U87s) and current consumption is quoted at 3mA.

HANDS ON

The TLM103 is supplied in a wooden case, with a shaped hard foam insert, which should afford a good degree of protection for the mic in storage ▶

Neumann TLM103

THE U87

Of all the mics in Neumann's catalogue, the U87 is still the most popular model, even though it was first introduced over 30 years ago. This multi-pattern studio condenser mic tends to be used on almost everything from spoken and singing voice to full orchestras, through pianos, brass sections, percussion and bass strings along the way. The U87 is equipped with a bass rolloff filter (to reduce the proximity effect when used close to a sound source), a 10dB pad, and a choice of omni, cardioid or figure-of-eight patterns, but I would suggest that it tends to be used in cardioid pattern at least 80% of the time.

MORE ON TLM

Neumann have in recent years released several mics with the TLM prefix, an acronym that stands for Transformerless Microphone. Traditionally, mic outputs were balanced with a transformer which was also used to extract the phantom powering needed by the head amplifier. Unfortunately, transformers tend to be expensive and heavy, and they can restrict the transient performance of a mic quite significantly. Neumann's TLM models employ an electronic circuit to drive the output directly, whilst a second circuit extracts phantom power from the balanced line. This arrangement has been carefully designed and tested to ensure that it retains all the desirable characteristics of transformer balancing, such as high common mode rejection to suppress RF interference, but at greatly reduced cost and with better overall performance.

and transit. A cable is not included, but Neumann claim that the mic is insensitive to capacitive loading and long cable lengths, and you should be able to use any decent cable without problems.

The mic is available with either a satin nickel or a matt black finish, and a simple but elegant plastic swivel stand adaptor comes as standard. This screws onto a thread around the base of the mic, and a locking ring then allows the precise angle of the adaptor to be adjusted to suit any desired mounting arrangement. A wide range of alternative mounting accessories is available, including auditorium hangers and elastic suspensions.

No foam windshield is supplied, but the mic has a strong, dual-layer wire mesh grille which is reasonably effective at reducing plosives and popping; optional foam windshields and pop shields are available separately. The recommended foam windshield, by the way, is the same as that used on the U89.

The front of the cardioid polar pattern is indicated by the familiar red Neumann logo on the side of the mic and, in simple listening tests, it appeared that the pattern is relatively narrow — certainly when compared to something like the Neumann KM86. The generic polar plot supplied shows the response to be 5dB down by about 80° for frequencies below 1kHz, with very severe narrowing at the upper frequencies — as you might expect on a large-diaphragm microphone. Interestingly, the plot also shows a distinct hypercardioid tail to the rear for frequencies above about 8kHz.

With simple voice tests, I found that the mic provided very good rejection of rearward sound — of the order of 25dB or more — and that off-axis sounds retained much of their natural character. The quality does change, but in a smooth and progressive manner, without any disturbing colorations.

The overall frequency response is very natural and open and, although the TLM103 displays the characteristic warmth associated with the classic U87 and U67, its bass response is in no way overblown. Having said that, care is needed in placing the mic to ensure that the powerful proximity effect does not become a dominant part of the captured sound. Still on the subject of the lower end of the frequency range, the TLM103's internal amplifier is apparently linear well below 20Hz, and although the mic's frequency response tails off gradually below about 60Hz, it remains surprisingly sensitive to structural vibrations and wind noise. (I found, for example, that the mic captured every footfall when it was mounted on a stand with the supplied swivel-mount adaptor.) Consequently, I would strongly recommend the use of the appropriate elastic suspension and a decent foam windshield.

Just like that of the U87, the TLM103's K103 capsule has a flat frequency response up to around 5kHz, and it then shows a mild 4dB presence boost up to about 15kHz where its sensitivity starts to fall quite steeply. This provides the perfect amount of 'cut' and presence for most sources, and helps sources to retain their clarity in a mix without standing out too much. Again, careful placement is the key, but the mic has such a well-balanced nature that it should always be possible, with a little experimentation, to achieve just the sound you want. In terms of the overall sound quality and usability, the TLM103 is virtually indistinguishable from a good U87, except that it is quieter and has a greater dynamic range.

Compared side-by-side with a standard U87, which had enjoyed a typically varied life, I preferred the brand-new TLM103 with its slight edge in terms of clarity and subtlety. However, the two mics exhibited very similar characters indeed, and I would be inclined to put the few small differences down to the age gap between them rather than anything more fundamental.

FINAL OPINION

Essentially, the TLM103 has a big, open, natural character, which has a tendency to sound warm and full rather than thin and clinical. It may not be completely accurate, but it is certainly musical and can easily be used to the advantage of the recording. The polar pattern is as accurate as it can be with a large-diaphragm capsule, and provides good front-back rejection combined with clean-sounding off-axis pickup. The mic is prone to mechanical rumbles and wind noise, and these should be tamed by using an appropriate elastic suspension. However, high-pass filtering on your mixer can be used effectively, and although the mic does not incorporate its own switchable filter, the internal amplifier showed no signs of distress from excessive (but deliberately induced) low frequency signals.

If you are looking for a very high-quality, general-purpose mic, this has to be one to add to your list — no matter at what level you are operating. It has the instant visual advantage of the Neumann badge, the aural signature of the classic large-diaphragm U87/U67 mics, and a price which, although not affordable to everyone, must be said to offer excellent value. If you look at the TLM103 as a quieter and more dynamic U87, which just happens to have been left in cardioid mode, the price of the TLM103 represents something of a bargain at about a third that of the U87Ai!

There are many, many other perfectly respectable large-diaphragm condenser mics on the market, but few that sound as good (or better) than the classic Neumanns, and very few indeed that can compete with the price of this latest addition to the family. SOS

info

E £699.13 including VAT.
A Sennheiser UK Ltd., 3 Century Point, Halifax Road, High Wycombe, Buckinghamshire HP12 3SL.
T +44 (0)1494 551551.
F +44 (0)1494 551550.
E 106066.2217@compuserve.com
W www.sennheiser.co.uk
W www.neumann.com

NEW TC Finalizer PLUS

Improving on the multi-award winning Finalizer platform, **Finalizer Plus** delivers an unprecedented level of clarity, warmth and **punch** to your mix. With an **all-new set of advanced features** and enhancements, Finalizer Plus puts **professional mastering** within reach of every studio - large or small. Inserted between the stereo output of your mixer or workstation and your master recording media, Finalizer Plus **dramatically** rounds out your material, creating that **"radio ready"** sound - previously unattainable outside a professional mastering house.

Finalizer Plus costs only £2099[INC VAT]

Upgrade your Finalizer to Finalizer Plus for just £470[INC VAT]

Turn up the HEAT!

Want to breathe some **FIRE** into your music? Get ready for **FireworX!** The explosive new studio effects processor from TC Electronic - the most radical multi-effects box you've ever heard. **Experience the limits of your imagination.** Shape the sound. Give it personality. Control it. **Set your sound apart from the rest of the crowd** with extreme multi-effects: Vocoder, Ring Modulator, Digital Cruncher, Fractal Noise Generator, Resonator, Pitch Shifter, Distortion, Reverse Delays, and more...**Create an infinite number of effects** for any style of music or sound design.

FireworX is available now for only £1699[INC VAT]

8 CHANNELS & 24 BITS

Apogee's stunning new state of the art converter is here. The **AD-8000** combines a **true 24-bit** converter (114dB dynamic range) with **8 channels** of AES/EBU & S/PDIF i/o. In addition, a 4-card backplane, featuring **Apogee**'s exclusive **AMBUS** (Apogee Multimedia Bus), allows you to add interfaces for ADAT, TDIF (Tascam) and Pro Tools, with even more interfaces to come.

Also on board are Apogee's famed **UV22** process for translating high-res digital audio to 16 or 20 bits without quality loss; and **Soft Limit** to add extra level to your recordings without overs.

AD-8000 is ideal in **project studios** or **post-production suites** paired with a modular digital multitrack or DAW, and equally at home in the world's **top studios & production facilities** with the most sophisticated digital 48-track recorders & digital mixing consoles.

The next step in digital audio conversion is at R&W.
Call Gary Ash for an evaluation AD-8000 now.
We'll understand if you want to keep it.

TAKE CONTROL with TC's new MASTER FADER

Master Fader costs just £116[INC VAT]

Master Fader for TC's Finalizer and Finalizer-Plus allows you to keep your signal in the **digital domain** even while performing your fade, thereby making the need for an analog fader obsolete when going directly to DAT or CD-R. This way you don't interfere with the **pure-sounding** digital processing powers of the Finalizer. Furthermore the ideal L/R balance at all levels makes the Digital Master Fader **superior to conventional analog faders**.

It's not muffled with a Hafler

Utterly Crisp Amplifiers

When you need to **listen critically** to your work (and who doesn't?) you need **the magic** of a **Hafler** amplifier to drive your monitors. **Hafler** offer six **reference quality** amplifiers for home, project, commercial & broadcast studio monitoring. Hear how **utterly crisp** a **Hafler** can be at R&W. From just £495.

PC-Based Hard Disk Recording

Soundscape CAKEWALK Turtle Beach triple DAT Steinberg Audiowerk8 emagic

Multitrack recording, editing, CD mastering. R&W have the knowledge and expertise to get you going. Let us preconfigure one of our R&W high-spec PCs for you with all the software you need. So you can get to work, hassle-free from day one. Safe and supported by R&W for life.

Complete systems from just £1290

MORE YAMAHA FOR YOUR MONEY HERE

All prices include VAT

Yamaha 02R

R&W continue to offer the **best value** on either of Yamaha's market leading digital consoles.

With an 02R we'll give you a **FREE** Meterbridge, **FREE** Wooden Side Panels and a **FREE** interface. In fact everything to get you started. And with an 03D we'll even give you a **FREE** Tascam DA-20 Mk2 DAT Recorder (but only if you want one.)

Call now for the best R&W 02R & 03D value!

Yamaha 03D

Marantz CDR + 10 FREE Discs & CD Labelling Kit

Optional Remote

The R&W **Marantz** CDR-615 Pro CD Recorder offer continues! We'll give you 10 **FREE** Professional CDR Blank Discs and **Neato** CDR Disc Labelling Kit with its easy Windows/Mac CD label design software and labels with every CDR-615.

The cost of this amazing bundle? Just £1395[INC VAT]

Manley's Valvey Voxbox

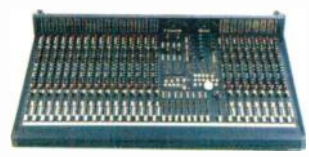
"Two words kept popping into my mind as I evaluated the Manley **VOXBOX**....transparency and versatility. I auditioned the unit on as many different instruments and in as many different situations as time allowed, and was impressed with just about every aspect of the Manley, from its appearance and performance down to the well written and informative instruction manual. The **VOXBOX** is an ideal all-in-one processor perfect for any studio or engineer...the Manley can be a powerful tool that out-performs many other high-quality single-use components with similar price tags." - Dave Boyer, Audio Media

Maybe you should evaluate one. **Call us now.**

R&W Audio Engineering

Built upon over 15 years experience of pro-audio system design and installation, our new Audio Engineering division is open for business. We invite you to give us the opportunity to become involved in any of the following pro-audio projects: *Recording, Broadcast & Project Studios • Boardroom & Teleconferencing • Sound Reinforcement • Theatre Presentation • Audio for Houses of Worship • Induction Loops Assisted Resonance systems • Speech Privacy Emergency/Evacuation systems • Background Music • Conferencing • Video & Film Replay Audio Storage & Archiving • Electro-Acoustic design • Noise Measurement & Reporting Active Noise Control • Audio Health & Safety Issues • Audio Maintenance Contracts*

GHOST BUSTERS



Soundcraft's Ghost is the classiest 8-bus project desk available. Pound for pound, Ghosts have easily got more highly desirable bells and whistles than the rest and audio-wise it's a killer. Just have a look at these amazing Ghost deals at R&W NOW!

Ghost LE-24 (Standard version) . . £2349[INC VAT]
Ghost LE-32 (Standard version) . . £2849[INC VAT]

208 Pages of Pure Pro Audio ...

FREE!

Get your FREE copy of our 208-page catalogue now. Just look at what it covers . . .

- Acoustics Products & Services
- Amplifiers
- Analogue Recording
- Books (become a complete pro-audio know-all)
- Converters
- DAT
- Digital Multitrack on Tape (ADAT & Tascam)
- Digital Recording on Disk (each & every type)
- Dynamic Processors
- Effects Processors
- Headphones & Headsets
- Loudspeaker Control Equipment
- Loudspeakers (Studio & PA)
- Microphone Preamplifiers
- Condenser Microphones
- Dynamic Microphones
- Radio Microphone Systems
- Mixing Consoles
- S4 Section: Samplers, Sequencers, Sound Modules & Synthesisers
- Studio, Broadcast & PA Sundries

Call now for our latest WAREHOUSE CLEAROUT Offer List!

Sound's better @ R&W

RAPER & WAYMAN Professional Audio

Tel: 0181-800 8288

Fax: 0181-809 1515 Email: r+w.proaudio@dial.pipex.com
Unit 3, Crusader Estate, 167 Hermitage Road, London N4 1LZ.

MasterCard VISA TRANSAX Cheques? YES!

Setting up MIDI gear for the best audio quality is a very similar process to setting up your mixer, and you can often reduce noise levels significantly. MARTIN WALKER provides some quick and easy ways to minimise hiss and hum from MIDI gear.

Level Best

OPTIMISING MIDI LEVELS

It's vital to set up your mixer gains carefully, so that your music is sitting neatly in that optimum area between noise at the bottom and distortion at the top, as I explained in the April '98 issue of *SOS*. But MIDI signals can also benefit from a little preparation in this area. Modern keyboards and synth modules tend to be fairly quiet (although you rarely see specification figures), but most people have at least one older device that's a bit noisy, and anyone using a computer soundcard may well have computer-generated burbles in the background, courtesy of the many interference-generating components inside the average computer casing.

Many people adopt a fairly fixed way of working, depending on just how many MIDI devices they have. Most of us start out with one synth, which is likely to be called on to play back half a dozen or more different sounds at once. Fortunately, most modern synths have generous polyphony, but often many of the richest sounds tend to use two or even four oscillators for each note played, which causes this polyphony to plummet. However, with careful management, note stealing (where an older note is suddenly cut off to make way for the most recent one if there are no more spare notes available) can be a thing of the past, and it's perfectly possible to create an entire song using a single MIDI module or keyboard.

Once you have two or more synths, the number of notes you require each to play will start to drop, as you are able to become more selective in choosing your sounds. You may find that certain synths are only playing back a couple of sounds, or even a single monophonic melody or bass line. Sometimes the most interesting sounds are created by layering similar patches from different sources, so that you're effectively using several synths to generate one composite note.

Most MIDI devices have default internal levels that are suitable for playing back an entire track by themselves — this is fairly obvious from the built-

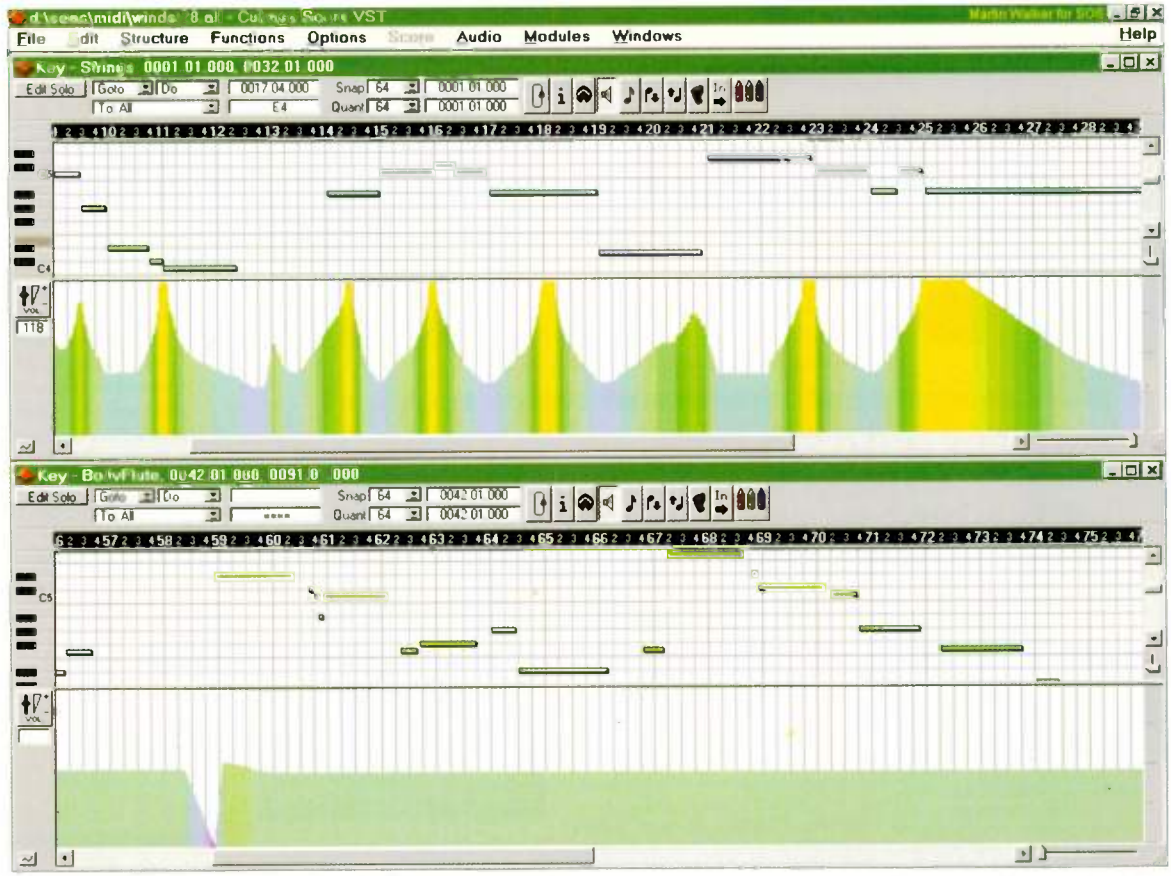


Figure 1: If you're using MIDI Controllers to automate volume levels for expression purposes, make sure you're using the full range of control, to minimise noise. The upper window shows a string part using all the Controller 7 (Volume) range. The lower one may be adding more noise to the mix than it should, simply because it never goes above half volume therefore requiring more input gain.

in demo songs. Normally this means somewhere between six and 16 channels on the go at once, and therefore a high overall output level. However, if you're only using a couple of notes, the overall output level will drop considerably. When a synth is plugged into a mixer line input it's not unusual to find that playback of a GM file needs the gain switch set to +4dBu (low sensitivity), but when using the same MIDI device as one of a set in a typical studio, you could well have to increase the sensitivity to the -10dBV position.

As you might expect, playing back just a single note on a module designed to output a dozen or more sounds may compromise noise level, but there are plenty of little things you can do that should improve this. Remember that with less coming out of each module you also get more opportunities to add individual EQ and effects via your external mixer, which can give better separation in the mix.

QUICK TWEAKS

The first thing to check is that the physical volume controls on all your MIDI synths are turned up full. If you listen to the background noise coming from most synths when they are not being played, it changes little with the position of this control, but the level coming from the synth does. Turning this control up full will give you the highest output level compared with background noise, and therefore the cleanest output signal.

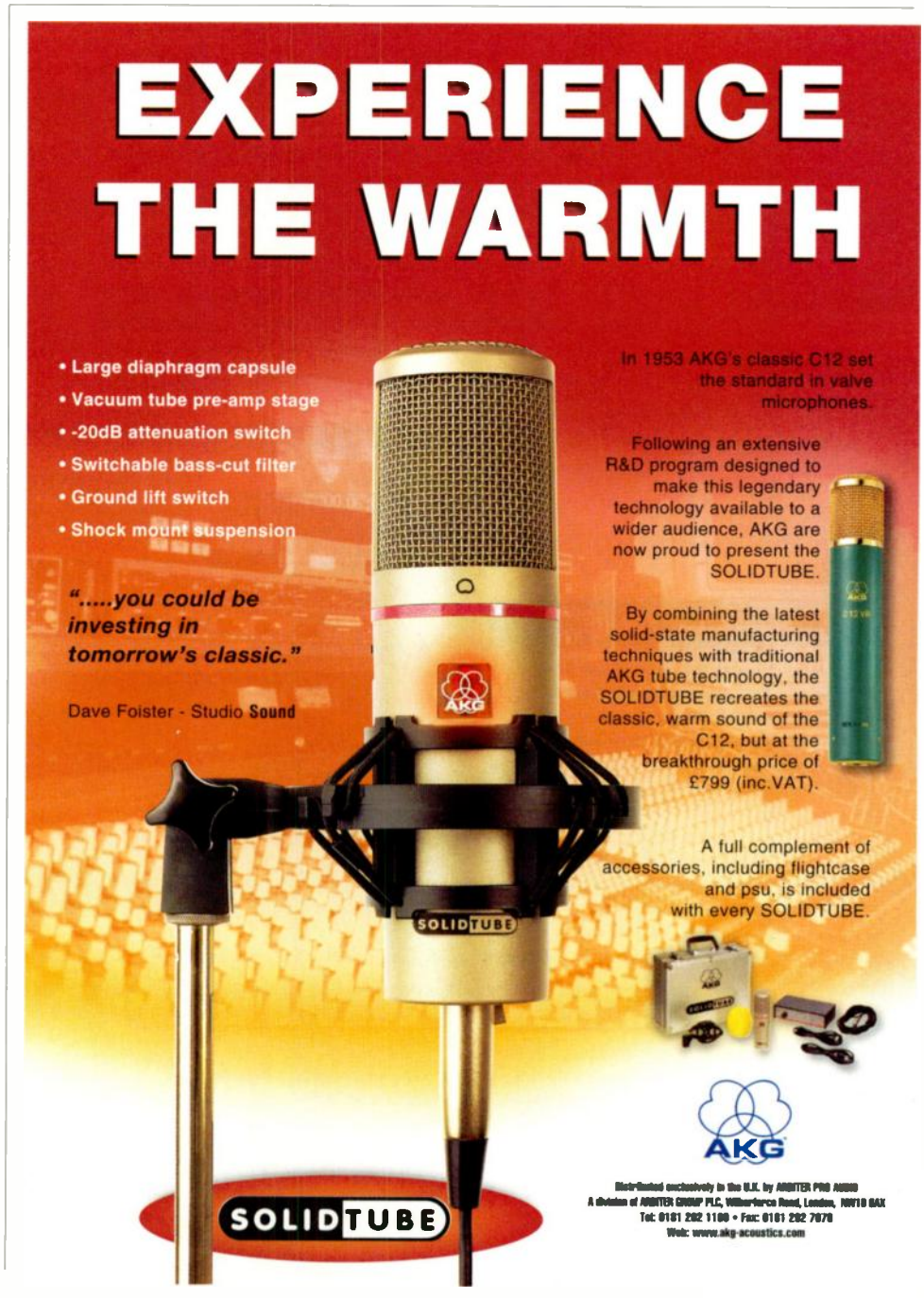
For a quick improvement in MIDI noise levels, identify the worst offender first. Set up a typical mixer routing for one of your tracks, with all the MIDI devices set to sensible fader levels, and then, without actually playing back a MIDI sequence, turn your monitor volume up high, and listen to each MIDI mixer channel in isolation to hear its noise contribution (make sure you use the Solo or PFL function on your mixer, so that you're only listening to this one device). Once you've identified the worst offender, use the other tips here to deal with it — you may find that this gives you a significant improvement by itself, which should inspire you to carry on until your MIDI system is fully optimised.

This may seem like a slight diversion, but while we're looking at the physical controls it's worth checking your MIDI cables to see if any are causing any hum. After all, hum is another limiting factor when it comes to reducing background noise levels. Try unplugging and re-inserting each relevant pair of MIDI cables; if you hear any change in background hum levels when you plug in a MIDI lead, you should replace it, as it is not correctly wired. Normally, hum level will go down as you unplug the offending cable, but if you have several that are mis-wired, it may actually go up, and in this case you will have to carry on unplugging and replacing other MIDI cables until you cure the problem.

MIDI leads should have the screen of the cable connected to the centre pin of the 5-pin DIN plug at each end of the cable, but the screen of the cable should not touch the metalwork of the plug itself (the body of the plug will normally be automatically connected to the metalwork of each MIDI device when it is plugged in, to provide extra screening). Particular cables to check are those game-port adaptor cables that attach to PC soundcards to provide MIDI In/Out facilities — it's not unknown for these to be incorrectly wired.

PATCHING UP THE CRACKS

Tweaking your synth patches to achieve maximum volume without distortion can also improve sound quality. Even in banks of commercial patches, some sounds play fairly quietly, or, worse, distort when several notes are played at high velocity. Even if you ▶



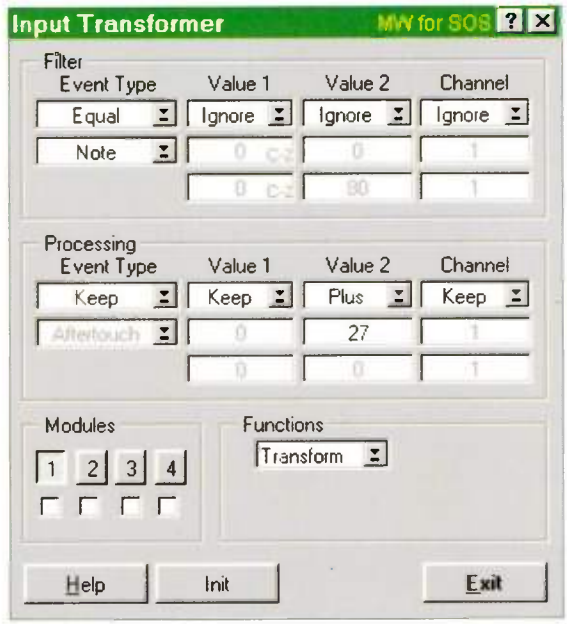


Figure 2: If you can't get high enough MIDI velocity values from your keyboard, you could use an 'Input Transformer' function, such as this one in Cubase to add a fixed amount to the velocity of each note as it is being recorded (so that you can hear the effect in context using MIDI Thru).

▶ don't fancy creating your own sounds, it's normally comparatively easy to change the overall level of a patch (or each of its parts in proportion, in the case of a combination sound). If you're playing a melody or bassline using a single note you should find that if you increase the appropriate internal level parameter, the output level goes up, and you can pull down the mixer fader (along with the noise) significantly to compensate. With ambient or orchestral sounds this can make quite a difference, since you'll often be playing a single sound through each channel of your mixer.

Of course, you can also misuse internal MIDI levels as an effect. It's perfectly possible to take these level tweaks a bit too far, and end up internally clipping (overloading) the digital signals inside your MIDI synth. Since it's highly unlikely that you could do any damage, those of an industrial bent could generate overload and distortion effects by deliberately misusing MIDI in this way. However, since many modern synths have overload facilities built into their multi-effects arsenal, this is probably only of use to the die-hard experimenter in search of new sounds.

WHACKING IT UP

Once your synths and their sounds have been tweaked, there's a lot you can do within your sequencer package. If you're using half a dozen or less sounds from a module, increase MIDI Controller 7 (Volume) for each used channel from its default value of 100 to the maximum of 127. If you're running GM files, where every sound is coming from a single module, you'll probably need a value of 100 to prevent the overall levels overloading the synth output stage and causing distortion, but if you only use two or three sounds you can whack up the levels. If there is any other Master Volume setting available through MIDI control, make sure that this too is set to maximum.

Controller 7 can sometimes be accessed as

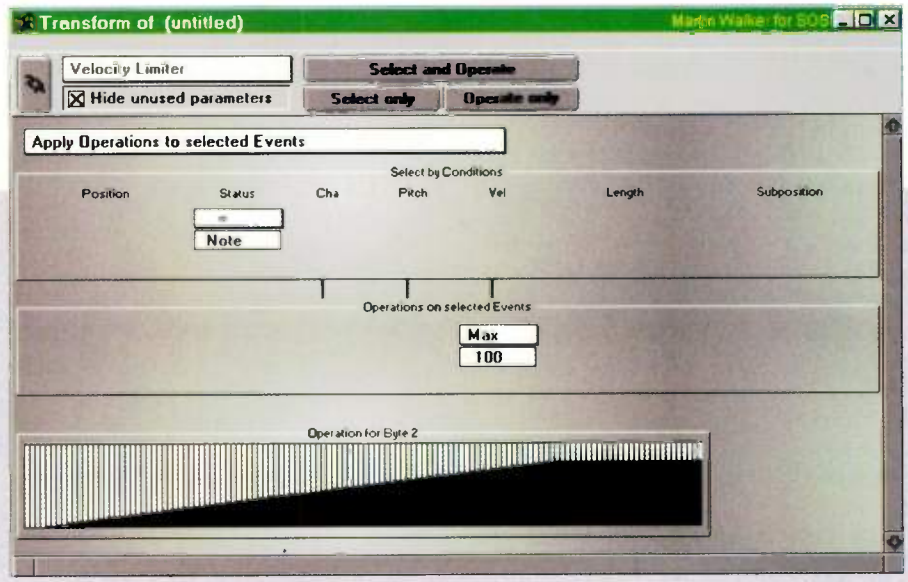


Figure 3: Most sequencers have options to treat MIDI velocity values after recording. Here is the Transform window in Logic Audio, showing a preset that ensures that no MIDI velocity will exceed 100.

GETTING KEYED UP

Make sure you're using the whole of your keyboard's velocity range. Take a look in your sequencer at the highest and lowest recorded velocities of your performances. Some keyboards rarely get above MIDI velocity 100 unless you hit them with a hammer, and you may be missing out on the full range of expression from your sounds. Many sequencers allow you to transform or scale MIDI input velocities in real time as they are being recorded, and before they reach the destination synth via MIDI thru (see Figure 2). If your sequencer doesn't permit this, you may be able to find stand-alone MIDI utilities that do it in real time before the MIDI data is passed on to the input of your sequencer.

Some master keyboards allow you to set up a different velocity response to adapt to your particular style of playing, to ensure that you're using the entire velocity range of 0 to 127. Also, some synth modules have different velocity curves available, and this can save you from having to reprogram a particularly unresponsive patch, although you'll probably find it easier to set up the keyboard if you have the option, since this will be a universal solution. People are sometimes surprised at the increased expression, even when playing commercial patches, after tweaking their keyboard response.

Don't forget that even if a given MIDI recording was played gently, with low resulting velocities, you can still scale this afterwards inside most sequencers — not only increasing MIDI velocity values, but also compressing and expanding them, to add more dynamics to the performance. You may have the opposite problem, in that a particular MIDI device distorts if you ever feed it a maximum velocity value of 127 (particularly when playing chords), because its patches were designed to suit a keyboard that never reached higher velocity values. To avoid any distortion during the performance itself, you could restrict the top values by limiting or scaling the value using a sequencer (see Figure 3).

Channel Volume on some synth editors, which makes for easier adjustment. If not, you'll need to insert an initial volume change at the very beginning of your sequence, since otherwise you may find the wrong initial volume when you restart your track, even if you're chasing controller values. This applies to any controllers used for level, pan, and so on, if they are altered during the course of the track.

After inserting a MIDI Volume = 127 command at the start of sequences, I measured a 5dB increase in output level from my Yamaha DB50XG. Since the mixer fader could then be lowered by the same amount, I had an effective improvement of 5dB in my signal-to-noise ratio for this synth.

FADING AWAY

Many people have found how useful MIDI Controller 11 (Expression) can be for real-time volume automation using a sequencer, and very expressive results can be achieved. However, this technique may conspire against you where noise is concerned, since it involves lowering the synth level. If you're using MIDI volume automation for expression it's important to keep the overall level as high as possible — try to ensure that you're using the whole of the controller's range (see Figure 1).

If you're attempting to create fade-ins and fade-outs using MIDI Expression or Volume, remember that these are only 7-bit controllers, with 128 volume steps. You may hear discrete steps in level rather than a smooth ramp at the low end of fades. If you have problems in this area, you can try to improve things by substituting volume control from any 14-bit controller, such as pitch bend, which gives 16384 steps over the range.

> "Tweaking your synth patches to achieve maximum volume without distortion can improve sound quality."

One thing to watch out for is that the MIDI All Notes Off command resets all Controller 11 (Expression) values back to their default 127. While this is handy when you're trying to keep noise levels low, if you automate a MIDI fade-out you may get a sudden leap to full volume when pressing Stop on your sequencer.

By the way, don't worry about missing digital bits. In theory, synths that rely on digital mixing to alter volume levels may (depending on their design) ▶

▶ be reducing in resolution as the level drops, and therefore using less digital bits. At very low MIDI controller levels your synths may sound more gritty, and just before the final fade disappears beneath the hiss, your sounds are left with a very buzzy quality. I've not had any problems with this on my gear, but it may vary from synth to synth. You can check it out by listening to a sequence with a very low MIDI controller 7 value, and with the speakers turned up.

However, although MIDI automation can produce very effective fades, there will always be noise left from the output stages of any synth, and this will be most obvious when the MIDI level is reduced to zero — you'll be left with a very messy tail-end to your faded tracks. Performing fades on your mixer is the time-honoured way to achieve best results, but automation is so much more elegant, satisfying and repeatable. For those of you using MIDI + Audio sequencers, a much better alternative when recording the final master is to record MIDI tracks onto a single stereo audio pair of tracks, and then use the audio fade options inside the sequencer, either with automated on-screen faders, or by physically applying a fade to the digital data in your audio editor. The end of your fades will thus be wonderful digital silence, rather than musical silence set against the combined quiescent hiss from every synth in your setup.

"Playing back just a single note on a module designed to output a dozen or more sounds may compromise noise level."

THE FINAL PERSPECTIVE

Remember that the most obvious MIDI (and audio) noise is at the beginning and end of tracks. If you have a MIDI + Audio sequencer, by all means 'top and tail' the final audio recording to remove the worst of the background noise, but remember that you will still hear this same background noise during any quiet passages of the music, so it's well worth taking the effort to get this as low as possible before recording in the first place. Even if you use distorted sounds in your music they will probably sound better against a squeaky-clean background.

It needn't take a lot of time to work through these tips — many things only need doing once for a lasting improvement. I must have increased the overall signal-to-noise ratios on my MIDI tracks by an estimated 10dB or so, and this level of improvement has to be well worth the effort. SOS

HHB

CDR800
Compact Disc Recorder

ACTIVE SOUND
Watford Tel: 01923 246282

ANDERTONS MUSIC CO
Guildford Tel: 01483 456777

DAWSONS
Warrington Tel: 01925 632591

EDDIE MOORS MUSIC
Bournemouth Tel: 01202 395135

THE GUITAR & AMP CENTRE
Brighton Tel: 01273 676835

KGM
Wakefield Tel: 01924 371766

THE M CORPORATION
Nottingham Tel: 0115 9474070

THE M CORPORATION
Ringwood, Hampshire Tel: 01425 470007

MUSIC CONNECTIONS
Birmingham Tel: 0121 212 4777

MUSIC CONNECTIONS
Bristol Tel: 0117 946 7700

MUSIC CONNECTIONS
Chelmsford Tel: 01245 354777

MUSIC CONNECTIONS
Leeds Tel: 01943 850533

MUSIC CONNECTIONS
London SW6 Tel: 0171 731 5993

MUSIC CONNECTIONS
Southampton Tel: 01703 233444

MUSICAL EXCHANGES
Birmingham Tel: 0121 248 5868

MUSICAL EXCHANGES
Coventry Tel: 01203 635766

Q MUSIC
Birmingham Tel: 0121 643 4655

SOUND CONTROL
Dunfermline Tel: 01383 733353

SOUND CONTROL
Edinburgh Tel: 0131 557 3986

SOUND CONTROL
Glasgow Tel: 0141 204 0322

SOUND CONTROL
Manchester Tel: 0161 877 6262

SOUND CONTROL
Newcastle Tel: 0191 232 4175

TURNKEY
London WC2 Tel: 0171 379 5655

HHB

HHB Communications Limited
73-75 Scrubs Lane · London NW10 6QU · UK
Tel: 0181 962 5000 Fax: 0181 962 5050 E-Mail: sales@hhb.co.uk
Visit HHB on line at http://www.hhb.co.uk

FIRST WE MADE CD RECORDERS AFFORDABLE

NOW WE'RE GIVING AWAY THE DISCS

No other pro audio CD recorder sounds better.
No other pro audio CD recorder is easier to use.
And no other pro audio CD recorder is backed by HHB's award winning technical support.*
No wonder the HHB CDR800 is so hot.
And it's about to get even hotter. Buy an HHB CDR800 CD Recorder and you'll now receive a

pack of 10 HHB CDR74 Gold blank discs, absolutely free. That's more than 12 hours free recording on the most advanced Phthalocyanine, audio - optimised CD-R discs that money can buy.

There's never been a better time to record your work on CD-R. Call HHB about the CDR800 today.

* Winners of the Professional Recording Association Award for Technical Achievement, 1997.

ALSO FROM HHB · COST EFFECTIVE, HIGH PERFORMANCE DIGITAL RECORDING MEDIA

DAT Tape

CD-R

MiniDisc

MiniDisc Data

Magneto · Optical

ADAT

DTRS

HHB Communications Ltd · 73-75 Scrubs Lane, London NW10 6QU, UK · Tel: 0181 962 5000 · Fax: 0181 962 5050 · E-Mail: sales@hhb.co.uk

HHB Communications USA · 626 Santa Monica Boulevard, Suite 110, Santa Monica, CA 90401, USA · Tel: 310 319 1111 · Fax 310 319 1311 · E-Mail: sales@hhbusa.com

HHB Communications Canada Ltd · 260 King Street East, Toronto, Ontario M5A 4L5, Canada · Tel: 416 867 9000 · Fax: 416 867 1080 · E-Mail: hhbcan@istar.ca

Visit HHB on line at: http://www.hhb.co.uk

HHB

DISTRIBUTION

DOUBLE DIAMOND

ROLAND VS1680 24-BIT DIGITAL STUDIO WORKSTATION

In the space of just two years, Roland have doubled the power of their hard disk multitrack concept, going from the eight tracks of the VS880 to the 16 of their latest baby. PAUL NAGLE admires the VS's sparkling new options.

Roland's VS880, released in early 1996, was a great hit for the home and semi-professional studio, providing 8-track playback of digital audio, optional internal effects, comprehensive synchronisation, and SCSI as standard. There were only a few gripes with it — namely that it didn't have a backlit LCD, didn't have phantom power, and its small screen and menu layers made some operations initially confusing. It used Roland's own compression algorithm to coax more recording time from the hard disk in 8-track mode, which was usually perceived as a drawback by those who hadn't heard the results. A succession of enhancements to the VS880 included new effect types, the playback of six (as opposed to the original four) uncompressed tracks, and even a CD-writer system. But even Roland's programmers could only squeeze so much from the VS880 and, inevitably, a new model was needed. The VS1680 addresses many of the shortcomings of its smaller ancestor, boosting the spec to 16 channels of 24-bit audio (each with up to 16 virtual tracks), adding a large backlit display and offering clearer, more logical operation. There's also two new data-compression modes: a high-quality 24-bit mode, and an extended-play, low-quality mode (see 'Compress Me' box). Supplied as standard are the VS8F2 internal effects card and a 2Gb internal 2.5-inch IDE hard disk, and the whole system costs about the same as the original, fully-loaded VS880 did. You can also record to an external SCSI hard disk with the VS1680, but even though disks of up to 8Gb are now becoming available the VS1680 imposes a maximum disk partition size of 2Gb. Songs cannot overlap partitions, and with 16 real tracks and up to 256 virtual tracks available, this might become an issue if you work on very long songs.

Since many of the basic principles of the 1680 are the same as the 880, I'll refer to the older model quite often. If necessary, check out March 1996's original review, and May 1997's and January 1998's updates for a refresher.

THE OUTER LIMITS

At approximately 21 x 13 x 4 inches, the VS-1680 is just four inches longer than its sibling. Considering the power within, this is an exceptionally compact package. It weighs a little over 14lbs and is portable enough to use on location or even on stage.

Before we leap into the internal details, we'll do our customary tour of the externals. Immediately you'll be drawn to the large backlit screen — its resolution of 320 x 240 dots is a far cry from that of the VS880, facilitating the use of graphics, icons and even a mini waveform display for detailed editing. A small contrast knob to its right provides a decent range of adjustment.

Underneath the display are six function buttons ('soft keys') which speed up navigation to key points on the screen or leap directly to other areas. There's a Page button to toggle any of the screens which have multiple pages, and a Play/Display button which always returns you to the main window, even if you've managed to lose yourself. Four cursor buttons aid navigation around the screen; on some pages, the large alpha dial performs this function too. Usually, turning the dial scrolls the current song position backwards and forwards in time —

hold the shift key to move around in larger steps. In the various edit screens, though, the dial serves to change parameter values. Regular play, record, rewind and fast forward transport controls also have dual functionality, courtesy of the shift key. Hold successive transport keys plus shift to access Song Store, Song Start (or End) Position, Shutdown, Restart and Automix Record. Song Store, in particular, should be used after recording or making a series of edits, as it saves the current state of play to disk — handy in case of power loss or other unexpected problems. (Inexplicably, the VS1680 totally froze on me once. I don't know why, but I was not able to reproduce this problem.)

Dedicated buttons for Vari Pitch and External Sync are positioned next to the large MIDI/Disk Activity indicator LED, and directly above the transport controls are the locator and marker banks, which store song positions to which you can instantly jump. There are 64 locator banks, in eight sets of eight, and 1000 markers. Mixer scenes are stored here too — up to eight of them — and these allow instant recall of all mixer settings, although not during playback. A further means of storing basic mixer configurations is available in the new EZ Routing feature, but we'll come to that a little later. The Preview/Scrub section is invaluable for making fine edits, replaying a short section for you to scrutinse. The Loop button allows you to set an area of your song to loop continuously, perhaps to try several variations of a solo part.

The rear panel features nine inputs: two balanced XLR connectors, six balanced line input jacks, and one guitar (Hi-Z) jack which, if connected, overrides input 8. A switch turns on Phantom power (+48V) for condenser microphones. Digital I/O is provided, with both optical and co-axial connectors.

The analogue output section features eight ▶

pros & cons

ROLAND VS1680 £2199

pros

- 16 tracks of 24-bit digital audio.
- Large and clear display.
- Extensive MIDI control.
- Effects, SCSI and internal hard disk as standard.
- Auto mix functionality.

cons

- More dedicated controls for the mixer section would be nice.
- 2Gb hard disk partition limit.
- EQ produces unwanted noises if adjusted during playback.
- No means of backing up CD image file.

summary

A remarkable box of tricks offering many improvements over the original VS880. The screen is great to work with, and the sound quality is excellent. If you buy Roland's CD writer, this gives a fast, cheap backup method. At the price, the VS1680 is hard to fault.

SOUND ON SOUND

With so much going on inside, most of the controls inevitably have to cover more than one function.

▶ phono sockets in total, namely: two Main outputs, two pairs of stereo Auxiliary outputs, and a separate stereo monitor output. These can function as individual outputs for tracks 1-8. (Version 1.01 of the operating software arrived, in the form of a series of MIDI files, as I was putting the finishing touches to this review; this allows the remaining eight tracks to be directed to these outputs too, so if individual outputs are necessary to you, make sure you have this software version.) Incidentally, I'm not sure why Roland have a fascination with phono connectors, but personally I'd prefer at least the master outputs as standard quarter-inch jacks. And speaking of quarter-inch jacks, there's a stereo phones output here, on a jack.

The onboard cooling fan is a little quieter than that of my PC, but still noisier than is ideal when recording close by. Fortunately, Roland have seen fit to allow it to be automatically turned off, either during playback or during record and playback. Oddly, there is no option just to turn it off during recording, which seems the most likely thing you'd want. With MIDI in and Out sockets, the SCSI connector, footswitch (for remote control of start/stop/record, and so on), mains connection and on/off switch, we complete the rear panel tour.

"If I had not chosen my hard disk recorder, I think the VS1680 would be the number one contender."

MIX CONTROLS

Turning to the mixer section, things are a little sparse-looking, with just 12 channel sliders and a master level slider. As you can see from the photo, channels 9-16 are configured as stereo pairs, each pair sharing a single volume slider. This is a useful space-saving option, but you're free to choose whether to unlink the tracks and have them function independently, in which case access to each track is gained by toggling the track select button. Three rows of 12 buttons positioned above the sliders are used to control input, track and track status. Gone are the VS880's rather confusing Input/Track and Input/Mix select modes; instead, a single button sets whether the sliders control input level or track level.

The input section features eight knobs which adjust between Line and Mic levels, with a small LED to indicate overload. Seperate Monitor and Phones levels are available, as are facilities to solo a track or tracks, and mute channels. The dedicated pan control found on the VS880 has been dropped.

DISPLAY

As mixers go, you're probably thinking that the VS1680 is lacking in physical controls, and you'd be right. However, this is where the display screen comes into its own.

The top line holds the large-text time indicator, complete with a bar/measure display. In Play mode, the screen resembles the now universally-adopted 'sequencer arrange window' look, with scrolling parts moving across the screen. Tiny blocks representing recorded data show at once which tracks and virtual tracks are active or have something recorded on them. You can switch to a song information page, get details of the amount of disk space used, display input status or track status (complete with a small graphic of the channel levels), and so on. Because the screen is such a decent size, it's now possible to show the scrolling arrange window and the track bar meters simultaneously, with room to spare.

Hitting an Input or Track select button produces a graphical display of the associated parameters. These screens show volume levels, EQ, effects, pan, and more. Each channel has a status button, which switches between track monitor (lights green), input monitor (yellow), record (red) and mute (off). Keep it held down for a moment and a graphical screen materialises, illustrating the signal routing with lines drawn between the active connections. From here you can redirect, for example, an input to a track as easily as holding down the appropriate buttons; a line appears on the screen, verifying that the connection is made. It's this sort of attention to detail that helps make such a powerful and complex machine manageable. The graphics are clear but never over-fussy, and are the key to an easy grasp of signal flow.

A wave display soft key causes a small but serviceable graphical waveform view, used in fine-editing, to appear. As with the main song display, a number of zoom options are available, and this ▶

Reveal

superior by intent

TANNOY professional

In your studio the only thing you actually listen to is your monitors

Tannoy's **NEW REVEAL NEARFIELD MONITORS** mean that even on the tightest budget there is no need to compromise the sound you are listening to. Whether for home recording, project studios, programming suites, or fully commercial recording facilities, Reveal offer fully professional specification and performance at the type of competitive price you would associate with budget speakers.

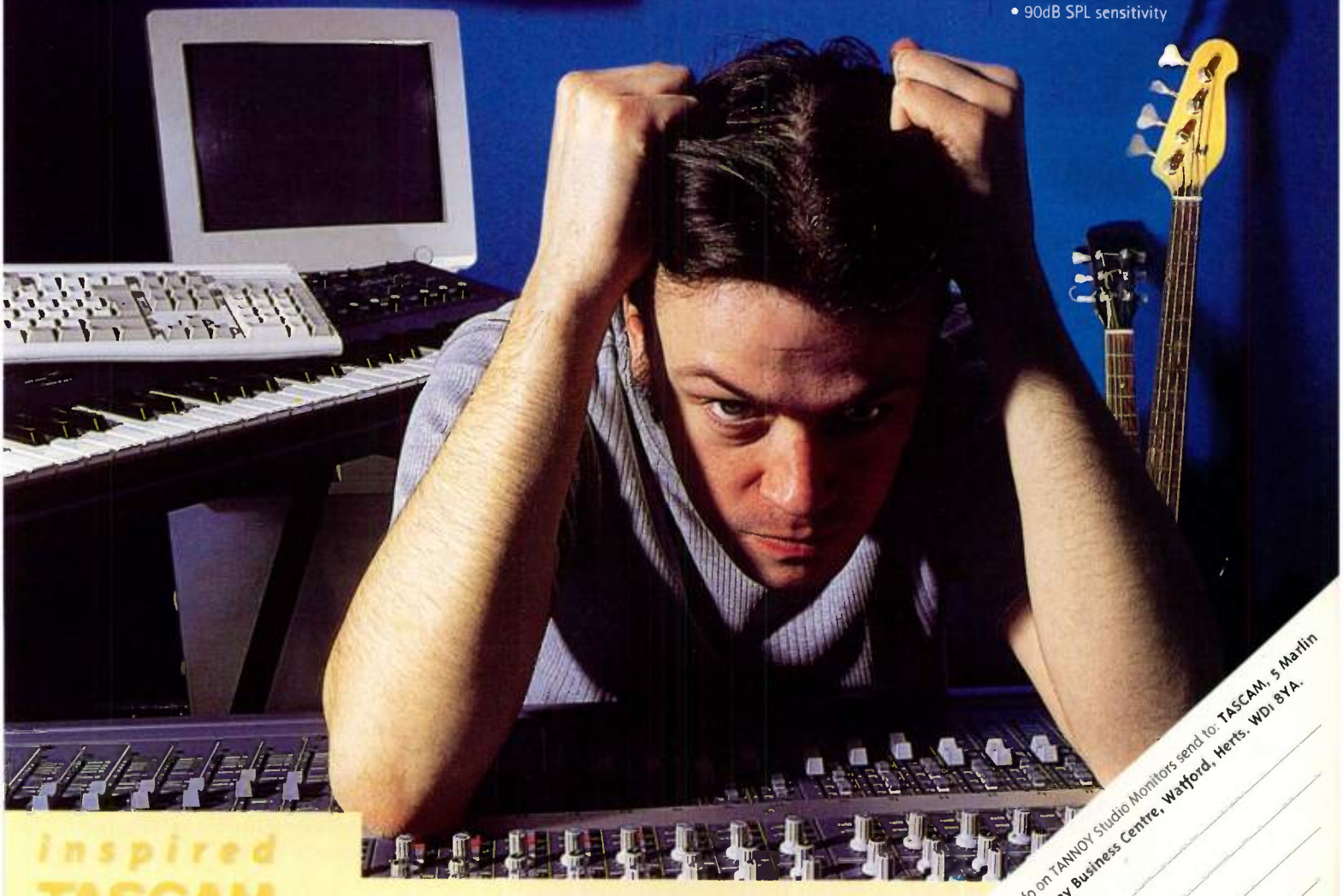
What's at the end of your signal chain?

APPLICATIONS

- home recording
- music studio
- broadcast
- post production
- mobile recording

FEATURES

- long throw shielded 6.5 inch bass driver
- 1 inch soft dome HF unit
- wide, flat 65Hz - 20kHz
- 90dB SPL sensitivity



inspired TASCAM

TASCAM 5 Marlin House, The Croxley Centre, Watford, Herts, WD1 8YA.

To receive more info on TANNOY Studio Monitors send to: TASCAM, 5 Marlin House, The Croxley Business Centre, Watford, Herts. WD1 8YA.

NAME

ADDRESS

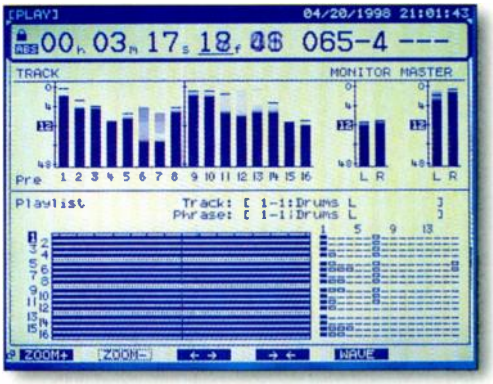
"The display, the 24-bit resolution, 16 tracks, eight inputs, the amount of recording time available — all these add up to a very desirable recording tool."

function alone is a significant improvement on the VS880 version (which simply featured a series of level bars). It's no replacement for a computer-based audio editor, but it gives you the tools to do the job. (I suppose when the VS3280 is invented it will have a colour screen, mouse and built-in sequencer program.)

EZ DOES IT

A number of VS880 users found themselves baffled by the machine's internal buss structure, or unsure of how to make recordings which included the output from the effects processors. The VS1680's manual still attempts to explain the situation by means of a water pipe analogy (complete with a diagram of toilet, water heater, sink and bath), but Roland have also programmed into the recorder a new step-by-step guide through the more typical functions. This is 'EZ Routing', and with it, even someone without a background in plumbing should be able to get up and running in the minimum of time. The EZ Routing button brings up a menu offering "easy" guides through Recording, Mixdown or Track Bouncing. Helpful graphics are presented along the way, as are options to save 29 of your own favourite configurations for later use. As an example, let's look at the supplied Recording Template, which consists of the following steps:

• **Step 1: Route Inputs to Destination Tracks**
This screen has simple graphics showing inputs, tracks and virtual tracks. Connect them however you want, by pushing the relevant button(s).



• **Step 2: Set Levels & Pans For Source Inputs**
Here you see only the inputs chosen in Step 1 and set the recording levels.

• **Step 3: Select Effects**
Choose from the two stereo effects available and decide whether effects should be pre-fade, post-fade or insert. Then set levels and pan for each.

• **Step 4: Record The Effects**
Simple graphics depict the routing of effect outputs. They're re-routed with a push of a button.

• **Step 5: Send Inputs To The Auxiliary Buss**
This is pretty self-explanatory (the Aux buss may be used to connect external effects if you wish).

• **Step 6: Set Master Section**
Here you set the monitor output, EQ type, whether direct outputs are used, and any master insert effects. Then apply the changes you made, and you're ready to record.

Because EZ Routing guides you through the process in this way, it should be possible to produce your first masterpiece almost as easily as with a conventional mixer and tape deck. I thought that EZ Routing was a useful introduction, but — probably because I'm used to the VS880 already — found it almost as straightforward to simply arm the tracks I wanted to record and go.

Up to eight tracks may be recorded at once, each recording being stored as a Take, which can be undone if you wish to revert to the earlier version. The VS1680 features 999 levels of undo and one level of redo. The VS880's excellent virtual track concept has been continued, with up to 16 of these now available, although only one virtual track per real track can play at once. Different virtual tracks cannot be swapped during playback.

A 2-band parametric equaliser is provided for each of the eight inputs and all 16 tracks. In addition, up to 16 of the input or track channels can utilise a 3-band equaliser. The EQ is pretty versatile, ▶

COMPRESS ME

The VS1680 features two additional compression modes not featured on the VS880: Multi-Track Pro and Live 2. The only recording mode which does not feature Roland's data-compression system is Mastering mode, and if this is used the VS1680 is reduced to 8-track playback. The recommended method is the new 24-bit Multi-Track Pro algorithm, which, even to my jaded ears, sounds that bit fuller and richer than the VS880 at its best. But this is where it starts to get difficult to judge in absolute terms — after all, since I've long been satisfied with the quality of the VS880, how much better does it *need* to get?

The following table shows approximate recording times, in minutes, for the various sample rates and recording modes. It's based on one track at the maximum 2Gb partition size:

Recording Mode	48.0kHz	44.1kHz	32.0kHz
Multi-Track Pro	792	808	1114
Mastering	370	404	556
Multi-Track 1	792	808	1114
Multi-Track 2	990	1078	1484
Live 1	1188	1292	1782
Live 2	1484	1616	2228

Obviously, the extended time available with Live 2 makes it quite grungy, although perhaps someone will find a use for this.

I queried the figures with Roland, because it seemed an odd coincidence that both Multi-Track Pro and Multi-Track 1 gave the same amount of recording time, but apparently Roland's software engineers have been able to extract greater performance at exactly the same cost. For anyone who needs to be reassured that the compression won't damage their music, please listen to the supplied demo song. Despite being a rather naff piece of music, with a surprisingly badly recorded vocal, this does show off the sound quality rather well.

Another important point is that Roland's hard disk recorders place no restriction on the way you divide up the available time. There is no fixed track length. The VS1680 is just as happy if you wish to record for three or four hours on just two tracks, or divide the time amongst 16 tracks and up to 256 virtual tracks too.

MAIL ORDER
A SPECIALITY

GREAT PRICES
FAST DELIVERY

Sounds Live

NEWCASTLE ON TYNE'S LEADING MUSIC STORE

~~RRP £1149~~
Our Price
£599
Limited Stocks Only

Yamaha QS300

Music Production Synth

Sounds Live Exclusive Sounds Live Exclusive Sounds Live Exclusive

Superb workstation offering 88,000 note sequencer, over 1000 voices and hundreds of patterns.

Plays MIDI files, XG GM compatible, built-in disk drive, easy to use.

www.soundslive.co.uk

TEL: 0191 230 3422 FAX: 0191 222 1663
27-29 DEAN STREET, NEWCASTLE ON TYNE NE1 1PQ

Max Systems

PC's for Music and Hard Disk Recording

All Max Systems PC's are built specifically with making music in mind, and are pre-configured and tested before being delivered directly to your door!

Complete P200mmx system with Cubase VST only £1,049

Intel P200MMX, TX-Pro MIBoard with 512k PB Cache 64Mb RAM, 4.3Gb Hard Disk, 24x CD ROM, 2Mb ATI Rage Video Card, 14 in. MultiScan Monitor, Aztech Pro 32 Sound Card with Yamaha Wavetable Synth, Steinberg Cubase VST, Windows 95 CD ROM and Manuals.

Processor Options: *(instead of 200mmx)*
Intel Pentium 233 MMX ..... add £40
Intel Pentium 233 P2 ..... add £174
Intel Pentium 266 P2 ..... add £219
Intel Pentium 300 P2 ..... add £338

Hard Disk Options: *(instead of 4.3Gb)*
6.4 Gb Ultra DMA 9.7ms ..... add £41
8.4 Gb Ultra DMA 9.7ms ..... add £110

2nd Hard Disk Options: *(additional Hard Disk)*
1.6 Gb Ultra DMA 9.7ms ..... add £89
2.1 Gb Ultra DMA 9.7ms ..... add £119
4.3 Gb Ultra DMA 9.7ms ..... add £139

Monitor Options: *(instead of 14 inch)*
15in. Multi-Scan Monitor ..... add £41
17in. Multi-Scan Monitor + 4Mb Video ..... add £206

Software Options: *(instead of Cubase VST)*
Cubase Audio VST Producer Pack ..... add £283
Emagic Logic Audio ..... add £112
CakeWalk Pro Audio ..... add £22
Emagic LA Discovery, AW8 & Midi i/f ..... add £256

Sound Card Options: *(instead of Aztech Pro 32)*
SoundBlaster AWE 64 ..... add £61
Midiman DMan ..... add £142
Midiman DMan 2044 + Midi Interface ..... add £239
Turtle Beach Fiji with Digital I/O ..... add £355
Turtle Beach Pinnacle with Digital I/O ..... add £445
Event Darla + Midi Interface ..... add £315
Event Gina + Midi Interface ..... add £502
Emagic Audiowerk 8 + Midi Interface ..... add £526

Storage & CD Options:
CD Writer 2x Internal ..... add £243
Iomega Zip Drive Internal ..... add £86

SCSI Devices: *(requires SCSI controller card)*
Yamaha 2260 CD Re-Writer ..... add £326
Yamaha 4260 CD Re-Writer ..... add £436
Iomega 1Gb Jaz Drive Internal ..... add £260
Seagate 4Gb AV Hard Disk ..... add £252
Seagate 4Gb Barracuda Hard Disk ..... add £430
Adaptec 2940AU SCSI Controller ..... add £165
Adaptec 1505B SCSI Controller ..... add £30

• All prices include VAT •

G&N Computers

9 East Bridge Street, Falkirk, FK1 1YD.

01324 887007

fax: 01324 887004

email: gandn@post.almac.co.uk

Max Systems PC's are also available at all

Sound Control

stores throughout the UK

> "The main thing that bugged me in operation was the inability to alter EQ during playback without getting tiny pops and crackles."

especially the 3-band version, but annoying crackles are produced if you tweak it during playback. The solution suggested in the manual is to make adjustments "while the sound is not playing". I think I'd have preferred a less fancy EQ that I could use without this penalty. If you work with a series of stereo channels, Stereo Link allows you to manage two channels with a single control — for level, EQ, effects, and so on. As we've already seen, tracks 9-16 are initially configured as pre-linked, since they use shared sliders.

EDITING

As you'd expect with a hard disk-based system, a number of fine-editing tools are on hand. Having made a recording, you're free to copy and move complete tracks or sections of tracks, insert spaces, and erase or cut out sections as if you'd physically chopped tape with a razor blade. New to the VS1680 is the ability to define musical phrases for editing. These are areas of a track set by you — perhaps a drum loop or bass riff, which you can name and, of course, copy multiple times (doesn't anyone play anything all the way through any more?). A recorded phrase's start and end points may be trimmed, perhaps to produce a smooth loop. Copying with Quantise ensures that the phrase always aligns to the start of a bar/measure boundary. Up to 99 copies may be made in a single operation. A time compression/expansion option has a range of 75-125%, but the extreme values have quite an adverse effect on sound quality. Original pitch may be preserved if desired, but if you merely want to slow down a recording or match it to an existing pitch, the playback Varipitch option, which supports a range from 22.05kHz to 50.43kHz, may be a better solution than permanently altering the data. One cool thing you can do with it is slow down a 44.1kHz backing track to half speed, then get the singer to make a recording at this tempo. When you turn Varispeed off again, everything returns to its natural pitch, except the vocal you just recorded. Who knows — it could magically transform a mediocre ballad into something suitable for selling jeans...

EFFECTS

The VS1680 is supplied with a new effects card, the VS8F2. This card provides two stereo processors, known internally as EFX1 and EFX2. An optional second VS8F2 can be installed, to give four simultaneous stereo effects. Their quality is superb: the effects card in the VS880 was surely a significant factor in its success, and the new model, although very similar in scope, now gives 24-bit resolution. With 210 supplied preset effects, and memory locations for a further 200 user patches, there's a lot to get through. Mostly they are the same as on the 'old' card — a generous selection of reverbs, delays, microphone simulators, Roland's 3D RSS process, and many more. There are some new algorithms too, namely the 3-band frequency "Isolator", Tape Echo, Analogue Flanger and Analogue Phaser. Of these, the Tape Echo even has simulations of the distortion and wow/flutter that we now need to warm up our perfect digital recordings!

The setting up and editing of effects is very easy. Handy icons suggest effect types: a strange long-haired being of uncertain gender represents the Vocal Multi and a small guitar and amp denotes (guess) the Guitar Amp Simulator. Again, the graphical display makes things so much clearer — setting up a compressor as an insert effect for the whole mix, for example, becomes as easy as a very easy thing indeed.

CD WRITING

The VS1680 software features the same method of CD writing as appeared on the VS880. To use this facility requires Roland's optional SCSI CD writer, which then permits you to create CD masters from any two tracks of the hard disk recorder. How you get those tracks together is up to you. If you're using all 16 tracks, you might want to mix down to DAT, then transfer this back digitally, perhaps to two free virtual tracks, from which you cut your CD. Fortunately there's no SCMS to get in your way: a few dialogues remind you of the importance of copyrights and so on, but basically once you've promised to behave yourself, you're free to copy anything you wish from any digital source.

In common with the VS880, the CD-writing process requires that you first create an image file, from which subsequent copies are made. I didn't have the CD writer to test, so I can't report whether the engineers have found a way to speed up the data conversion, which is very slow on the VS880. Copies are made at twice normal speed and the image file must reside on the internal IDE drive, so there must be enough space to accomodate both the finalised song data and the image. Once the image-creation process has ended, you are free to make one or several CD-R copies but, annoyingly, there is no way to save the image file for future CD creation (just as on the VS880). This means that you must reload your finished songs, recreate the image, then perform the write on any future occasion you wish to produce a CD. I can't believe Roland haven't sorted this out. Happily, the VS1680 does address one other omission of the VS880 CD writer, in that it allows you to archive and restore song data to CD-R. This is a major improvement on Zip backup and light years ahead of DAT backup (both of which are options too). Blank CD-Rs are now very reasonably priced (the Roland system can use the cheapest computer blanks, optimised for writing at double speed) and this means you need never worry about securing your songs for later work ever again.

If you don't have the CD-writer, an external SCSI hard disk is also a good option for backup and, unlike with the VS880, the VS1680's SCSI 'self' ID can be changed. Song import from the VS880, and even the cut-down VS840, is possible, although there are certain limitations. Similarly, export for use by the VS880 (with restrictions) can be done, and, of course, data can be transferred digitally between them. While I'm on the subject of data export, you can create a new

FEATURES AT A GLANCE

- 16 tracks of 24-bit audio, each with up to 16 virtual tracks.
- Internal 24-bit effects card with two stereo effects, and a slot for an optional second card.
- Internal 2Gb hard disk.
- Large 320 x 240 backlit display.
- SCSI, twin digital I/O connectors, phantom power, eight balanced inputs and individual outputs.
- Mix automation via onboard facilities or via MIDI control.
- CD-writing and song-archive system with optional CD writer.
- Operating System upgradable via system exclusive data embedded in MIDI files.
- Makes coffee, walks the dog and cuts the lawn (OK, I'm getting carried away now).

Sounds Like A Great Deal...

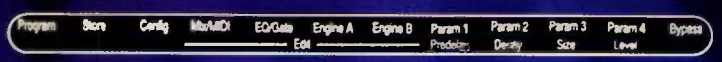
Digitech Studio 100

RRP INC VAT £179.95

If only everything in life were as simple to use and sound as good. The New Digitech Studio Series S-100 multi-effects processor gives you studio quality effects with a price tag that is truely "wallet-friendly" The easy to use interface lets you utilise the power of the dual engine processor located under the hood of the S-100. These dual engines allow you to use any one of the 7 different effect routing configurations to satisfy any application. The S-100 is also MIDI & Footswitch controllable, so any program changes can be done with a breeze on the fly.

The no compromise, S-100, legendary Digitech effect menu includes: Reverb, 16 Band Vocoder, Delay, Chorus, Flange, Detuner, Pitch Shifting and more.

A <-96dB signal-to-noise ratio and 20 bit A/D and D/A converters help keep the S-100 ultra quiet and makes this tool an absolute necessity for any studio or live application.



FEATURES: • Dual Engine Processor - Stereo Inputs and Outputs - 96dB Signal to Noise Ratio - Easy-To-Use Interface - 7 Effect Routing Configurations - MIDI Controllable - Footswitch Compatible - 20-bit A/D and D\A Conversion - Legendary Effect Library including 16 Band Vocoder, Reverb, Delay, Chorus, Flanger, Detuner & Pitch Shift.

Studio Quad V2

Studio Quad V2 4 in 4 out Multi Effects Processor
4 Independant ins/outs • Up to 4 simultaneous effects • Multiple input/output signal path routings • Automatic input levelling • Dynamic parameter modifiers • Effects include:- Reverb, Chorus, Flanger, Compressor, Room Echo, Analog + Digital Delay, Rotary Speaker Emulator, Intelligent Pitch Shifter & More. 100 user & 180 factory presets.

RRP INC VAT £399.95

Studio 400

Studio 400 Multi Effects Processor
4 inputs & 4 outputs on XLR & balanced jacks • Multiple Effect Configurations/Routings • Up to 8 simultaneous effects in *any* order • Optional Digital I/o • 100 user & 191 factory presets•Effects include:- Reverb, Chorus, Flanger, Compressor, Room Echo, Analog + digital Delay, Rotary Speaker Emulator, Intelligent Pitch shifter & More.

RRP INC VAT £799.95

DigiTech

Exclusively Distributed by ARBITER GROUP PLC
Wilberforce Road, London, NW9 6AX
Tel: 0181 202 1199 FAX: 0181 2027076

song from chosen tracks in an existing song — a bonus if you want to make radical new versions of a composition without touching the original.

AUTOMATE THE MIX

All's well on the MIDI front, each important mixer parameter being accessible via a MIDI controller. This means that you can produce a complete automated mix from a computer or hardware-based sequencer with ease. The VS1680 will also send its mix settings via the MIDI Out, with the appropriate tick in one of its global settings. If you don't have (or don't want) a computer or sequencer involved, there are onboard facilities for recording

mixer movements. While this is not, perhaps, as visually appealing as a mouse-drawn controller curve or an animated on-screen slider, the facility is integrated into the recorder and performs well enough. Once you've recorded some slider movements, these can be edited using Micro Edit, which, in appearance, resembles the Event List provided by most sequencer programs, with the time, measure and object value presented in a list.

> "With the VS1680, finding the strengths is an easy matter, but weaknesses are a little more elusive."

Synchronisation is well catered for, too — the VS1680 can function as MIDI Time Code (MTC) and MIDI Machine Control (MMC) master or slave. It can even transmit MIDI clock, but since MIDI clock is simply a series of pulses, it is not possible to synchronise the VS's audio to incoming clock, basically because there's no way for it to know when the next pulse will arrive. The VS provides an additional track, the sync track, for recording MIDI clock from an external sequencer, and if you wish to align the song's measure, beat and tempo with another MIDI recorder, a tempo map can be made. The unit has an internal metronome or can send clicks to external MIDI gear.

The manual provides guidelines for synchronisation to *Cakewalk Pro Audio* where *Cakewalk* is MMC master and MTC slave. For audio sequencers which can transmit MTC, it's probably best to set the VS as MTC slave, so that onboard audio from the computer stays in sync with its MIDI and with the audio of the VS. This method has worked reliably for me for some time, providing the VS receives a stable source of MIDI Time Code.

I breathed a sigh of relief when I found that one of the three supplied manuals contained MIDI information. Some of Roland's newest gear omits this valuable tome, despite the fact that for some people it's more important than the now obligatory 'Quick Start' book. The manuals are still a little brief, considering the machine they're describing, and the index is hardly in the optimum position, situated halfway through the separate Appendices manual. Nevertheless, they're an improvement on the manuals supplied with the VS880.

One final thing I should mention: the VS1680 has an internal clock and calendar. This is actually very useful, because it automatically stores the time and date of any recording made with the unit. A weird offshoot of this is that the VS1680 can function as a deluxe message scheduler, waking up to present you with a greeting on a given date.

CONCLUSION

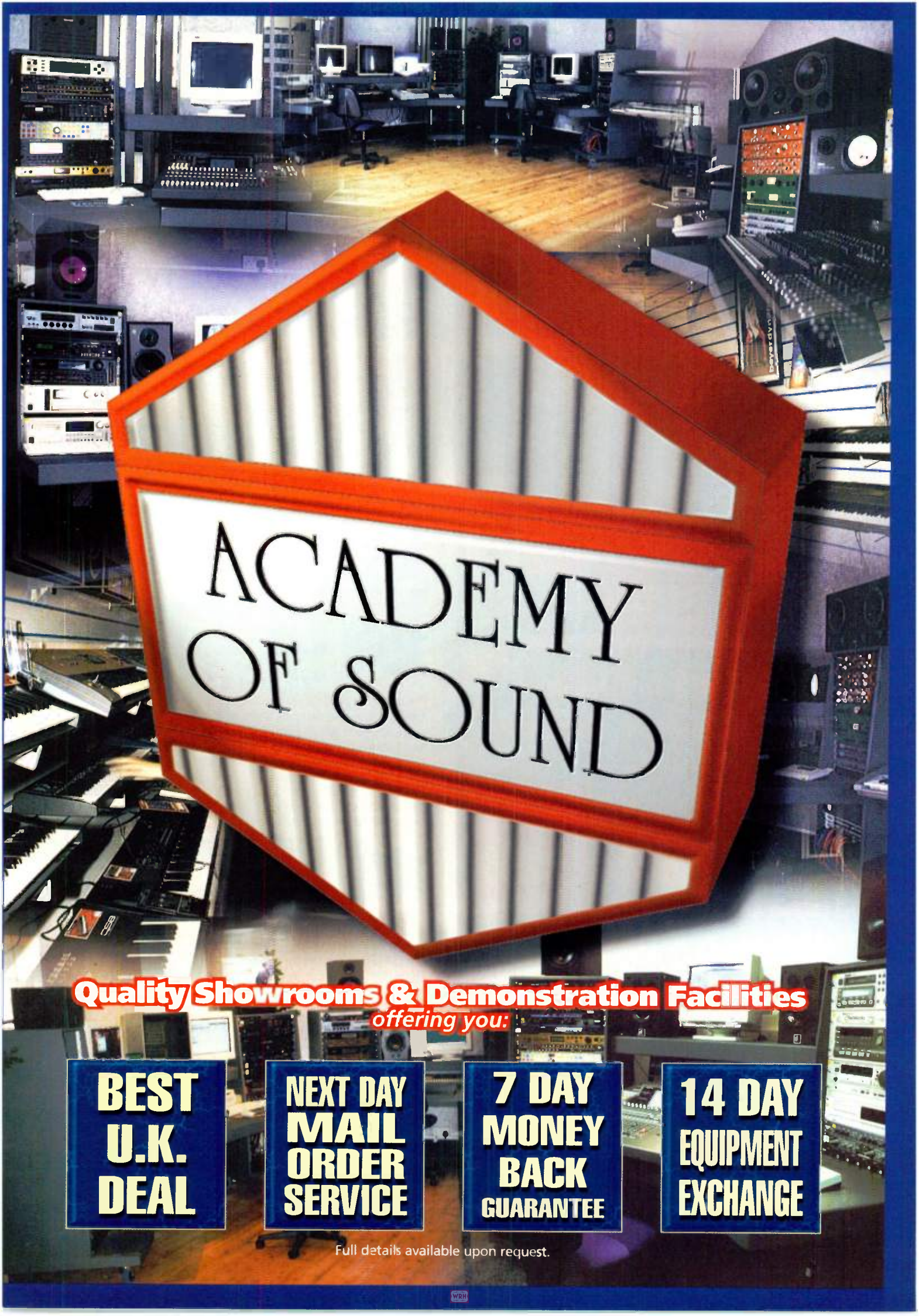
It's my task, when writing a review, to present a balanced picture of all the strengths and weaknesses I can see in a product. With the VS1680, finding the strengths is an easy matter, but weaknesses are a little more elusive. The display, the 24-bit resolution, 16 tracks, eight inputs, the amount of recording time available — all these add up to a very desirable recording tool. On the negative side, the lack of individual mixer controls means that you don't get the instant overall view of settings (as you would with one knob per function), I'd prefer jack outputs to phonos, and the 2Gb partition limit on the hard disk seems an unnecessary restriction. But the main thing that bugged me in operation was the inability to alter EQ during playback without getting tiny pops and crackles.

The VS1680 has similar CD-writing capabilities to the VS880, but with one big plus — you can back up song data to a CD. This is a far better solution than Zip backup and DAT backup, and indeed the latter hardly seems a sensible option for any but the shortest songs. However, the fact that there is no option to save the image file at all strikes me as crazy The fact that only eight tracks are available in uncompressed audio mode seems largely irrelevant, because the new 24-bit Multi-Track Pro recording mode sounds so clear (see 'Compress Me' box). I'd say it sounds at least as good as 16-bit uncompressed audio, and better than any analogue tape system I ever heard. With both optical and co-axial digital inputs and outputs available, and an internal signal path of 24 bits (including mixer and effects processor), it's becoming feasible to keep the whole mix in the digital domain.

So do I like the VS1680? You bet! Will I be replacing my own VS880? Probably not, as my VS880 does everything I currently need to do, but if I had still not chosen my hard disk recorder, I think the VS1680 would be the number one contender. SOS

info

£ £2199 including VAT.
A Roland UK Ltd, Atlantic Close, Swansea Enterprise Park, Swansea, West Glamorgan SA7 9FJ.
T Brochure line +44 (0)1792 515020.
F +44 (0)1792 799644.
W www.roland.co.uk


ACADEMY
OF SOUND
Quality Showrooms & Demonstration Facilities
offering you:
BEST U.K. DEAL
NEXT DAY MAIL ORDER SERVICE
7 DAY MONEY BACK GUARANTEE
14 DAY EQUIPMENT EXCHANGE
Full details available upon request.

KEYBOARDS • SAMPLERS • SOUND MODULES

ACADEMY OF SOUND

KEYBOARD OF THE MONTH

YAMAHA AN1X SYNTH

DANCE ZONE

R.R.P. £899.00

£699

+ FREE X FRAME STAND

▼ 10 Voice Polyphonic ▼ Analogue Modelling technology creates stunning, fat analogue textures ▼ Digital Multi Effects ▼ Loads of assignable Realtime Control Knobs ▼ Ribbon Controller ▼ Scene Memories & much much more!

Yamaha EX5 / EX7 Sampling Synths

Brand new sampling synthesizer workstations from Yamaha boasting incredible features for the price...

EX5 Synthesizer

• 76 Note Keyboard • 128 Note Poly • Initial / After Touch keys • 5 Synthesis Types • Up to 73Mb Sample Memory • 16 Part Multi timbral • 16 Track / 30,000 Event Sequencer • 4 Track / 17 Mode Arpeggiator • Optional SCSi, Multiple Outputs, Digital Outputs Breath Controller • 2x MIDI In / 2x MIDI Out / Thru...

EX7 Synthesizer (as above with..)

• 61 Note Keyboard • 64 Note Polyphonic • 4 Synthesis Types • MIDI In / Out / Thru...

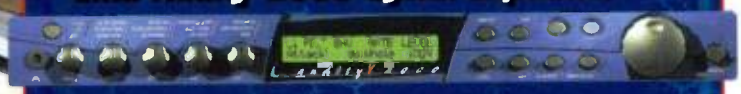
NEW

EX5 SYNTH £1899 R.R.P.

EX7 SYNTH £1599 R.R.P.

DANCE ZONE

Emu Audity 2000 Synth Expander



One of the most powerful dance module ever produced!

• 32 Voice Polyphonic
• 6 Audio Outputs
• 12th Order Resonant Filters
• 16 Channel Arpeggiator / Rhythmic generator provides upto 16 synchronized grove patterns
• Advanced DSP Effects
• 8 synchronized LFOs
• 4 Realtime Control Knobs

NEW

AUDITY 2000 £1299 R.R.P.

DANCE ZONE

Roland MC505 Groovebox

Incredible new dance music production tool with truly unique features and a great price tag!

• 64 voice • New dance orientated sound chip • Massive 95,000 event sequencer • Superb 53 Pattern Arpeggiator • 714 Dance Groove Patterns • Integrated D Beam Controller allows you to control Resonance etc. with movements of your hand / body! • 3 Independent Effects Processors offer stunning effects including "Radio Tuning" & much more!

NEW

MC505 £949 R.R.P.

DANCE ZONE

Electronic Percussion

Zoom 234 Rhythm Track / Bass Machine	NEW	£199
Alesis SR16 Drum Machine		£189
Roland V Drum System - awesomely real...	NEW	£Call

Sound Modules

Roland JV2080 4x Expandable Rack		£Call
Roland JV1080 "industry standard" Rack		£Call
Roland MC303 Groovebox		£Call
Korg TR Rack Trinity Rack	NEW	0% Finance
Emu Orbit "The Dance Planet" Module	EX DEMO	£729
Emu Planet Phatt "The Swing System" Module	EX DEMO	£729

Phrase / Professional Samplers

Akai S2000 Sampler including Multi Output Option		£799
Akai S3000XL Sampler including 4 Buss Effects Option		£1399
Akai S20 Desktop Sampler		£449
Emu E6400 Professional Expandable Sampler	EX DEMO	£1799
Emu ESi4000 Expandable Sampler		£1199
Emu E Synth Rack Sampler / Synthesizer		0% Finance
Boss SP202 Entry Level Phrase Sampler	NEW	£299
Boss SP808 Sample / Recording Station	NOW ARRIVING	£1099

Synthesizers

Roland JP8000 Analogue Synthesizer		£1099
Roland JX305 Groove Synthesizer	NOW ARRIVING	£949
Korg Z1 Multi Oscillator Synthesizer		£Call
Korg N5 Realtime Control Synthesizer	NEW	£649

Keyboard Workstations

Roland XP50 4x Expandable Keyboard	LAST FEW	£Call
Roland XP60 Enhanced Workstation	NOW ARRIVING	£1299
Korg Trinity Expandable Workstation		from £1449

Interest Free Credit Available on Selected Items - details upon request

AMERICAN EXPRESS · VISA · SWITCH · Cheque

22 - 32 Humberstone Road
LEICESTER
0116 262 4183

3-4 York Towers, 383 York Rd.
LEEDS
0113 240 5077

2 Sovereign Way, Anglia Sq.
NORWICH
01603 666891

Showrooms Open Monday to Friday 9.30am - 6.00pm Saturday 9.30am - 5.30pm

MIXING DESKS • RECORDERS • SIGNAL PROCESSORS

MULTITRACKER OF THE MONTH
FOSTEX D160

▼ 16 Track with no compression ▼ 44.1kHz and 48 kHz record frequency ▼ Upto 99 Virtual Reels ▼ 16 Channel ADAT Digital Interface ▼ 8 "ghost" tracks for alternate takes ▼ MIDI & MMC Sync ▼ Analogue and Digital I/O ▼ SCSi 2 Interface as standard for fast backup to external HD storage devices ▼ Tempo Mapping ▼ Removable front panel can be used as a wired remote control ▼ Complete with 3.5Gb Hard Disk

R.R.P. £2899.00

£1899

Multitrack Recorders

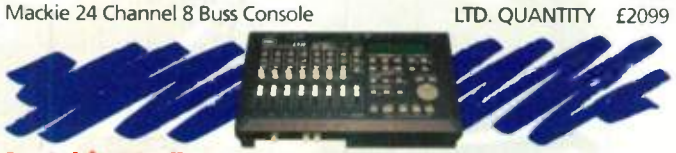
Alesis ADAT SVHS 8 Track Recorder	LAST 4	£1399
Fostex D80 Hard Disk Recorder		£1099
Fostex D90 Hard Disk Recorder		£1249

DAT / CD Recorders

Fostex D5 DAT Recorder		£629
Philips CDR870 Consumer CD Recorder	NEW	£499

Mixing Desks

Spirit F1 14.2 Multi Purpose Mixer with 100mm Faders		£279
Spirit F1 16.2 Multi Purpose Mixer with 100mm Faders		£329
Spirit SX Multi Purpose Mixer with 8 Direct Outputs		£439
Spirit FX8 Mixer including Lexicon Effects		£399
Spirit Studio 16.8.2 8 Buss Recording Console		£899
Behringer MX8000 8 Buss Recording Mixer		£1199
Behringer MX3282A 28 Input Recording Desk	NEW	£879
Mackie 1202VLZ Mixer	LTD. QUANTITY	£269
Mackie 1402VLZ Mixer	LTD. QUANTITY	£379
Mackie CR1604 4 Buss Mixer	LTD. QUANTITY	£799
Mackie 24 Channel 8 Buss Console	LTD. QUANTITY	£2099



Portable Studios

Yamaha MD8 8 Track Mini Disc Studio	NEW	£999
Yamaha MD4 4 Track Mini Disc Studio		£599
Roland VS880P 8 Track Virtual Studio	NEW PRICE	£1499
Roland VS840 8 Track Virtual Studio	NEW	£949
Akai DPS12 12 Track Personal Studio	NEW	£1299
Korg D8 8 Track Studio with Rhythm Generator	NEW	£849

Signal Processors

Alesis Midiverb 4 Multi Effects		£259
Digitech Studio Quad V2 - 4 in 4 out Multi Effects	SPECIAL DEAL	£269
DBX 266A Mono / Stereo Compressor		£149
Zoom 1201 Studio Effects		£99
Zoom 1204 Studio Effects with MIDI		£199
Behringer Ultra Curve 24 Bit Studio Processor		£299

Computer Software / PCI Cards

Steinberg Cubase VST Audio / MIDI with Effects	£299
E Magic Logic Audio Platinum, Gold or Silver Software	£ Call
Event Electronics Gina 2 in 8 Out Recording Card with SPD/F	£429
Event Electronics Darla 2 in 8 Out Recording Card	£269
Korg 1212 I/O 12 in 12 Out PCI Recording Card	£Call

Spirit 328 Digital Recording Mixer

Spirit has been long established as the market leader in analogue desks. The 328 Digital is Spirit's first step into consumer digital mixers and it's killer...

- 16 Mono Mic/Line inputs
- 5 Stereo Inputs • 24 bit A/D D/A Convertors
- 24 bit Internal processing
- 10Hz - 22kHz Flat Response
- 2 Lexicon Dual Programmable Effects Processors
- 2 Assignable Dynamics Processors
- 3 Band Fully Parametric EQ
- 100 Mix Scene Memory with instant recall
- Fully Motorised 100mm Faders
- Comprehansive 8 buss analogue mixer type interface
- MTC and SMPTE syncronisation & much more.

NEW

18 MONTHS 0% FINANCE
Price £3499 R.R.P.
Deposit Payable £699
£155.55 PER MTH

Roland VS1680P Personal Studio

NEW

The VS880P has revolutionised the way people think about digital home recording.
The VS1680P provides enhanced sound quality and 8 more tracks to play with...

- 16 track playback
- 8 track simultaneous recording • 26 channel fully automated mixer • 256 "virtual" tracks • Totally non-destructive editing • Superior 24 bit audio resolution

MT Pro Recording offers you an incredible 808 (dynamically allocated) track minutes of 44.1kHz audio

- "EZ Routing" mix memory function
- Complete with 2Gb Hard Disk and the VS8F2 4x Stereo Effects Board (can house 2 FX Boards!)

Roland VS840 £949

12 MONTHS 0% FINANCE
Price £2199 R.R.P.
Deposit Payable £499
£141.67 PER MTH

9 - 13 Hockley
NOTTINGHAM
0115 958 1888

720 - 724 City Road
SHEFFIELD
0114 264 0000

16 - 22 Hillchurch St. Hanley
STOKE ON TRENT
01782 205100

STOKE ON TRENT Showroom Open Sunday 10.00am - 4.00pm

Cheque

PROFESSIONAL AUDIO DIVISION

ACADEMY OF SOUND

YAMAHA 02R DIGITAL DESK

The standard by which digital post-production mixers are set.. a demo is essential.
• 40 input channels • 24 analogue inputs with 24 bit A/D convertors • 16 digital outs • True 8 Buss routing • Auto 4 Band Parametric EQ on inputs and stereo output channels • Full Mix Automation • All Options available... **BEST UK DEALS**

YAMAHA 02R DESK £5499

LOOKING FOR AN AUDIO PC PACKAGE?

Look no further. Academy of Sound Pro Audio offers no nonsense packages at no nonsense prices! Call Stuart ...

P2 MIDI PACKAGE 1

• Pentium 2 233mHz Processor • 32Mb SD RAM
• 4.2Gb Ultra DMA Hard Disk • 1.44Mb FD Drive
• Mini Tower Case • 14" SVGA Monitor, Windows 95 Keyboard & Mouse • Windows 95
• 4Mb PCI Graphics Card • Goldstar 24x CD ROM
• **STEINBERG VST 3.5 MIDI / AUDIO SOFTWARE**
• **EVENT ELECTRONICS GINA 20 BIT SOUND CARD - 2 IN 8 OUT / SPD/F WITH DEDICATED RISC PROCESSOR**
• 1 Year R.T.B. Warranty

P2/233 GINA £1499

P2 MIDI PACKAGE 2

• Pentium 2 233mHz Processor • 32Mb SD RAM
• 4.2Gb Ultra DMA Hard Disk • 1.44Mb FD Drive
• Mini Tower Case • 14" SVGA Monitor, Windows 95 Keyboard & Mouse • Windows 95
• 4Mb PCI Graphics Card • Goldstar 24x CD ROM
• **STEINBERG VST 3.5 MIDI / AUDIO SOFTWARE**
• **EVENT ELECTRONICS DARLA 20 BIT SOUND CARD - 2 IN 8 OUT WITH DEDICATED RISC PROCESSOR**
• 1 Year R.T.B. Warranty

P2/233 DARLA £1399

PROFESSIONAL STUDIO FURNITURE

Exclusive line of professionally manufactured studio furniture now available. This furniture is used in all Academy of Sound Hitech showrooms and comes complete with rack stripping.
• Manufactured from Marine Beech Ply for strength and durability

SINGLE BAY ..... from £288 + VAT
CUSTOM MADE ORDERS ..... £POA

Please note: Furniture prices do not include studio equipment pictured.
Complete workstation set-ups available £POA

E MAGIC AUDIOWERK 8 PACKAGES

E Magic Audiowerk 8 PCi card with 8 outputs, digital I/O and FREE Virtual Multitrack Recorder software & Logic Audio Discovery Pack **£429**
Above Audiowerk 8 Package including 19" Rackmountable 8 Output Expansion **£499**

SONIC FOUNDRY SOUND FORGE 4

Excellent PC based 2 track editing software with a host of great Plug Ins including Spectrum Analyser, Batch Convertor and Noise Reduction
SOUND FORGE 4 CORE SOFTWARE £289
SOUND FORCE 3 PLUG IN PACK £289

Soundscape & PRO TOOLS On Demo £BEST

INCREDIBLE BLANK CD PRICES - Call us now...

Samsung Blank 74 Minute Professional Recordable CDs ..... **BOX OF 10 £15.00**
Philips CDR74DA Comsumer CDs (Pioneer compatible) . **£3.45 Each**
Other Blank CDs available - please call for up to date prices

RODE NT MIC PACKAGES

Complete mic package featuring choice of NT1 or NT2 Microphone
• Carry Case • Shock Mount • Wind Shield • Quicklok A300 Boom Mic Stand • **Joe Meek VC3 Valve Mic Pre Amp** • Microphone Cable
• **RODE NT1 £199 • RODE NT2 £399**

NT1 PACKAGE £499
NT2 PACKAGE £599

BEST UK RECORDING DEALS

Behringer MX2004 4 Buss Mixer ..... Amazing Price £399
Behringer 2442A 4 Buss Mixer £599
Tannoy Reveal Studio Monitors - must be heard ..... New £199
TC Electronics Finalizer Plus - professionally programmed mastering processor - will fix any mix ..... Incredible £1799

YAMAHA 03D DIGITAL DESK

• 18 analogue & digital inputs
• 32 Bit internal processing
• Twin RISC C.P.U.
• Surround Sound capabilities & more.
Book your demo...

YAMAHA 03D DESK £2499

CALL ACADEMY PRO AUDIO DIRECT ON

0115 911 6680 Fax. 0115 911 6681

AMERICAN EXPRESS · VISA · SWITCH · Cheque

9 - 13 HOCKLEY, NOTTINGHAM. NG1 1FH

E MAIL: multimediamusic @ compuserve.com

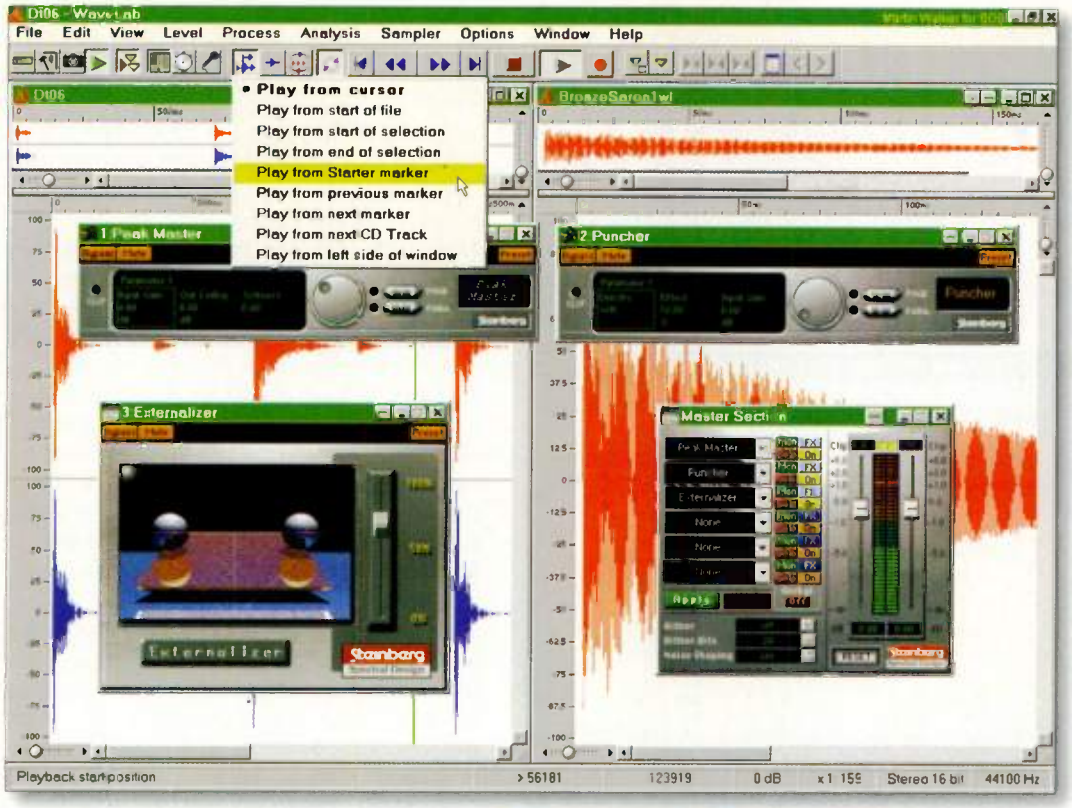


Figure 1: Some of the many new features of WaveLab v2.0, including additional plug-ins and playback options.

Never ones for resting on their laurels, Steinberg have added a host of enhancements and additions to WaveLab. MARTIN WALKER tries looping the loop, and analyses his WAV file collection.

Lab Report

STEINBERG *WAVELAB* v2.0 REAL-TIME SOUND PROCESSOR

Unlike most contemporary software, Steinberg's *WaveLab* has been written largely by one person — Philippe Goutier. Since the last update (to version 1.6), he has obviously been a busy man, and the new version 2.0 sees significant additions and improvements to this capable WAV file editor. First, direct sampler support has been added, using the latest driver from Propellerheads (the much-lauded *Recycle* team). An extensive set of audio analysis tools is now available, and VST plug-ins are now supported alongside *WaveLab*'s internal ones and *DirectX*. There are also a host of smaller tweaks. As before, the upgrade costs only £69 to existing users, and the full retail price remains at £329.

Choosing a WAV file editor is never easy, since it seems that each possesses 'must-have' features that are missing from the others. *WaveLab* and *Sound Forge* seem to be the clear market leaders, with several shareware programs such as *Cool Edit* and *Goldwave* also attracting a large following. However, because MIDI-plus-audio sequencers have now begun to provide basic sample editing facilities as an integral part of the package, WAV editors have had to specialise just that little bit more. Both *WaveLab* and *Sound Forge* added CD mastering functions, either through extra functions in the main program (in the case of *WaveLab* 1.6), or in the form of a separate standalone/plug-in program (*CD Architect* from Sonic Foundry).

The creators of *Cool Edit* took a different course, developing it into *Cool Edit Pro* by adding multitrack audio recording. If you already have a multitrack audio recording program, *WaveLab* and *Sound Forge* would therefore seem to be the sensible options, each having its own strengths and weaknesses (see the '*WaveLab* vs. *Sound Forge*' box). With each new release, one seems to leapfrog the other with new features. Since Sonic Foundry have been busy on many other projects, the next *Sound Forge* update is still under wraps, which leaves *WaveLab* version 2.0 as the most recent update to the Big Two.

GENERAL TWEAKS

The first thing that existing *WaveLab* owners will notice is that there are two additional buttons on most windows, apart from the familiar Minimise, Maximise, and Close. The Fold button (identified by a green line) folds and unfolds the window down to its title bar. This allows you to quickly hide the contents of a window without losing its position, perhaps when you want to work on others; when you want the window back, a single click on the same icon unfolds it to its previous size. This is far quicker than resizing windows. The purple-dotted Document button provides drag and drop functions, so that you can quickly copy the file to a database, batch file, CD program, or onto the *WaveLab* desktop (to create a new copy of the existing window).

There are three additional buttons on the Transport Bar, providing many more playback options than before. The first, Playback Start Position, lets you start playback not only from the current ▶

pros & cons

STEINBERG *WAVELAB* v2.0 £329

pros
- Excellent loop and analysis functions.
- Pricing is good for both existing owners and new ones.
- Additional plug-ins included.

cons
- Still no specific fade or crossfade functions available for CD mastering.
- No proper Playlist Editing other than by creating a CD program.

summary

A worthwhile upgrade with enough new features to perhaps lure some potential purchasers from Sound Forge.

SOUND ON SOUND

▶ cursor position but also from the start of the file, from the start or end of the selected section, or from various marker positions; there are nine options in all. Playback Skip Mode allows you to skip selected or muted regions, and Playback End Position/Loop Mode provides a selection of looping or stop modes, depending on selected or marked regions.

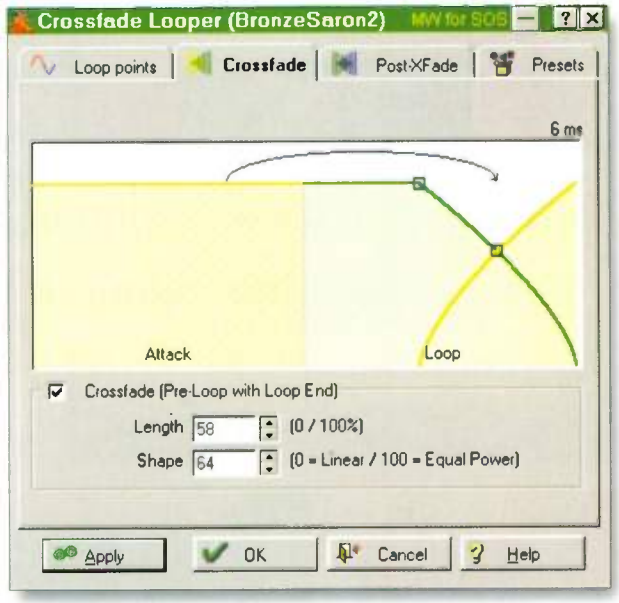
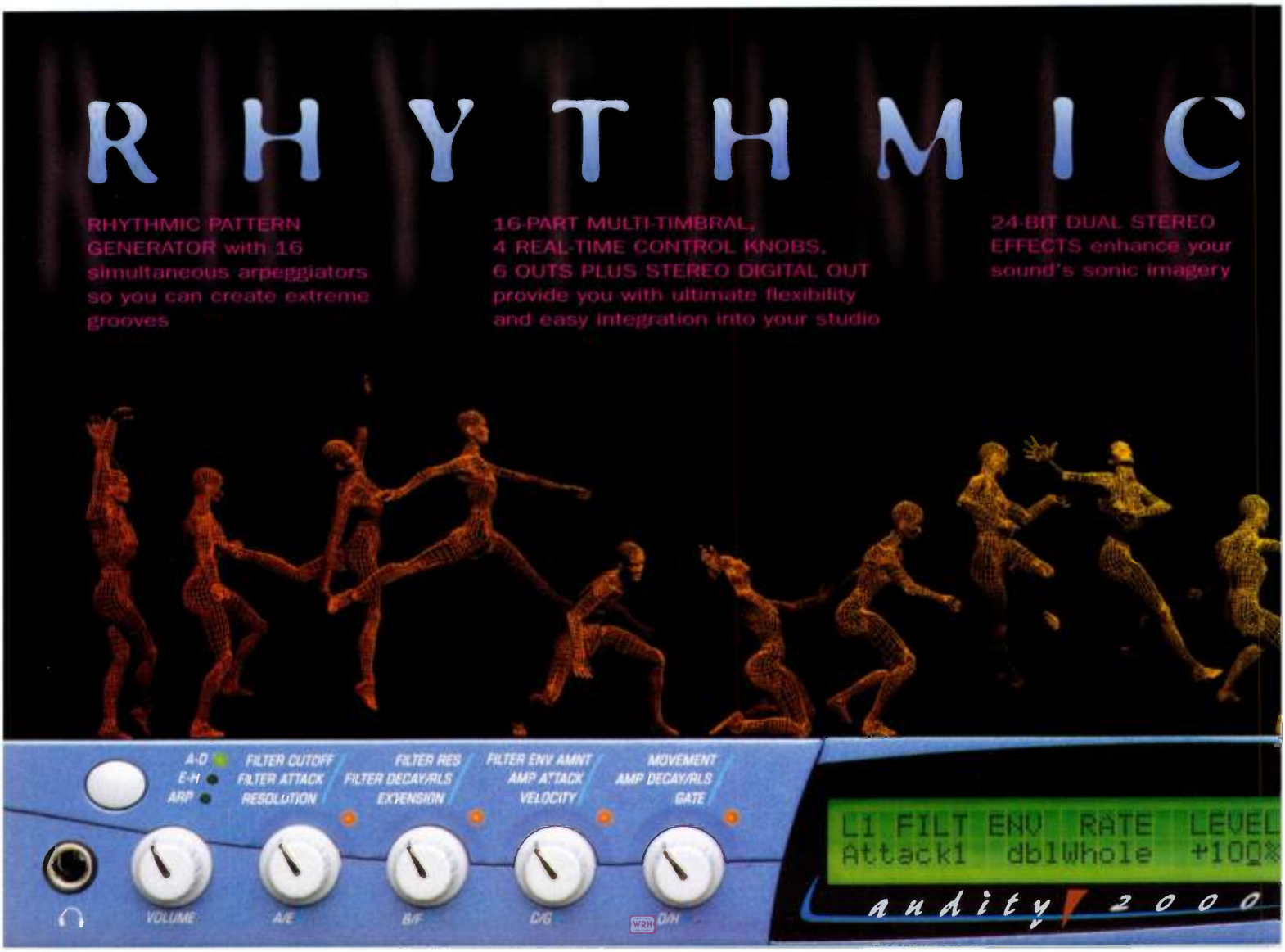


Figure 2: There are extensive sample looping options, including Crossfades and Wave Equalising — see main text for more details.

Cubase VST plug-ins are now supported by *WaveLab*, giving you still more tools to play with than those provided by *WaveLab*, even given the extra plug-ins provided by version 2.0. Puncher is an enhancer which adds more harmonics to louder portions of the signal, but leaves quieter sections untouched. Its effect varies between subtle and alarming, and I expect it will be used widely with drums and percussive sounds in particular. The Peak Master is an altogether more transparent plug-in, which boosts the loudness of a signal by limiting transients and raising the overall level by compression. The Output ceiling can be set, along with a control labelled Softness, and once again this plug-in is capable of a wide range of effects, from a gentle and fairly transparent level increase, to extreme pumping effects.

The Externaliser claims to help headphone monitoring, by simulating the effect of two virtual speakers which can be moved forwards, so that you lose that 'inside the head' feeling. Like many such psycho-acoustic processes, its effectiveness varies from person to person, but it is useful all the same.

WaveLab 2.0 now supports MPEG 1 Layer 3, which will endear it to people producing Internet music on a limited bandwidth, and you can now also export files in the Exabyte tape format, although this requires an optional module.



WAVELAB VS. SOUND FORGE

Anyone looking for a WAV file editor is faced with an extremely difficult decision due to the complexity of these applications. Thankfully, both Steinberg and Sonic Foundry make demo versions freely available, either in additional demo folders on the CD-ROMs of other applications, or as downloads from their web sites. Although these demos will have Save features disabled, they can give a valuable insight into each product. However, there is no substitute for actually using both packages to carry out real work, and it is easy to get a distorted impression of certain features if you only have time for a quick overview. You might, for instance, find one package a lot slower when loading large files, until you discover the preference that disables the creation of a huge backup file first, without which the two programs are neck and neck again.

I found the initial *Sound Forge* 4.0 release slightly easier to use and more comprehensive in some ways than *WaveLab*. Also, although CD burning features were introduced first in *WaveLab* 1.6, I still find *CD Architect* from Sonic Foundry easier to use because of its graphic approach, and the way that you can drag and drop tracks to change their spacing or overlap, and even add real-time crossfade loops between CD tracks. Sadly, the proposed addition of fade in/out and crossfade options for the *WaveLab* CD section have yet to appear. The huge downside of CD Architect is that it has to be bought separately, whereas *WaveLab* incorperates CD mastering into the main program for free.

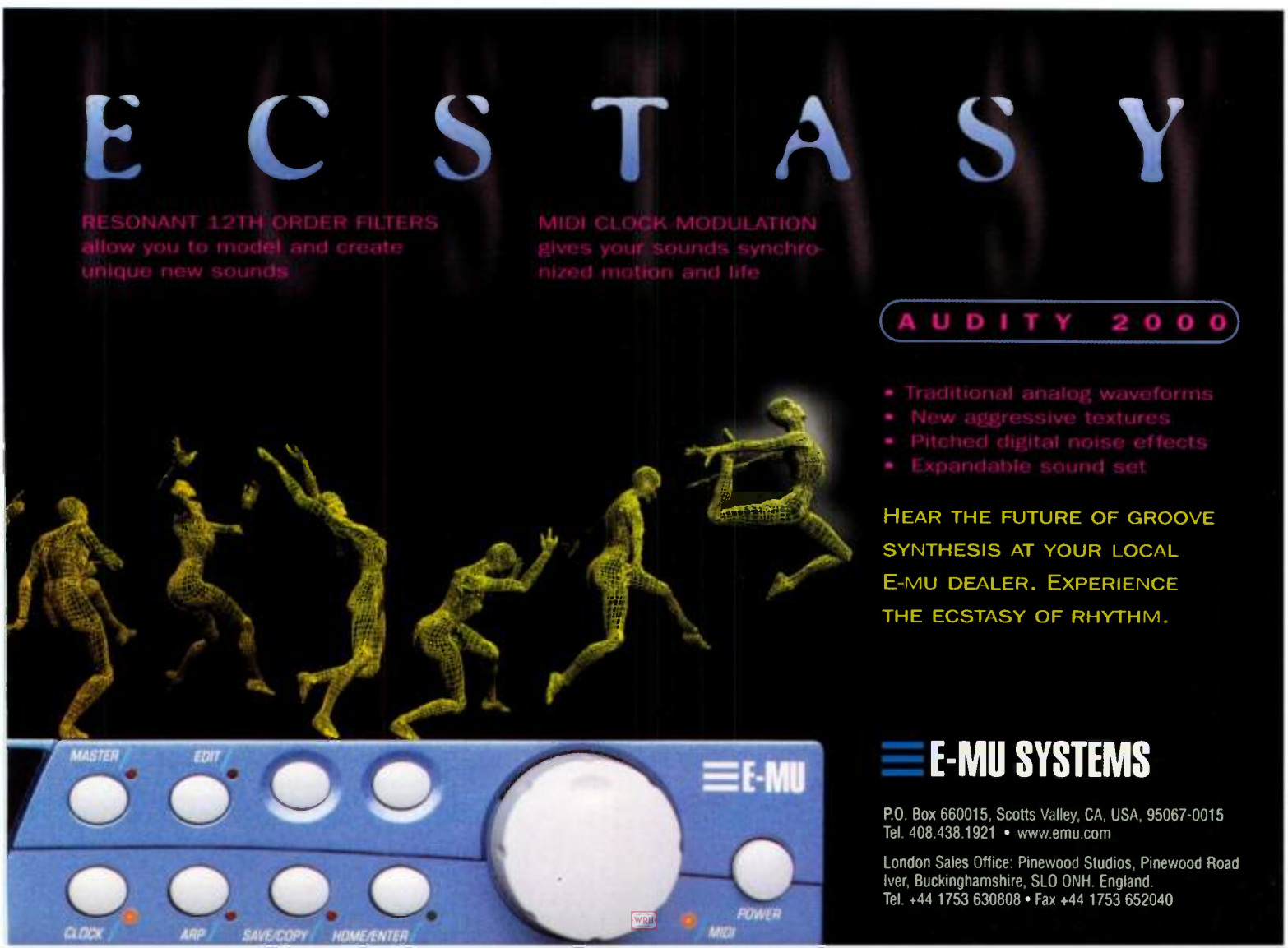
However, I now find myself increasingly turning to *WaveLab* when it comes to mastering, since its 6-slot Master Section approach is far more elegant than the *Sound Forge* Audio Plug-In Chainer when you want to audition several alternative plug-ins. *WaveLab* also provides a graphic overview window, which is a useful way to see what is coming when your main window is zoomed; on the other hand *Sound Forge* offers the option of smooth scrolling in its zoomed window, whereas *WaveLab* can only flip-screen scroll.

WaveLab can support 24-bit recording and playback, but *Sound Forge* can not, and this may be important to you now or in the future. The list of smaller differences goes on and on, but Sonic Foundry tell me that an update to *Sound Forge* is imminent, so we can expect some more leapfrogging in the next few months. There is no ultimate winner — each package has its strengths and weaknesses.

SAMPLER SUPPORT

The ability to transfer files to and from a sampler, for editing with all the benefits of a large colour screen, is useful to many of us. *Sound Forge* has featured such sampler support since its initial launch, and *WaveLab* v2.0 has now also added extensive sampler support. Samples are transferred between PC and sampler via SCSI or MIDI, depending on the capabilities of the sampler.

There are several major new items in the Sampler menu. As you might expect, there is a Crossfade Looper, which has three main sections. Loop Points provides the usual set of nudging buttons for loop start and loop end markers, along with some more intelligent jumps to 'good' loop points. Rather than just leaping to the next zero point, as many other packages do, there is a pair of extra parameters — Correspondence Desired and Search Accuracy. The former sets how well the start section should resemble the other end of the loop, and this can be set between 0 (completely different) to 1000 (a 100% perfect match). The default setting is 700. Search Accuracy determines how many sample points are included in the match — the larger this value, the longer the processing time to find a loop point that (hopefully) matches the criteria. These options can greatly help the search for a good loop point. There are also four horizontal zoom values, and an ▶



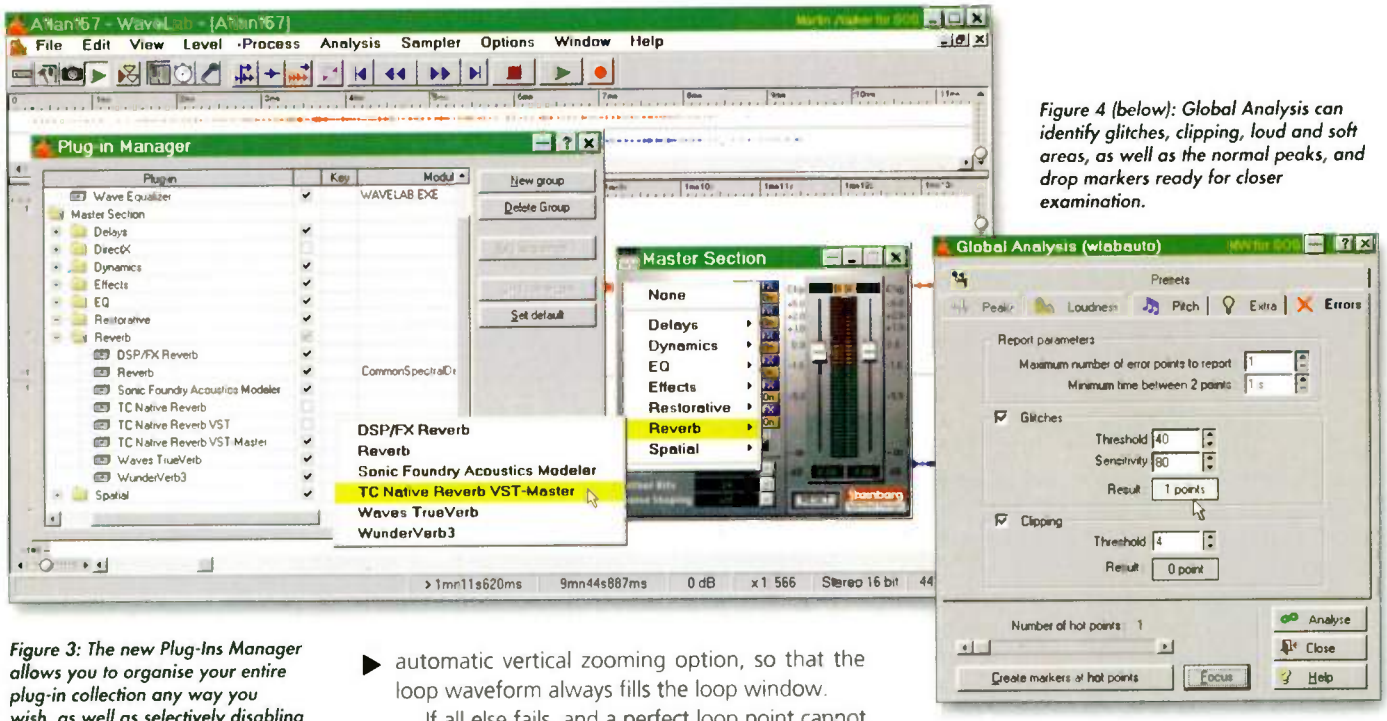


Figure 4 (below): Global Analysis can identify glitches, clipping, loud and soft areas, as well as the normal peaks, and drop markers ready for closer examination.

Figure 3: The new Plug-Ins Manager allows you to organise your entire plug-in collection any way you wish, as well as selectively disabling those of no relevance to WaveLab, such as the mono-in/stereo-out effects provided with Cakewalk Pro Audio.

▶ automatic vertical zooming option, so that the loop waveform always fills the loop window.

If all else fails, and a perfect loop point cannot be found without crossfading, you can apply it in a particularly attractive graphic window that allows you to adjust both the length and the shape of the crossfade. Post-Xfade further refines things, allowing *WaveLab* to use waveform data beyond the crossfade loop point provided the WAV file has a release portion after the end of the loop.

Some loops have an obvious cyclic quality, even after your best crossfading efforts, a problem that particularly affects sounds such as piano where both the level and harmonic content change significantly through the loop. The Wave Equaliser plug-in allows you to chop the loop into several slices, which are then mixed together and repeated. For instance, if you specify eight slices, your loop is cut into eight sections which are mixed together to make a composite slice — this shorter composite is then replayed eight times to fill the loop, and a pre-crossfade option ensures a smooth transition into the loop. Although this may sound bizarre, in practice it works extremely well (provided you have applied a crossfade first), since it averages out the changes in the loop, leaving a comparatively smooth transition.

FILE ANALYSIS

Anyone using *WaveLab* for pre-mastering will appreciate the new options in the Analysis menu, which include Global Analysis, Level at Cursor, File Comparer, and the Audio Signal Test Generator.

Global Analysis is a great help during those nail-biting sessions where you have spent an hour transferring a DAT tape onto your hard drive before topping and tailing, adjusting the track positions and putting in fades for an album of material. It is not unknown for glitches to appear during the transfer (due to a misaligned DAT tape or machine), and these glitches are not always obvious.

The Global Analysis window has five sections. Peaks will find the highest levels in the file, and you have the option of inserting markers at those points, which makes it easier to home in on problem areas. Loudness looks at sections of audio, rather than individual sample points, to isolate particularly loud or quiet sections. Pitch is useful if you need to tune one sound to another by accurately measuring the pitch of a selected section; this only works with mono files.

The Extra section checks the DC offset for you, but it is the final new Analysis option, Errors, that is perhaps the most useful of all. This searches for glitches (sudden discontinuities) and clipping (a number of adjacent points at maximum digital value), according to user-defined limits. As you might expect, this level of analysis is processor intensive, but on my Pentium 166MMX machine I measured glitch and clip analysis at 6x real time — ie. a one hour album would take 10 minutes to check, and proportionally less on a faster machine.

GOING LOOPY

I do wish that the standard for WAV file looping was a bit more robust. I extracted a looped sound from a SoundFont to see if I could improve its looping with *WaveLab*, but although both *Sound Forge* 4 and *Cool Edit Pro* recognised the existing loop points, *WaveLab* totally ignored them. I sent the file in question to *WaveLab*'s designer, Philippe Goutier, who told me that it had an invalid setting in its header. The patch to version 2.01, however, would allow *WaveLab* to read the file despite the error, after displaying an error message. This patch (which also cures a few other tiny bugs, and improves the dither/noise shaping in the MasterSection) certainly did what he promised, and it should be available from the Steinberg web sites by the time you read this.

Once I eventually loaded the file, I discovered that *WaveLab* has a different convention from most other looping editors on my hard disk. Although the loop start point is always the first point inside the loop, *WaveLab* (along with the *Awave* shareware utility) makes the loop end the first sample beyond the loop, whereas every other editor I tried (*Sound Forge*, *Cool Edit Pro*, *Resample*, *Vienna* 2.1, *Wein*) decided that it was the last sample inside the loop. The loop itself played identically — the only difference is that the reported value for the marker had changed by one sample.

Sadly, playing back the loop itself also uncovered anomalies between packages. Only *Awave* agreed with the *Wein* loop points, whereas all the other packages required that the loop end point be moved back by one sample to produce a smooth loop. If you only work with one editor, you are unlikely to come across these problems, but it is something to be aware of when importing loops from elsewhere.

The good news is that, once adjusted, the *WaveLab* 2.0 Crossfade function made a huge improvement to the existing loop. After saving this improved version, the new loop points created by *WaveLab* 2.0 were recognised by *Sound Forge* and *Cool Edit Pro*, but the *Wein SoundFont* editor refused to reload the improved WAV file. C'est la vie!

This ability to potentially spot a single glitch in an hour's worth of material is a valuable function.

The File Comparer facility is useful when you have several versions of a file, but can't remember what (if anything) you changed from one version to the next. It is also valuable for checking for dropouts between two different files. You can choose to drop markers in either or both files at points of difference, or to generate a 'delta' file which is the difference between the two. This will also show the result of running a file through a plug-in, allowing you to examine just the change in the signal.

The Audio Signal Test Generator does exactly what it says, and is useful for providing WAV files for lining up and calibrating external audio equipment, for testing soundcards, or for more educational purposes. A wide variety of basic waveforms is provided, along with adjustments for phase, frequency (sweeps are possible), and level. Up to 64 layers can be combined allowing you to, for example, combine discrete tones of several frequencies. Thankfully some presets are provided to get you started, including a sine wave tone swept from 16Hz to 22kHz.

SUMMARY

WaveLab is an elegant, comprehensive editor and processor, and the clutch of valuable new features introduced by version 2.0 endow it with yet more polished performance. Thanks to the context-sensitive help, these new features can be picked up fairly easily; a good thing, given that there is no manual provided with the upgrade (although I understand that new purchasers do get one). This review has inevitably not covered all the new facilities, so rest assured that there are still more goodies to uncover if you're thinking of upgrading.

If you already have version 1.6 you should upgrade as soon as possible, but if you are still debating which editor to buy, then this latest upgrade should ensure that *WaveLab* v2.0 moves at least one place up your list of contenders. SOS

info

£ Steinberg WaveLab v2.0 £329 including VAT.
A Arbiter Pro Audio, Unit 2, Borehamwood Industrial Park, Rowley Lane, Borehamwood, Herts WD6 5PZ.
T +44 (0)181 207 5050.
F +44 (0)181 207 4572.
E dspace.dial.pipex.com/steinberg-uk
W www.steinberg.net

> "*WaveLab* is an elegant, comprehensive editor and processor, and the clutch of valuable new features introduced by version 2.0 endow it with yet more polished performance."

http://www.sfida.com

Music For The Media

Britain's First Home Study Course For Film & TV Composers

Write Music for Film & TV

Written and Tutored by Professional Media Composers

- Ten carefully graded units - each one looking in detail at a separate area of the media. From corporate video and sig tunes through computer games, documentaries and wildlife, on to commercials, film drama, marketing and showreels. Each unit gives you the essential inside knowledge you need to sell your music.
- Audio cassettes packed with 5 hours of interviews with top composers including Debbie Wiseman, George Fenton, Michael Nyman and many more, Also real customers, tv producers and film directors tell you exactly what they want. How are you supposed to win work if you don't know what real customers actually want? A unique and invaluable resource of professional opinion.
- Video tape complete with burnt in timecode, and SMPTE on the audio track. A step by step guide to writing music to picture. Detailed advice on choice of equipment. Helpline support & advice.
- There's no need for tons of equipment to get started! Our students come from a wide range of backgrounds. Some are writing by ear using just a simple keyboard workstation. Others are already working professionals trying to extend their range, their showreel and their marketing skills. No need to read or write music. Most students have fairly sketchy music theory while others have music degrees. What your customers will care about is what the music sounds like not how you get there.

"Really detailed and comprehensive - its a triumph". Debbie Wiseman Composer Wilde Children's Hospital

"Whether you want to get into the business or are simply looking for a fresh musical direction - Music for the Media is the ultimate musical challenge."

How It Works

Work at your own pace in your own studio. Each unit takes you through a new area of the media, teaching you about the business while introducing essential musical skills, developing your originality, the satisfaction of writing to picture, writing better tunes. Read the comprehensive text, listen to interviews with top composers in the field and the real life customers.

Assignments

With each of the 10 units there is an assignment - all real TV & film jobs. You'll be briefed by the real life customer and work to the actual video tape or story board. It doesn't get any more real-life than that! Submit a demo to your tutor on cassette who'll give you a professional opinion & tuition.

Sfida Creative Learning

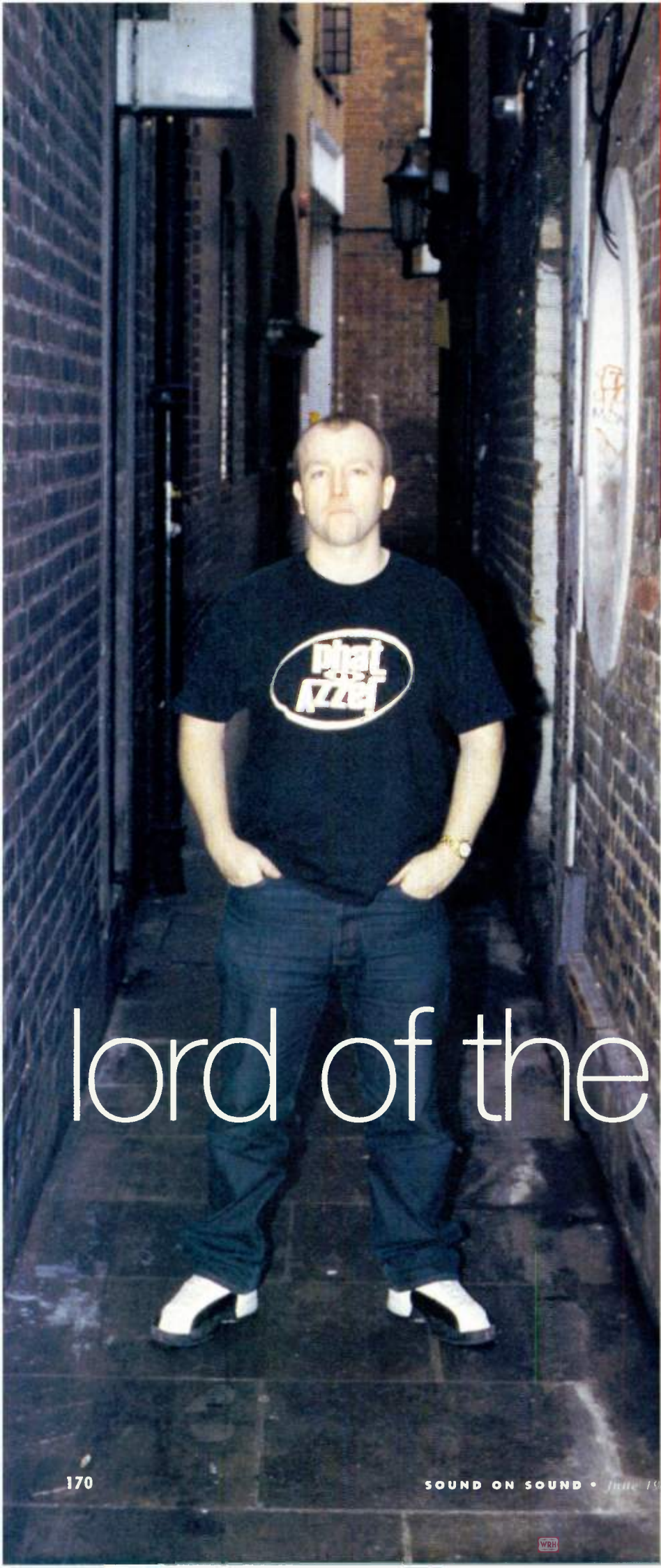
Tel 0181 749 2828

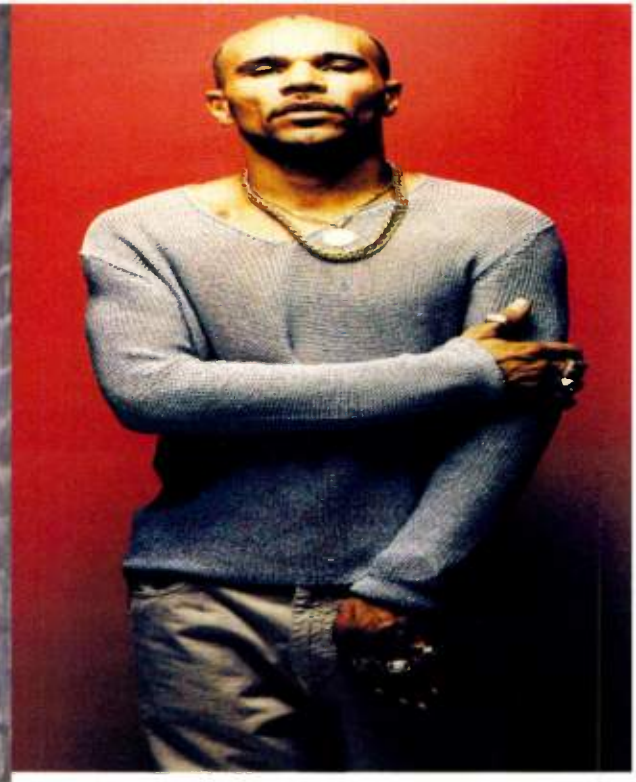
Phone for a brochure and Preview Cassette

Introductory Offer £399

6 months Interest Free Credit

WRH





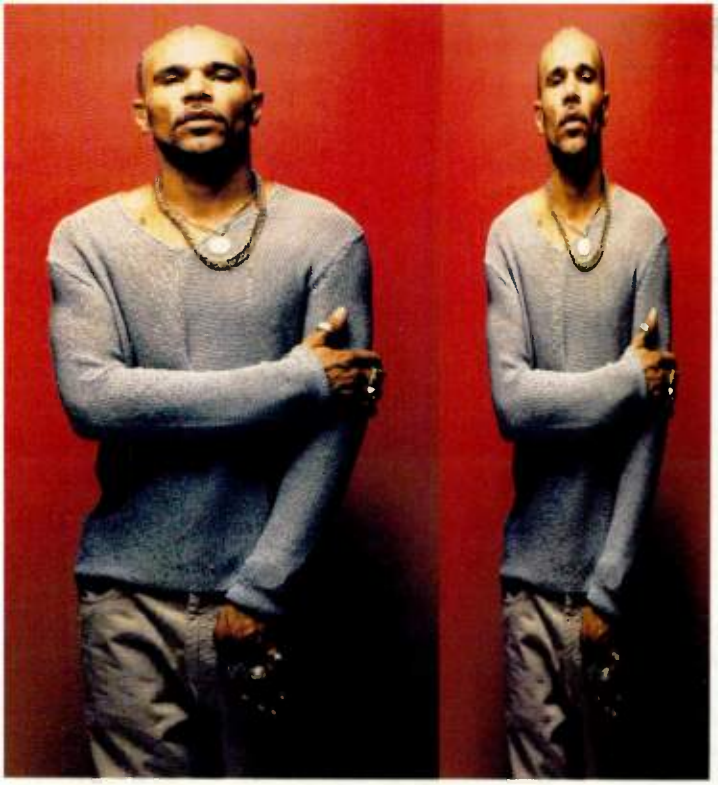
ROB PLAYFORD • PRODUCING GOLDIE

Rob Playford is not only the man who, as Goldie's producer, helped mould one of the most original drum & bass talents into a household name and chart success; he's also boss of one of the hippest drum & bass labels on the planet, and a sought-after remixer. CHRISTOPHER HOLDER asks 'how does he do that?'.

lord of the jungle

Drum & bass: frenetic, schizophrenic, urban, always evolving. Soho: ditto. It seems fitting that the HQ of Moving Shadow records, one of the leading drum & bass labels, should be based here: cross the borders of this tiny square half-mile of London and life takes on a whole new urgency. Everyday occurrences are achieved with impossible speed: coffee is ordered and drunk without breaking a stride, and shops change hands — and *décor* — before lunchtime.

Even in this hothouse environment, there doesn't seem to be enough hours in the day for Rob Playford. For the best part of a decade, he's



subjected himself to a punishing regime of running Moving Shadow records, producing and engineering his own music (as well as that of many others), DJing around the UK club circuit, and, until recent times, holding down a nine-to-five job as a software engineer. Phew!

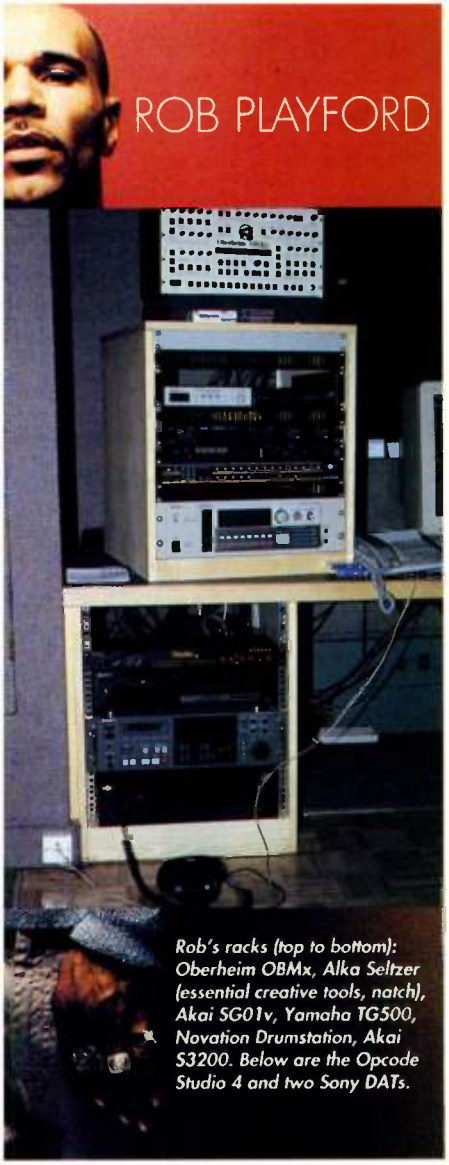
Rob is riding on the crest of the still-ongoing musical revolution brought about by drum & bass — or whatever you call it; as the Moving Shadow home page on the Internet succinctly puts it 'breakbeat, hardcore, jungle... call it what you will, it sounds like the future'. David Bowie wanted to be part of it with 'Hello Spaceboy', Roni Size's Reprazent shook up the prestigious Mercury Awards with it, every rock act wanting to spice up their singles sales has a remix using it, and everything from game shows to shampoo advertisements is trying to grab our attention with it. But it wasn't always this way...

In the UK, back in 1994/95, the sound of breakbeat was reaching critical mass, its popularity gradually seeping out from the underground scene such that even the major labels were forced to take note. It was at this time that Rob Playford was hooking up with Goldie at weekends to work on tracks. The result was the single 'Timeless', a faultless blend of atmospheres, voices, fierce breakbeats and a masonry-endangering bassline. London Records went — in the popular parlance of the time — mad for it, and drum & bass broke worldwide, transforming Goldie into a pop star overnight.

DOWNTOWN UPTURN

Normally, when you walk into a London-based commercial studio, you know what to expect. For starters, the age of the SSL desk should give you a good idea of the studio's cashflow situation; then there'll be a 24-track reel-to-reel lurking somewhere, and all the usual suspects from Lexicon, Drawmer, and Eventide in the racks, along with a few mysterious '70s curios for the sake of good yarn when hi-tech music journalists turn up. But as soon as I got into Moving Shadow's HQ, I could see things would be different. The atmosphere was less one of hushed corporate commerce than that of a school project on steroids. There's an immediacy that the atmosphere shares with the bustle of Soho outside the front door; everyone's getting on with a dozen things, and not because it's costing a client a grand a day for the privilege, or because the board of directors said so, but because there's just so many cool things to do. Rob casts a benign gaze over the scene, smiles broadly, and invites me into the studio.

ROB PLAYFORD • PRODUCING GOLDIE



Rob's racks (top to bottom): Oberheim OBMx, Alka Seltzer (essential creative tools, natch), Akai SG01v, Yamaha TG500, Novation Drumstation, Akai S3200. Below are the Opcode Studio 4 and two Sony DATs.

TRIDENT AND TESTED

"Way back, this used to be Trident Studios", offers Rob by way of introduction. "This studio used to be the remix room; the main studio was directly underneath, although quite a few things were recorded in here. Bowie did his recordings here up until 1974. We actually had him in here last summer, doing a track for *Saturnzreturn* [Goldie's second album], and that was freaky for me. He hadn't been in this room for 25 years, but he went straight into the vocal booth and started rolling off some of his old cheesy tunes; it sounded *exactly* like it did on his records!

"Moving into a purpose-built facility has saved us a lot of trouble. It's a completely floating-room construction, and we need that, because we make such a racket! Some of it still leaks out with the volumes we run at and the sub-bass we use, but it gets cut down a lot. It's better than a bedroom, anyway..."

Rob should know; all the seminal Moving Shadow drum & bass releases came out of sessions in his bedroom in Stevenage.

"I got into music as a DJ, not a musician. But in the '80s, forms of music came along that you didn't necessarily need to be a musician to make or appreciate; early electronic and electro, and then hip-hop. People who weren't musicians could get involved, either as producers or as DJs.

"My first taste of recording studios came when Stevie V, who was a friend of my brother, gave me the run of his studio for a number of weeks. I didn't know anything about the gear, but just figured it out through trial and error, and managed to finish four tracks! Back then, releasing your own record was a cool thing to do, so I got 500 pressed up.

"During that period, I gradually pieced together some gear at home. I bought a Yamaha DX7, and then some shareware Atari sequencing software called *Superconductor*. You could write the notes in single steps, which I found a lot easier than actually playing the DX7.

"Being a working man, I had some money to spend, so I bought myself an Akai S950 sampler. When that was delivered to my house one morning, I just knew there was no way I was going to work that day! With that as my basis, I started doing more from home, and produced some early Moving Shadow tracks."

ME AND MY SHADOW

Even now, Rob's setup maintains a home studio feel. Remember, this isn't a pre-production suite or somewhere Rob thrashes out ideas with his mates; the mixes coming out of this studio are the finished product — and this is achieved on gear we can all reasonably afford. There's Behringer outboard, a couple of Alesis Quadraverbs for effects, and an Allen & Heath Sabre for the mixing. This kind of setup makes you look at your own home studio and wonder what *your* excuse is.

Rob: "I don't like getting rid of anything really. Like the Sabre: when I bought that it was a huge leap, and although it's now not out of the question that I replace it, I'm a bit daunted by the prospect of adjusting my ears to a new console and relearning the tricks I have on new gear.

"Saying that, there have always been things I like to constantly upgrade. It used to be my samplers. I went from the S950 to the S1000, then up to the S1100, and finally to a S3200. I can't see

WHAT MAKES 'TIMELESS' TICK?

'Timeless' is the single that kicked it all off for Goldie. At 21 minutes long, it's a drum & bass epic; over three intricately interwoven movements it evolves and deconstructs, giving drum & bass class whilst also demonstrating it at its most brutal. Without 'Timeless', Rob could still be working from home, and Goldie could still be like any of the other gold-toothed, peroxide-haired guys you can see redecorating city library walls with aerosol cans. So how did this *opus* come about?

"First of all, we had the idea for the strings. Goldie wanted to have a string part playing, and then have that sound bend away, leaving another note to take over. Of course, all you need is the same sound set up on different MIDI channels on your synth, but until then no-one had shown him it was possible. The idea was to have the strings as an almost visual experience, where they're going along, falling, and exploding. We worked on three string parts in the end, and assigned them to three different channels on my Emu Vintage Keys. We were then able to adjust the volumes on the channels, bringing them up halfway through a chord, or pitch-bending a note without it affecting the others — there was a lot of control data involved.

"I suppose we spent a few weeks doing that, working every Friday night; and Goldie was on the phone every other night with new ideas for different bits. If we were working solidly, we might have had it done in one or two weeks, but I think it was good that we didn't, because we had the time to work on all the different ideas we had for the song.

"I was living in Stevenage at the time and would give Goldie a ride back to London when we'd finished; we just kept rewinding the string section on the trip back, it was so gorgeous.

"After a few weeks, we thought that it would be great if this was a really long track; I suggested that we should make it go up to the 40-minute limit for a single. Then I realised that on *Notator*, our sequencer, at the tempo we were using, the maximum length was 32 minutes! I was gutted; that was the end of my plan for a 40-minute track. It was too late to go and do it at half the tempo — we had too much stuff already arranged.

"We then put some drums in towards the end to give the strings more time to develop. It was then that I found this trick on the sampler that I don't think anyone has done since. The breakbeat is actually made up of two mono files on the sampler, which I adjusted separately, so that when I stuck them together, I had the break riding up and spinning around in the stereo soundfield. It sounded like nothing we'd ever heard, it was a revelation — we listened to that for hours and hours.

"We then added basslines, using some shocking subsonic parts, but trying to keep it fat as well. The way the three parts mixed into each other was also very important; like a DJ mixing two records, I wanted the transition to be smooth. I spent a long time connecting the three parts of 'Timeless'.

The record that shot Goldie to fame.

"Eventually, we ended up with an instrumental version of the song, which to my mind was finished. With that version, we could just get from Stevenage to Goldie's house in the time the track took to finish. That was the goal; to get Goldie home without any rewinding!

"I don't know when the vocals idea came into Goldie's plans, but he certainly didn't tell me about it until we'd done the whole track. In my head, I'd constructed it to have all the pieces come out and develop; I couldn't see where the vocals would fit in.

"Diane Charlemagne came over and did the vocals, and we put them onto DAT and sampled the parts we wanted. I also reprocessed them; I think I put them through a [BBE] Sonic Maximiser, to get that airiness in there. But it wasn't actually until I put them into the song that I thought, 'no, brilliant, they work perfectly'".

nord MODULAR

"Why has this instrument generated such a buzz? Well, I think it's fair to say that it's a landmark in synthesis."

Paul Nagle, Sound On Sound, April 1998.

An anecdote about Patch synthesisers.

Remember old analog modular patch synthesisers when you would make up one patch after hours of tedious patching? When you created a sound to your taste, ohh it sounded so good, but you needed to totally re-arrange your patch cords and knob settings to create new sounds. The process would have to start all over again and that great mono sound might never be heard again (unless you took the time to draw a comprehensive diagram of your settings and patches). To sample a patch is not the solution. Sampling is static and cannot reproduce random nuances.

Keyboard or rack versions with PC software

- Virtually unlimited oscillators
- Almost unlimited module combinations so you can create almost any kind of synthesiser you want
- 'Virtual Cables' for connecting over 70 modules including: OSC, VCF, VCA, LFO's with more to come.
- Distortion & Overdrive modules for those Hard & Cutting' sounds
- Four Modular synthesisers in one
- 8 Voice Double Capacity Expansion Card
- Real Time Editing
- 100 Memory locations so you can take the keyboard/rack with you to the gig.
- Morphing possibilities in a startling new way

For more information contact Trish on:
Tel: 01245 344001 Fax: 01245 344002
email: info@keyaudio.co.uk

Key audio systems

Budget outboard sits alongside a top-end digital system: Alesis 3630, Behringer Suppressor, Ultrafex II, and Intelligate, SPL Stereo Vitalizer, and three Behringer Composers share rack space with Pro Tools 24 I/O hardware.

myself upgrading again soon, either to an Emu or the latest Akai; not with the way I'm spending money on my Mac! Macs are like black holes; everything in the studio is slowly getting sucked into them. Pretty soon everything you need in the studio will be sitting in one. I run [Emagic] *Logic Audio*, a [Digidesign] Pro Tools system and various software plug-ins on the computer.

"Pro Tools is my other great weakness. It's now the only thing I really keep up with, and it forms the heart of my studio, together with *Logic Audio*. *Logic* uses all the hardware and the operating system of the Digidesign system, and I use it quite bit more than the Pro Tools software front end. There are things which Pro Tools handles better, but it's the sequencing side that's more important to me, which of course Pro Tools isn't designed to do.

"I've invested in the Pro Tools 24-bit system now, and have been pleased with it. When you think about it, 16-bit digital audio was brought out to be a compromise, a consumer format. It was never meant to be the last word in sound quality. I know it would have been difficult at the time, but I think from day one they should have had a separate professional studio format and a consumer format. I think it's a step forward going over to 24-bit, and it's the same when they eventually start hiking up the sample rate of digital recording.

"It's the extra-fine detail that you might normally miss that makes the difference on a 24-bit system. The ear can hear the difference; for me it's like talking about the difference between butter and margarine. The weird thing now is that with all this high-end digital gear, the plug-ins I'm using are emulations of 8-bit samplers, and really dirty stuff like that. What a waste, eh? Still, it's nice to know you've got that headroom there, and that muscle to flex."

SOUNDS LIKE THE FUTURE

Rob is, let's be honest, keen on computers. "I honestly think that everything in the studio will go into the computer at some stage; that's where it's headed. Ideally, you need a big 11-foot display with all sorts of touch screens on it: that would be brilliant. Everything you need should be there in front of you: mixing, sequencing, patching, effects, the lot. That's what I don't like about the digital desks; you have to remember how you've got things set up. I've got a 20-inch screen on my Mac and a 17-inch one next to it, but there's still not enough room to view everything. All you need is for the interface to be big enough; that's the only thing that holds back computers."

Reliability, it seems, is not an issue for Mr Playford.

"You've just got to be careful. As long as your system is properly set up in the first place, with your SCSI connections right, and you back up regularly, I can't see the problem. Lost work can happen to anyone; it's not like nobody's ever erased a a two-inch reel of tape by sticking it next to a speaker... Anyway, CD-Rs are brilliant for backing up. I finished a project last week, and including all the takes we didn't use, the whole project took up 600Mb of memory — but hey presto, it fits onto a CD-R which costs 80p, and it's backed up.

"I use [Adaptec] *Toast* CD-writing software and a Plasmon drive. I did use Digidesign's ▶

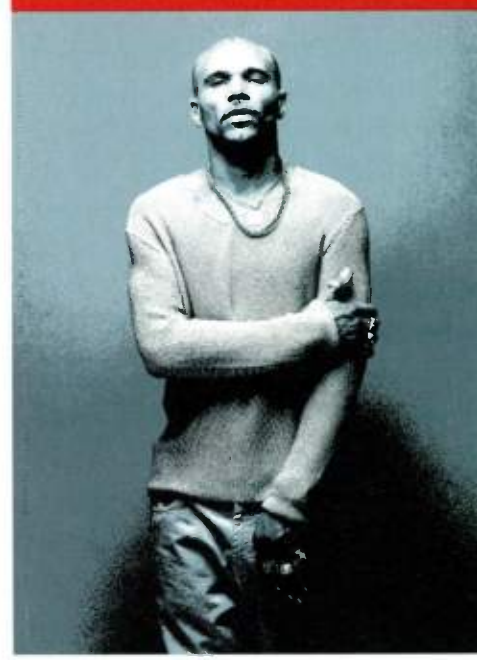
RE: REMIXING

Following the success of 'Timeless', Rob has become a much sought-after remix artist. Already, he's remixed names such as Fugees, Black Grape, Garbage, and Sleeper, as well as a remix that appeared on the *Mission Impossible* soundtrack.

"From my earliest memories, I've always listened to records and thought of ways I would have done them differently. Also, mixing other people's records is how I got into music, either by DJing or doing 'megamixes' of other people's tracks. Now, I'm given the pieces of a complete tune and asked to reassemble it. I think it's something that I've always been able to do.

"We approach remixing the same way we used to make records in the old days; we sample. When we do a remix here, we listen to all the tracks we're given on ADAT, and then keep what we like and scrap what we don't. We just use their tracks as a starting point — if I'd sample a sound or vocal for one of my tracks, it's in; if I wouldn't, it's out. Even if it's the chorus — if it's crap, we won't use it.

"We've done remixes where we've given it back and the reaction has been, 'there's nothing of the original track here at all!' — when in actual fact there hasn't been one sound that *wasn't* from the original. We've just done our trickery to it, redone and reprocessed it, that's all".



BREAK THE RULES, BEAT THE COMPETITION

A fresh breakbeat is critical to a fresh drum & bass sound. So, Rob — what's the secret?

"A lot of people think writing breakbeats is just about lifting a drum break and looping it, but there's more to it than that. We sample the breaks we want, add some noise to them, give them some horrible EQ, distort them and do anything else we can to give the break 'authenticity'. We get second- and third-hand breakbeats that are 20 or 30 years old or more that have been through some hideous processes in their time. For some of them, it's no good sampling the original breakbeat, because the people who sampled it first — normally early hip-hop artists — have done something to it on their crappy little DJ mixers that has added to the flavour.

"On the other hand, you can take a sample and turn it into a breakbeat that sounds like it was just recorded in a drum booth. You can make it go either way depending on the style of your track, whether it needs to be grungy or clean.

"Whatever you do, you're aiming to end up with new breaks. All we wanted years ago was an unlimited supply of fresh breakbeats, and we've learnt how to achieve that. A lot of the beats on *Saturnzretum* were actually redrummed; then we processed them in Pro Tools. That way, we could get the right flavour of the breakbeat we were trying to emulate but still be fresh. We got about 1.3Gb of breakbeats that way!"

Sound Business 0181 559 0373 Sound Business 0181 559 0373

Soundscape

Powerful PC based hard disk recorder
- 8 Tracks upwards
- Real time digital EQ
- Digital Mixing
- Locks to any sequencer using the same PC

EAST LONDON AND ESSEX'S TOP RECORDING EQUIPMENT CENTRE
NEW AND SECONDHAND

SOUND BUSINESS

Recording equipment sales. Your one stop studio centre

NEW & EX DEMO + SECONDHAND BARGAINS

Behringer MX8000 24:8:2 Mixer...Demo	£900
Xpression DP1 Studio Monitors	£265
Alesis Adat XT (New)	£1295
Lexicon Reflex	£195
Lexicon Alex	£195
Alesis MIDIverb IV	£225
Fender Hotrod delux all valve combo THE BUSINESS	£435
PC System Goldstar 386 With Monitor + Word Perfect	£100
Alesis Monitor Ones (Studio N/F Monitor)	Special PHONE
Alesis RA100 Monitor Amp	Special PHONE
Fostex D5 Pro DAT Recorder	£495
E-Mu Proteus 1 Rock/Roll Version	£295
Denon full range of CD Players, Cassette Machines, Amplifiers etc	Phone
Tascam DA88	£2350
Fostex G24S 24 Track 1"	£3950
Fostex E16 - 16 track 1/2 Recorder	£1600

Plus - Much - More. Please Phone.

Why Not Make Your Own CD's
(New Business to Consider)
Fostex CR 200 CDR
HHB CDR800
Marants CDR 630
Also New Phillips CDR870 with rewritable CD facility
Now In Stock £495
The cheapest dedicated system on the market
Complete unit all in one!

ALL THE LATEST KEY-BOARDS AND SOUND MODULES FROM:

EMU
AKAI
ROLAND
YAMAHA
ENSONIQ
GENERAL MUSIC
KORG, FATAR, ALESIS

London / Essex
Top Analogue Multitrack Centre
New/Secondhand 8/32 Tracks

Give us a call to check your requirements.
Great Deals!

Rode NT2
Large Diaphragm Condenser Microphone
The Business at a budget price of
£435.
Complete with carry case and suspension.

Press Release
Rode Valve Classic
£895
Now Available & in Stock
The Absolute Business.
Phone for Price

The fabulous NEW Fostex D90 Plus

Upgrade Version of the best selling D90

New Features
- 6% +/- Vari Speed
- ADAT Digital Interface
- 9 Virtual Tracks (up from 5)
- SCSI Port
- Ballanced in/ou
- 1.6 Gig hard drive (Fitted)
- Easy Hard Drive upgrade

Now the sky's the limit

Special Sound Biz Price - Phone

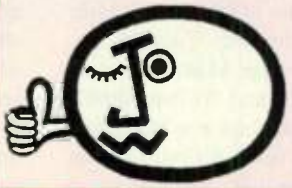
MACKIE

(Main London Dealer)
Simply The Best
Call for prices and deals!

MIXING CONSOLES
ALLEN & HEATH
DDA
FOSTEX
MACKIE
SAMSON
SOUNDCRAFT
SOUNDTRACKS
STUDIOMASTER
TASCAM

DAT RECORDERS
TASCAM DA20 MKII
Tascam DAP1 Portable
TASCAM DA30 MKII
TASCAM DA60
FOSTEX D5
FOSTEX D15
FOSTEX D25
PANASONIC SV3800

Sound Business seal of satisfaction

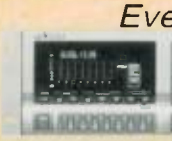


27 Years of service to the music industry

Mackie Summer Special
Mackie 24:8:2 • 8 Buss Console.
56:72 Inputs on remix.
Simply a touch of class.
Call for a one off special

Special Warehouse Clearance Sale
Get Positive and join the wonderful world of YES!
Call our Hotline on : 0181 559 0373

ALESIS ADAT XT SPECIAL
Even Higher Specification



STAR BUY
All prices available on application . Call Now!
Fantastic New Spec
Sound Business
Call Now !

STOP PRESS WITH 4.3 GIG HARD DRIVE STOP PRESS

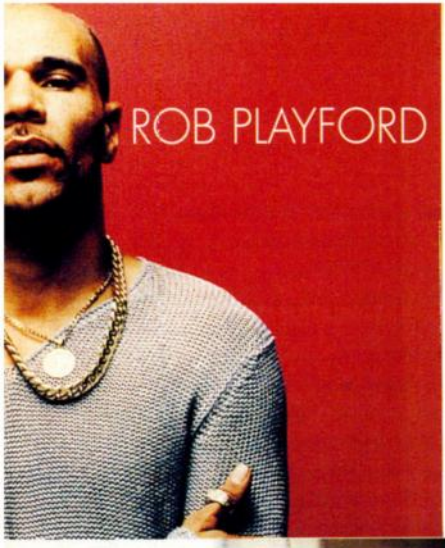
FOSTEX
The Fabulous New Fostex D-160 16 Track Digital Recorder
D-160
Special One Off Deal

- 16 Track digital multitrack with no compression
- 8 Further 'ghost tracks' for additional takes
- ADAT™ Digital Interface (simultaneous 16 channel)
- ±6% pitch control with no loss in audio quality
- Optional LTC Timecode board with Word & Video sync
- SCSI interface as standard for fast back-up of sessions
- Balanced I/O option

Special Sound Business Price.....CALL
WELCOME TO THE 21ST CENTURY. MAKE MUSIC AND BE HAPPY

SOUND BUSINESS STUDIO SALES
Sound Business House (Near Woodford Central Line Station) Woodford Green
Telephone: 0181-559 0373
Fax: 0181-559 0444
Mobile: 0860-188388
United in and dedicated to the pursuit of musical excellence
OPEN SEVEN DAYS 9am to 9pm
MAIL ORDER SPECIALIST UK/EUROPE/THE WORLD

Sound Business 0181 559 0373 Sound Business 0181 559 0373



Rob with his beloved Power Mac running Emagic Logic Audio and Pro Tools.

Masterlist CD, which is just as good, but both programs have this odd time limitation built in; they assume that there's a 74-minute ceiling on recording time for the CDs. Recently, I've found out that the R&D departments for both packages aren't aware that there are 80-minute blank CDs out there, which was a shock. A lot of the Moving Shadow albums we're doing are 75, 76-minute albums, and we had one recently where it was a real struggle to cut it back to under 80 minutes. We managed to, but then the software wouldn't let us write it! I've asked the R&D guys to make an alteration in their next versions."

"What we're producing here is moving into territory which people haven't seen or heard before, and it suits me not being a musician, because you're not limited by any rules."

TECHNICAL VS MUSICAL

The role of a record producer has patently changed over the last 40 years, thanks to the increasing role played in recording by technology. Consider, say, the difference between George Martin's musical input into a Beatles album and William Orbit's predominantly technical contribution to Madonna's latest. There are obvious needs for producers at both ends of the spectrum, but I was curious to hear about how Rob perceived the role he held.

"The kind of music that I've been involved with didn't need a music producer in the classic mould; it needed a technical producer. That's the difference. In the last 10 or 15 years there have been a lot of producers coming from the technical side. They know the limitations of the machinery, and using that know-how, it's easier to see the possibilities for a track, rather than applying a musical direction as such.

"Neither Goldie nor myself are musicians, or would ever claim to be musicians, but we have in our heads what we want to hear. If we could actually play the damn instruments, I'm sure we'd be dangerous, but we can't. It's kind of frustrating at times, but I think the more knowledge you have in one area, the more it can stifle your creativity in others.

"Goldie has a very vivid imagination, and knows nothing about the technical side of the process. Meanwhile, my imagination has been stunted by the familiarity I have with the electronics. If I'm sitting here on my own and I have an idea for a track, I go through this whole process of whether I should bother doing it or not. If there's someone beside you like Goldie, who comes up with the same idea, but can't realise it, then you want to show what you're capable of — it becomes a challenge.

"Goldie and I both came through similar musical experiences at the end of the '80s and in the early '90s, so he could describe things to me that others wouldn't begin to understand; it was a very special chemistry. I would then have a go at it, and he'd get excited that here was somebody who could turn this sound or style in his head into something that he could actually hear. I was like an interface, but an interactive one; I could see the direction he was going in and try and take him that little bit further with my knowledge of the gear. Then that extra step would kick *him* up onto another level. That's my role; being able to understand what someone is telling me and not just doing it, but showing them what else the technology is capable of, based on that seed of an idea.

"What we're producing here is moving into territory which people haven't seen or heard before, and it suits me not being a musician, because you're not limited by any rules; you're not worried about whether that key isn't meant to go there or whatever. There are certain cases where talented people going through the writing process will have doors shut on them way too early; you'll be told that this chord doesn't work with that, for example, but if you perservere, what you end up with after you've processed it and done all your trickery is something that *does* work. The point is to keep going; just be aware that you're not finished yet.

"For good or bad, musicians generally do have certain protocols programmed into them. If I was a musician, I don't know whether I'd be particularly broad-minded, which makes me reticent to even begin learning the basics. It might just destroy what I've got." SOS

W www.0171.com/unicode/labels/mshadow/movingshadow.html

TIMELESS STUFF — SELECTED ROB PLAYFORD GEAR

RECORDING
- Alesis 3630 compressor/gate
- Alesis Midiverb III effects
- Alesis Quadraverb multi-effects
- Alesis Q2 multi-effects
- Alesis Midiverb III effects
- Allen & Heath Sabre mixer
- Behringer Composer compressor/expander (x3)
- Behringer Intelligate
- Behringer Suppressor multi-band de-esser
- Behringer Ultrafex II enhancer
- Klark Teknik graphic EQ
- Lexicon Vortex effects
- Novation Drumstation
- Plasmon CD-R writer
- Sony DAT (x2)
- Sony M7 sonic modulator
- Sony MP5 effects
- SPL Stereo Vitalizer enhancer
- Tannoy monitors
- Technics decks (x2)

SAMPLER
- Akai S3200

KEYBOARDS & SYNTHS
- Akai SG01v vintage synth module
- Emu Vintage Keys module
- Korg 01/W workstation
- Novation Bassstation monosynth
- Oberheim OBMx analogue rack synth
- Roland Juno 106
- Yamaha DX7
- Yamaha TG500

COMPUTERS & SOFTWARE
- Apple Power Mac
- Digidesign Pro Tools 24 system
- Emagic *Logic Audio* sequencer
- Opcode Studio 4 MIDI interface
- Adaptec *Toast* CD-writing software

UP CLOSE & PERSONAL

SHURE IN-EAR MONITORS

PERSONAL STEREO MONITOR SYSTEMS

PSM 600 SERIES

Take control of your sound with Shure's PSM 600 Personal Stereo Monitor systems. The PSM 600 - available in wireless and hardwired versions - gives performers and engineers what they want most: better control of their sound.

Look at the benefits:

- *Truly professional quality and features*
- *Personal control of volume and balance*
- *Systems are easily expandable by using multiple receivers with a single transmitter*
- *Exclusive MixMode feature allows control of individual sound sources*
- *Shure's legendary sound quality and dependability*
- *All at an affordable price*

Advantages over floor wedges:

- *Superior sound quality*
- *Greater freedom of movement*
- *Higher intelligibility at lower volumes*
- *Reduced voice and ear fatigue*
- *Greater portability*

You owe it to your music - and your ears - to see why so many top performers and engineers are raving about Shure's PSM 600 Personal Stereo Monitor systems.

"It's the best system I have used to date."
Roger Daltrey

For more information - and a demonstration - visit your local Shure dealer or contact us for the dealer nearest you.

The Monitor for Everyone • *Live Music* • *Theatres* • *Broadcast* • *Corporate Meetings*

SHURE®

HW International,
167-171 Willoughby Lane,
London N17 0SB

FOR THE FULL STORY ON SHURE PERSONAL STEREO MONITORS AND INFORMATION ON OTHER QUALITY PRO AUDIO EQUIPMENT FROM HW INTERNATIONAL, CALL OUR FREEPHONE TODAY!

FREEPHONE TO RECEIVE OUR PRO AUDIO CATALOGUE NOW!

0800 7311990

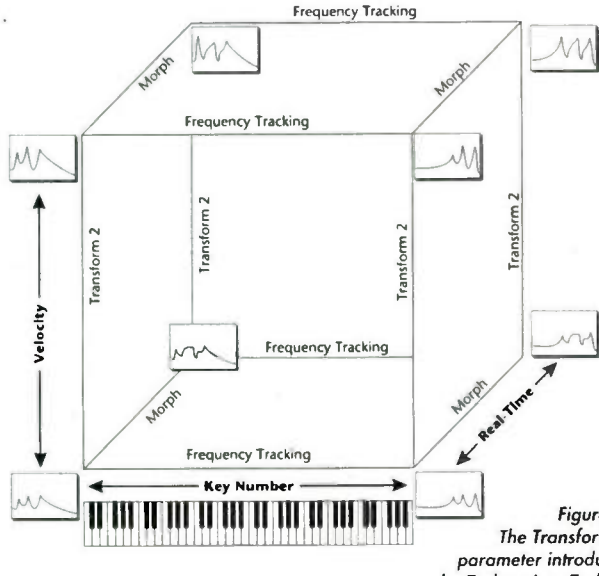


Figure 5: The Transform 2 parameter introduces the Z-plane into Z-plane synthesis, giving three-dimensional variations in filter contour. The concept is shown here as a cube.

AMAZING TRANSFORMATIONS

The observant amongst you will have spotted that I've still not mentioned the 'Z' axis that completes Z-plane synthesis: a third parameter, Transform 2. The function of this varies from Z-plane filter to Z-plane filter, but one example of what it can do is increase the size of the peaks and notches in the filter contour (similar to the individual peak which is increased in a conventional filter by the resonance control). Now we've introduced the Z-plane into the equation, and now the three-dimensional variations possible in the resulting filter contour are best visualised as the cube shown in Figure 5 (above), rather than the square in Figure 4.

The Transform 2 parameter, like the Frequency Tracking parameter, is also fixed at Note On, but this actually gives you more flexibility than most traditional filtering, where there is rarely any automatic control of resonance at all and you have to make do with the fixed setting whatever the note played or its velocity. Figure 5 shows the result when velocity is used to set Transform 2 and keyboard position used to set Frequency Tracking. Not all of the 197 filter types in the original Morpheus feature this third Transform 2 parameter, but about half do (so technically there are around 100 Z-plane filter configurations in Morpheus). All the filter configurations are individually described in the manual, complete with comments and suggestions for specific uses, so there's no danger that you'll be left to yourself to try and work out where to use them (although I find that random assignment leads to some of the most exciting results — but then I've always been a great believer in serendipity, or the 'happy accident', ever since Jon Pertwee explained what it meant in an episode of *Doctor Who*!).

You really can make some major timbral alterations to your source waveform, changing it almost beyond recognition. In fact, the sheer range of filter types and the way they can be altered in performance, the technology used to create and modify the filter contours on an individual basis, and the resulting sonic variations in the sound, make Z-plane synthesis a real precursor to last year's buzz technology, physical modelling (also known as virtual synthesis or acoustic modelling). This uses shedloads of DSP power to modify source waveforms in the same way that the physical modifiers of the real instrument (shape and size of resonating case or vibration column, for example) affect the input sound. Many of the Morpheus' filters are described in these terms — for example, F097 *("designed to make possible a set of piano presets that sound like they were recorded with the sustain pedal down")*, or F105 *("designed to emulate some of the resonant characteristics of an acoustic guitar body")*. As such, the Morpheus probably represents the missing link between instruments which just use DSP to add some effects sparkle, and those which create the entire sound through raw DSP, as in physical modelling instruments such as the Yamaha VL series or the Korg Prophecy or Z1.

Of course, we haven't really looked yet at the source waveforms that Morpheus allows you to filter in this radical way. Although the standard analogue waveforms we know and love from the very first Synth School (sawtooth, square and pulse in various widths) are available, these are crammed in with 48 sampled sounds, 22 harmonic waveforms (built additive synthesis-style), 92 single-cycle samples from organs and synths, and 68 percussion sounds. So while Morpheus has something in common with PCM-based synthesis, it also adds elements of analogue, additive and other types of synthesis along the way. If you're looking for a synth that will yield hours of experimentation and sonic creativity, Morpheus is a monster, but like so many of the best synths ever made, don't look to it for piano, strings, brass and drums (unless you like these with a twisted edge).

PHYSICAL RELATIONSHIP

With Z-plane synthesis, we've started to touch on the technology used in physical modelling, which brings us up to date, as this is currently where all the big strides in synthesis are being made. From purely analogue models (those on the Roland JP8000 or Clavia Nord Lead, for example) through those which are based on other synthesis styles (such as FM on the Yamaha AN1x or other electronic instruments such as organs and electric pianos on the Korg Z1), to models of purely acoustic instruments (such as brass and woodwind from the Yamaha VL series, or plucked and bowed strings on the Z1), physical modelling is playing a greater and greater part in sound production on modern synthesizers. And it will become more and more prevalent as DSP gets more powerful and cheaper to implement.

Next time, we'll look at how physical modelling can not only imitate but sometimes go beyond the type of synthesis from which it draws its inspiration, to create even more exciting possibilities for those who are constantly searching for that something extra from a synth.

"The real power of wave sequencing is that timbral changes can be as sudden or as gradual as you like."

RELATED REVIEWS

- Emu Morpheus: Technical feature October 1993; review December 1993.
- Emu Ultra Proteus: August 1994.
- Ensoniq VFX: July 1989; VFX SDII September 1990.
- Korg Wavestation: August 1990; Wavestation SR April 1993; Wavestation EX January 1992.

DAWSONS

MAKING MUSIC OUR BUSINESS

01925 245422

Studio Packages

Studios can be custom designed for your needs on 0% Finance

YAMAHA 03D

AKAI DR-16

Price Drop Please Call!

02R

Ex Demo 02R Available £4999.99

New 20 Bit ADAT's

LX-20 XT-20 M-20

NEW

Prices From £1699

New technology dramatically improved sound quality. Don't buy an Alesis ADAT until you have heard 20 Bit technology at work

All previous ADAT recording are compatible with the new machines

YAMAHA MD-8

Includes 5 Extra Minidiscs

0%

£44

£157 Deposit plus 18 monthly payments of £44 Total 0% Credit Price £949

Welcome to the revolution

PHILIPS CDR-870

NEW

£40

Blank CDR Available from £1 99 each

Yamaha Promix 01

Automated Digital Mixer for Under a Grand !!!

Includes 2 Audio Looms

£849

K-Rok Rokits

Absolute 2 combined with the Samson Servo 170 Amp. The system for professional nearfield monitoring. Now available for a new low price including free delivery and professional speaker cable

£399

GENELEC 1029A

£545

SAVE £200

High powered - High Class Self Powered Balanced Studio Monitors. Ideal for nearfield/home studio use. Free delivery is available in the UK.

AIR CONDITIONED DEMONSTRATION SUITES

Roland VS-1680

Includes Audio Interface Workbook

£97

The VS-1680 Digital Studio Workstation represents the new defenition of recording power: a 16 track, 24 bit audio recording, editing, mixing and effects processing system in a compact table-top workstation.

lexicon MPX 1 ***PRICE DROP***

£70

£99.99 Deposit plus 10 monthly payments of £8 Total 0% Credit Price £799.99

YAMAHA QY-700

Monster 32 Track Sequencer and XG sound module in one. 32 Midi Channels

FREE VIDEO

£85

£99 Deposit plus 12 monthly payments of £70 Total 0% Credit Price £869

DPS-12 Includes 2 Jaz cartridges

£81

£199 Deposit plus 18 monthly payments of £61 Total 0% Credit Price £1297 INCLUDES FREE UK DELIVERY

Terratec EWS-64

£30

£99.99 Deposit plus 10 monthly payments of £30 Total 0% Credit Price £399.99

SALE of the CENTURY?!!

All items are ex-demo or second hand unless marked otherwise. These sale items are not available on credit

Alesis Quadraverb Plus	£199	Drawmer DS201 Dual Gate	£299
Kurzweil K1000s String Exp	£399	Digidesign ADAT Interface	£789
Fostex D5 Dat	£429	Akai IB302D	£199
Fostex D80	£799	Art Multiverb Ext	£349
E-mu Emulator IIIXP	£799	Tascam MSR16 DBX	£1499
Apple DOS Card for 6100	£99	MOTU Midi Xpress PC	£199
Computer(DX2/66)	£149	Digitech Studio 480	£599
Steinberg MusicStation/card	£99	Akai SG01k	£149
Cubase Audio for Mac Ver 2.0 DAE Version	£399	Studio Electronics ATC-1	£599
Alesis AI2 ADAT A/V Sync	£399	Classic Channel	£599
Yamaha RCX-1	£39	Microtech Gefell M-300	£349
Aphex C2 Big Bottom**NEW!!**	£199	Beyer MCE-83	£99
Kurzweil K2000(4Meg)	£1699	Beyer MC834	£499
Akai SB3001P Piano Board	£99	Turtlebeach Tahiti	£149
Sony PCM2700 Dat	£1599	Sideman SM-4 Compressor	£19
EMU EIV Inc Hard Diskr	£1999	Kurzweil K2500R	£1999
Yamaha SPX900	£399	Ensoniq ASR-X	£99
Behringer DualFex	£99	Spirit Folio 12-2	£199
Lexicon LXP15 MKII	£499	Digidesign R1	£399
Yamaha TX81Z	£199	Turtle Beach..Pinnacle	£319
		Alesis MEQ-230	£99

EVENT PC/MAC Solutions

DARLA LAYLA GINA

- 20 bit Multitrack Recorder
- 2 Analog Inputs
- 8 Analog outputs
- Full Duplex (Simultaneously record 2 Tracks while playing back 8)

£299 Free Delivery

- Pro 24-bit Multitrack Recorder
- 8 Analog Inputs (Balanced)
- 10 Analog outputs (Balanced)
- Full Duplex (Simultaneously record 8 tracks while playing back 10)
- Spdif Digital I/O (Uses 24 bit)

£80 per month

- 20 bit Multitrack recorder
- 2 Analog inputs
- 8 Analog outputs
- Full Duplex (Simultaneous record 4 tracks while playing back 10)
- Spdif Digital I/O (Uses 24 bit)

£40 per month

AudioWerk Home Studio

£40 per month

Includes Free Logic Discovery v3 + Bonus Pack

Korg 1212

£48 per month

Steinberg

Cubase VST	£299 Inc Delivery
Rebirth 338	£149 Inc new updates
Wavelab	£299 inc 1 x C. Ess. CD
Cubasis AV	£129 inc Multimedia Leac

Emagic Logic Audio v3

£CALL

Silver - Gold & Platinum versions now available Please call for more details!

SPL Vitaliser II

£189 Inc Delivery

DAWSONS

www.dawsons.co.uk

01925 245422

If its not here, it doesn't mean we don't sell it. If you have a favourite piece of gear and you want the very best deal on it, whether 0% finance or not, call Dawsons Music today!
You'll see there's a lot more to Dawsons 'behind the ad!!!'
In addition, we are ever striving to give you the best service possible.

A3000 Sampler

Now 32Meg and Zip Drive

Yamaha's all new super sampler packed with high specifications and expandable options and now with 32 Meg.

£85

£279 Deposit plus 12 monthly payments of £85 Total 0% Credit Price £1899

Akai S20

17Mb

£40

£99 Deposit plus 10 monthly payments of £40 Total 0% Credit Price £499

Akai S2000

Price Drop

Akai S2000 32 Meg RAM Free Sample CD

£38

£97 Deposit plus 18 monthly payments of £39 Total 0% Credit Price £799

Now available with 8 Output Board Fitted

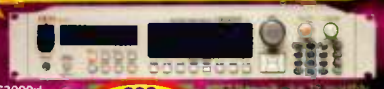
Akai S2000 with 8 Outputs 32 Meg RAM Free Sample CD

£43

£185 Deposit plus 18 monthly payments of £43 Total 0% Credit Price £899

Akai S3000xl

Includes Zip Drive



Akai S3000xl 32 Meg RAM Free Sample CD INCLUDES ZIP DRIVE

£89

Roland JX-305

Including Keyboard Stand

£44

£157 Deposit plus 18 monthly payments of £44 Total 0% Credit Price £949

Roland MC-505

£44

£157 Deposit plus 18 monthly payments of £44 Total 0% Credit Price £949

Roland SP-808

Includes 5 Zip Carts

£50

£179 Deposit plus 18 monthly payments of £50 Total 0% Credit Price £1099

Fostex FD-4

Available with Iomega Zip Drive (Call)

£30

£99.95 Deposit plus 10 monthly payments of £30 Total 0% Credit Price £399.99

Fostex DMT-8vl

Includes 1.6 Gig Drive and SCSI Option

£39

£139.95 Deposit plus 12 monthly payments of £39 Total 0% Credit Price £441.88

Fostex D-160

Includes 4.3 Gig Drive & 3 - 8 Way Looms

£99

£299.95 Deposit plus 18 monthly payments of £99 Total 0% Credit Price £1781.99

Fostex D-90

Includes 1.6 Gig Drive, SCSI Option, Balanced I/O Option and 2-8 Way Looms

£85

£299.95 Deposit plus 18 monthly payments of £85 Total 0% Credit Price £1469.95

Yamaha AN1X

Includes Free Headphones

£85

£149 Deposit plus 10 monthly payments of £85 Total 0% Credit Price £799

Yamaha CS1X

SAVE £100

SAVE £100

Great value multi timbral synth. Try it in that and why it has become one of the best selling synth of all time!

£40

£99 Deposit plus 10 monthly payments of £40 Total 0% Credit Price £499

Yamaha EX-5 / EX-5R

Includes Flight Case

Includes Flight Case

£84

£367 Deposit plus 18 monthly payments of £84 Total 0% Credit Price £1899

£82

£359 Deposit plus 18 monthly payments of £82 Total 0% Credit Price £1799

Neumann TLM103 Microphone

Includes Boom Stand and Free Delivery

£80

£99 Deposit plus 10 monthly payments of £80 Total 0% Credit Price £699

Roland VS-840

£44

£157 Deposit plus 18 monthly payments of £44 Total 0% Credit Price £949

OPCODE

Translator PC	£99
Translator Pro	£89
Studio 64X	£259
Studio 64XTC	£429

WAVES Cubase VST with Easy Waves

Includes 1 Creative Essentials CD of your Choice

£389 Inc. Delivery

01925 245422

KORG Trinity Plus

Comes with PBS Board Fitted

Please call for Trinity Options

£85

KORG TR-Rack

Winner 21st Century

£45

SPIRIT Absolute Zero Package

£335

Now available on 0% finance Includes Delivery

Includes Speaker Stands

SPIRIT Absolute 2 Package

£419.00

Not available on 0% finance Includes Delivery

Includes Speaker Stands

SPIRIT Mixers

Spirit Folio Notepad	£149
Spirit Folio F1-14	£299
Spirit Folio F1-16	£349
Spirit Folio SX	£99 Deposit plus 10 monthly payments of £35 Total 0% Credit Price £449
Spirit FX-8	£349
Spirit FX-16	£199 Deposit plus 10 monthly payments of £69 Total 0% Credit Price £799
Spirit Studio 16	£99 Deposit plus 10 monthly payments of £89 Total 0% Credit Price £949
Spirit Studio 24	£159 Deposit plus 18 monthly payments of £59 Total 0% Credit Price £1339
Spirit Studio 32	£299 Deposit plus 18 monthly payments of £89 Total 0% Credit Price £1799
Spirit 328 Digital	£3499

OPCODE fusion: EFFECTS

Filter	Vocoder	Vinyl
£125 Inc. Delivery	£125 Inc. Delivery	£79 Inc. Delivery

01925 245422

E6400

Includes 32 Meg Ram & Zip Drive

£88 per month

£999 Deposit plus 18 monthly payments of £88 Total 0% Credit Price £1989

esi-4000

Includes Zip Drive

EMU ESI-4000
With 16 Meg Memory
Includes Zip Drive (External)
£55 per month
£499 Deposit plus 18 monthly payments of £55 Total 0% Credit Price £1189

EMU ESI-4000
With Turbo Board Fitted
16 Meg + Zip Drive (External)
£68 per month
£599 Deposit plus 18 monthly payments of £66 Total 0% Credit Price £1487

EMU ESI-4000
With Turbo board fitted,
Internal Zip & 16 Meg
£72 per month
£349 Deposit plus 18 monthly payments of £72 Total 0% Credit Price £1695

Free CD Rom Pack (9 Cd's) Worth over £600 with every Emu-Sampler purchased.

Get all of these:

- Emulator standards
- More emulator standards
- Orchestral
- Sound FX
- World Instruments
- World Percussion Ensembles
- Emu Classics
- Vintage

& one of these:

- Hip-Hop
- Techno Trance
- Analog Oddysey
- Earth Tones
- Protozoa

This is a limited offer so please hurry whilst stocks last!

Sound Library

On-site Library available to all Dawsons EMU Sampler Customers

Audity 2000

HEAR THE FUTURE OF GROOVE SYNTHESIS AT DAWSONS.
EXPERIENCE THE ECSTASY OF RHYTHMIC PUMPING!

- 16 Channel Arpeggiator/Rhythmic pattern Generator
- 12th order digital Resonant & Modelling filters
- Midi Clock Modulation Features • 24 bit Dual Stereo FX
- 4 Real-Time Controllers • 6 Audio Outs • 16 Part Multi-Timbral
- Expandible sound ROM

£83 per month

£745 Deposit plus 18 monthly payments of £62 Total 0% Credit Price £1599

E-Synth

Includes Hard-Flight Case and 32 Meg RAM

£138 per month

£1515 Deposit plus 18 monthly payments of £130 Total 0% Credit Price £3999

E-Synth Rack

Includes Internal Zip Drive and 32 Meg Ram

£127 per month

£1413 Deposit plus 18 monthly payments of £117 Total 0% Credit Price £3999

Orbit V2

Includes 4x Jack-Jack Leads and Midi Connector Lead

3-2-1 Lift off Orbiting a dance tune near you, filters galore. Emu patented songs mode and songs/beats mode, awesome basses, pads and stabs to name but a few

£70 per month

£699 Deposit plus 10 monthly payments of £70 Total 0% Credit Price £799

Planet Phatt

Includes 4x Jack-Jack Leads and Midi Connector Lead

Phatter than pavarotti, the planet phatt is the ultimate collection for rare groovers, hip-hoppers, R&B and soul acts alike

£70 per month

£699 Deposit plus 10 monthly payments of £70 Total 0% Credit Price £799

www.dawsons.co.uk

Yes it's true. Dawsons Music are now on the World Wide Web, surfing it with the best of them. You will find an up-to-date 2nd hand list, details of new products, information request forms, finance forms for you to fill in, software updates for the popular sequencers, demo files for you to download as well as a regular competition.

Link up to http://www.dawsons.co.uk

15 Days Satisfaction

If you are not completely satisfied with your purchase, simply return it in its original condition within15 days, and we'll give you your money back. Just send it back to the store where you made your purchase, along with your receipt, manuals and all original packaging. We'll gladly exchange it, offer you a different product of equal value, or give you a full refund. Please keep your boxes, as missing accessories are subject to replacement fees. Due to certain legal restrictions, computers and computer software are exempt from this policy. Additionally, certain Pro-audio and recording systems may also be exempt, however this will be fully explained to you before you make your purchase.

Package Deals and 0% Finance

Dawsons specialises in Pro-Audio packages. We can supply desks, outboard, amplification and cabling (we even sell MACs and PCs). The more items you buy, the greater the discount. We believe our buying power allows you to get the best deal, all from one shop. Call us now on 01925 245422 and find out how you can benefit.

DAWSONS

www.dawsons.co.uk

tel: 01925 245422

65 Sankey Street, Warrington, WA1 1SU
Fax 01925 417812
E-Mail: proaudio@dawsons.co.uk
Written quotations available upon request

Access VISA AMERICAN EXPRESS SWITCH

Accept no imitations. We are the No. 1 Mail Order Pro-Audio Music Company in the UK. It's official - you told us!!! - thanks

AAA Group's Roger D'Arcy (left) and Nick Whitaker (right).

Acoustic Alchemy

ACOUSTIC TREATMENTS FOR THE PROJECT STUDIO

Recording Architecture's renowned Black Box modular acoustic treatment system is now available in a range of packages specifically aimed at the project studio. DAVE LOCKWOOD talks to consultant acoustician, Nick Whitaker and architect Roger D'Arcy about the company's latest venture in this sector of the market.

Acoustic treatment so often comes a distant second to the equipment budget in the project studio, yet the accuracy of the monitoring environment is one of the major factors determining the standard of work that can be achieved within the room. However, a new range of acoustic treatment packages specifically developed for the project studio market is now available from one of the big names of professional acoustic design, Recording Architecture. Since 1987 RA has built up an ever more impressive client list, consisting not just of internationally renowned studios around the world, but also of many project rooms and artists' home studios. Recording Architecture actually now forms just part of the newly created AAA (Acoustics And Architecture) Group, in combination with Pegley-D'Arcy Architects, Nick Whitaker Electroacoustics and the enigmatically named Black Box. The latter is their system of modular acoustic treatments — literally a range of large 'black boxes', each with different acoustic properties — designed to offer 'bolt-on' acoustic solutions where more structural or permanent work is not possible or is inappropriate. Although high-profile studio projects form the most visible part of their work, Roger D'Arcy, architect and one of the company founders, attributes much of the group's phenomenal growth over the last 10 years to their significant involvement in the project studio market: "We probably wouldn't make a living just designing big 'pro' studios from the ground up; there just aren't enough of them, even internationally. We really do need the hundred or so project studios to go along with that. That's where the bread and butter is, but it's also where our techniques get extended and challenged — it's continual R&D."

BLACK MARKET

It is in recognition of the importance of their involvement with this sector of the market that the group has developed its range of three project studio 'packages', incorporating Black Box components. D'Arcy continues: "One of the problems for us in the project studio area is that it's quite difficult for us to get across to that market that we actually do this kind of work! We get three or four phone calls a week from people who don't know who we are, and that, in a way, is a good thing, because it means they are not intimidated into thinking, 'I didn't think you'd be interested in doing my small room'. Our attitude is simply one of 'is our solution appropriate for you?'. If the answer to your problem is only a thousand pounds worth of stuff, then that's fine."

It's a philosophy that has always been at the heart of the company's activities, for unlike many acoustic design companies, Recording Architecture does not undertake the actual building work involved in a project. For co-founder and consultant acoustician Nick Whitaker, the distinction is crucial: "It's actually one of the hardest things to get across to a new client. The answer to the question 'How much is a recording studio?' in our case is 'It's as much as you want to spend', whereas in the typical 'design and build' situation, the answer is 'it's as much as I can *make* you spend'." ▶

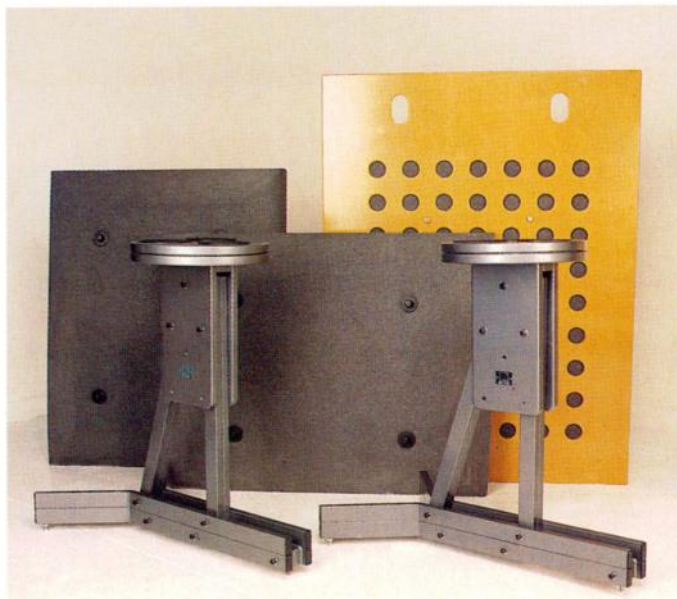
THE ULTIMATE CONTROL SAMPLER..
WITH KNOBS ON.
* * * * * * * * Version 2 now available * * * * * * * *
SAME KNOBS, NEW SAMPLER!
10 New Dynamic, Assignable Filter Types... Enhanced File Compatibility (the best got better)... MIDI-Controlled LFO... Loop Remix and Loop Divide Functions... Multiple Disk Save and Load... Upgrade Kit Available
A3000
16 bit... 64 note polyphony... Sampling frequencies: Analog in - 44.1, 22.05, 11.025, 5.512kHz... Digital in (via optional AIEB1 expansion board) - 48, 44.1, 32kHz... Sampling RAM: 2 Mb expandable to 128Mb (4x72 pin SIMMS)... Effects: 3 independent blocks with 'sample specific' effects (also available for realtime mixing/recording)... 4 band total EQ... 64 dynamic filters... 64 EQs... five control knobs (4 assignable for real-time play)... SCSI standard (load and save during play)... Sample audition via SCSI or CD ROM... Akai, EMU, .wav, .aiff file compatibility... Stereo outputs L&R... Assignable outputs L&R (expandable with AIEB1)... SMF MIDI realtime record/play song sketching... Input L&R... Phones and HD/DD disk drive...
You need to know more.
Call 01908 369269 for the low down.
At last, a sampler that puts you in control.
FUTURE MUSIC
Yamaha A3000
STILL ONLY
£1299
SSP inc VAT
YAMAHA
Yamaha-Kemble Music (UK) Ltd. Pro Music Division
http://www.yamaha.co.uk/html/products/p_a3000.htm
All trademarks are the property of their respective owners

UNIQUE BLEND

Despite the obvious presence in the market of plenty of other 'acoustic consultancy' services, Whitaker believes that Recording Architecture's blend of measurement, advice and design remains unique: "Sure, there are one or two other, much smaller companies who do offer a sort of 'advice' service, often based on computer-aided design, which they do by postal application, but I think they are missing the point. It is simply not possible to guess people's acoustic needs intuitively, at arm's length and, in effect, that means they can be in real danger of seriously misleading people." D'Arcy: "We believe that the best way to tackle any job like that is to get in and make some measurements. If you try to do it just off the plans there could be all sorts of things you might not be aware of — say, the effect of a masonry wall on one side and a lightweight, rattly plasterboard wall on the other — and you can't tell what people's floor is made of. They will often tell you the wrong thing — an awful lot of people think they've got wooden floors when in actual fact they've got wooden planks on battens on concrete floors. That alone could dramatically change the acoustic treatment required. Another mistake you can make trying to work just off clients' plans and photographs is that you might be assuming you can bolt something heavy to the wall when in reality that wall is actually a hardboard panel!"

Whitaker acknowledges that making the correct analysis is vital: "the last thing we want to be doing is perhaps to be adding expensive low-frequency absorption when there might already be enough, especially with the typical modern plasterboard-construction room where most of the problems tend to be at a slightly higher frequency, in the 100 to 200Hz region. It takes about three hours for me to check out a room, using primarily TDS (Time Delay Spectrometry) backed up with some MLS (Maximum Length Sequence) measurements, although the resolution of the TDS is far higher, particularly at low frequencies, which is where most of the problems tend to occur."

> "It's about having the experience to get the balance right."



This basic package is the entry-level Black Box Mini System.

"It's not actually a prerequisite for us to get involved", states D'Arcy, "but we do very much prefer it when we can get in for a look around, and by paying a few hundred quid for Nick to visit the site you might actually save yourself several hundred pounds worth of acoustic elements which we might have thought necessary if we were working just with the plans. Inevitably, we will tend to over-specify slightly if we haven't been able to test the room. But we do always prioritise our solutions — we might give you 11 recommendations, but there will always be a 'most important four' that you must do. Then we might say, 'it would be good if you also did the next three, very good if you did the next two, and the last one is a bit of a luxury'. The client can do it in stages, therefore, although it is important to stress that our Black Box system is not 'modular' in the way that some systems are in that there is not just one set unit that you merely vary the amount of. Nick and I have actually been into studios where they have put a single foam 'acoustic tile' behind each speaker!"

"And they honestly think" laughs Whitaker, "that this thing, a couple of inches thick, will

NICK WHITAKER'S DOs AND DON'Ts OF PROJECT STUDIO ACOUSTICS

DON'Ts

- Don't rely on only one form of acoustic treatment in a room — this inevitably leads to an imbalance at different frequencies (eg. don't cover every surface with two inches of mineral fibre.
- Don't attempt to 'soundproof' a space using porous materials — using mineral fibre alone will not provide significant sound insulation.
- Don't mount the speakers asymmetrically within the room — the two speakers will never sound the same!
- Don't mount the speakers within three feet or so from a side wall or ceiling.
- Don't mount monitor speakers on wall brackets — particularly if the wall is a plasterboard type.
- Don't use microphone cable in place of speaker cable!

DOs

- Do use different thickness/types of acoustic treatment within a room.
- Do seek the advice of a professional acoustic consultant to recommend sound insulation treatment. Normally a consultant can determine the limiting factors of sound insulation and advise on which works will provide a significant effect and which would not (eg. if the limiting factor of a room is the sound insulation provided by the door, there would be very little point sound insulating the adjacent wall without first upgrading the sound insulation of the door.
- Do orientate the equipment and position the monitor speakers so that symmetry can be maintained at least at the front of the room and as far back as possible.
- Do mount the speakers closer together if the width of the room is restricted — better a compressed stereo width than suffering comb-filtering interference effects caused by strong reflections from side walls and ceiling.
- Do use speaker stands (preferably floor-standing) which hold the speakers *rigidly* in position and which do not have audible resonances.
- Do use reasonably thick (minimum 2.5mm cross-section oxygen-free copper) speaker cable, as short as possible. The quality of sound coming from the speakers is strongly dependent on the quality of the power amplification and the interface between amp and speaker.

SOUNDTECH USA

Smart Sound DIRECT

Nobody can touch SoundTech for Price and Performance

All prices include VAT

Buy Direct Take Delivery Tomorrow

POWER SOURCE SERIES – AMPS

TOURING AT ITS BEST

PS802 – Digital Power Amp
400WPC (800W MONO)
Power Source – Clean Digital Power - our 1 rack unit, 16lb Marvel (Special Price £449)

~~£450~~ £449 Special Price

BEST SELLER

What the Reviews say
"PLENTY OF BASS"
"BIG BLAST FROM A BABY BOX"

POWER LAB SERIES – AMPS

A/B Output Topology delivers solid bass and crystal clear highs.

PL200	2 x 100W RMS (200W Mono)	£169
PL350M	Monitor Amp with Graphics 350W – 2 Ohms	£199
PL602	2 x 300W RMS (600W Mono)	£279

£169 Outstanding Seller

£199

£279 Unbeatable Value

£575

£399

PL802	2 x 400W RMS (800W Mono)	£399
PL1402	2 x 620W RMS (1240W Mono)	£479
PL1204	Four Channel Amp, 4 x 280W RMS, 2 x 560W – 8Ohms	£575

We also supply stands, cables, snakes and rack cases.

Reviewers say:
- SUPERB AMP FOR THE PRICE
- AUDIO QUALITY IS EXCELLENT
- A GOOD SOUND WORKHORSE

POWERED MIXERS

QuickMix 6
Powered Mixer, simple to use, high quality sound
£269

£269

SPECIAL £199 when purchased with speakers

MegaMix Rock Solid Rugged & Roadworthy 128 Digital Effect, Dual 9 Band Equaliser, fully expandable, many exclusive SoundTech features

£429

MM6D
6 Channel 450W Mono @ 2 Ohms £429

MM8D
8 Channel 450W Mono @ 2 Ohms £489

£599

STAR VALUE STEREO

MM10SD 10 Channel 900W (450W x 2 stereo @ 2 Ohms)

GRAPHIC EQUALISERS

PRO QUALITY WITH XLR CONNECTIONS

Q150 15 Band x 2 (Stereo) £129

Q310 31 Band with Variable Low Cut £129

What the Reviews say

"SOUNDWISE THE Q310 PRODUCES VERY NOTICEABLE AND POWERFUL CHANGES"

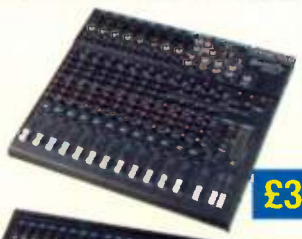
"SENSIBLE TOOL AT A SENSIBLE PRICE"

MIXERS

REVIEWERS SAY: "SOUNDTECH'S LITTLE WONDER"

CM802
8 Channel Input
2 Outputs

£189



ST1602
16 Channel Input
2 + 2 Outputs

£399

ST1202
12 Channel Input
2 + 2 Outputs

£299

ST2442
24 Channel Input
4 + 2 Outputs

£899

DIRECT ORDER LINE – FREEPHONE

0800 731 7541

INFORMATION LINE

01883 346647

Fax: 01883 340073

ELECTRONIC CROSSOVERS

ELECTRONIC CROSSOVERS – USE HIGHLY SPECIFIED LINKWITZ-RILEY FILTERS

X234 2 Way Stereo, 3 or 4 Way £149

X345 3 Way Stereo, 4 or 5 Way £199

£149

£199

"Simply Sounds Better"

Smart Sound Direct, FREEPOST SEA5105, Units 5&6, 38/40 Town End, Caterham, Surrey CR3 5BZ.

10 day money back guarantee

make a difference, and when you ask them 'did you actually notice a difference?' the answer is 'er, no — but surely it's still doing some good, isn't it?'".

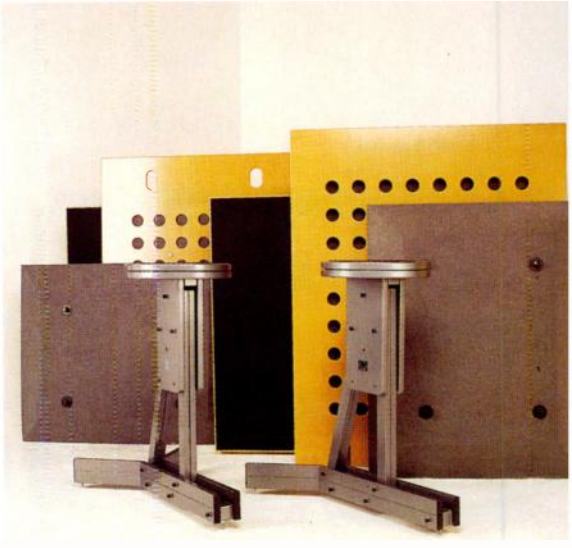
BOLT-ON SOLUTION

Whitaker is happy to measure a room with all the gear already *in situ*: "It can actually be useful to see what kind of gear and furnishings are there, because things like shelving and keyboard stands can actually produce both quite a good scattering effect and some significant absorption. In the project market, we quite like to say 'buy your gear, put it in and we'll sort out the room around it', because one of the beauties of the Black Box system is that it bolts onto ceilings and walls."

"Assuming that soundproofing — sound in and out — is not an issue", says D'Arcy, "we really can make an absolutely enormous difference, without doing any structural work. In fact, we get loads of thank-you letters, because often people don't think about the acoustics at all. They just dump the gear in the room asymmetrically, in a corner, get on with using it, and then wonder why their exciting records aren't quite as exciting when they play them to their friends on their hi-fi or take it to the mastering studio — that's when they really find out that they haven't got that tight, punchy bass they thought they had.

"It's the fact that we can make such a significant difference that led us to produce a a product specifically for the project market. We realised that the average project studio guy wouldn't know how to ask us for what we do! That's why we developed what we call our Mini Systems — Black Box components in set packages: the Basic pack, the Standard and the Professional. All of them are designed to take the typical British room up to a good acoustical standard, and for anything beyond that, we feel you ought to be getting involved with us as architectural acoustic consultants, as you are then into building flush walls and the like. The price range of the Mini system starts off at less than £1,500, and consists of a pair of our speaker stands [see box, left], and a diffusing panel, along with a pair of profiled acoustic foam panels and some advice from Nick as to where to put the diffusion for the best effect. The next package up the scale starts adding some low-frequency absorption, as well as more scattering and absorptive material on the ceiling. We are able to give certain 'rules of thumb' about placement of the acoustic elements: 'if the room has certain dimensions, put this on that wall rather the other wall, etc'.

"Even this minimum package would make a difference of a significant order, assuming that there hadn't been any acoustic work already. Actually, it's often better if the client hasn't done anything, because so often they will have spent their money on the wrong thing. The classic one is where they phone us up and say, 'I've got the battens on and I've got the Rockwool on, what do I do now?'. And the answer is, 'well, the first thing to do is take all the Rockwool off and start all over again'. You would be amazed how many people think that is how you do it. They've got this idea about sound insulation in one half of their brain and something about absorption in the other, and 'Rockwool' is the magic word that sorts everything out."



The intermediate package adds some wide-band absorbers.

BALANCING ACT

"It would be great if there *was* one simple, single device that you could apply to a room to make it better, but unfortunately that just isn't the case. It is

STANDING OUT

"Our stands are designed, above all, to be rigid" says Nick Whitaker, "to be able to resist diaphragm movement. Every other speaker stand on the market is either a 'Z' frame or two legs going up to the required height with a bar on top. When Roger and I walk into studios we cannot resist giving one of the speakers a little push. You can go and have a cup of tea, come back and it will still be moving! So the bass diaphragm's pushing one way and the thing it's on is moving with it, so how can the bass have any tightness to it?

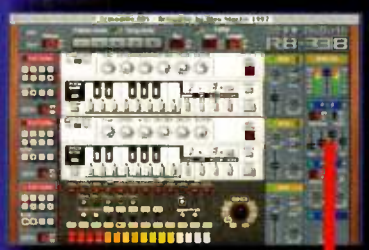
"This is one of those crazy things the hi-fi people discovered twenty-odd years ago. 'Wow, my speakers sound so much clearer if I put them on stands.' The other variant on the 'pro' speaker stand is to take a hi-fi stand and just stretch it so that your speaker is above the console's meterbridge.

"Following the principle of getting the source right and following the signal down the chain, it doesn't matter how much wonderful acoustic design has gone into your studio, if your speakers are rocking backwards and forwards every time they reproduce a kick drum, then they are not going to sound very good. In fact, they would probably sound better on a pair of our stands in an untreated room, as we once discovered. We had measured a client's home studio in California, and the room was a bit of a disaster, but we said, 'the first thing to do is to get rid of those bloody awful speaker stands of yours'. We put a pair of our stands in their place and played a couple of our favourite CDs. From the first bar of the first song it was as if we had already cured half the problems of the room. It was quite unbelievable.

D'Arcy adds "A similar thing happened recently in another 'name' project studio where Nick analysed the room and we subsequently lent them a pair of our speaker stands, and said where to put them. And they did the entire album like that — putting the stands in was the only acoustic work that was done! So our 'starter pack' really could be as little as just a pair of our speaker stands and still make a big difference. We've sold maybe 200 pairs to people who have said, 'that's it, that's my problem', and that alone has done enough for them.

Essential Dance Tools

Loops, bass lines and beat boxes - indispensable elements in electronic music.
Now Propellorheads joins forces with Steinberg to put a whole new spin on the theme.



ReBirth
Virtual Synthesizer

Two 303 synths, one 808 drum machine, pattern based sequencing, delay and distortion.

ReBirth is a self-contained program capable of generating sweeping synths, dubby bass lines and stonking drum patterns entirely in the software domain. Just like the real thing, the filters are programmable in real-time and drum sounds can be tweaked with decay and tone parameters.

Every parameter can me controlled via MIDI and the program can sync to any midi sequencer. Available for PC and Mac.

ReBirth - rrp £149.00 inc.vat.

ReCycle!
Groove Analysis

Matching audio loops to sequences can be time consuming and tiresome. ReCycle has been designed to make this task easy.

ReCycle can match one loop with that of another within seconds. Simply play back a ReCycle midi file from your sequencer to trigger your sampler and change the tempo to whatever you want. No TimeStretching required. The automatic mapping facilities also make ReCycle ideal for transferring sample libraries fast. Analyse an audio file with a selection of samples and send it to your sampler. Instant key mapping and perfect truncating. PC and Mac.

ReCycle is compatible with the following samplers:
Akai S1000/2000/3000, Roland S760, Kurzweil K2000/K2500, Emu ESI-32, E-64, E4, Ensoniq EPS/EPS16+, ASR10/88, Digidesign Samplecell & Cubase VST 3.5 Mac.

ReCycle - rrp £199.00 inc.vat.

NEW in version 1.5

A new filter module has been added to the ReBirth arsenal of sonic tools. Switchable between low and band pass, this filter further enhances the sound capabilities of ReBirth and can be routed to any of the two synths or the drum machine.

Visualize your Mix X<>POSE

Promotional Videos, Live Performance or Multi-media Production for MIDI musicians.

X<>Pose uses midi for triggering and control of images and QuickTime video footage. Just activate the visual material by playing on a midi instrument. A wide range of effects are also included to allow real-time processing and most of them can be controlled via midi controllers. So even basic images can be processed to create exciting abstract, futuristic, ambient results. X<>Pose is available for Mac, PC version scheduled for the new year.

X<>Pose - rrp £399.00 inc.vat.

System Requirements
Macintosh: Power Macintosh 603e processor or better. 66 Mhz or faster, 16 Mb or Ram. System 7.5.3 or later.

PC: Intel Pentium 75 Mhz or faster, 16 Mb Ram, Windows 95, Direct X compatible sound card.

Steinberg

Distributed Exclusively by Arbiter Pro Audio
Unit 2 Borehamwood Industrial Park Rowley Lane, Borehamwood, Herts WD6 5PZ. Tel: 0181 207 5050 Fax: 0181 207 4572

www.steinberg.net

always a mixture and a balance of different elements — not tuned traps or RPG diffusors on their own, and definitely not acoustic foam! That's definitely in our top five of stupid things that people do — covering the walls with two inches of Rockwool and saying 'what sort of hessian should I use?'"

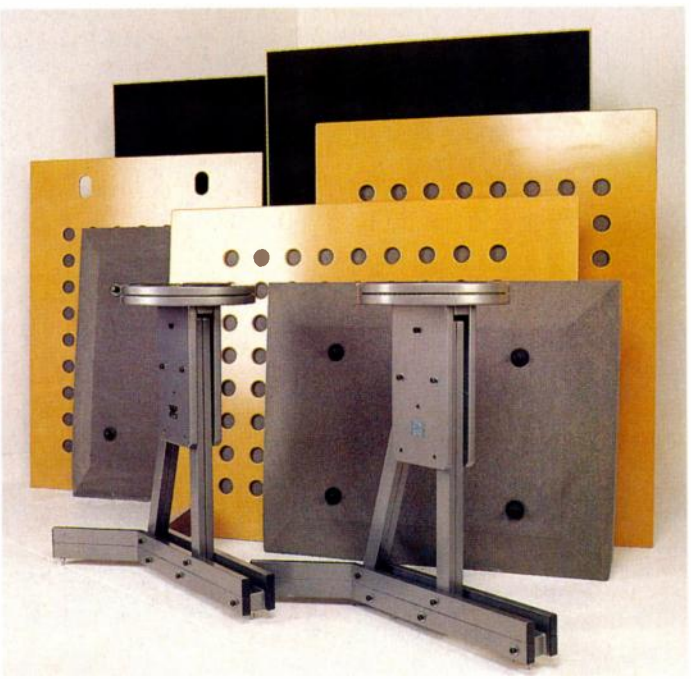
"And the next one on that list", adds Whitaker, "is to have heard ever in their lives the expression 'room within a room'. I had one last week where they thought they had built a room within a room, but what they had actually done was batten out from the concrete outer room, fill the void with Rockwool and put plasterboard over the top. All they had done was to reduce the size of the room! It took a good six inches off every dimension. And their speaker stands were then bolted to the plasterboard!"

"We are up against so much partial knowledge from old '70s textbooks" says D'Arcy. "Some people will spend £20,000 pursuing this 'room within a room' thing when perhaps £5,000 spent on the internal acoustics and not working after midnight would have been a better way to do it. Often it's knowing when to bother attempting something that can be the most important thing we do — knowing whether it might ever be realistic to do a drum recording session at four in the morning in a residential situation. It can be done, but generally speaking, that implies concrete, fully floated 'room within a room', sprung bunkers etc, and maybe they haven't got the £40,000 it takes to do that.

"It's a matter of warning people when they are about to spend a lot of money, but not quite enough. I think that's one of the saddest things about the 'second tier' of acoustic consultants out there; they tend to lead people up this '£25,000 garden path', and leave them strung out, having spent their money, but still without achieving what they wanted to achieve. Those people work to a pattern. Nick and I saw a classic a few weeks ago; a guy had recently had a 'name' studio consultant/builder in to do his room because he had done a 'room within a room' for his mate's studio next door. But his mate was at the end of the building. He had no immediate neighbours, and everything was OK. The guy we were called in to see was living in a flat with only a plasterboard wall between him and a rather sensitive neighbour. The original consultant obviously thought, 'OK, we'll do another room within a room. It worked there, it'll work here.' Result; the neighbour was complaining like crazy and trying to close the client down and get him thrown out of his flat. But, of course, the guy had spent his £12,000 by then, so what could we do? Basically, no more than charge the guy £500 to tell him what a silly boy he had been! Whereas, if we had had access to the original budget, either we would have been able to do something appropriate for him, or, if it just wasn't possible, we would have told him 'don't do it'— which is sometimes what people need to hear.

"Sometimes, when we tell people not to do something, they are quite upset, but then they come back in six months with a different building and say 'thank God you told me not to do it there'. There is nothing worse than someone being commercially tied to an unsuitable building — then you *have* to try to sort it out, and just explain the limitations. These guys who go round doing 'Rockwool rooms' are not always wrong, it is just that they are unlikely to be able to spot those situations where their 'solution' is completely inappropriate.

"It's about having the experience to get the balance right. It's not that bass trapping isn't important, it's not that diffusion isn't important — you just need that sense of even-handedness and balance in any situation. We are probably always using the same 10 things, but in vastly differing proportions, and that would apply to our architectural solutions as well. We are probably always using the same techniques there too, but the key thing is that you always need to judge *when* to use a certain technique." SOS



The professional Mini System package, properly installed, is claimed to make a "very, very good room indeed".

BLACK BOX MINI SYSTEMS

• The Basic package — "less than £1500"
Pair of speaker stands, one variable acoustic panel, two profiled acoustic foam panels (wall- or ceiling-mountable) plus special fixing system for mounting panels.
• The Standard package — "less than £4000"
Pair of speaker stands, one variable acoustic panel, two double wide-band absorbers, one perforated MDF/profiled acoustic foam ceiling panel, profiled acoustic foam panels (wall- or ceiling-mountable) plus special fixing system for mounting panels.
• The Professional "make a very, very good room indeed" package — "under £5000"
A full acoustic analysis with report and recommendations starts at £525.
All prices quoted here are exclusive of VAT.

T AAA Group Ltd
+44 (0)181 858 6883.
F +44 (0)181 305 0601
W www.aaa-design.com

ONE SOUND CARD ...

HARD DISK RECORDING & EDITING

64 NOTE POLYPHONIC SAMPLER

Life's complicated ...

DIGITAL AUDIO INTERFACE

We've just made it simple

DSP BASED DIGITAL EFFECTS PROCESSING

The AudioSystem EWS64 XL

COMPATIBLE WITH ALL MAJOR MULTIMEDIA STANDARDS

PROFESSIONAL QUALITY AT AN AFFORDABLE PRICE

TERRATEC®
PROMEDIA

HTTP://WWW.TERRATEC.CO.UK

NEW *Now shipping with Version 2 drivers!*

Barnet	
Digital Village	+44 (181) 440 3440
Bath	
Audio Toyshop	+44 (1225) 447 222
Belfast	
Marcus Music	+44 (1232) 439 955
Birmingham	
G-Sound	+44 (121) 471 1994
Bournemouth	
Eddie Moors Music	+44 (1202) 395 135
Brighton	
Gtr,Amp&Kybd Centre	+44 (1273) 676 835
Blackpool	
Tower Music	+44 (1253) 273 59
Cambridge	
Music Village	+44 (1223) 316 091
Cardiff	
Cranes Music	+44)1222) 398 215
Chadwell Heath	
Music Village	+44)181) 598 9506
Cobham	
BAV Limited	+44 (1932) 701 812
Colchester	
Techmate UK	+44 (1206) 793 355
Croydon	
Digital Village	+44 (181) 407 8444
Dublin	
Webcom	+353 (1) 284 3866
Dundee	
Sound Control	+44 (1382) 225 619
Dunfermline	
Sound Control	+44 (1383) 732 273
Edinburgh	
Sound Control	+44 (131) 557 3986
Glasgow	
Sound Control	+44 (141) 204 0322
Guildford	
Andertons Music Co	+44 (1483) 456 777
Hounslow	
Project Music	+44 (181) 570 4444
Ilford	
D-Tek	+44 (181)598 1053
Kircaldy	
Sound Control	+44 (1592) 260 293
Leeds	
Academy of Sound	+44 (113) 240 5077
Leicester	
Academy of Sound	+44 (116) 262 4813
Intasound	+44 (116) 254 5456
London	
MCMXCIX	+44 (171) 723 7221
Rhodes Music Co	+44 (171) 379 3836
Sutekina Music	+44 (171) 835 4656
Soho Soundhouse	+44 (171) 379 5148
Manchester	
A1 Music	+44 (161) 236 0340
Mansfield	
Academy of Sound	+44 (1623) 651 633
Newcastle	
Sound Control	+44 (191) 232 4175
Norwich	
Academy of Sound	+44 (1603) 666 891
Nottingham	
Academy of Sound	+44 (115) 911 6681
Nottingham	
Millennium	+44 (115) 955 2200
Okehampton	
Time + Space	+44 (1837) 841 100
Preston	
A1 Music	+44 (1772) 204 567
Sheffield	
Academy of Sound	+44 (114) 264 0000
Stockport	
A1 Music	+44 (161) 429 8777
Stoke on Trent	
Academy of Sound	+44 (1782) 205 100
Twickenham	
Way Out West	+44 (181) 744 1040
Watford	
Active Sound	+44 (1923) 246 282
York	
Red Submarine	+44 (1904) 624 266

TEL: 01600 716911 FAX 01600 716744 EMAIL: SALES@TERRATEC.CO.UK

WRH

Apogee + Pro Tools 24 + ? = Guyce DUY

THE Complete Digital Recording System

UV22® Super CD Encoding Process

Look for the AMBUS logo on Apogee-compatible products and interface cards

Apogee AD-8000

The **AD-8000** 8-channel 24-bit conversion system is undoubtedly the highest quality converter Apogee has ever produced. We believe it to be the best-sounding converter on the market.

The **AD-8000** incorporates Apogee's acclaimed **UV22** process for translating high resolution digital audio to 16 or 20 bits without quality loss; and **soft Limit**™ to add extra level to your recordings without overs. Both are selectable on a per-channel basis.

AMBUS (Apogee Multimedia Bus) technology, allows you to add the digital interfaces of your choice, such as ADAT, TDIF (Tascam), and Pro Tools (with an AES/EBU input card and a Pro Tools interface card, the **AD-8000** is all you need to connect to a Pro Tools-equipped computer).

With the available **24-bit stereo or 8 channel D/A expansion cards** the **AD-8000** becomes a complete conversion system with everything you need for digital recording - except the recorder!

Pro Tools 24

- **Integration with Mackie Designs' new Hui Controller** - which is now available and on demo
- **24-bit Recording, Editing, Mixing, & Processing** - unparalleled audio fidelity
- **Expandable Track Count, Processing and I/O** - up to at least 48 tracks and up to 72 channels of analogue & digital I/O
- **32 Tracks of 24-bit Audio per card**

DUY TDM plug ins

call for VST, Audiosuite, Premiere, SD2 & MOTU Audio System compatibility.

DaD Valve

Simulated classic valve sound. Gives you that real valve sound with characteristics and controllability impossible with conventional valve systems. Simulates the most common valve types, with optimised responses for 38 families of acoustic and electronic instruments. Add even harmonics to cold electronic sounds and restore lost warmth to acoustic instruments and voices.

DUY Shape

A revolutionary approach to sound enhancing based on the exclusive FDWS algorithm. Suitable for Dynamic enhancing, smooth equalising, waveshaping compression, frequency enhancing or as a sound revitaliser for old mixes.

- 3-band smooth filter
- High quality analogue sound filters
- 3 independent user-defined Shapers with virtually infinite resolution and accuracy
- Powerful and intuitive user interface

DUY Max

Exclusive ILO (Intelligent Level Optimisation) algorithm provides:

- Seamless level maximising
- Zero harmonic distortion even at low frequencies
- Unnecessary level scaling and limiting thus improving signal to noise ratio
- Release free operation avoiding unwanted pumping artifact
- Overall improvement in signal to noise ratio

DUY DSPider

A modular synth TDM plug in! Waveform generators, filters (with resonance) and waveshapers are just a few features of this groundbreaking software.

CHRIS PORTER: Producer - George Michael, Take That, Pet Shop Boys

"Duy have produced an array of plug ins which are elegant in their simplicity and useful in many situations."

BILL PADLEY: Wire Buddah Music Radio.

"If you've never heard of DUY I suggest you make it your business to... We do a lot of music for our BBC Radio One sessions here and the Valve plug in has sent many a guitarist away happy"

MIKE HEDGES: Producer - Manic Street Preachers, Texas

"I am greatly impressed with the quality & useability of all the DUY plug ins, Shape being my current favourite."

- **24-bit 888|24 I/O Audio Interface** - 8 tracks and up to 72 channels of analogue & digital I/O
- **d24 card** - Supports up to 16 channels of I/O providing the core system with up to 24 channels using the 8-channel I/O connectivity of the DSP Farm

DUY Wide

A stereo width enhancer for mixes or individual instruments. Gives a stereo image not available with normal panning

DaD Tape

Real analog tape sound within the digital domain, and with characteristics and control impossible to achieve on conventional tape recorders.

-%

Emu Audity 2000

This new synth is a programmers dream with 32 note/16 part/24 bit fx/ arpeggiators & 32 filter types ALL syncable to MIDI!

Emu ESI 4000 Turbo

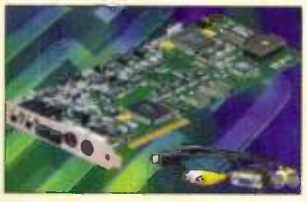
This exceptional sampler has powerful DSP/up to 128 Meg RAM/64 note poly & fx. 8 outs & SP/Dif as well.

Yamaha MD8

8 tracks on MiniDisk! Yes, with an 8 channel i/o mixer, 3 band EQ plus master section for an all in one studio.

Yamaha 01V Digital Mixer

Following the 03D,the 24:4:2 01V represents a significant step on from the ProMix 01 with features never seen at this price.



Korg 1212 i/o PCI card (PC/MAC)

8 ADAT,SP/Dif & 2 balanced jacks I/O all at 20 Bit quality. Supported by Logic & VST.

Waldorf Microwave XT

Next generation wavetable synth,10 note/8 part/2 osc/2 wave generators & super filters make this a true original.

KRK K-Rok

Great sounding keenly priced nearfield monitors with excellent construction and design.

Roland MC-505

This groovebox has 64 note/ steeper filters & syncable fx. Megamix/SmartMedia & D-Beam make this a future dance classic.

Mark of the Unicorn 2408 (PC/MAC) interface

24 independent digital i/o, supporting ADAT sync/SP/Dif/ADAT & T/DIF, 8 analogue i/o. A breakthrough in sequencer/hard disk recording.

Emagic Logic Audio

First class dual platform seq/ audio package. Amazing ease and flexibility with new Platinum/Gold versions able to meet today's demands.

Steinberg Cubase VST

The complete studio in one program. 32 track/scoring/ realtime plug-in fx & powerful Midi implementation make this hard to beat

Syco

THE PROFESSIONAL TEAM

IF YOU'RE SERIOUS ABOUT SOUND, DON'T TRUST JUST ANYBODY, TALK TO SYCO

Syco Systems • Kimberley Road • London NW6 7SF • Tel: 0171 625 6070 • Fax: 0171 372 7660
E-mail: sales@syco.com • Internet: http://www.syco.com

WRH

Figure 1: The main stereo Waveform View window, showing the host of editing options available from the many customisable toolbars.

the Big Chill

SYNTRILLIUM SOFTWARE *COOL EDIT PRO*

If you fancy recording up to 64 audio tracks from the comfort of a familiar PC wave editor interface, Syntrillium Software's feature-packed Cool Edit Pro could be just the ticket. MARTIN WALKER warms to the latest release of this popular package.

For a long time Syntrillium Software were the darlings of the PC shareware audio scene, gaining an excellent reputation with their *Cool Edit* WAV file editor in its various incarnations. We reviewed *Cool Edit 96* in our July 97 issue, and at this stage it was a comprehensive program that offered not only the standard features expected of a modern digital audio editor, but also more experimental aspects such as 'brainwave frequency encoding'. As the software grew ever more sophisticated, it seemed inevitable that Syntrillium would eventually move from a shareware approach (ie. software that is initially free, but requires a registration fee for continued use) to a more traditional retailing method. This is exactly what has happened with the latest incarnation, *Cool Edit Pro*, which is distributed in the UK by PC specialists Et Cetera. Mind you, although the distribution channel may now be more traditional, the latest software packs in yet another batch of innovative extras.

THE BIG PICTURE

Once PC MIDI sequencers began to sprout more and more audio features, existing WAV editors such as *Cool Edit 96*, *Sound Forge*, and *Wavelab* have been forced to establish a new niche for themselves in the market. In the case of both *Sound Forge* and *Wavelab*, their preferred solution was to add CD burning facilities, turning themselves into standalone stereo mastering solutions. Syntrillium (as always) have taken a rather different approach by allowing *Cool Edit* to evolve into a multitrack recording studio, adding support for MIDI/SMPTE synchronisation so that a MIDI sequencer can be slaved to provide a complete Audio/MIDI solution (see 'MIDI Support' box). Not content with this, they have also provided MIDI triggering, so that you can allocate any of the program's keyboard shortcuts to a MIDI event, or even trigger audio samples themselves via MIDI, turning the program into a basic MIDI sampler if required.

In essence, *Cool Edit Pro* operates in two modes: the Waveform View provides a stereo waveform editing environment, and the Multitrack View turns it into a multitrack digital audio recorder. It can load and save a wide variety of audio file formats, including 24- and 32-bit WAV options, a useful selection of compressed audio formats, and an exotic text data option in case you fancy typing in your own waveforms (ideal if you want to create a single cycle waveform of a particular shape). RealAudio 3.0 is also supported, for those who wish to have real-time 'streaming' of audio on their websites. In addition, the Settings menu has an option to auto-convert all data to 32-bit on loading, to maintain maximum accuracy during the editing process, only converting it back to 16-bit when saving.

WAVEFORM VIEW

Let's look at *Cool Edit Pro*'s more traditional stereo editing features first. Most people who have ever used a Windows wave editor will feel at home straight away in Waveform View (Figure 1), with all the usual editing commands and keyboard shortcuts available. The bulk of the screen is taken up by the waveform display, with menus and extensive toolbars above it, and the timeline display, transport bar, and horizontal/vertical zooms beneath. As in many other programs, right-clicking the mouse over many of the screen objects produces further shortcut option menus.

I liked the main display's facility to zoom the waveform beyond the resolution range of most other packages, so that you can truly see what is happening at really low levels, in both 'dimensions', right down to viewing individual sample points in the horizontal direction and background noise in the vertical direction. Nothing can escape detection in *Cool Edit Pro*, and once you have zoomed in enough for the individual sample points to be displayed, you can easily click and drag these directly for ultra-fine editing. You can left-click and drag on the Time Ruler beneath the waveform to scroll backwards and forwards through a zoomed waveform, and right-clicking brings up an extensive range of zoom, snap and scale options.

The Amplitude Ruler offers similar facilities on the right-hand edge of the waveform display — the only thing I missed was an option to scale audio in decibels (dB), in addition to the sample, normalise or percentage options currently provided. Toward the bottom right of the screen, the Time Display box shows the current values for displayed and selected portions of the chosen waveform, and you can type in values directly if required. Completing this section, at the very bottom of the screen is the Status Bar, which displays details of the current file and hard disk space.

Any selected area of the waveform can be remembered by activating a Marker and adding it to a Cue List. These allow you to return to exactly the same place later, or may be used in the form of a stereo playlist to control the playback order of waveforms, complete with looping options. You can also insert a selected area into the Multitrack display, where it will normally appear at the beginning of the next available track. Adjusting selected areas is made easier with the Zero Crossing options, and Find Beats looks for the next left and right beat point (by searching for a sharp rise in level during a short time period). Once the beat points are marked, you can try looping the selection — it proved easy and quick to split rhythmic music into chunks this way, and by using the Cue List and Play List you can provide simple audio sequencing as well.

Convert Sample Type introduces you to the available dither options (used when reducing bit depth), and there are a wealth of adjustments, with five Probability Distribution functions and six Noise Shaping curves available. This typifies the *Cool Edit* approach in delighting in technicalities which are fun to explore. Sometimes though, you can't help wondering if you have chosen the best one, and can spend far too much time getting side-tracked. There are several other ways to analyse your audio data — the Spectral View shows harmonic content as vertical colours plotted along the time axis, while Frequency Analysis shows a much more detailed spectrum analysis which is useful for spotting things like hum and hiss in a signal, as well as examining the harmonic structure.

TRICK OR TREAT?

A wide selection of audio effects are provided as part of the Transform menu, and these include amplitude-based treatments such as normalisation, compression, limiting, and expansion (complete with nifty click and drag envelope controls). The Delay effect includes basic time delays, along with chorus, flanging, echo, 3D chamber echo, multi-tap delays, phasing, and reverb. Filtering options are extensive (High Pass Chebychev 2 anybody?), and there is even a selection of Noise Reduction options including Click/Pop removal, Hiss Reduction and full Noise Reduction using a noise profile created from a section of your waveform with only background noise. Most of these treatments have a real-time preview option (excluding the more advanced ones such as reverb and 3D chamber echo), and they all work well, although there are some differences in implementation. The parametric EQ, for instance, updates the preview in real time as you sweep the frequency (which is extremely useful), but

MIDI SUPPORT

Although *Cool Edit Pro* is primarily an audio editing program, it does provide ways to synchronise your audio to MIDI and SMPTE. You can select a MIDI Input to provide MIDI triggering, or to receive MIDI Time Code. The online owner's manual provides a lot of useful information on this subject, and MIDI in general.

***Cool Edit Pro*'s Settings menu allows you to adjust Lead Time (to allow for locking to the incoming MIDI Time Code signal), Stopping Time (the length of freewheel after MTC is lost before stopping), Lag Time (to adjust for any discrepancy between *Cool Edit Pro* audio and MIDI playback). I managed to lock *Cool Edit Pro* to *Cubase* easily enough, but you might get problems with a MIDI+Audio sequencer, unless you can disable its audio side, due to both applications trying to grab the Wave drivers. Mind you, if you have a combined MIDI+Audio sequencer you probably won't be in the market for *Cool Edit Pro* in the first place.**

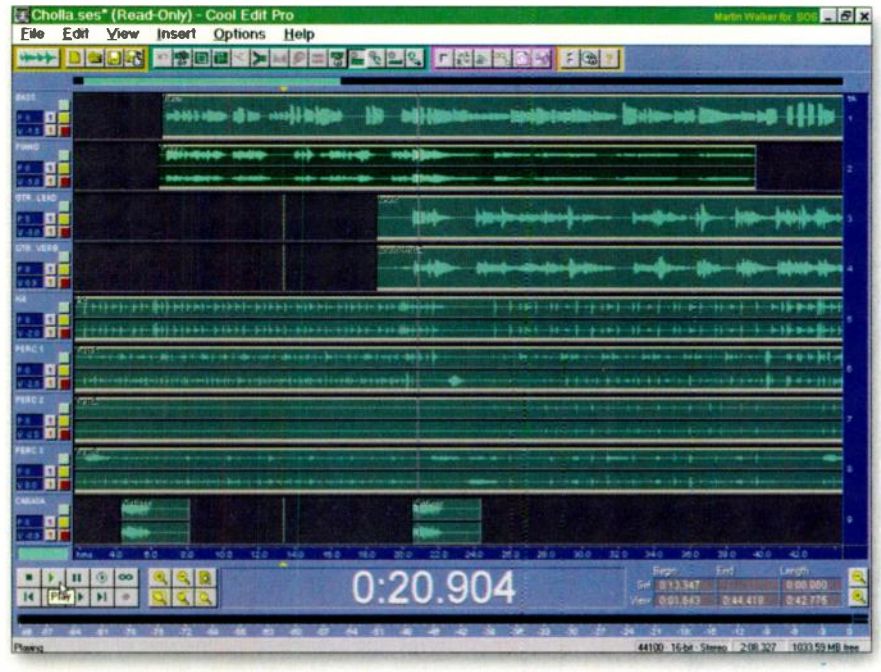


Figure 2: The Multitrack View allows for up to 64 tracks of audio (PC power permitting).

Figure 3: This zoomed-in waveform in the Multitrack View shows the volume and pan envelopes, while the three small coloured buttons to the left of the waveform control Mute, Solo, or Record Enable for each track. You can also see the stereo level meters at the bottom of the screen.

▶ strangely, the graphic EQ only updates the sound once you have released the graphic slider after moving it, but not while you move it.

The Special menu contains the digital audio equivalent of the *X-Files*. The famous Brainwave Synchroniser puts in another appearance here for those who would like to change their state of awareness when listening on headphones, although judging by my experiments it can also introduce stereo widening effects when heard through loudspeakers. Digital Convolution maps the characteristics of an impulse sound onto another, rather like the *Sound Forge* Acoustic Modeler plug-in. Distortion allows you to create transfer functions to mimic non-linear amplifiers (fuzz boxes or tube overload effects), and Music takes a selected snippet of a sample and provides grabbable 'notes' of different durations to be mapped onto a musical stave. The resulting 'tune' can be quickly auditioned using any attached MIDI synth, and once you are happy then pressing the OK button produces the same tune by pitch-shifting the sample by the same amounts, leaving you with a sampled tune. Wonderful!

Finally, for all those who have been wondering, *Cool Edit Pro* supports third-party DirectX plug-ins, but doesn't provide them with a real-time Preview option (all those I tested expected a Preview button to be provided by the controlling application, so although they can be previewed in other programs, *Cool Edit Pro* sadly restricts them to off-line operation). This does seem a huge oversight, since the beauty of DirectX is its real-time nature, so I suspect this facility may be added in a future software revision.

Overall, the waveform editing side of *Cool Edit Pro* delights in its 'boffin bias', which means that there are loads of fun options to explore. The treatments are extremely creative, especially since each has a good selection of presets to get you started. However, creating your own settings is easy and often involves no more than clicking and dragging a graphic envelope — it's really intuitive. If your computer's microprocessor isn't man enough for certain real-time previews, a screen warning alerts you of this fact, but since you have multiple Undos, even if this happens you can still treat the sound and then Undo it afterwards, if necessary. I was impressed by the quality of the reverb effect in particular, which although resolutely non-real-time (it sometimes takes 10 seconds or more to render) produced very clean-sounding 'tails'. I know that everybody is clamouring for real-time effects, but sometimes it's the end result that counts.

MULTITRACK VIEW

Once you switch to *Cool Edit Pro*'s Multitrack View (Figure 2), you can record, play back, and edit up to 64 audio tracks, as opposed to the single stereo track available from the Waveform View. You can mix using multiple channel hardware (such as the Event Gina and Darla, and DAL V8) by sending tracks to any available stereo pair of outputs, although the help file does emphasise that a separate stereo mix must be created for each pair of channels used, which will increase processor demands.

The Multitrack View display is similar to the Waveform View, but shows multiple stacked tracks, with an additional vertical Track Console strip down the left-hand side. This allows you to name tracks, alter the default volume and pan settings, select the record and playback hardware (if you have multiple channels at your disposal), and has three additional buttons to Mute, Solo, and Record Enable individual tracks.

Volume and Pan can be altered during playback, ▶

pros & cons

SYNTRILLIUM SOFTWARE *COOL EDIT PRO* £325

pros
- Huge range of treatments.
- Stereo Playlist editing.
- Easy to use Multitrack recording and playback.
- Level and Pan automation.

cons
- No real-time previews for DirectX plug-ins.
- No real-time effects in Multitrack mode.

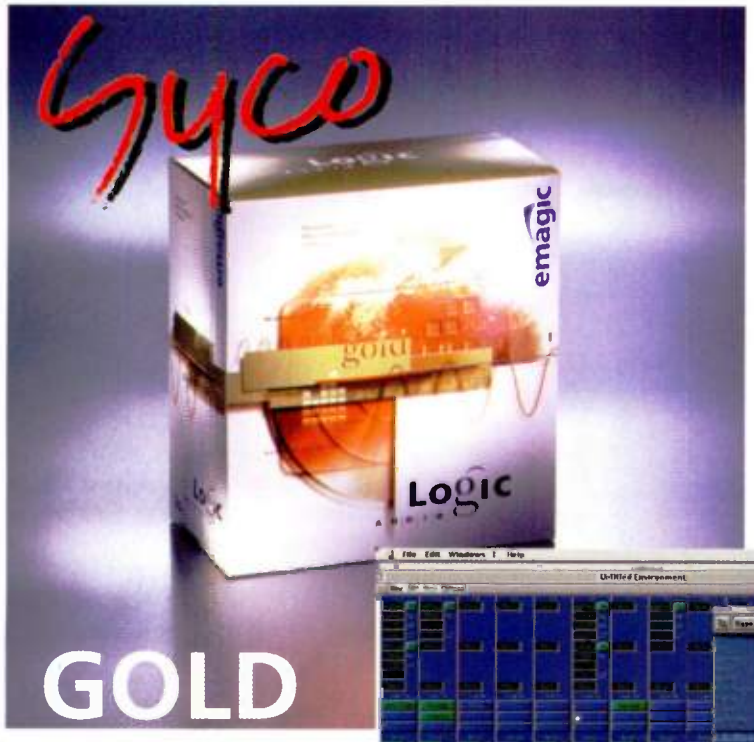
summary
A comprehensive PC-based stereo and multitrack editing environment.

SOUND ON SOUND

ELECTRONIC MANUAL

Apart from a Quick Start leaflet, there is no printed manual supplied with *Cool Edit Pro*. Instead, the comprehensive help file provides all the help you need, right where you need it — in front of you.

For those who wish to browse, a full manual is also installed on your hard drive in Adobe *Acrobat* (.PDF) format, complete with *Acrobat Viewer*. With an application as complex as this, many people would prefer to have a paper version of the manual to browse through as well, but this electronic approach seems to be becoming more common, since it enables the manufacturer to easily update the manual as well as the software. Personally, I find Windows 95 software without a paper manual acceptable, as long as context-sensitive help is also available. That is the case with *Cool Edit Pro* — each menu and submenu you call up also has a Help button that takes you directly to the appropriate part of the help file. If you want a lengthy browse you fire up *Acrobat*, but in the heat of the moment you can quickly cut to exactly the information you need in the help file. If only all Windows applications took this approach, we would get on a lot better.



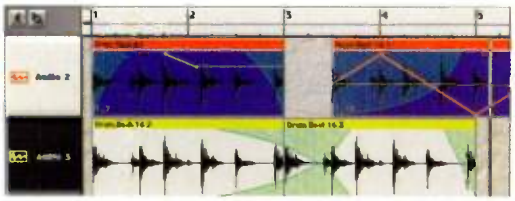
emagic

Emagic have taken Logic Audio, the sequencer with the highest timing resolution on the market, excellent built-in audio editing, outstanding synchronisation options, not to mention reliable and stable operation and added ...

- **Realtime VST ™ (MacOS) Plug-In and DirectX™ (Windows) Plug-In support**
- **Realtime non-destructive audio crossfades**
- **Adaptive Mixer for MIDI and Audio**
- **Additional Built-In Third Party Hardware Support**

Logic Audio Gold contains built-in simultaneous support for AV/MME, Audiowerk8™, Korg 1212™, Yamaha CBX™, and DAE™. It has a maximum number of 48 audio tracks.

Logic Audio Platinum supports all the above with the addition of Soundscape™ and ProTools™ - if you use these you will need Platinum. Platinum comes bundled with external sample editors Bias' Peak SE™ for MacOS, Syntrillium's Cool Edit Pro LE ™ for Windows. Mac users also get Emagic's ZAP Zero Loss Audio Packer. Platinum supports up to 96 audio tracks.



Non-destructive Audio Crossfades

Windows versions of the software now support ANY multi-channel third party hardware which can be accessed via Windows Multiple Stereo Wave Drivers or Multi-Channel Interleaved Drivers.

You have a choice.
CHOOSE LOGIC AUDIO.

Call to discuss the new Emagic Logic Audio Gold and Platinum with our experts.

Syco

THE PROFESSIONAL TEAM

Syco Systems • Kimberley Road • London • NW6 7SF • Tel: 0171 625 6070 • Fax: 0171 372 7660
E-mail: sales@syco.com • Internet: http://www.syco.com

All trademarks are property of their respective holders.

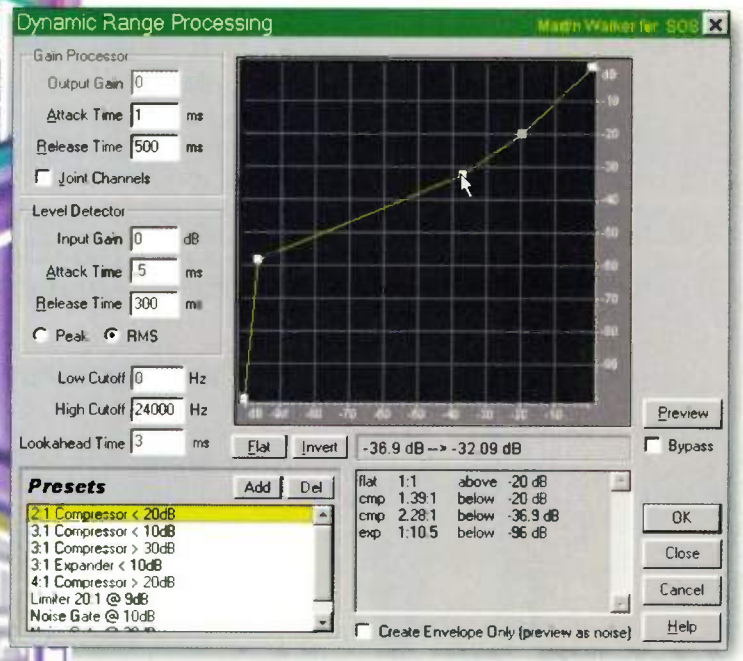


Figure 4: Dynamics processing is one of the many Transforms available with a click-and-drag graphic window to play with.

using a pair of click-and-drag envelopes which are superimposed on the waveform itself (View menu options allow these envelopes to be hidden when not required). You can add extra points anywhere to tweak a value at a particular time, and the software creates a smooth ramp transition between the points, so that it is easy to produce fade-ins and fade-outs, as well as autopan sweeps. When you move or copy any of the waveforms, it only alters the playlist, leaving the wave data itself intact. Right-clicking on any waveform brings up a menu of all available options, and includes Loop Duplicate, which pastes more copies of the waveform after the current one without using up any more memory.

You can punch in and correct any mistakes by highlighting a segment of a track, selecting Punch In from the Edit menu, and then clicking on the appropriate record enable track button. However, the beauty of the *Cool Edit Pro* approach is that with multiple undos, it still remembers the original version, and you can open up a Take History, to revert to any of your previously recorded efforts. You can Splice your waveforms into sections, and move them about by right-clicking and dragging them — a Lock In Time option prevents waveforms being accidentally moved. To make your life easier, a range of Snapping (quantisation) options is provided, so any waveform being moved will 'snap' into the nearest correct position to suit the tempo or other cue. Double-clicking on any waveform opens it in the Waveform View ready for editing, although you can use the F12 key to swap between Multitrack and Waveform screens at any time.

At the bottom of the Track Console is the Mix Gauge, and this indicates background mixing activity whenever you alter any of the channel data — the final stereo mix has to be recalculated whenever this happens. The gauge is empty at the start of a remix, and gradually fills up, finally turning green when everything has been completed. However, since this happens in the background, you can start playback at any time as long as the background mixing stays ahead of the current playback position. This is a similar technique to that employed by the *Digital Wings* software reviewed in our February 98 issue.

The playback order of waveforms (playlist), along with any looping, volume and pan automation, is saved separately from the waveforms as a Session file (identified by the filename suffix *.ses). To speed up the loading of a previous session, peak files are created for each waveform. However, on my PC, the supplied 'Cholla.ses' demo session still took around a minute to load in every time (with peak files already available) for a 1.5 minute song with nine tracks, which seems a long time to me.

Finally, when you have perfected your recording, you can use the Mix Down option (either for all waveforms or just selected ones) to produce a single stereo audio file (your stereo 'master') which appears in the Waveform View window. This can then be exported for CD mastering, or recorded onto a DAT, cassette or any other medium of your choice.

HOT OR COLD?

I can't pretend to have looked extensively at every aspect of this software, because it is so enormously comprehensive, but this doesn't make it difficult

SECOND OPINION: ALAN DAULBY, BROADCASTER

As a broadcaster (for almost 20 years now, man and boy!) I am used to editing audio with razor blades and sticky tape, and my first instinct when attempting to edit in *Cool Edit Pro* was to look for an 'audio-scrub' function to locate an edit point.

Although I spent a little while looking for such a facility, once I realised this wasn't an option I wasn't too disappointed — my limited experience of 'mouse audio scrub', on other PC-based audio editing systems, has been fairly uninspiring! Fortunately, it didn't take me too long to get used to the combination of mouse clicks and drags, keyboard inputs and looping which, I believe, sums up the techniques used when editing a waveform in *Cool Edit Pro*. I found the looping feature particularly useful when editing music.

The Noise Reduction function comes, like most effects in this software package, with a long list of options. You can remove hiss, hum, clicks, pops and general background noise. A 'profile' or noise fingerprint can be made from the sound file and then this used to remove the unwanted noise from the whole recording. As an example, I recorded a 60-second portion of speech, originally taken from an old 78rpm shellac disc, and highlighted a short section of crackle between sentences to use as my noise profile. The program then spent 1 minute 45 seconds processing it and the result was certainly much cleaner in terms of noise, although the audio had attained a slightly wispy, burbling quality.

For the more complex effects the processing power of your computer plays a much more significant part. Even with the pretty powerful setup I was using (266MHz Pentium II with 32Mb SDRAM and a fast 6.4Gb hard drive), some effects took quite a while to achieve. As an example, I recorded exactly one minute of stereo music at 44.1kHz/16-bit and, using the Pitch Shift function (set to 'high resolution') transposed it down a modest one semitone. This operation took over three minutes to complete, although it did give good results (bar some glitching on sustained notes). Overall, the preset pitch-shift setting was quite acceptable but you can vary the comprehensive parameters to fine-tune the resulting quality if necessary.

For day to day 'newsroom' use (my own background), where effects and indeed multitracking are not generally in big demand, *Cool Edit Pro* actually offers too much. For more elaborate package work and drama productions, however, it may well find a comfortable home.

to learn, since most features are extremely easy to get into. You can quickly get started with the basics, leaving the more esoteric options to explore another day. *Cool Edit* has matured into an impressive package. Although the jump from $50 shareware program to £325 fully-fledged package is a big leap, putting it in direct competition with some heavyweights, this *Pro* version is nonetheless very good value for money. Comparing the editing side with *Sound Forge* v4 in particular, *Cool Edit Pro* seems to have provided as standard many of the *SF* add-on modules (such as Noise Reduction, Acoustics Modeler, Batch Processor and Spectrum Analysis). Although in a side-by-side comparison, I still think that *Sound Forge* has the slight edge in audio quality for some treatments (such as Noise Reduction), you would need to pay two or three times as much to buy the equivalent '*SF* plus modules' package, and you still wouldn't have the extra functions of *Cool Edit Pro*'s Multitrack environment.

Both *Sound Forge* and *Wavelab* now have options for CD burning, and this is one aspect that *Cool Edit Pro* does not currently address. However, if you want multitrack audio support along with a huge range of options and treatments, it's just the job. What I did find somewhat disappointing is the omission of real-time effects, which are so popular (and more desirable), and the fact that DirectX plug-ins within *Cool Edit Pro* currently have no preview facility. Despite this, *Cool Edit Pro* will appeal to a host of musicians who want an extremely comprehensive editing package that does everything you can think of, and then a bit more that never occurred to you. Several soundcard manufacturers, including Event, are bundling demo or 'lite' versions of *Cool Edit Pro* with their wares, and I suspect that many people will eventually upgrade to the full monty. If you need extensive MIDI support you will have to sync up a sequencer program, but at least the demo versions should make this easy to try out. *Cool Edit Pro* can only further enhance the reputation of its creators, Syntrillium Software. It may be cool, but it's one helluva hot product! SOS

> "*Cool Edit Pro* will appeal to a host of people who want an extremely comprehensive package that does everything you can think of, and then a bit more that never occurred to you."

£325 inc VAT.
Et Cetera, Valley House, 2 Bradwood Court, St. Crispin Way, Haslingden, Lancs BB4 4PW.
T +44 (0)1706 228 039.
F +44 (0)1706 222 989.
E cepro@syntrillium.com
W www.syntrillium.com

• AKG • Alesis • Allen & Heath • Aphex • Audio Technica • BBE • Behringer • Beyer • BSS • C-Audio • Carlsbro • Celestion • Crest • Crown •
DAS • Denon • Digitec • DOD • EAW • Fostex • Furman • Garwood • H/H • Hz • JBL • Klark
Soundcraft • Soundtracs • Spirit • Studiomaster • TAC • Tascam • Trantec • Turbosound • Yamaha

CONCERT SYSTEMS

SALES • SERVICE • HIRE • INSTALLATION

MICROPHONES

Superb prices on AKG Mics
AKG D3700 Hypercardiod Dynamic Vocal mic £59 each or ..... 3 for £129
AKG D880 High output dynamic vocal mic £59 each or ..... TWO for £99
AKG D112 Large diaphragm dynamic egg on a stick mic £169
AKG C1000S Vocal condenser £199
AKG C3000 Large diaphtagm condenser variable polar pattern £239
AKG C5900 vocal condenser mic £129
AKG SE300B/CK91 Cardiod condenser cost £350 used once ..... £249!!
Audio Technica Pro25 £69 ATM25 ..... £129
Pro 37 condenser £99
Audio Technica MB1000 voc/inst/drum 3 for only £99
Audio Technica MB3000 Dynamic vocal mic 2 for only £99
Audio Technica TA4033a studio condensor mic £599
Sennheiser MD504 boxed. set 4 drum mics/clips £395
Sennheiser MD425 new vocal mic FREE BOOM STAND WITH EVERY MIC £169
Shure SM58 dynamic mic £89
Shure beta 58A hypercardiod dynamic £169
Buy 3 heavy duty black boom mic stands for £49

SECONDHAND STOCK

Yamaha REV5 Multi FX very good £899
Ashley XR1000 2 way crossover £225
Beyer TGX 60 Vocal mic list £230

FULL LIST OF USED GEAR ON OUR WEBSITE
Why not ring Carla to be put on the secondhand mailing list?

DESKS

Spirit folio / SX all available super deal ..... £call
Spirit LX7 24 mono / 4 stereo 16 direct out ..... £call
Allen & heath Mix Wizard WZ20:8:2 recording mixer £864
Aleen & Heath GL2000 24:4:2:6 aux £1439
Allen & Heath GL3300 24:8:2: 8 aux ..... in stock
Studiomaster full range in stock ..... call

OUTBOARD AND EFFECTS

Art tube MP personal tube preamp processor £99
Aphex 107 dual channel tube mic preamp (ex demo) £399
Aphex 109 parametric eq with tubessece (ex demo) £329
Alesis Nanoverb mini stereo figital FX £135
Alesis Microverb 4 stereo digital FX £199
Behringer Signal Processing full range ..... BEST PRICES - CALL
dbx 296 Spectral Enhancer £224
dbx 266 Compressor Expander Gate £184
dbx 290 Digital Stereo Reverb Unit £279
Digitec TSR6 true multi effects processor £169
LA Audio at superb prices - demo rack in store to try them out ..... CALL FOR DETAILS
Lexicon Reflex Digital Multi FX Processor £299
Roland EQ-231 Stereo 31 band equaliser £288
Roland SRV-330 3D Space reverb digital FX £475
Roland SDE - 330 Digital Delay £649
Roland AF-70 Feeback eliminator/enhancer pwr £269

GREAT PRICES ON CREST, LEXICON & BEHRINGER
ALL PRICES ARE INCLUSIVE OF VAT

Unit 4d, Stag Industrial Estate, Atlantic Street, Altrincham, Cheshire
Tel: 0161 927 7700 www.concertsys.co.uk Fax: 0161 927 7722
E-Mail: sales@concertsys.demon.co.uk We are open 10-6 Mon-Fri, Sat 10-4. Mail Order welcome.

Tekniik • LA Audio • Lexicon • Mackie • Metro Audio • Midas • Nady • Neutrik • Nexo • Neumann • QSX • RCF • Samson • Sennheiser • Shure •

FOSTEX

CD quality digital audio. Better than digital mixer. Media independent. With knobs on!

Recorder Section

- True non compressed audio ensures outstanding quality
- Media independent; Can record to external SCSI device or to internal E-IDE hard drive (optional)
- Extra L & R tracks. Stereo mix-bounce of 4 main tracks
- Track Exchange. 4 main tracks and L&R tracks can be exchanged
- Copy Paste. Move Paste & Erase. Non-destructive editing with Undo/Redo
- ±6% vari-pitch
- Digital input from 2-track source (CD, DAT, etc.)
- 2-track Digital out
- Digital output of up to 12 sources in remix
- MTC Slave, MIDI Clock & SPP out & MMC

Mixer Section

- Real knobs - no multiple button pushes to make simple adjustments
- 4 main input plus 4 monitor channels, 2 AUX sends & 2 stereo AUX returns
- Balanced XLR mic inputs (Ch 3-4) with trim control
- 3-band EQ with wide-band parametric MID

Some things never change...

If you're reading this magazine, chances are you're a musician. - Not a rocket scientist, not computer wiz, and certainly not a geek.

So why is it that other manufacturers expect you to have a degree in button pushing just to get at the mid-band EQ or to adjust the aux send level of track 2?

With the new Fostex FD-4 you'll have no such hassle. It features a mixer with >105dB dynamic range (which is better than digital), 3-band EQ, balanced XLR mic inputs, insert points and 2 aux sends.

A real mixer. With knobs on!

And if you appreciate that, you'll flip when you hear that the FD-4 offers all the other tools you need to make fantastic and professional, uncompressed digital multitrack recordings while giving you the freedom to choose which media to use. Either an external SCSI device such as the SyQuest or ZIP drive you bought for your sampler/computer, or even internal E-IDE hard drive*.

4 tracks of genuine CD quality (16-bit linear @ 44.1kHz) recording, easy copy, move & erase editing with undo (just like a word processor), built-in 2 track mastering mode, flexible sync facilities and heaps more.

Fostex have long had the knack of stuffing their multitrackers with innovative features, yet making them incredibly easy to use.

They also insist that your recordings are not compromised by compression techniques.

...some things never change.

FD-4 quick start guide

* Requires optional E-IDE fitting kit

WRH

Stereo Out L/R
Monitor Out L/R
AUX Send 1/2
AUX Return 2
AUX Return 1
Insert Ch 3 & 4
XLR Mic In Ch 3 & 4
Punch In/Out
DATA I/O
MIDI In/Out
Recorder In L/R
SCSI Interface
MEDIA INDEPENDENT - STANDARD SCSI-2
You choose which type of media you want to use. From removable systems such as SyQuest EZFlyer, Zip & Magneto Optical to large capacity hard drives.
FD-4
DIGITAL MULTITRACKER
FOSTEX
1048 PRZ
adjust levels
1048 PRZ
record
1048 PRZ
mix
FD-4
Digital 4-track Recorder
Exclusively distributed in the UK
by SCV London
6-24 Southgate Road London N1 3JJ
Tel: 0171 923 1892. Fax: 0171 241 3644
email: fostex@scvlondon.co.uk
web: http://www.scvlondon.co.uk
SCV London recommend SyQuest drives and media.

One bit at a time

ALL ABOUT DIGITAL RECORDING

PART 2: HUGH ROBJOHNS continues his look at the techniques and technology of digital audio. This month — quantising and oversampling.

Last month, we looked at the development of digital recording, and considered the sampling process — the first stage in turning an analogue signal into a digital one. This month we will examine the second stage, quantising, which is the conversion from a sampled analogue signal into a true digital one. We will also look at the theoretical and practical problems inherent in quantising, and some of the clever solutions that have been developed to overcome them.

We saw last month how the sampling process chops up an analogue audio signal into brief, discrete fragments — snapshots of how loud the audio is at precise moments in time (see the 'Previously On One Bit At A Time...' box for a brief recap of the main points of sampling). Essentially, quantising is where the amplitude of each sample is measured, giving a numerical value which can be stored or transmitted as pure digital data.

Quantising is inherently an imperfect process — there will always be some level of inaccuracy in determining the amplitude of a sample. The problem can be thought of in terms of measuring a room for a new carpet with a tape measure scaled only in whole metres. If the width of a room was found to be more than four metres but less than five, what figure would you choose? If you specify the width as four metres, when the carpet arrives it won't reach the edge of the room, but if you say five metres, it will extend halfway up the wall!

The solution, of course, is to use finer gradations on the ruler — if the room was measured to the nearest millimetre, there would be no discernible gaps or overlaps at all. In other words, the measurement errors would be significantly less and the carpet would fit perfectly.

AUDIBLE ERRORS

When it comes to quantising the individual samples of an analogue audio signal, it turns out that our ears can easily hear very small errors in the measurements — even down to tiny errors as small as 90dB or more below the peak level — so we have to use a very accurate measurement

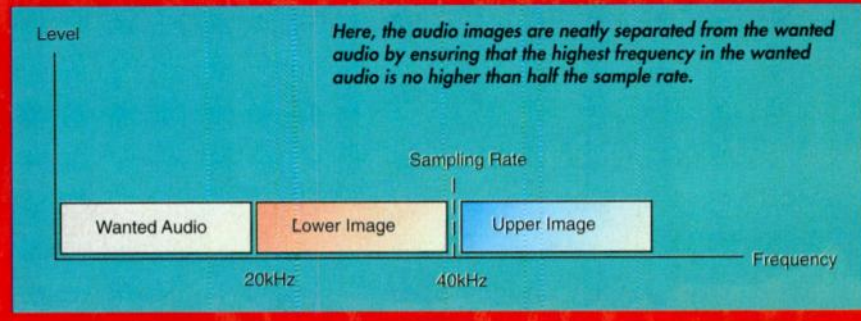
PREVIOUSLY ON ONE BIT AT A TIME...

Typically, digital audio systems sample audio at 44,100 or 48,000 times every second, although there are many other 'standard' sample rates. The regularity and stability of the timing in the sampling process is absolutely crucial to the ultimate quality of the digital audio system — timing inaccuracies introduced here cannot be removed later, and will result in unstable stereo imaging and increased noise.

The Nyquist Theorem states that the sampling rate must be at least twice the highest audio frequency being sampled. Consequently, the highest audio frequency a digital system is required to encode must be specified, and nothing above this frequency can be allowed to enter the system. This is achieved with an anti-aliasing filter which would typically have a cutoff slope in the order of 200dB/octave. Early analogue filter designs were extremely expensive to manufacture, prone to drift, and tended to sound dreadful!

The sampling process chops up the analogue audio signal ready for quantisation, as discussed in this article. However, the process is actually a form of modulation where the audio signal modulates the amplitude of the individual samples. Any modulation process produces images of the original audio at the sum and difference frequencies — in this case between the audio signal and the sampling rate — and although these images are a side-effect of the process and serve no practical purpose, they do have significant implications.

The diagram below shows a pair of images either side of the sampling rate. It is the lower image that causes all the problems, because it is very close to the original audio signal (hence the rule about the sampling rate needing to be at least twice as high as the highest audio signal to ensure a small separation). If audio signals above half the sampling rate are allowed into the sampling system, the lower image will extend downwards and overlap the audio band. This creates aliasing which is unmusical interference that can not be removed from the wanted audio.



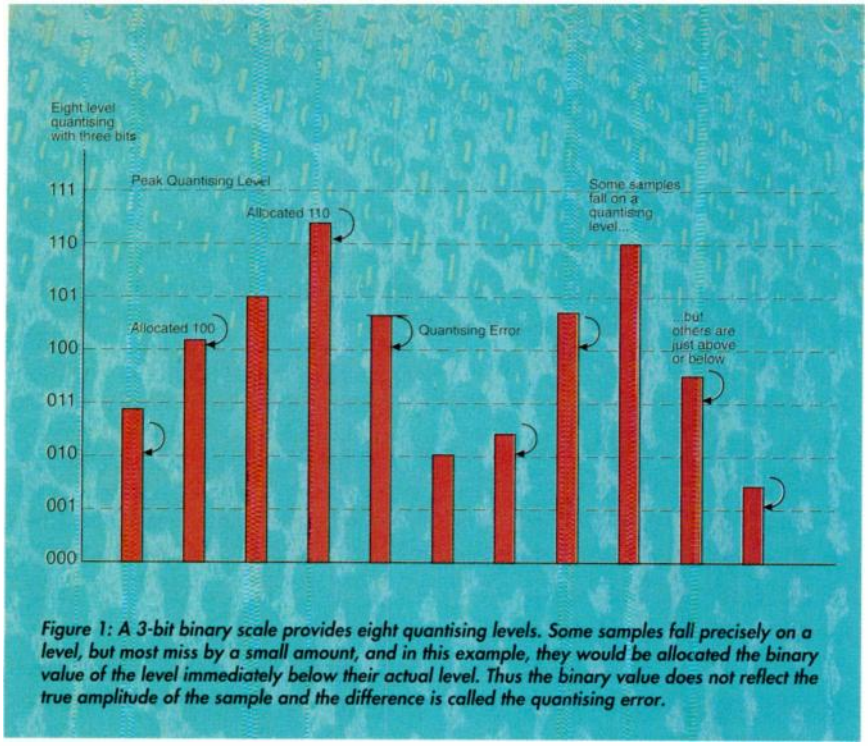


Figure 1: A 3-bit binary scale provides eight quantising levels. Some samples fall precisely on a level, but most miss by a small amount, and in this example, they would be allocated the binary value of the level immediately below their actual level. Thus the binary value does not reflect the true amplitude of the sample and the difference is called the quantising error.

scale. Figure 1 shows a few audio samples being measured against a very crude quantising scale simply to show the principles involved. Each level in the scale is denoted by a unique binary number — in this case, three bits are used to count eight levels (including the base line at zero).

Some samples will happen to be at exactly the same amplitude as a point on the measurement scale, but others will fall just above or below a division. The quantising process allocates each sample with a value from the scale, so sometimes the quantised value is slightly lower than the true size of the audio sample, and sometimes slightly bigger. These errors in the description of a sample's size are called quantising errors and they are an inherent inaccuracy of the process.

When the digital data representing the quantised amplitude values is used to reconstruct samples for replay, some of those samples will be generated slightly louder or quieter than the original analogue audio signal from which they were derived — they will not be entirely accurate. However, whether an audio sample falls on, above, or below a quantising level, and by how much a level is missed is essentially random — and a random signal is noise. Consequently, quantising errors tend to sound like hiss — white noise — added to the original audio signal.

The only way to make quantising noise quieter is to reduce the size of the quantising errors, and the only way *that* can be done is by making the quantising intervals smaller — in other words, by using a finer, more accurate scale for the measurements — just like in the carpet example earlier. The errors will still be there, but if you choose small enough quantising intervals, the errors become vanishingly small, as does the hiss. However, finer gradations require more quantising levels, and so more binary dig.ts are needed to count them.

If the number of quantising levels is doubled, the spacing between individual levels must be halved, and so the potential size of quantising errors must be halved as well. A doubling or halving (in terms of dBs) is 6dB; so every time the number of quantising levels is doubled, the hiss caused by quantising errors is reduced by 6dB. In binary counting, each extra bit added to the number allows twice the number of levels to be counted — three bits can count eight quantising levels, four bits count sixteen, and five bits count 32 levels. This relationship gives us a handy rule of thumb to estimate the potential dynamic range of a digital system: **For each extra bit used to count quantising levels, quantising noise is reduced by 6dB**.

So, for example, an 8-bit system should have a dynamic range of 48dB, a 16-bit system (such as DAT and CD) should have a range of around 96dB, and a 24-bit system about 144dB.

QUANTISING DISTORTIONS

Quantising noise might seem relatively benign, but I have not told the whole story yet. Quantising errors only sound like white noise if the errors are distributed randomly — something which is true for large audio signals crossing lots of quantising levels. However, when a quiet signal is crossing only a few quantising levels the errors are directly related to the audio signal instead of being random, and so the errors become audible as gross distortion rather than a benign hiss (see Figure 2).

Furthermore, if the signal becomes sufficiently small that it remains between two adjacent levels, samples will be coded with the same value, and on replay, the reconstructed signal will be a steady (and completely silent) DC voltage!

What this means in practice is that a loud ▶

ADAT.
It's not a VCR.
So don't use video tapes.

The HHB ADAT45.
Designed specifically for professional audio multitrack recording only.
Ask for it by name.

HHB

London: 0181 962 5000
Los Angeles: 310 319 1111
Toronto: 416 867 9000
www.hhb.co.uk

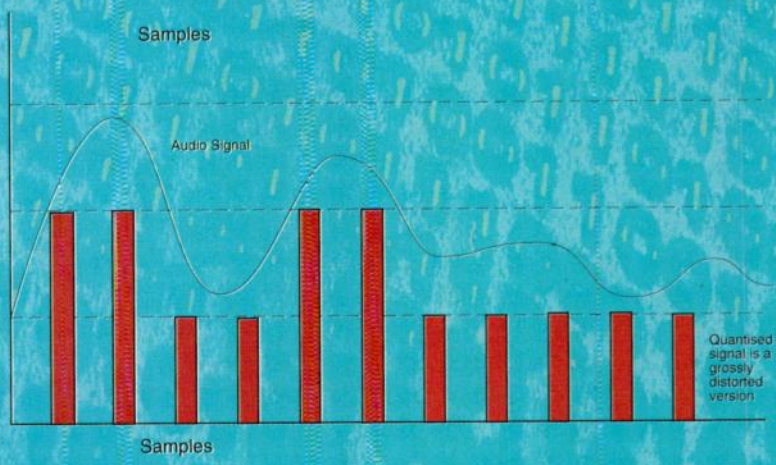


Figure 2: As the signal becomes sufficiently small to only cross a few quantising levels, the quantising errors cease to be random, but become directly related to the audio signal, and are audible as distortion instead of noise. When the signal remains between two quantising levels, all samples take on the same amplitude and the audio signal is no longer represented at all.

signal will sound slightly hissy (depending on the number of bits used to define quantising levels), but as the signal level falls, it will become more and more distorted until it finally breaks up before disappearing completely; hardly the kind of thing you'd want associated with a high-quality audio system. Nevertheless, this problem was very common in the first few generations of digital recorders. The break-up effect is most noticeable on reverb tails and the general background acoustic tended to be rather 'granular' and gritty.

ALL OF A DITHER

A good way to think about this problem, and how to cure it, is to consider something called a transfer plot — a graph which relates input signal level to output signal level (see Figure 3). As an example, an interconnecting cable will pass any level changes on its input directly through to its output perfectly linearly, so the plot shows a straight line at 45 degrees. However, a digital system is far from linear — as the input signal increases in level, the output remains fixed at a quantising level before suddenly jumping to the next level. Consequently, the transfer curve looks like a staircase instead of a desirably straight line.

Analogue tape recording suffers a similar non-linearity problem because the properties of magnetic tape are far from perfect. However, in this case, the problem is overcome by employing an inaudible, very high-frequency signal (called bias) which makes the magnetic properties behave more linearly. Digital audio systems have to resort to a similar tactic to create a linear transfer characteristic using an audible signal called **dither**.

Dither is essentially a very small amount of white noise (equivalent in amplitude to one quantising level — about 90dB below peak level in a 16-bit system) which is *deliberately* added to the analogue audio signal as it enters the A-D converter. Thinking back to the transfer plot, this dither noise effectively 'fills in' the steps in the transfer curve so that a straight line can be drawn through the noisy staircase. When correctly dithered in this way, the digital system behaves perfectly linearly, but there is a small amount of noise always present — the amplitude of which rises and falls as the input signal increases in level through each quantising band (see Figure 4).

As the input signal gets quieter, it no longer becomes increasingly distorted, but remains perfectly accurate and clean, even as it fades below the smooth background hiss — behaving just as an analogue system would. Dither is a very complex subject which is actually bound up with statistical distributions. Consequently, the different varieties of dither are referred to in terms of statistics. The most commonly used version is known as **TDDF** (triangular distribution dither function), although a number of others are used on occasion.

Dither is not normally something which is adjustable in an A-D converter — the manufacturer sets the appropriate level of dither when the unit is designed. However, the important point to remember is that dither is an essential aspect of the conversion process, just like bias in a tape recorder. However, dither also plays a vital role when digital word lengths are altered, for example in reducing a 20-bit master recording for release on a 16-bit format such as CD. This is an area where the user *is* able to alter the type and amount of dither used (something I will return to in a later article).

The only critical aspect of dither is its statistical properties, and it is common for the frequency response of the dither signal to be tailored (without altering the statistics) to complement the natural sensitivity variations of the human hearing system. By reducing the amplitude of the dither signal in the middle frequencies, and boosting it in the very low and very high regions, the averaged level of the dither signal remains the same, but it is far less audible in the middle frequencies, where our hearing system is most acute. Thus the *perceived* noise floor is lower than it would otherwise have been. This is how some manufacturers claim to produce 16-bit systems which sound as quiet as 20 bit systems, even though they have a measured performance which is identical to any other 16-bit system!

"...dither is an essential aspect of the conversion process, just like bias in a tape recorder"

OVERLOADS

So much for what happens at the bottom end of the quantising scale, but what happens when the analogue input signal is so large it exceeds the available measurement scale? Once the original audio signal goes beyond the top quantising level,

the only thing the quantiser can do is allocate each sample with the maximum count until it falls back within range again. When the digital signal is later reconstructed to an analogue output, all the samples which exceeded the range will have the same (maximum) size. If the original waveform was sinusoidal, it will have become 'clipped'.

In the analogue world, clipping can sound perfectly acceptable — indeed, it is a technique often used to create distorted guitar effects. Severe clipping tends to make any audio signal look like square waves, so although a pure sinusoid signal contains only one frequency, when it is clipped to resemble a square wave, it will acquire a wide range of odd harmonics — a clipped 10kHz sine wave will have frequency components at 30kHz, 50kHz, 70kHz and so on — none of which are likely to be audible in a properly engineered analogue system. However, in a digital system, clipping caused by the quantiser running out of levels causes horrendous problems!

The odd harmonics created in a clipped digital signal extend far beyond half the sampling frequency, and because they are generated in the quantiser, after the anti-alias filter, they inevitably cause severe aliasing. It is this aliasing which makes digital overloads sound so obvious and unpleasant,

DIGITAL HEADROOM & METERING

In the analogue recording world, we are used to the idea that there is a nominal working level — say 0VU or +4dBu — but that it is permissible for signals to exceed this level by a certain amount called the headroom. On an analogue tape recorder, for example, the signal level can be increased well beyond the nominal line-up level and although it will become increasingly distorted as the tape begins to saturate, it will probably remain acceptable (even desirable in some cases).

Digital systems have no headroom as such — the quantising levels are evenly spaced from the first to the last, and then they stop. Consequently, a suitable amount of headroom has to be created by defining and aligning the system such that the nominal operating level is some way below the maximum peak level. This allows the analogue metering on a sound desk, for example, to be related in some meaningful way to the recording level on the digital recorder.

The problem is in choosing a nominal digital operating level which equates to the universal analogue operating level of +4dBu (0VU). The critical aspect of metering for a digital recording is the true peak level of even the briefest transients. Unfortunately, VU meters only read average signal levels, and even analogue Peak Programme Meters (PPMs) tend not to respond to the fastest transients (this is quite deliberate, and is to avoid under-recording, since brief transient overloads are inaudible on analogue systems).

Various standards have been published for digital operating levels. The early pseudo-video digital recorders mentioned last month adopted -15dBFS (15dB below full-scale) to equate with +4dBu (or 0VU). The European Broadcasting Union have specified a very similar standard of -18dBFS to equate to 0dBu (ie. -14dBFS aligns with +4dBu). In America they tend to use -20dBFS. All these standards assume you are working with a 16-bit format making original recordings where there is a high degree of unpredictability in the absolute signal levels.

If the audio material has been carefully controlled (perhaps following post-production and with sophisticated dynamics processing), a smaller headroom margin can safely be used — typically -10dBFS or even less. Ultimately, when the absolute peak level of the audio material is known, commercially released material is mastered to peak to 0dBFS (ie. there will be no headroom at all). Some recording engineers extend the headroom margin when working with converters which have greater resolution than 16 bits, since the available dynamic range is wider. Personally, I feel that there is more to gain from having a lower noise floor, so I stick with the standard 15 or 20dB of headroom when working with 20- or 24-bitsystems. Digital clipping should be avoided wherever possible, and to help in that task most digital meters have expanded scales towards the peak levels. All digital meters also have an overload light for each channel, but some allow these to be configured to illuminate only after a certain number of consecutive peak value samples.

It is normal practice to peak a digital signal as high as possible — ideally just hitting the maximum quantising level on the loudest part of the audio material. In this case, a peak-level signal is not an overload at all, so it might be misleading to see the overload light illuminate. However, a very loud high-frequency signal, say at around 15kHz, might only be captured on three or four samples over a complete cycle, and probably only one of those would exceed the peak quantising level. In this situation, the overload light has to be illuminated on the one sample that hits peak level simply because it represents a genuine overload. The reality, of course, is that there is usually little energy at high frequencies in most audio material, and overloads in middle and low frequencies would involve large numbers of consecutive peak level samples.

Thus, overload indication is a complex problem and a common compromise is to only illuminate the overload light after three or four consecutive peak value samples (a standard set with the original CD mastering recorders). Thus it will not be erroneously triggered by legitimate peak-level signals, but will show genuine middle- and low-frequency overloads (although only extremely large high-frequency overloads will register).

Personally, I prefer overload lights to illuminate with a single peak value sample because if I'm intentionally trying to just hit the top level (perhaps during post-production or mastering), it is nice to know I have achieved my aim, and if I'm recording I need to know that I have hit the end stops — no matter how briefly!

The world's first audio optimised CD-R disc. Now optimised for your printer as well.

The HHB CDR74 Gold and the new CDR74 Gold P printable, optimised for use with CD-capable inkjet printers.
Secure archival life: 100 years.
Ask for them by name.

HHB

London: 0181 962 5000
Los Angeles: 310 319 1111
Toronto: 416 867 9000
www.hhb.co.uk

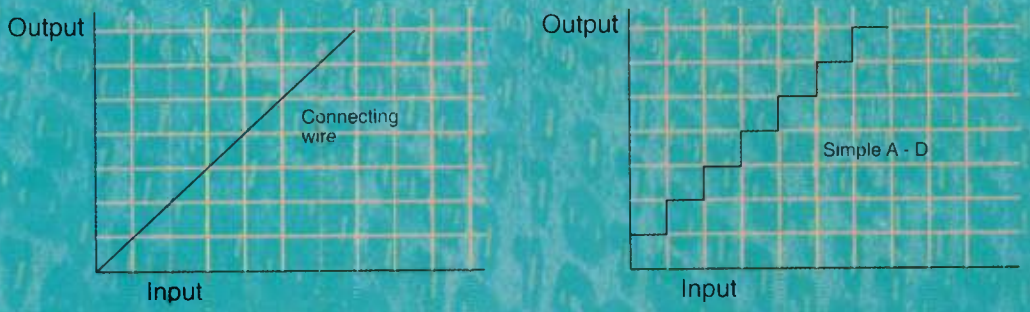


Figure 3: The transfer plot for a connecting wire is a straight line — what goes in comes out! A simple A-D converter, however, has a characteristic staircase plot caused by the discrete nature of the quanstising levels.

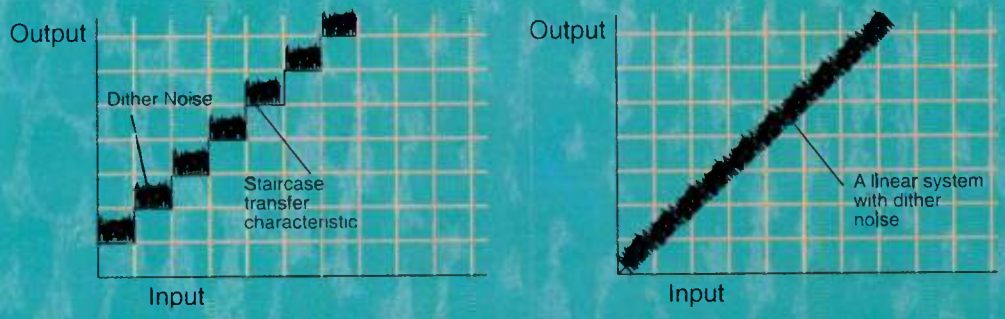


Figure 4: Adding the dither noise effectively 'blurs' the staircase plot (left) so that a straight line can be assumed — the recording system has become linear. However, the system also now has a fixed noise floor equivalent to one quantising level (right).

▶ especially on any kind of audio material which has recognisable harmonic structures such as voices or acoustic instruments.

If you have made recordings on a digital format you may have discovered that it is possible to get away with brief digital overloads on certain types of material. Any sound which does not have a distinct harmonic structure is not adversely affected by aliased components after clipping. Perhaps the two most obvious examples are cymbals and snare drums — both of which are essentially composed of noise (albeit with a characteristic frequency spectrum). Aliased noise is just more noise, so brief clipping on snare drum transients or cymbal crashes will almost certainly go unnoticed — the worst that is likely to be audible is a subtle change in the tonal character of the relevant instrument, but only during the brief moment of clipping!

In terms of the theory, that is pretty much it for quantising. The more bits available to describe individual quantising levels, the smaller the intervals can be and the lower the inherent quantising noise (by 6dB for every additional bit used). Dither is essential to linearise the whole quantisation process, and a working headroom must be created to cope with overloads because the clipping causes aliasing, which sounds very unpleasant indeed.

PROBLEMS AND SOLUTIONS

There are a number of practical problems involved in making high-quality analogue-to-digital converters. We saw last month how the anti-alias filters are difficult to make, use expensive components, and tend to sound unpleasant because they have to have such steep rolloff curves. There are additional problems with the

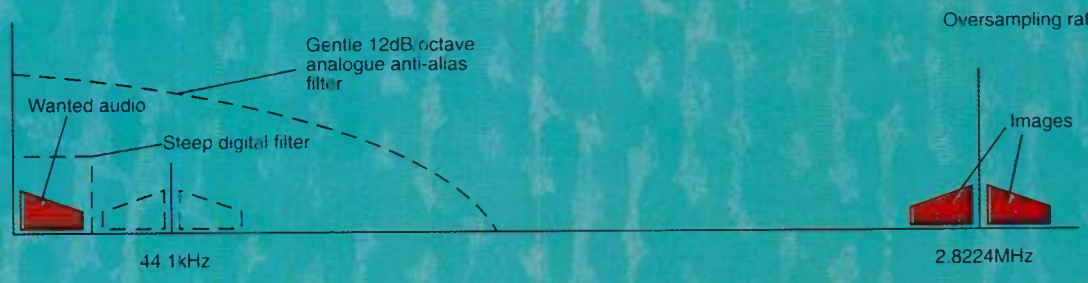


Figure 5: With oversampling, a very gentle analogue anti-alias filter is used, and a digital linear-phase brickwall filter is then applied at 22.05kHz. The data stream is also resampled to the desired 44.1kHz sample rate during the digital filtering process.

HOW MANY BITS DO WE NEED?

This is a good question for which there is no single correct answer, because it all depends on what the digital system is being used for. Domestic telephones, for example, use an 8-bit system quite happily without noise being considered a problem, but no one would enjoy listening to an 8-bit CD player for long! The 16-bit specification for CD came about for two reasons. Firstly, when CD players were launched, 16-bit converters were the absolute state-of-the-art — it was not possible to do any better at the time. Secondly, around 90dB of dynamic range was thought to be more than enough in a domestic listening environment. A 16-bit system counts 65,536 quantising levels, after all!

However, there are good arguments for professional recordings to be made with greater resolution than the eventual release format — for example, to allow post-production to be performed on the material without compromising the quality of the final product. This is why 20- and 24-bit systems are becoming increasingly common (together with the fact that the technology has become far more affordable). The potential dynamic range of a 24-bit system is substantially greater than that of our own hearing, so that is considered to be the ultimate resolution required in a recording medium (although signal processing typically requires at least 32 bits, and often 56 or more, to ensure that calculation errors do not adversely affect audio quality).

> "...decimation... effectively takes the extra information obtained from oversampling the signal and turns it into increased bit-resolution"

quantisation stage, because it is hard enough to ensure the 65,536 quantising levels of a 16-bit system are uniformly spaced, let alone trying to do the same with the 1,048,576 levels of a 20-bit system, or over 16 million in a 24-bit system! Another problem is that the amplitude of an analogue audio sample decays slightly as the quantiser is trying to find out which level to label it with; this can affect the linearity of the measurement quite badly.

However, clever new techniques have been developed in recent years to overcome all these problems, and the most common approach these days is a converter technology called **delta-sigma modulation**. Fundamentally, sophisticated digital techniques — number-crunching, if you like — are used to replace the expensive and troublesome analogue circuitry wherever possible. Although expensive to develop, digital chips are very cheap to manufacture, so as well as solving most of the practical problems of the early converters, the new approach also improves profit margins!

The problem with the anti-alias filter (and reconstruction filter for that matter), is that they have to have an incredibly steep rolloff to allow the audio band through but stop anything above half the sampling rate. Such filter designs tend to 'ring', which means they smear signals over time. In the early days, this was not thought to matter very much as long as the frequency response was flat, but we now know that such ringing does affect the perceived audio quality — particularly in terms of stereo imaging and naturalness. The only solution is to use much more gentle filter slopes, but that would require the sampling rate to be very much higher than it strictly needs to be, and CDs would then only have sufficient data capacity for 10 or 20 minutes instead of more than an hour.

Fortunately, there is another solution in the form of digital filtering. If the audio is sampled at a much higher rate than normal — say 64 or 128 times higher than 44.1kHz (a process called **oversampling**) — a very gentle analogue anti-alias filter could be used with all the associated sonic and cost advantages (see Figure 5). However, it would not be possible to record the oversampled audio stream directly, so a mathematically complex, but cheap digital filter is used to create the necessary 'brickwall' cut-off at 22.05kHz. By applying this filtering in the digital domain, it is possible to realise a perfect 'linear-phase' filter which cannot exist in the analogue world. Part of this same digital filtering involves a process called **decimation** which is where the digital signal is resampled (still in the digital domain) to produce an output stream at the required sample rate of 44.1kHz. The decimation process doesn't just ignore the samples it doesn't need when creating a data stream at 44.1kHz; instead, it effectively takes the extra information obtained from oversampling the signal and turns it into increased bit-resolution. So to achieve a certain signal-to-noise performance, a quantiser would have to operate with, say, 20 bits at

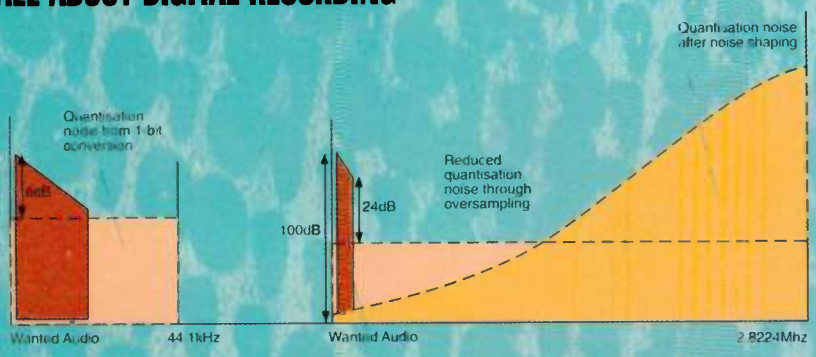


Figure 6: The diagram on the left shows the relationship between quantising noise and peak audio level for a 1-bit system operating at 44.1kHz. The diagram on the right shows how that noise floor is reduced by oversampling (by a factor of 64 in this case), and then how noise-shaping reduces the noise in the wanted audio band even further.

44.1kHz, but oversampled at 2.8224MHz (64 times higher) it may only require three or four bits, assuming the decimation process is performed accurately. This is another very important advantage of the oversampling approach.

The Delta-Sigma Modulator takes this idea one stage further by only using one bit to measure the audio signal, but with a very high sampling rate. The one-bit conversion determines whether each new sample is bigger or smaller than the preceding one — no more than that. Because the process is only 1-bit, all the problems of creating thousands or millions of linearly spaced quantising levels is avoided and, because the system operates so fast, there is no time for the sample voltage to droop while the converter works out its amplitude!

Of course, a 1-bit signal will have a huge amount of quantising noise, but this is dispersed across the entire and very wide oversampled bandwidth, whereas the wanted audio signal only occupies a small portion of that bandwidth (see Figure 6). Oversampling by a factor of two spreads the quantising noise over twice the bandwidth, and the noise power in the wanted audio band is reduced by 3dB. Oversampling alone is not sufficient to provide the kind of noise performance required in a professional system, so **noise-shaping** is employed to reallocate the quantising noise within the spectrum (once again, see Figure 6).

Noise-shaping is another digital filtering operation. The idea is to equalise the quantising noise so that it is reduced in the wanted audio band and boosted in the frequency spectrum above (the total noise power across the entire spectrum remains the same). When the digital anti-alias filtering is applied, the audio band is retained and resampled at the required rate, and the unwanted quantising noise in the spectrum above the audio band is discarded. When correctly engineered, the overall performance of a delta-sigma converter is typically better than any conventional A-D converter, and it is the only practical technology which allows a 24-bit resolution to be achieved.

COMING UP...

Next month, we will take a look at what has to happen to digital data before it can be recorded, and how some of the most common recording formats work.

Genelec 1029A Stockists

Active Sound
Watford 01923 246282

Andertons Music
Guildford 01483 456777

Audio Engineering
Dublin 01671 7615

Audio Toyshop
Bath 01225 447333

Axis Audio
Stockport 0161 4747626

Blue Systems
Saffron Walden 01799 584095

Dawsons Music
Warrington 01925 245422

Funky Junk
London N1 ..... 0171 609 5479

KGM
Wakefield 01924 371766

The M Corporation
Nottingham 0115 947 4070

The M Corporation
Ringwood 01425 450007

Millenium Music
Nottingham 0115 911 6680

Music Connections
Birmingham 0121 212 4777

Music Connections
Bristol 0117 731 5993

Music Connections
Chelmsford 01245 354777

Music Connections
Leeds 01943 850533

Music Connections
London 0171 731 5993

Music Connections
Southampton 01703 233444

Music Lab
London NW1 ..... 0171 388 5392

Music Solutions
Stevenage 01438 750751

Project Music
Hounslow 0181 570 4444

Sound Control
Dunfermline 01383 733353

Sound Control
Edinburgh 0131 557 3986

Sound Control
Glasgow 0141 204 0322

Sound Control
Manchester 0161 877 6262

Sound Control
Newcastle 0191 232 4175

Turnkey
London WC2 ..... 0171 379 5148

Michael Stevens
Bromley 0181 460 7299

Studiocare
Fleetwood 01253 872181

Sutekina
London WC2 ..... 0171 836 0127

TSC
Brentford 0181 400 9400

Definition

passive /ˈpæsiv/ adjective **1** submissive. **2** inert

active /æktiv/ adjective **1** given to action; working, effective. **2** practical; diligent.

Genelec
1038A
Winner TEC Award 1993

Genelec
1030A
Winner TEC Award 1995

Genelec
1039A
Winner TEC Award 1996

Genelec
1029A
1091A
Winner TEC Award 1997

GENELEC® 1029A

It's all about definition. GENELEC LEADS...others follow.

Manufacturers of Definitive Active Monitoring systems since 1978.

GENELEC®
ACTIVE MONITORING

Genelec Oy
Olvitie 5, FIN-74100 Iisalmi
Finland
Tel: +358 17 813311
Fax: +358 17 812267
E-Mail: sales@genelec.com
Web Site: WWW.genelec.com

Project Audio Limited
5 Castle Road
London NW1 8PR
Tel: 0171 428 9700
Fax: 0171 428 9699
E-Mail: project.audio@zenet.co.uk

JECT AUDIO

MIX Magazine TEC's awarded for outstanding technical achievement in Studio Monitor Technology

BRITAIN'S BIGGEST MUSIC RETAILER...

Many of our competitors say that they are Britain's Biggest Music Retailer...

THERE CAN ONLY EVER BE ONE...

We have the most floor area of any music retailer... ✔

We have the largest stock available at any time... ✔

We have the highest turnover and number of sales... ✔

And we have a large team of professional and polite staff to make sure it stays that way... ✔

BUT WHAT'S IN THIS FOR YOU...?

WE offer you the **BIGGEST** choice...
WE offer you the **BEST** advice...
WE offer you **GREAT** service...
and, WE have the **VERY BEST** deals...

ALL this adds up to ONE thing...

PEACE OF MIND...

Our adverts are not misleading...
Everything we sell is Brand New (unless clearly stated otherwise)
GUARANTEED not used or ex-demo...
and we will not mislead you when an item is out of stock...

SOUND CONTROL REALLY ARE THE BIGGEST - AND WE ARE GETTING MUCH BIGGER...

we are committed to opening many more stores over the next 3 years...

SOUND CONTROL
MODERN MUSIC STORES

A COMPANY YOU CAN TRUST

JV1080/JV2080/JP8000

3 YEAR GUARANTEE! for FREE

Check these out at your nearest Branch of Sound Control... or call us "DIRECT" for stonking 0% Finance on ALL selected Roland stock

0%

NOW IN STOCK £ call

Yamaha MT4X BLITZ

We have absolutely the BEST EVER U.K PRICE on the YAMAHA MT4X!! CALL US NOW FOR THE DEAL OF A LIFETIME ON THIS STUNNING 4 TRACK MULTITRACKER! We also have Stonking Deals on the Yamaha Mt8x mk-2...

NOW IN STOCK £ call

VS1680/880/840

3 YEAR GUARANTEE! for FREE

Undoubtedly the best Digital Multitrack Studio Systems around... and with 0% Finance from ALL our Branches, there has Never been a Better time to TREAT YOURSELF...

0%

NOW IN STOCK £ call

PROMIX 01V

Sound Control bring you the very latest Piece of groovy gear from Yamaha with 0% - and no deposit!! The Promix01V picks up where the original Promix left off... and adds a host of new features, a fabby new styling, and no compromise on quality... and... It's VERY AFFORDABLE!

0%

NOW IN STOCK £ call

MC303/MC505

3 YEAR GUARANTEE! for FREE

The Classic MC303 now has a new big brother and it is SERIOUS... The Roland MC505 is seriously funky... CHECK IT OUT NOW!

0%

NOW IN STOCK £ call

SPIRIT DESK BLITZ

We have the Spirit Digital Desk in stock at a truly magnificent price... Call us "Direct" for further details...

16ch ONLY £599
24ch ONLY £799

We also have limited stock of the Spirit Live-3 desks in stock in 16 channel and 24 channel configurations. These are absolutely the BEST U.K PRICES AROUND..

CALL RIGHT NOW TO ORDER YOURS!

SP202/SP808

3 YEAR GUARANTEE! for FREE

with prices starting from less than £300... and... 0% Finance available!!

0%

NOW IN STOCK £ call

KORG D8 DIGITAL STUDIO

Woohoo... AT LAST... Really Affordable Hard-Disk Recording has Arrived... 8 tracks uncompressed audio, 1.2 gig internal hard drive, 12 channel/4-buss desk, SCSI, recordable scenes and all the usual other stuff combine to make this a Really Groovy Piece of Kit!! - Call for Best Price!

NOW IN STOCK £ call

ROLAND M-GS64 Module

EXCLUSIVE NEW DEAL
ONLY AVAILABLE AT SOUND CONTROL

HURRY LTD. STOCK ONLY £199.00

- 64 voice poly • 32 note multi
- 654 tones • 22 drum sets
- 2 SFX sets • Digital Effex
- 2 pairs of Assignable Outs
- Single 19" rack unit

SONY & TASCAM Digital Stuff

SONY MDS-E55 Professional 2 track minidisc - only £399.00
SONY MDM-X4 mk-2 4 track minidisc - only £499.00
SONY PCM-R300 pro-quality DAT (NO SCMS) - only £549.00

NOW IN STOCK £ call

EXCELLENT CREDIT DEALS AVAILABLE... PLEASE ASK IN-STORE FOR DETAILS...

ALESIS ADAT (Type-2) - LX20

0%

FROM R.R.P £1699

ALESIS ADAT (Type-2) - XT20

0%

FROM R.R.P £2299

Regent road. Salford...
MANCHESTER
tel... 0161-877-6262
fax... 0161-877-6363
manchester@soundcontrol.co.uk

Mosley street...
NEWCASTLE
tel... 0191-232-4175
fax... 0191-222-1837
newcastle@soundcontrol.co.uk

Jamaica street...
GLASGOW
tel... 0141-204-0322
fax... 0141-232-0614
glasgow@soundcontrol.co.uk

Saint Mary's street...
EDINBURGH
tel... 0131-557-3986
fax... 0131-557-3686
edinburgh@soundcontrol.co.uk

Elgin street...
DUNFERMLINE
tel... 01383-733353
fax... 01383-725733
dunfermline@soundcontrol.co.uk

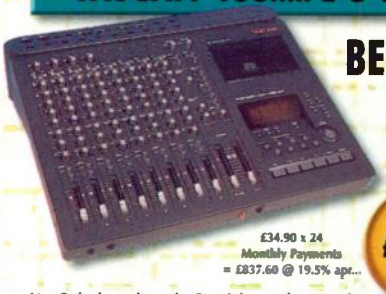
Castle street...
DUNDEE
tel... 01382-225619
fax... 01382-201486
dundee@soundcontrol.co.uk

Dunnikier road...
KIRKCALDY
tel... 01592-260293
fax... 01592-642251
kirkcaldy@soundcontrol.co.uk

All Finance options, including the 0% option, are Subject to status. Written Details are Available on Request. All prices include VAT at 17.5% and are current at the time of going to print - E&OE. Please ask for Delivery details.

WRH

TASCAM 488mk-2 8 track



BEST UK PRICE EVER

ONLY £34.90 a Month

£34.90 x 24 Monthly Payments = £837.60 @ 19.5% apr...

Not Only do we have the Best Price on the 488 mk-2, But we have TOTALLY AMAZING DEALS on ALL our Tascam 4-tracks... Call us for further details of how our low cost finance options can help you get the Tascam 488 mk-2 for LESS THAN £35 per MONTH!!

HURRY ONLY £699

PORTA-02 ... ONLY £149
414 ... NOW ONLY £299
424 mk-2 ... ONLY £399

KORG XSDR MODULE

STONKING DEAL save £££'s NOW

ONLY £27.41 a Month

£27.41 x 12 Monthly Payments = £328.92 @ 19.5% apr...

ONLY £299

NEW YAMAHA SYNTHS

The new suite of Synths, Modules and Digital Pianos from Yamaha are their BEST EVER...

NOW IN STOCK £ call

ALL the EX range come with on-board Effx, Sequencer, Disk Drive, up to 72 MEG of Sampling and a whopping 126 note poly...

AKAI SAMPLERS & STUFF

Call our new 'DIRECT' Division for the BEST POSSIBLE DEALS on ALL AKAI STOCK... Including an unmissable deal on the Akai S2000 and S3000xl models - wow...

NOW IN STOCK £ call

P.C's FOR MUSIC

We supply a full suite of Multimedia P.C's tailored specifically to your needs. Just add your choice of SoundCard, and any other Software and Hardware of your choice, and we will build a system for you!! With the Best Prices and Advice available in the U.K on P.C systems for Music and Digital Audio, Our Advisors are waiting to take your call - 01324-887-008

NOW IN STOCK £ call

TANNOY SPECIAL DEALS

CHECK OUT THESE AMAZING MONITOR PACKAGE DEALS...

PBM6.5 mk-2 ... ONLY £199
ALESIS RA100 ... ONLY £179
'TWIN-PACK' ... ONLY £369

CALL US TO ORDER - NOW!!!

NOW IN STOCK £ call

EVENT DIGITAL AUDIO CARDS

Stick one of these EVENT Cards in your P.C for a No Compromise No Hassle approach to Direct-to Disk recording on the P.C...

Fully compatible with all the latest (and greatest) Sequencing and Audio Software titles available today - call us for details...

NOW IN STOCK £ call

ALESIS DIGITAL EFFEX BLITZ

NEW LOW PRICES

DON'T MISS OUT ON THIS!!

Nanoverb ... ONLY £99
Microverb-4 ... ONLY £149
Midiverb-4 ... ONLY £199

NOW IN STOCK low

FOCUSRITE PLATINUM Range

BRILLIANT NEW RANGE

CALL US NOW - for FULL details of this really EXCELLENT NEW RANGE from FOCUSRITE...

NOW IN STOCK £ call

BRILLIANT BEHRINGER BLITZ

We have the FULL Behringer Range in stock at STONKINGLY LOW PRICES... Including the 24-bit 'VIRTUALIZER' EFFEX UNIT and the Incredible NEW 'ULTRAPATCH' 48-way Switchable Patch-bay - Sexy... Very Sexy...

FROM £49.95

FOCUSRITE GREEN Range

We have the full Focusrite Green series in stock, with prices from as little as only £399... not only are these some of the Best Dynamic FX processors ever made, they are lovely and curvy and wibbly wobbly... Super Build Quality as always from Focusrite...

HURRY FROM £399

SOUND CONTROL MODERN MUSIC STORES

For the ULTIMATE in U.K, EUROPEAN & WORLDWIDE MAIL ORDER..

Call us "DIRECT" on - Freephone - 0800-52-52-60

International ... (+44)141-204-2774 Fax ... 0141-204-0614

Electronic Mail ... mo@soundcontrol.co.uk

Snail Mail ... Jamaica Street. GLASGOW. G1 4NN.

WRH

SOUND CONTROL
DIGITAL DIVISION

SOUND CONTROL DIGITAL DIVISION IS THE VERY LATEST ADDITION TO THE EXPANDING FAMILY OF DEDICATED DEPARTMENTS THAT MAKE UP THE MASSIVE CHAIN OF SOUND CONTROL MODERN MUSIC STORES...

SPECIALISING IN THE SUPPLY & SERVICE OF THE PROFESSIONAL AUDIO AND BROADCAST SECTORS, THE SOUND CONTROL DIGITAL DIVISION UTILISES A VERY UNIQUE APPROACH...

SOUND CONTROL ARE WELL AWARE THAT IT IS VIRTUALLY IMPOSSIBLE TO EVALUATE THE VERY LATEST 'TOP-LINE' PRODUCTS ANYWHERE ELSE BUT IN YOUR OWN STUDIO. IN RESPONSE TO THIS, SOUND CONTROL DIGITAL DIVISION WILL BRING THE PRODUCT TO YOU...

HIGHLY TRAINED AND CONVERSANT IN EVERY ASPECT OF TODAY'S CUTTING EDGE PROFESSIONAL AUDIO EQUIPMENT, INCLUDING DIGIDESIGN PROTOOLS-24 AND EXCITING NEW CONSOLES LIKE THE MACKIE HUI, SOUND CONTROL DIGITAL CAN SUPPLY ALL THE ELEMENTS REQUIRED IN A MODERN DAY POST PRODUCTION, BROADCAST OR RECORDING STUDIO ENVIRONMENT - FROM THE COMPUTER'S MOUSE TO THE MONITOR SPEAKERS...

TO ARRANGE A CONVENIENT TIME FOR AN APPOINTMENT - CALL THIS NUMBER...

PRO 24 TOOLS

TELEPHONE. ANYTIME...

07071-224744

Look ma, no drive!

FOSTEX FD4 DIGITAL MULTITRACKER

Though the FD4 doesn't have a built-in recording drive, it records to a choice of popular types, costs less than £400, and has been designed to be almost as easy to use as a cassette multitracker. DAVID MELLOR goes back to basics...

The Fostex FD4 is a hard disk multitracker without a hard disk. Pardon? You'll have to read on for the detail, but I'll say at the outset that the FD4 isn't weighed down with features (as some hard disk recorders are) and that Fostex seem to have struck a happy balance between features and usability in their new machine — they appear to have remembered that most potential purchasers will probably be complete novices in the recording arts.

HARDWARE

The FD4 is a fairly compact unit, quite light in weight at just 4kg (no doubt the fact that it doesn't have a built-in hard drive contributes to this) and neatly divided into a mixer section and a recorder section. The mixer is pure analogue, which makes it easy to learn and operate, but rules out any form of automation or programmability. The recorder section is fitted with the usual transport buttons that you'd expect, and additionally has editing functions that take a little bit of learning but work well once you've made the effort. There's also a jog/shuttle wheel, that I'll comment on later.

On the front of the unit are four inputs, on quarter-inch jack sockets, and a headphone output. At the back are found separate pairs of stereo and monitor output phono sockets, two auxiliary sends, and two stereo auxiliary returns. I might only have expected a single auxiliary on a unit of this price, so I'm pleased to see this. Another surprise is the provision of two balanced XLR mic inputs which feed channels 3 and 4 via insert points where a compressor, equaliser or noise gate could be connected. Very nice — and if they had 48V phantom power for capacitor mics they would have been perfect. Capacitor mics are now affordable and manufacturers should remember that. Also on the rear panel are two additional phono sockets for direct access to the recorder, bypassing the mixer section, and a quarter-inch jack for the obligatory punch-in footswitch.

As well as analogue audio connectors, the rear panel also sports a pair of MIDI sockets, In and Out, but no Thru. I suppose Thru boxes are cheap enough, but I can't see that a full set of MIDI connections would have been too much of a problem to provide. A pair of digital optical connectors offer digital input to the recorder section and digital output of individual tracks or the entire mix. A backup function is also available. There are no S/PDIF phonos, I'm afraid, although the Fostex COP1 optical/co-axial converter is a relatively inexpensive accessory. Last, but not least, is the computer-style SCSI socket with which the necessary external hard drive is connected.

Since you have to source your own disk drive, or allow your dealer to assemble a suitable package, it's useful to know the alternatives. The Iomega Zip drive is compatible with the FD4 in two of its three recording modes, which allow, according to Fostex's figures, 8.25 minutes of 32kHz data-compressed 4-track recording, or 4.25 minutes of full 16-bit linear 44.1kHz 4-track recording (disk space is dynamically allocated, so these figures can be increased proportionately if you use fewer than four tracks). If these maximum recording times seem rather short, you might prefer to use something like a 230Mb Syquest EZflyer, which would allow 10.5 minutes of full-quality 4-track recording, or a 1Gb Iomega Jaz drive, which allows 50.25 minutes of full-quality recording, again on all four tracks. Magneto-optical drives can be used too, but since they are slower than magnetic hard disks there is one restriction on performance, that I'll come to later. Unlike many other hard disk recorders, the FD4 can only be used with one disk at a time. The SCSI specification allows for up to seven connected devices, plus the host, but the FD4 can only recognise one, which isn't too much of a drawback for recording but unfortunately eliminates the possibility of backing up from one disk to another, which some might have found useful.

Although the FD4 is marketed as a diskless unit, it is actually possible to have an internal IDE drive fitted by an authorised Fostex service agent. Suitable disks of up to 3Gb in capacity are available (yielding around 150 minutes of full-quality 4-track recording) and having one fitted internally does make the unit self-contained. One further alternative would be to use a fixed external SCSI hard disk.

pros & cons

FOSTEX FD4 £399

pros

- Low-cost entry to hard disk recording.
- Digital sound quality.
- Good EQ.
- Easy to use, once you know how.

cons

- External drives are a bit fiddly to set up.
- Jog/shuttle wheel difficult to use.
- No editing function to delete a section and close up the gap.
- No 48kHz digital recording.

summary

The Fostex FD4 is a very effective 4-track hard disk multitracker. It has a sound quality far superior to cassette and is a very interesting alternative to MiniDisc models.

SOUND ON SOUND

BOUNCING TRACKS

Since the FD4 has only four tracks, inevitably the recording process will include bouncing, so that a more complex arrangement can be made. On a cassette multitrack you can bounce three tracks onto the remaining one, releasing those three tracks for further use but sacrificing the individual recordings they contain. On the FD4, when working in the Mastering 1 format (not available with Zip or magneto-optical drives), there are two additional tracks which can be used as destination tracks for bouncing, in mono or stereo. The additional tracks can be swapped for playback tracks whenever necessary. Although there is no dedicated 'bounce forward' feature, where mixing takes place to a point further along the timeline, this can be achieved through the editing functions and the original four tracks can be retained. A little long-winded, perhaps, but it works.

MIXER SECTION

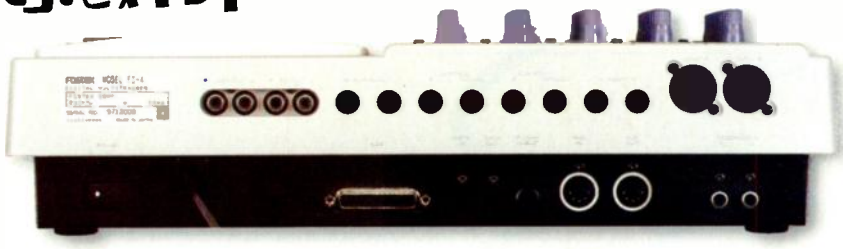
The mixer section of the FD4 isn't totally conventional, but it isn't so unusual that a reasonably experienced recordist couldn't get used to it in about five minutes. A novice would take a little longer, and I have to say that I worry slightly that such a person would expect all mixers to work in a similar way and then find out at the threshold of the next stage of their career that they don't.

As you might expect in a low-cost and fairly simple unit, there is no gain knob at the top of each channel, but since the levels of equipment used in a domestic setting are fairly predictable, this shouldn't be a problem. Channels 3 and 4 do, in fact, have a gain switch, with positions for High, Medium and Low output devices. The M position is also suitable for the direct connection of an electric guitar. Each channel is routed to the main left-right stereo buss via the pan control, so if you want to record on tracks 1 or 3 you pan left, or pan right to record on tracks 2 or 4. To record from channel 1 to track 4, for example, you would set the Input Select switch of channel 1 to 'Input' and pan right.

The monitoring arrangements of the FD4's mixer are simple to use but just a little bit more difficult to explain. The mixer is of the in-line variety, meaning that there are two signal paths in each channel — one for the input and one for the signal from the corresponding track of the recorder. During recording and overdubbing you would route an input signal through the channel fader via the master fader to the recorder. You can monitor any tracks already recorded via the monitor section in each channel, which consists of level and pan controls. The outputs from these tracks go only to the headphones and monitor outputs and not to the recorder. The net result is that you can record one track while listening to other tracks you've already recorded, which is exactly what you need to do! If you've used similar equipment before, you'll understand what I'm saying. If you haven't, it's probably all a bit of a blur, but you can take my word for it that Fostex give you everything you need, in the simplest way possible, and you'll soon get the hang of it. One peculiarity that I referred to earlier, that sets the mixer section of the FD4 apart from other mixers, is in the monitor level controls. Rather than being a switch, so that it can be swapped between input signal and recorder track, the monitor level control has a zero position in the centre where it sends no signal. Turning it to the left increases the level of the input signal in the monitor, turning it to the right increases the level of the track signal. It's strange, but it works.

DIGITAL INPUT

Since in Normal mode the FD4 operates at a 32kHz sampling rate, and in both of the Mastering modes at 44.1kHz, it follows that the sampling rate of any digital source should correspond to these, as appropriate. There is no provision for 48kHz recording, or for mixing or converting sampling rates.



Other features of the mixer section include two auxiliary sends, which are operated by a single knob, in the same way as the monitor level control. This unfortunately precludes sending a signal from one channel to two effects units simultaneously. I suppose the provision of an extra knob per channel would have increased the cost of the unit. Both auxes are post-fade, which is appropriate for a unit of this type.

The EQ section is quite versatile, with high-frequency and low-frequency controls, and a mid control with two knobs for frequency and level. It works surprisingly well, the HF control adding or subtracting brightness (some HF sections only manage to add harshness or dullness!) and the LF section adding warmth or 'thinning out' a signal in a very useful manner. The mid control has a slightly sharper resonance (Q) than I would normally prefer, but it's still capable of a very useful degree of control.

RECORDER SECTION

With a cassette multitracker, you slot in a cassette and start recording. To record another song later on the tape, you just take a note of the counter reading and perhaps set the zero locate. With disk systems things are, I am afraid, more complicated. First of all you have to format the disk. Fostex offer three formatting options, known as Normal, Mastering 1 and Mastering 2:

- Normal mode offers longer recording time but is recorded at a 32kHz sample rate with data compression, which results in a frequency response only up to 15.5kHz and a sound quality which is not entirely transparent, but still very acceptable, being almost comparable to MiniDisc.
- Mastering 2 mode offers full 44.1kHz, 16-bit quality.
- Mastering 1 mode has an additional two virtual tracks, referred to by Fostex as Additional tracks, which can be used to store material in sync with other tracks but cannot be played back. The Mastering 1 format cannot be used with a Zip drive or a magneto-optical disk, since they are a little slower than other disk media.

Once you've formatted your disk, you can start recording your first song immediately. If you want to record further songs on the same disk, you can simply start further down the timeline, as you would with cassette, but the recommended option is to create a new program. Each program corresponds to a song, and you can have up to 99 on a disk, as space allows. It isn't immediately obvious how you create and select programs, but if you look long and hard enough at the FD4's control surface you'll notice that certain buttons are linked together with horizontal lines. These include the Hold and Store buttons, which, when pressed simultaneously, allow program creation and selection. It takes a little time to get used to the way the FD4 works, but it's reasonably straightforward after a little practice.

Recording tracks follows a standard procedure: hit Record Select buttons and operate the Record and Play keys. As this is a hard disk recorder, access to any part of the recording, once made, can be almost immediate, but to ease the transition for those used to tape-based equipment, Fast Forward and Rewind buttons are provided. The FD4 also has several locate functions that need a little explanation. Firstly, there are six locate memories, which are labelled Start, In, Out, End, Clipboard In and Clipboard Out. You can ignore their names and use them as simple locators, where you store a locate time in any one and go back there very quickly. Alternatively, you can use Start and End as markers for the Auto Return and Auto Play functions, where a section of interest can be looped and played repeatedly. Within that loop there can be an automated punch-in, which is quite easy to set up. The clipboard In and Out points are used in editing. Punch-in, by the way, is click free although you can only punch in and out once each time you record, and when you punch out the monitor signal is muted for several seconds, which is disconcerting, although the recording is OK.

EDITING

I have a feeling that some users of the FD4 will never use its editing facilities, although they will always be there should the need arise. As with all non-computer-based hard disk recorders in the lower-than-stratospheric price bracket, editing is really only useful for cutting sections out of songs, repeating choruses, and that kind of thing. If you want to build up a song out of loops and short audio segments you need a computer and appropriate software. Nevertheless, the FD4's editing functions are very useful in the right context. Marking out a section to be cut, for example, involves setting start and end points. Start points can be found approximately by hitting the Hold or Store key on the fly. They can then be fine-tuned using the jog/shuttle wheel or the preview function. The jog/shuttle wheel, I have to say, is one of the worst I've come across. It's partially recessed — thus difficult to get a firm grip on — and it doesn't 'scrub' like other hard disk recorders do, emulating the old method of manually moving analogue tape against the recorder's heads. When it's implemented well,

8-CHANNEL MIXDOWN

The in-line mixer section of the FD4 has two signal paths per channel, and it's possible to use both on mixdown by using the monitor output as the main output, or by following the instructions in the manual on mixing eight channels into the digital output. Remember, also, that there are two additional stereo auxiliary inputs, making a total of 12 channels possible on mixdown.

SYNCHRONISATION

The FD4 outputs MTC (MIDI Timecode) during record and play, to synchronise your sequencer of choice. In addition, the FD4 will send and respond to MIDI Machine Control (MMC) data, so that you can control the unit from a sequencer — or you can control external equipment, in a basic way, from the FD4. The FD-4 also features a tempo map (and internal metronome) so that a sequencer can be synchronised via MIDI Clock and Song Position Pointers in the more old-fashioned way.

IOMEGA JAZ DRIVE

The Iomega Jaz drive has become something of a standard in the audio industry, as far as removable-cartridge drives are concerned. The standard Jaz drive offers a capacity of 1Gb, and a new 2Gb model will shortly be available. From a Jaz drive you should be able to get at least eight tracks, with appropriate equipment (of course, the Fostex FD4 is only specified to be a 4-track recorder). Akai's DPS12, with special formatting, shows the Jaz to be capable of a very useful 12 tracks. The great advantage of Jaz, besides its removable-cartridge design, is the fact that the drive itself is quite cheap to buy and is usually supplied with one cartridge. The cartridges themselves are not as cheap as optical cartridges, nor do they claim to be as abuse-proof, but the low cost of the unit still makes it a very attractive option. Be warned that, like all hard disks and optical disks, it makes clicking and whirring sounds when in use, but the Iomega-cased version (Jaz drives from other manufacturers are all Iomega products internally) incorporates WhisperDrive technology, so it is at least as quiet as you could reasonably hope it to be, bearing in mind the immense amount of activity going on in multitrack digital recording.

this method provides a quick and easy method of finding an edit point, and all the pro machines have it. The FD4, on the other hand, repeatedly plays a very short segment of audio — around 100ms, I would estimate — which slides backwards and forwards in time as you turn the wheel. It's usable, but far from ideal, and it sounds pretty unpleasant too. The preview function is a little better, where the FD4 creates a two-second cycle, allowing you to hear the last second up to or after an edit point. This you can trim in real time as it loops around. Once you've found your edit points, you can copy a segment (from any number of adjacent tracks) and paste it elsewhere, or move the segment, leaving silence behind. If there's something on the disk you don't like, you can simply erase it. What the FD4 lacks is a delete function that will close up the gap, so that you can get rid of a whole section of a song and butt the remaining portions together. You can achieve much the same thing using the copy function, but it's not as straightforward a process as it could be. The editing functions also include track exchange, where data can be swapped among playback tracks, and also to and from the two Additional tracks in Mastering 1 mode.

CONCLUSION

If you can sacrifice the convenience of an all-in-one unit, you might find that you can be as much at ease with the FD4 as you would be with a cassette multitracker (though you could opt for an installed internal disk, which would actually make the FD4 an all-in-one unit). And there are bonus tricks that only a disk can do, such as editing without cutting tape, and the provision of those two 'virtual tracks' in Mastering 1 mode.

In terms of its sound quality, the FD4 is well up to current digital standards, and even the data-compressed Normal mode, if not entirely transparent, is surprisingly good through three or four generations of bouncing (see 'Bouncing Tracks' box). It's definitely far better than cassette, and it's attractively priced (even with a Zip or EZFlyer drive taken into account) compared to similarly featured MiniDisc units. Overall, I'm confident that the FD4 is capable of excellent results, and I would be happy to recommend it.

Thanks to Iomega and their UK press representatives Byte for the loan of the Iomega Jaz drive used with the FD4 in this review.

£ £399 including VAT.
A SCV London, 6-24 Southgate Road, London N1 3JJ.
T +44 (0)171 923 1892.
F +44 (0)171 241 3644.
E mail@scvlondon.co.uk
W www.scvlondon.co.uk

GET A HEAD START

WITH A PAIR OF AKG'S AWARD WINNING HEADPHONES

K240M £89.99

Rox £29.99

K100 £59.99

K141 £79.99

K270 £129.99

AKG headphones have been the choice of professional studios for years because whether you're mixing on 4 tracks or 48 you need headphones that will make the most of your music. AKG headphones linear response and extremely comfortable to wear designs allow for hours of use, free from listening fatigue or discomfort. And with a pair of classic AKG headphones to suit every budget, they're the only choice for uncompromising listeners. Find AKG headphones at the following dealers.

AKG HEADPHONE DEALERS

BARNET	MUSIC VILLAGE	0181 449 3440
BIRMINGHAM	MUSIC CONNECTIONS	0121 212 4777
BRISTOL	MUSIC CONNECTIONS	0117 946 7700
CAMBRIDGE	MUSIC VILLAGE	01223 316091
CAMDEN	STUDIO SPARES	0171 485 4908
CHADWELL HEATH	MUSIC VILLAGE	0181 599 9506
CROYDON	MUSIC VILLAGE	0181 407 9464
DUBLIN	CONTROL TECHNIQUES	003531 4545400
EDINBURGH	SOUND CONTROL	0131 552 3886
GLASGOW	SOUND CONTROL	0141 204 0322
GLOUCESTER	GLOUCESTER MUSIC COMPANY	01452 501 437
GUILDFORD	ANDERTONS MUSIC SERVICES	01483 456777
LEEDS	MUSIC CONNECTIONS	01943 850533
LONDON	SOHO SOUNDHOUSE	0171 378 5148
LONDON	FUNKY JUNK LTD	0171 609 5479
LONDON	MUSIC CONNECTIONS	0171 734 5993
LONDON	MUSIC LAB	0171 286 5382
LONDON	STIRLING AUDIO	0171 624 8000
LONDON	SUTEKINA	0171 836 0127
NEWCASTLE	SOUND CONTROL	0191 232 44175
NORWICH	COOKES BAND INSTRUMENTS	0161 623 563
OXFORD	P.M.T	01865 248083
RINGWOOD	THE M CONTROL	01425 473007
SALFORD	SOUND CONTROL	0161 877 6282
SOUTHAMPTON	MUSIC CONNECTIONS	01703 238444
SOUTHEND ON SEA	P.M.T	01702 436501
WARRINGTON	DAWSONS MUSIC	01925 632591
WASHINGTON	CANFORD AUDIO PLC	0191 417 0057
WATFORD	ACTIVE SOUND	01923 246282

AKG

Distributed exclusively in the U.K. by ARBITER PRO AUDIO A division of ARBITER GROUP PLC. Unit 2, Borehamwood Industrial Park, Rowley Lane, Borehamwood, WD6 5PZ Tel: 0181 207 5050 • Fax: 0181 207 4572
Web: www.akg-acoustics.com

	VS-840	Digital Tape	Mini Disk	Analog Tape
Virtual Tracks	Yes	No	No	No
Cut and Paste Song Editing	Yes	No	Limited	No
Digital Mixer	Yes	No	No	No
Digital Effects & EQ	Yes	No	No	No
Waveform Editing	Yes	No	No	No
999 Levels of Undo	Yes	No	No	No

VS-840 Digital Studio Workstation

It's no secret that the way ahead is digital recording. What may be confusing is the variety of formats available.

Be confused no longer. Introducing the affordable **VS-840**, a complete 64 virtual track digital recording studio and the first to record directly to a built-in Zip drive.

For the producer in you, the **VS-840**'s random access recording system allows you to record a great verse and chorus and then simply cut and paste tracks to try out endless song structures and arrangements. Throw in a built-in 12-channel mixer with 20-bit A/D converters, a full-blown stereo multi-effects processor, 64 virtual tracks with scrubbing ability, and you've got an unbeatable package at an unbeatable price.

Head on over to your nearest Roland dealer and see the future of digital recording. It's absolutely no contest.

Make it with a Roland

WRH

64 Virtual Tracks

You can record up to eight takes on each of the VS-840's eight tracks. Record your solo over and over on the same track, keeping the previous takes. Bounce without fear. Comp the ultimate track. A total of 64 virtual tracks are available.

Built-in Effects

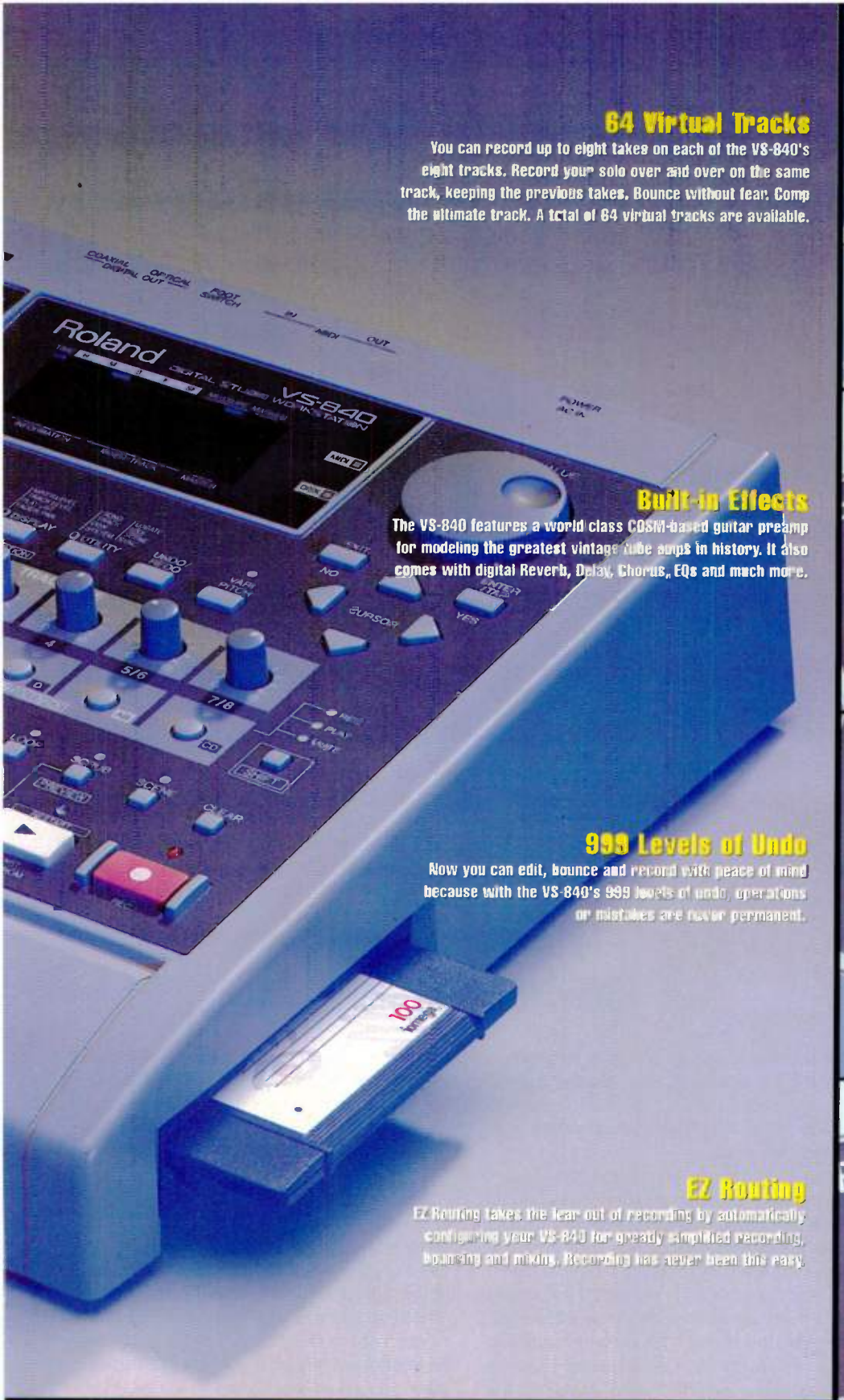
The VS-840 features a world class COSM-based guitar preamp for modeling the greatest vintage tube amps in history. It also comes with digital Reverb, Delay, Chorus, EQs and much more.

999 Levels of Undo

Now you can edit, bounce and record with peace of mind because with the VS-840's 999 levels of undo, operations or mistakes are never permanent.

EZ Routing

EZ Routing takes the fear out of recording by automatically configuring your VS-840 for greatly simplified recording, bouncing and mixing. Recording has never been this easy.



Iomega® Zip™ Drive

The VS-840 uses a convenient built-in Iomega Zip drive to digitally record your music, a first for digital multi-tracking. As simple as a cassette tape, Zip media is inexpensive, reliable, portable and available everywhere.

Roland®

For details of this and other new Roland products call the Roland Brochure Hotline: 01792 515020

Roland (UK) Ltd. Atlantic Close, Swansea Enterprise Park, Swansea SA7 9FJ. UK web site: http://www.roland.co.uk

WRH

into gear

EQUIPPING A HOME STUDIO

PART 4: Mastering is the final link in your sonic chain. DAVID MELLOR helps you make sure it's not the weak one...

The most important part of a recording is the fun and satisfaction you get from it. The second most important is the end product — a tape or disc bearing your finished piece of music.

Mastering, in the recording studio, is the process whereby the final stereo output from the mixing console is recorded onto a stereo medium. This, as far as the recording studio is concerned, is the end product which you might take to a record company A&R executive to try and get a deal. If you already have a deal then the recording, or at least a copy, will be sent to a mastering studio where, applying the term in a slightly different sense, it will be mastered onto a Sony 1630 tape, Exabyte cartridge or PQ-coded recordable CD ready for CD manufacture. This is the last stage at which artistic decisions can be taken on matters such as equalisation, compression, editing and crossfading. After that, manufacturing is a purely technical procedure.

Alternatively, your recording might be mastered onto vinyl, which is still the consumer medium of choice in the dance music market. If you're really big, or really small, your recording could also be transferred onto a master for cassette duplication.

The final stereo master (in the studio sense of the term) is a very important thing, physically small as it may be. Mixing is an incredibly important part of the recording process, and the choice of medium that you mix onto merits very serious consideration. Let's survey the options...

CASSETTE

This is the way everyone starts, through force of finances. On this topic I *could* observe that the technical quality of the cassette medium is so inferior that it shouldn't even be considered for mastering, and that there's no possibility that a master made on cassette could ever be acceptable for release on CD or vinyl, but although these are points you should bear in mind, it isn't necessarily that much of a drawback. If your music is any good, it will be good on whatever medium it is presented, and the fact is that CDs *have* been made from cassette masters. If the quality of the music is good enough, the listening public will generally accept minor technical imperfections. A lot can be done in a mastering suite to get the best out of a decently recorded cassette and the results can sometimes be surprising, even if some way off being ideal. As a final point on this subject I would say that although it is possible to master onto cassette (and if you have to, you should give your mix as much care and ▶

Green power LED lights red 0.9dB before clipping to avoid overload

FLAT

NOT

FLATTERING

Roger Quested's reputation stretches back to the early seventies. The advent of high efficiency drivers meant speaker manufacturers had the means to deliver new levels of enhanced highs and lows and many went down this route. In contrast Quested installations from Abbey Road to The Hit Factory are still identified by their accuracy and ability to reveal the music's finest detail. In this respect, the new F11 (pictured left) redefines the standard for compact monitors. Whilst many speakers strive to impress with their sound, the F11's offer a level of flatness and accuracy which is unsurpassed in their class.

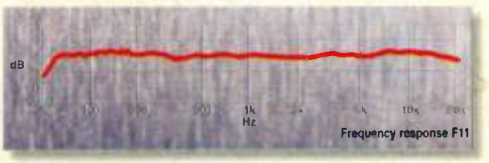
The mineral loaded material used is 50% denser than MDF

To set a new standard for compact monitors, the F11s had to be different by design - and they are: the F11s are the combined result of Roger Quested's experience, and hundreds of man hours of listening tests. The cabinet is made from a specially formulated and patented mineral loaded material, which is 50% denser than the MDF used by most other speaker manufacturers, and far stiffer. Another advantage of the material is that the entire cabinet is moulded as a single piece, complete with mountings, which together with the increased density and stiffness, cuts down internal rattles and resonances to virtually zero.

But the differences don't end here: the built in active crossover has been fine tuned for a completely seamless crossover point, and subsonic and supersonic filters are employed to prevent any unnecessary frequencies entering the system. Two custom designed amplifiers are used per speaker, with a conservative rating of 150W RMS. These are backed by their own heavy duty power supply

F11 for ample headroom, and then directly coupled to the drivers (magnetically shielded as standard), which gives an extremely high damping factor for excellent cone control.

The specially selected 28mm soft dome tweeter, mounted in precise alignment with the woofer, has ultra low mass for minimal inertia and distortion, and its dome characteristic together with the waveguide moulded into the cabinet, give unrivalled stereo imaging and a huge listening area. The cabinet is ported at the front rather than the rear, which avoids stifling the bass when positioned close to a wall.



Frequency response F11

And the result? As shown in the diagram above, design innovation means that the F11's are accurate to within ±2dB over the quoted frequency response range (65Hz - 20kHz), and indeed to an incredible ±1dB over more than 95% of that range. The sound is transparent, detailed, and above all, accurate; and at well under £1,200 a pair, the price of honesty is less than you think.

Don't flatter yourself - hear the truth according to Quested.

Quested have a comprehensive range of professional monitor speakers, to suit everything from the project studio, to world class installations. A few examples are featured below:

Abbey Road (studio 1), London

Quested demo suite, Media Tools, London

QUESTED

Available in the UK from:

media tools
12 flitcroft street london WC2
tel 44 (0)171 379 3555
fax 44 (0)171 497 0690
e-mail: sales@mediatools.co.uk

media tools

equipping a home studio

attention as your music deserves — lots!), you really should be saving your money to move up to the professional bracket, so that your music can be presented at its absolute best.

ANALOGUE TAPE

Top professional engineers still master onto analogue open-reel tape, not because they are behind the times — all the latest gear is available if they want it — but because they like the sound. Analogue tape has a frequency response up to 25kHz or more if the recording equipment is well maintained. Many claim these extended high frequencies are audible and have an effect on the way we perceive music, even if audiometric tests show that they are beyond the range of most humans. Digital equipment, with very few exceptions, has a brick-wall filter at around 20kHz, so the high-frequency response ends there.

Even if the end product is to be a digital CD, some will say that it is better to preserve as much high-frequency content as possible, until the last possible moment. Others couldn't care less about frequencies above 20kHz but simply like the sound quality that results from mastering onto an analogue medium — particularly if the multitrack recording was digital. There's another school of thought that detests the idea that music can be reduced to mere numbers [*see our Digital Basics feature on page 204 of this issue for a description of how this happens*], and they see the finished analogue master as a one-off perfect end product, of which CDs are only imperfect imitations, like prints made from old master paintings.

Pro engineers will generally use half-inch stereo analogue recorders running at 30 inches per second (ips) — twice the normal tape speed. This gives an excellent high-frequency response, sweet and clear, although some engineers continue to maintain that the bottom end sounds better at 15ips. Few would have a half-inch machine in their home studio but would be more likely to choose to mix in a commercial studio that had one, so perhaps they are a little beyond the scope of this series, but they're still worth knowing about.

Quarter-inch analogue recorders with a maximum tape speed of 15ips are much more common, and are available very cheaply on the second-hand market. I would say you'd have to be crazy to buy one new, but if no-one does, the manufacturers will go out of business and they will never be made any more! Quarter-inch machines don't really have the aura of their half-inch relatives, but there are reasons why you might choose to use one as your mastering machine rather than one of the digital alternatives:

- Analogue tape has a softer sound, and gently compresses harsh peaks.
- Editing with a razor blade and splicing tape may seem primitive, but it's still a lot cheaper than digital editing. (ADAT tape can't be edited without additional equipment).
- Your master is a 'living, breathing analogue recording' and not 'just a list of numbers'.
- You already have an analogue machine and don't want to spend any more money!

Although there are very many factors that would lead you to go the digital route and avoid analogue, you can still make a fully professional recording on an analogue recorder, so it's still a viable option. If you're buying second hand, there's no reason to accept anything less than a machine in excellent condition — there are so many being offered for sale at the moment. Look at the heads: when they're new they have gently curving surfaces. If there are flat spots much more than 4mm wide, this is a sign that the heads will probably need replacing soon. Allow funds in your budget to have the machine aligned by an expert (several advertise in the back pages of *SOS*).

DAT

The great thing about DAT, besides the fact that it has the same sound quality as a CD, is that there are ▶

MONITORING

Although the monitoring system doesn't form part of the direct recording chain, it certainly does influence the end product, because any deficiencies in the monitors will colour your judgment and affect the way you record and mix.

Monitoring consists of two components — power amplifier and loudspeakers. Power amplifiers are incredibly good these days, and although it is possible to hear slight differences between different models, these differences really are very small indeed and hardly worth considering. Basically the two requirements of a power amplifier are that it is adequately powerful for the job and it is reliable. A third factor is that for studio use it shouldn't really have a fan. For nearfield monitoring, a 100W-per-channel amplifier will offer adequate headroom. Don't forget that the amplifier can — and should — be rated higher than the speakers, but it's up to you to control the volume or you'll blow your drive units.

For main monitors, once again the output of the amplifier (or amplifiers, if an active crossover is used) should be comfortably higher than the rating of the speakers. When judging power amplifiers, bear in mind that an amplifier that is quoted as 100W into 4Ω may only give 50 watts into 8Ω.

I would hazard a guess that 90% of studios operated by *SOS* readers only use nearfield monitors and don't have anything that could be considered main monitors as an alternative. Commercial studios need both — nearfields for close, detailed listening and great big main monitors for creating a vibe. I'll stick to nearfields here.

Nearfield monitoring is all about subjectivity. The definition of a good nearfield monitor is one that engineers can use to create a mix that sells. It doesn't actually matter whether the monitor *sounds* good or not. One famous model sounds dreadful but has shifted literally tens of millions of discs in the shops.

Although manufacturers won't admit it, they recognise that what makes a good hi-fi speaker doesn't necessarily make a good nearfield monitor. I feel that the best way to choose a nearfield monitor, if you have years of experience behind you, is to borrow a pair and make some mixes. Live with them for a while and see how you get on. For most of us this isn't possible, so I would recommend taking a look at what pro engineers are using to create successful recordings that you think are good, and buy the same models. If they can get a good result, so can you. I don't feel that technical considerations, such as how many drive units the speaker has, whether it is active (ie. contains its own power amplifier) or not, whether it's big or small, actually determine whether it is useful or not: it's all in the sound and, as I said, this is subjective.

If I had to start over with my studio, then there are lots of makes of power amplifier to choose from, including Yamaha, C Audio, Crown, Carver and many others. Yamaha have always been a pretty safe option in power amps and their 160 Watts/channel P1600, boasting an 'ultra quiet' fan, comes in at just under £500 and is definitely of professional quality. If a lower price tag was necessary, I might consider less established makes, or even hi-fi power amplifiers, which are sometimes very good value despite their lack of XLR connectors. As far as monitors are concerned, I'm very impressed with the Spirit Absolute 4P, which are active monitors and do not require a power amplifier. At £799 per pair they are — since you don't need an amp — good value.

Spirit Absolute 4P monitors — impressive sounding and, with built-in power amplifiers, convenient to use.

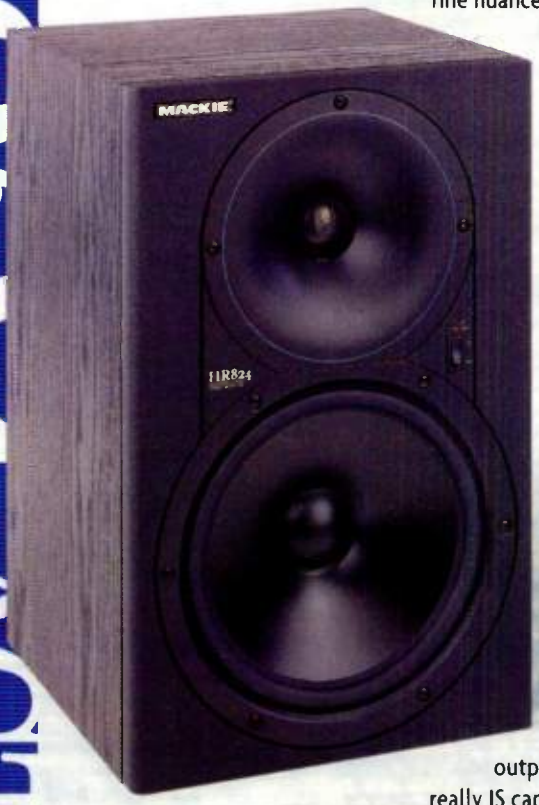
HR824 ACTIVE MONITOR

"Overall frequency response was so flat that it was almost hard to believe." Electronic Musican Magazine*

Ready to confront reality? The HR824 Active Monitor is now in stock at Mackie Dealers.

Owning a set of HR824 near-field studio monitors has the potential of seriously altering your perception of sound.

For the first time, you'll be able to hear **precisely** what's going on all the way through your signal chain from microphones right through to your mixdown deck. You'll suddenly discern fine nuances of timbre, harmonics, equalization and stereo perspective that were sonically invisible before.



> "The low end was robust and present; the electric bass and kick drum thumped into my chest the way those huge UREI® monitors did back in the old days."

Compare HR824s to the competition, and listen to the dramatic differences. Critical listeners tell us that it's as if a curtain has been lifted between themselves and the sound source.

> "In fact, all the sonic details that I can discern on a $45,000 reference system were very well reproduced, although not identically, on the HR824s. That was very impressive."

Next, you'll notice low frequency output. The HR824 really IS capable of flat response to 39Hz. Moreover, it's capable of **accurate, articulated** response at frequencies that low. Rather than a loudspeaker's "interpretation" of bass, you can finally hear through to the actual instrument's bass quality, texture and nuances.

Next thing you'll notice is the huge "sweet spot" directly between the monitors, which is so broad that several people can sit next to each other and still hear a coherent, detailed stereo panorama.

One final point... your monitors are the only part of all your studio equipment that you actually **hear**. Along with good microphones, HR824s are the best investment you can make, no matter what your studio budget. And, like premium mics, HR824 monitors cost more than less accurate transducers.

Each HR824 ships with its own signed Certificate of Calibration attesting to its ± 1.5dB 39Hz-22kHz frequency response.

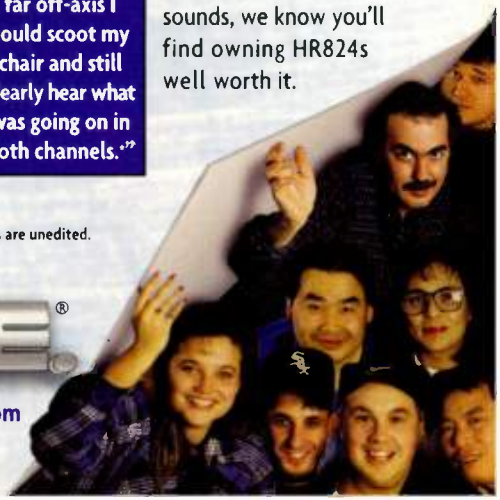
> "The imaging and high frequency dispersion is brilliant. I was amazed at how far off-axis I could scoot my chair and still clearly hear what was going on in both channels."

But if you're committed to hearing **exactly** how your creative product sounds, we know you'll find owning HR824s well worth it.

- Inside, two separate FR Series power amplifiers with a total of 250 watts rated power — the most of any active monitor in the HR824's class.
- On the back, HF Boost/Cut, Acoustic Space, Roll-Off and sensitivity controls, balanced 1/4" and XLR inputs.
- The HR824 cabinet is filled with 100% adiabatic foam. Result: Unwanted midrange reflections from the low frequency transducer are absorbed inside the enclosure.
- Alloy dome is free from "break-up" that plagues fabric domes.
- Power and overload LEDs.
- Logarithmic wave guide propagates high frequencies over a wider area. Result: more precise imaging and a far wider sweet spot.
- Edge-damped 25mm high-frequency transducer is directly coupled to its own 100-watt FR Series™ Low Negative Feedback internal power amp.
- Instead of a noisy port, a passive honeycombed aluminum transducer on the rear of the HR824 almost doubles the low frequency radiating surface.
- Specially-designed 224mm low frequency transducer is servo-loop-coupled to a 150-watt FR Series™ amp providing it with incredibly fast transient response and extremely low frequency output.

* Electronic Musician, October 1997. All quotes are unedited.

MACKIE®



Represented in the UK by:
Key Audio Systems Ltd. 37 Robjohns Road Chelmsford Essex CM1 3AG
Tel: 01245 344001 Fax: 01245 344002 email: info@keyaudio.co.uk Web: www.keyaudio.co.uk/keyaudio

www.mackie.com • sales@mackie.com

©1997 Mackie Designs. All Rights Reserved. All specifications are subject to change without notice.

The following are registered trademarks or trademarks of Mackie Designs Inc.: The Mackie logo, the "Running Man" figure, and FR Series.

UREI is a registered trademark of Harman International.

A DAT machine really is obligatory in just about every studio.

▶ DAT machines everywhere on the planet. You should always be able to play your archive of DAT tapes, even after the format passes into manufacturing history, as long as they remain in good condition. Likewise, if an opportunity to release product into the Chilean market arises, they have DAT machines there, as well as in China, Hawaii, Alaska, the South Island of New Zealand and just about everywhere else you can post a padded envelope to. A DAT machine really is obligatory in just about every studio, since even if you prefer to master to another format, people will bring DAT tapes to you with samples, mixes and miscellaneous bits of audio they want to work with. It's also convenient to give your collaborators or customers DAT tapes of work in progress for them to listen to at home — although some commercial studio owners are careful about who they give DAT copies to before the session has been paid for; you wouldn't want to master from a cassette, but there are no problems mastering from DAT!

There are a number of factors to consider when choosing a DAT recorder. Firstly, it's now fairly well known that a DAT tape recorded on one machine will sometimes not play properly on another, almost always because of faulty alignment of one of the machines. Obviously, the more you pay for a machine, the more likely it is to be set up properly, and it's also true that the more expensive machines, particularly those that feature varispeed capability, are more tolerant of tapes that are slightly iffy than cheaper machines that require things to be just so. The answer is to buy from a reputable dealer who regards DAT machines as bread-and-butter income; they're more likely to help you with any problems you come across, and they're likely to have inside knowledge on which machines visit the service bench most often.

The features of DAT machines tend to be very similar between makes and models. Here's a short list you should consider:

- Digital inputs and outputs: S/PDIF phono connectors are more common than optical, and therefore more useful.
- The ability to record at 44.1kHz sampling rate as well as 48kHz: CDs are always recorded at 44.1kHz, and it's better to record at this frequency to avoid the need for conversion.
- Lack of SCMS copy protection: SCMS doesn't protect you; it doesn't protect anybody — it just prevents rightful copyright owners making digital copies of their own work. If a machine does feature SCMS, make sure that it can be switched off (and leave it switched off!).

You should also consider factors such as ease-of-use and robustness, and possibly portability. Sound quality tends not to be such an issue with DAT, and in fact with most digital equipment. If you can hear differences between different DAT machines, they are very, very small, and won't make the slightest difference to the marketability of your product. There have, in the past, been certain models with noisy A-D convertors, necessitating the application of pre-emphasis, which is an option in the fundamental DAT specification. Pre-emphasis boosts high frequencies on record, then de-emphasis cuts them back on replay, and in doing so cuts back high-frequency noise too. All DAT machines, as far as I know, can play back a pre-emphasised tape correctly, but hard disk editing systems may not recognise and correct the high-frequency boost, which is a problem.

Some DAT machines have features such as 'Super Bit Mapping', where the dither noise introduced into the signal as a necessary stage in the digital recording process is subtly manipulated to give better than the theoretical 16-bit performance. This is good for a first-generation recording or clone copy, but if the data is modified in any way, as it almost certainly will be somewhere along the line, the benefits are lost.

CD RECORDERS

There is a school of thought that suggests that DAT is on the way out and recordable CD is the new trend in mastering. There are pros and cons either way, but recordable CD, or CD-R, is certainly well worth considering, though it is, I think, possible to be seduced by the 'pro' aura of CD.

It's the dream of many musicians to get their music onto CD, and CD-R is one way of doing it. There are two strands to recordable CDs: one is ▶

MEDIA

Whether you're a tape user, analogue or digital or you record onto a computer-based format, the correct choice of media is vital, since once it's rotted, corrupted, or otherwise damaged in any way, you've lost your creation forever. Additionally, and just as importantly, your recording should sound good on the media you use. This doesn't just apply to analogue formats, since if a digital tape or disk is producing a lot of errors, the resulting glitches or error concealment will enormously affect the sound you hear.

• Analogue tape: there are now just two main brands: Ampex by Quantegy, and BASF. They both make excellent products, although top engineers can hear a difference between them, and some express a preference.

• Digital tape multitrack recording: always follow the recommendation of the manufacturer of the recorder. If in doubt, contact the distributor for current information (Sound Technology, 01462 480000, for ADAT; Tascam UK, 01923 819630, for DTRS).

• DAT: choose a brand from a company known for their depth of expertise in tape technology, particularly video tape, which has many similarities. There is one brand, which I have never seen advertised in *SOS*, fortunately, that I wouldn't touch with a barge-pole as a result of my past experiences.

• Computer media: once again, look for big-name products. CD-Rs, for instance, are available unbranded at very low prices, but how can you possibly have confidence in what you're buying when you don't know who made it? There was some discussion initially about the various coatings of CD-Rs and which would be best. I have yet to notice any practical difference, but I am concerned about the robustness of the label side of the disc, which has only a very thin coating to keep the data safe from the outside world (I saw a disc destroyed recently by having a sticky label attached and then removed — it took the entire coating with it, leaving a large area of clear plastic!). Some CD-Rs have an additional protective layer on the label side, which should also minimise the likelihood of damage by solvents from felt-tip pens.

too hot
to be printed

see what everybody is talking about...
call us, write us, fax us, e-mail us or send a bottlemail
to receive your personal copy of our hot deals flyer.

th•mann

treppendorf, hauptstrasse 30
D-96138 burgebrach
germany

telefon: +49-9546-9223-55 / -56
telefax: +49-9546-6774
e-mail: info@thomann.de
internet: http://www.thomann.de

HHB CDR800.

"The most important part of a recording is the fun and satisfaction you get from it."

the stand-alone CD recorder which looks similar to a DAT machine. Those who like traditional equipment will feel well at home with this. The other is the computer peripheral CD-ROM writer which, with the appropriate software, can be used to generate audio CDs. I'll look at CD recorders first and save CD writers for after I've considered mastering to hard disk.

The fact that a CD recorder can produce a very high-quality master is not in dispute. Any disadvantages of CD recorders stem from the fact that CD was never intended to be a recordable medium: it was designed to be manufactured in quantity in a factory on heavy-duty presses. The CD-R medium is different from a standard CD in that it has a sensitive coating which can be written to by a laser, to produce a pattern of dots which look to any CD player just like the pits in the aluminium layer of a conventional CD. The problem area is that the CD standard calls for each CD to have a table of contents which describes to the player the tracks on the disc and where they are to be found. The table of contents, or TOC, fairly obviously can't be finalised until all the tracks have been copied, and therefore a CD-R can't be played on a conventional CD player until the disc has been 'fixed up' or 'finalised' and the TOC written. Up to that point additional tracks can be added, but afterwards no more tracks can be added even if only a few minutes of audio have been recorded. CD recorders can, of course, play partially recorded discs before the TOC has been generated.

Although a CD recorder may seem like a very attractive option, there are further drawbacks. Firstly, unless you have other equipment with which you can edit your audio, your finished stereo CD masters will be untidy round the edges, even though the main content will be OK. For instance, when you're recording using microphones, every track will be prefaced by noise, hum, clicks, breaths, chat, count-in — all sounds that you wouldn't want your listening public to hear. If you're going to take your work to a mastering studio this isn't a problem, just an irritation (which, it must be said, also applies to DAT). Also, it's common when mixing that, even after many rehearsals, several attempts at recording are necessary to get level changes and fades right. Since a standard CD-R blank can't be erased, all of these failed attempts will be stored for posterity. Again, it isn't a problem if you're going onto a mastering studio, and have kept a note of which was the best version of the mix. Another point to bear in mind is that if you add tracks to a CD one at a time, the fact that the recording laser is switched on and off during the course of the disc means that you might hear clicks when the disc is played back on a normal CD player. It really is best to compile all the tracks on another medium and then copy them onto CD. This is the best way to optimise the performance and minimise the drawbacks of a CD recorder.

There are some CD recorders available now at comparatively low prices. Bear in mind, though, that the lower cost recorders demand that special audio CD blanks are used. and these are rather more expensive than standard CD-R media.

Another option is the CD-RW, or rewritable CD recorder. If you make a mistake in your mix, you simply erase it and have another go! You might imagine that any track on a disc can be erased at any time, but this is not the case. You can only erase the most recently recorded tracks, starting from the last track and working back towards the beginning. This is no different to DAT, where, although you can erase earlier tracks, hardly anyone ever does. It would be really nice if you could make up a compilation on a rewritable CD and then put it in your normal CD player so that you can make a copy, or copies, on the very much cheaper CD-R discs but, unfortunately, standard CD players don't currently recognise CD-RW discs, even after they are finalised.

ADAT

It's a little-known fact that it is not only possible to master to ADAT [*see our feature on this very subject in* SOS *February 1995*], but there are also good reasons why it's desirable to do so. I have to say that I'm thinking about people who have multiple ADAT machines (or Tascam DTRS-format machines) who usually have tracks to spare. If you only have eight tracks, you'll probably use them all in multitracking.

The advantages of mixing onto the same tape as you used for multitracking are these:

- You only have one set of transport buttons to think about.
- You never have to worry about recording onto the wrong part of the stereo tape and erasing something else that you want to keep.
- You can mix in sections.

Mixing in sections is a very useful technique which gives a lot of the advantages of automation

Mastering onto a multitrack recorder, such as this Alesis ADAT XT20, can offer a number of benefits.

Think BIG

Just because you're playing the smaller venues doesn't mean you can't *sound* big.

JBL, the sound reinforcement choice of the world's major venues, now produce a range of loudspeakers for *every* budget. **JBL**'s make a BIG difference, whatever level you're playing at!

JBL TR SERIES

Virtually indestructible, with built-in protection circuitry and high-quality components. Speakers that thrive on merciless torture!

- 4 speaker range
- High power capacity
- Pure titanium compression drivers
- Inaudible SonicGuard™ protection circuitry

JBL MR SERIES

Chosen by professional musicians the world over, the MR Series incorporates the best combination of internal components available, in a cabinet made for the road.

- 8 speaker range
- Precision crossover networks
- High power capacity
- Pure titanium compression drivers
- Woofers protected by 18 gauge steel grills
- Inaudible SonicGuard™ protection circuitry

JBL SR SERIES

A completely flexible system for semi-pro or pro bands, DJs and sound rental companies. The SR Series produces effortless sound quality from the same speaker components that are used by some of the world's largest tour companies.

- Large format, pure titanium compression drivers
- Road-tested VGC™ (Vented Gap Cooling) LF transducers
- High grade plywood cabinets for maximum structural integrity
- Advanced crossover network design
- 1/4" jack or Neutrik Speakon® connectors

JBL EON

A high quality sound reinforcement system light enough to be portable, flexible enough for installation and with a sound quality good enough to use anywhere.

- Individual speakers or complete system
- Lightweight neodymium magnets and polycarbonate enclosures
- Passive and bi-amped speaker formats
- Floor, pole or wall mounting
- Expandable and upgradeable

A JBL word about power compression:

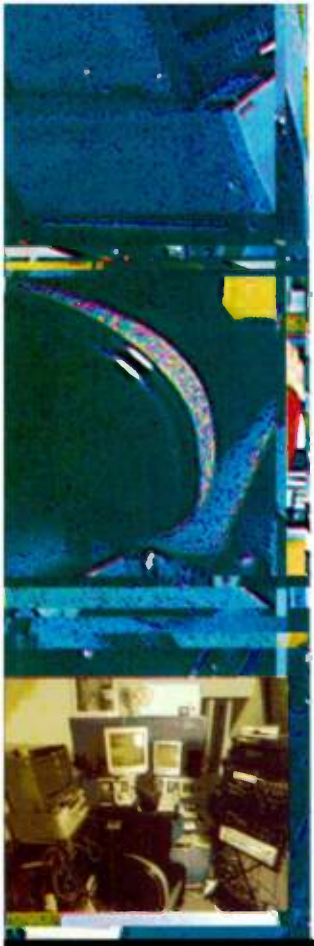
Speaker power is turned into heat as well as sound. This heat increases the electrical resistance of a speaker making it harder for the amplifier to drive. And the harder you drive the speaker, the more heat is generated! This vicious circle is called power compression. A high power compression figure means more heat is generated - great for on-stage heating, not so good for power output. JBL loudspeakers are among the most efficient around and are specifically designed to have very low power compression figures.

If you want an easy-to-understand guide to loudspeaker and amplifier ratings, then contact JBL Professional - we'll send you one FREE OF CHARGE!

JBL PROFESSIONAL

Distributed exclusively in the U.K. by **ARBITER PRO AUDIO**, a division of ARBITER GROUP PLC.
Unit 2, Borehamwood Industrial Park, Rowley Lane, Borehamwood, WD6 5PZ
Tel: 0181 207 5050 • Fax: 0181 207 4572 • Web: www.jblpro.com

WRH



without the expense. A simple example would be where the verses and the choruses of a song need different fader levels for certain instruments. Often more changes are necessary than can be performed in real time with one pair of hands. With an ADAT, you can mix all the verses and then go back and punch in the choruses. (After you've done the verses it's a good plan to make a clone copy of the tape, in case you make a mistake on the punch-ins.) ADATs punch in beautifully, and nearly always absolutely seamlessly, with four selectable crossfade times — better than hardware hard disk recorders that only give one fixed crossfade time, virtually a butt edit.

Another advantage of ADATs (not DTRS this time) is that 20-bit ADAT machines are now available at very attractive prices. So if you mix onto ADAT your master has, in theory, a signal-to-noise ratio which is 24dB better than DAT or CD. In practice the advantage will be a little less, but still worth having. The tricky bit will be transferring this onto CD in the digital domain; it's early days to recommend a reliable solution that will definitely work and allow the best possible 16-bit copy to be made, but at least you know that your master is future-proof.

HARD DISK

Hard disk mastering is a tempting option for many. If you have a computer and multitrack audio recording software it's usually possible to mix into stereo completely within the computer. The procedure would be to get your recording sounding as good as possible with levels, EQ and effects (possibly automated) and then select the function commonly known as 'create file' or 'bounce'. This can be used to make a mono or stereo mix of the track as you've just heard it, but faster than real time, so you don't actually have to play the track through. Another point worth a mention is that there is also software available for mastering onto disk without multitrack recording or CD-writing facilities.

The advantages of mastering directly onto hard disk are several, besides its cost effectiveness. Firstly, you can do further work on your stereo master, such as editing, EQ and compression, assuming that your software has these capabilities.

IF I HAD TO START OVER

Having written in each of the four parts of the Into Gear series what I would do if my studio burnt to the ground, I'm starting to get nightmares about it! But if it did happen, this is what I would buy for mastering with the money from the insurance.

Firstly, I'd have to have a DAT. DAT is the most common format for exchanging material and these days it's difficult to live without it. In recent years there have been a number of pseudo-hi-fi DAT machines on the market at seemingly attractive prices, but from my own experience and first-hand reports I find them difficult to recommend. It's far too likely that a tape recorded on one of these will play back with glitches on someone else's budget machine. I would stick to manufacturers who concentrate on the professional market, such as Fostex, Tascam and Panasonic, and also Sony's higher priced machines. A good indicator, I feel, is the chunkiness of the loading mechanism. The Panasonic SV3800 has been a favourite of mine and it's currently advertised at £1099. It seems a lot of money, but this is the price you have to pay for something properly built, with no SCMS and a full complement of pro features.

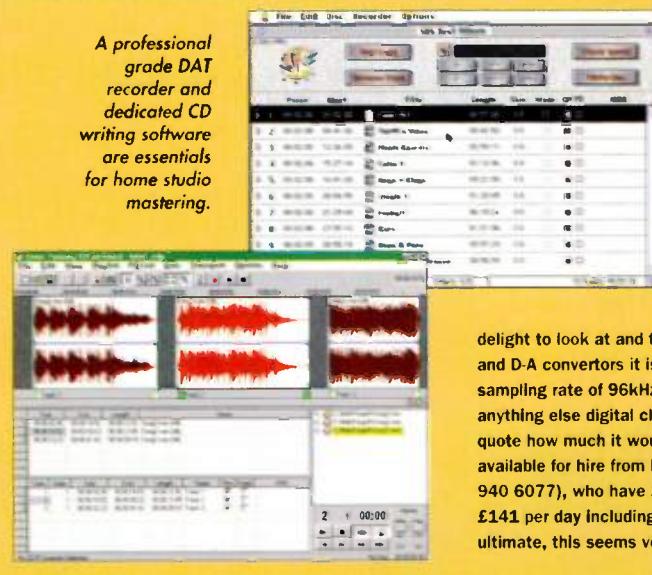
If DAT is an essential, analogue tape is a luxury, but it is one I would like to fit into my life. In my imagination I'm scanning the Free Ads in *SOS* and someone is offering a half-inch, 30ips Studer A80 for a knock-down price because he's 'upgrading' to digital. A quick phone call and it's snapped up. In reality, most people only use half-inch machines when they are working in a pro studio that happens to have one. It's possible to hire half-inch machines, however, and Music Lab offer the Otari MTR12H and Studer A820 at £117.50 and £146.88 respectively per day. Multiply by four for weekly rates.

CDs are important too, and although I love the simplicity of a stand-alone CD recorder such as the Philips CDR870 (£499), HHB CDR800 (£1526.33) or Fostex CDR200 (£1521.63), I would have to go for the additional versatility of a computer-linked CD writer. The question of which CD writer to buy is a tricky one. Anything related to the computer industry is subject to a very fast pace of change, so whatever is good today will be history in six weeks time. The trick is to choose your software first and then enquire which CD writers are compatible and will work in the preferred 'disk at once' mode. Expect to pay up to around £400. CD-writing software for the Mac includes Adaptec's *Jam* (£311) and Digidesign's *Masterlist CD* (£445.33). Both are very well featured and will almost certainly cover all your needs. For the PC, I would consider Sonic Foundry's *CD Architect* (£299) or Steinberg's *Wavelab* (£329).

For mastering to disk, and as preparation for CD writing, multitrack recording software such as Steinberg's *Cubase VST* (Mac or PC) has the ability to do this already, so no further software may be required. A professional sound card will be necessary, and those which I said are suitable for multitrack recording in 'Computers In the Studio' (*SOS* February '98) will work fine for stereo too. I prefer to do my multitrack recording onto tape, and my disk mastering software of choice is still Digidesign's *Sound Designer II*, which is only available for the Mac, unfortunately (£445.33). I could get by without it and simply use Pro Tools for all my editing, but I find *Sound Designer* still very quick, reliable and effective.

There are some options I personally would not consider for my own studio. Mastering onto cassette lacks quality, although I am happy to make cassette copies onto a properly set-up cassette deck in the £120-£150 price bracket from a reputable manufacturer. I feel that DCC (Philip's proposed replacement for the traditional cassette) is history now, even though it worked quite well. Sony's Minidisc format has many uses, but for me, mastering isn't one of them since the sound quality, although good, is not quite as good as CD. However, I wouldn't mind seeing a Sony MDS-JE510, advertised at around £200, in my studio, since I use a portable Minidisc recorder as an audio notebook.

If I won the lottery and I wanted the ultimate dream mastering machine, I'd buy a Nagra D open-reel digital recorder. Nagra is a very well respected manufacturer of recorders primarily for the film and video industry, but this compact unit is a delight to look at and to work with. With external A-D and D-A convertors it is capable of 24-bit resolution at a sampling rate of 96kHz, which blows just about anything else digital clean out of the water. I won't quote how much it would cost to buy since it is available for hire from Richmond Film Services (0181 940 6077), who have 22 of these little beasties, for £141 per day including outboard convertors. For the ultimate, this seems very reasonable!

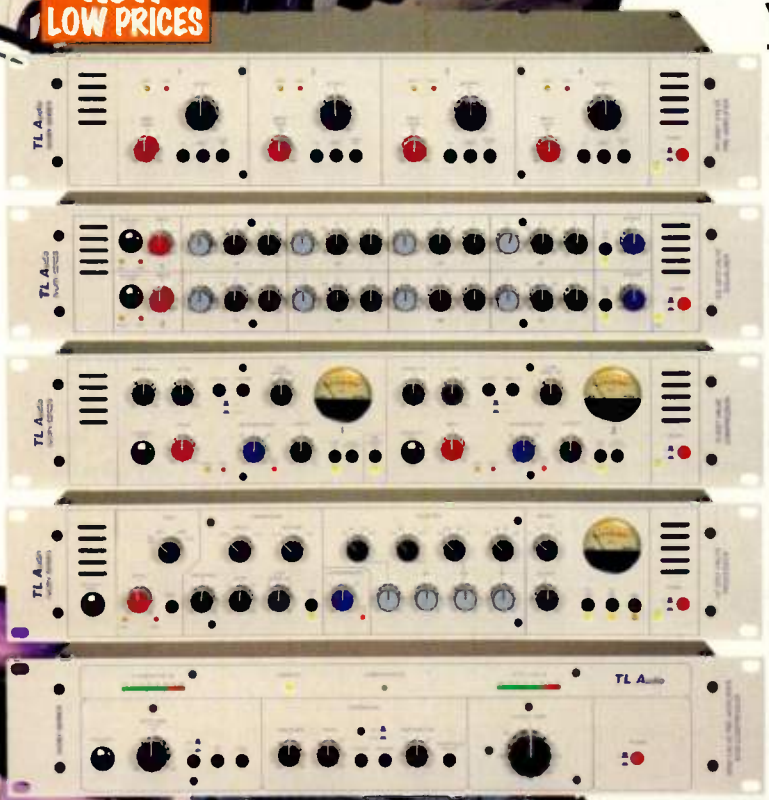


A professional grade DAT recorder and dedicated CD writing software are essentials for home studio mastering.

TL Audio IVORY SERIES

cool on the outside, warm on the inside

NEW LOW PRICES



5001
4 Channel Valve Mic Pre-Amp
£399
EX VAT £469 INC
USA PRICE $699

5013
2 Channel Valve Parametric EQ
£399
EX VAT £469 INC
USA PRICE $699

5021
2 Channel Valve Compressor
£399
EX VAT £469 INC
USA PRICE $699

5051
Mono Valve Voice Processor
£399
EX VAT £469 INC
USA PRICE $699

5050
Mono Valve Mic Pre-Amp & Compressor
£249
EX VAT £293 INC
USA PRICE $449

TL Audio valve technology compressors, equalisers and pre-amplifiers changed the sound of modern music.

Since the famed EQ-1 4-band Equaliser was introduced in 1993, professional musicians, studio engineers and top producers the world over have been using TL Audio valve signal processors to add warmth to sessions in the studio and performances on stage. Vocals simply sound better, clearer and more 'human' with TL Audio valve compression. Drums and percussion have more attack and more impact with TL Audio valve equalisation.

And it's the same with bass, guitar, piano or any other source. With the launch of the new Ivory Series, TL Audio have taken the outstanding valve performance and flexible operation loved by professionals, packaged it in enclosures oozing style and presence, and combined it with an ultra-affordable price tag.

There are simply no better sounding or better value valve signal processors.

Chris Porter *(Producer - Take That) - "I bought one of the first EQ-1s and I've enjoyed using it immensely. It gives a unique quality to the vocals in particular - Take That's 'Back For Good' is a typical example of the EQ-1 adding depth and presence to a vocal track."*

TL Audio CLASSIC SERIES

C-1
Dual Valve Compressor
£999
EX VAT £1174 INC
USA PRICE $1375

EQ-2
Dual Parametric Valve Equaliser
£1299
EX VAT £1526 INC
USA PRICE $1775

Chris Fogel *(Engineer - Alanis Morissette) "I was amazed at what the C-1 did for the track. The bottom end was warm and solid and the high end was clear and open."*

Andy Jackson - Pink Floyd *(Sound engineer) - "All the lead vocals on the "Division Bell" album mix were run through the EQ-1 and the new EQ-2 is probably the best all-round EQ I've ever used."*

TL Audio®

Worldwide distribution:
Tony Larking Professional Sales Ltd.
Letchworth, SG6 - 1AN (UK)
Tel: +44 (0)1462 490600
Fax: +44 (0)1462 490700
Web: http://www.tlaudio.co.uk

SASCOM DIRECT

Canada & USA: SASCOM DIRECT
Tel: +1 905 - 827 9740
Fax: +1 905 - 469 1129
Web: http://www.sascom.com

Germany: S.E.A.
Tel: +49 5903 93 880
Fax: +49 5903 1463

France: Music Business
Tel: +33 1 43 38 15 95
Fax: +33 1 43 38 70 79

"...you can still make a fully professional recording on an analogue recorder..."

- Secondly, when you have several mixes on disk you can sequence them and see what they would sound like as an album. You will almost certainly find subjective level discrepancies between tracks, even if you've taken care to make them all peak at the same level. There may be clashes between the EQ balance of adjacent tracks which need evening out. In the worst case, the vocal on one track may be very much louder than the vocal on the next, making them both seem incorrect. Compare this with having all your mixes scattered over several DAT tapes. Without at the very least having another DAT machine to compile onto, how can you know that your album is going to hang together properly?

The disadvantage of mastering onto disk is that the end product is not always portable from one system to another. What you should aim for is a mix in a standard format, created as a continuous file without edits. On the Macintosh, AIFF and Sound Designer II are the most common formats, and if you can transfer to a Zip or Jaz cartridge you'll find a reasonably large community of people with the right equipment to import and play your files. On the PC, the WAV format is ubiquitous and similarly portable. Whether AIFF, Sound Designer II or WAV, you should mix to a stereo file rather than the linked mono files that are sometimes possible. Stereo files are more commonly used for mastering and can always be split later on if need be.

CD WRITERS

CD Writer is the term generally given to a CD-recording device attached to a computer and normally used for making CD-ROMs. However, with the correct type of writer and the right software you can just as easily make audio CDs, on standard CD-R media (not the special audio kind) and sometimes CD-RW. Choosing a CD writer isn't all that easy, since they're often sold under brand names that conceal the true manufacturer of the CD-writing mechanism inside. One essential feature you will need is 'disc at once' recording, which means that the whole disc can be recorded in a single pass. If disc at once recording is not supported then the disc will be written 'track at once', which means that the laser writes a run-out section after each track. If the disc is to be a CD-ROM this is of little consequence, but on an audio CD it could result in clicks on playback.

Yamaha CDR400TX CD recorder.

Another feature you should look at in a CD writer is its speed. CD writers commonly come in 2x and 4x writing speed which means that a 74-minute disc (the maximum duration) can be written in 37 minutes or 18.5 minutes respectively (plus a little 'housekeeping' overhead). Reading speed is obviously not relevant unless you wish to use the CD writer as a conventional CD-ROM too. CD rewriters are also available which take advantage of the CD-RW media.

To use a CD writer you must already have audio recording software that will generate an AIFF, Sound Designer II or WAV file. In addition you'll need CD-writing software. You may find that when you buy your CD writer it comes with such software included in the price. Although this software will probably offer basic audio CD-writing functions, you'd be much better off with specialised audio CD-writing software that will allow you to set any length of pause between tracks, track levels, crossfades, copy protect, pre-emphasis and ISRC codes. In fact, you should aim to be able to make a fully Red Book-compliant CD (see *SOS* January '98 for info on the various CD standards), which can be sent directly to a CD manufacturer, bypassing the mastering studio.

The last option that I will mention briefly mastering to Minidisc. The sound quality of Minidisc isn't perfect but most people would say that it is certainly very good, and stereo Minidisc recorders can be bought at a very much lower cost than DAT or CD recorders, which makes them a practical option for many. They also have basic editing facilities that allow compilation of tracks, but not really editing within a track.

AND FINALLY...

So that's it for Into Gear. I have been impressed by two things during my research. Firstly, there's such an immense amount of gear available, compared with when I first started writing for *Sound On Sound*. We're so lucky, but we still want more! Secondly, I can finish an article at the last possible moment before the deadline, email it to the editorial office where it is put into the issue which will be rushed onto the news stand in a matter of days — and what I write is still out of date already by the time you read it! Such is the pace of change in sound and music technology. It's a little bit frightening, but don't forget that if you choose your equipment wisely now, whatever changes occur over the next year or two, your equipment will still be delivering the goods. You won't need to trade it in and update, but you can add to it whatever is latest and best. Recording may be an expensive hobby, but it's value for money in terms of the fun that you can get from it. And who knows, your first hit may be just around the corner and you can start planning a bigger and better studio all over again!

ARE YOU AWARE ?

EURODESK

There are still people who claim that a good, professional mixing console costs a fortune. BEHRINGER's EURODESK series once again proves them wrong. The MX8000 has already received rave reviews for its dynamics, audio transparency and versatility. Now let your creativity run wild with the MX2442, while still keeping full control. Eight busses, six auxes and a full featured Mix-B section in the MX8000 or four busses and six auxes in the MX2442 give you control and flexibility, whether live or in recording. Our robust 19" rack mounted power supply units and the finest components guarantee an exceptional and reliable performance.

BEHRINGER

BEHRINGER AG Tel. +41 (0)56 - 210 9555, Fax - 210 9559 | BEHRINGER INTERNATIONAL GmbH Tel. +49 (0)2154-92 66 0, Fax - 92 66 30 | BEHRINGER Österreich GmbH Tel. +43 (0)7752 - 85181, Fax - 86707
BEHRINGER China Ltd. Tel. +852 2808 6888, Fax - 2873 3911 | BEHRINGER Espana S.L. Tel. +34 (93) - 760 1396, Fax - 383 6052 | SAMSON Technologies Corp. +1 516 - 364 2244, Fax - 364 3888
BEHRINGER UK Ltd. Tel. +44 (0)1483 - 45 8877, Fax - 45 8822 | BEHRINGER Benelux b.v. Tel. +31 (0)73 - 513 0000, Fax - 513 0778 | BEHRINGER France S.A.R.L. Tel. 04 78 04 44 16, Fax 04 78 04 44 29

Welcome to the Interactive World of Behringer ! Hotline: +49(0)2154-920666, Internet http://www.behringer.de

All specifications etc. are subject to change without any notice. Copyright BEHRINGER 1998

Philips

CD Re-Writable

Sensational new deal! - A fantastic low price

including **an amazingly generous selection of free accessories, plus a full UK Warranty.**

Only available from SRTL and authorised stockists listed below.

Neato CD Labeller Kit

Neato's 'CD Labeller Kit' includes everything you need to design, print and apply professional looking CD labels and personalised jewel case inserts to your CD recordings.

Neato includes disc labels and perforated/scored blank card materials suitable for laser/inkjet printing and an applicator which aligns labels perfectly. Neato labels are specially formulated and age-tested to ensure zero data readback errors from disc damage and will not peel in a CD drive.

Neato's Mac & PC compatible 'CD Face' design software templates will produce 4-page jewel case booklets,tray liners and disc labels.

Alternatively, you can import artwork from any of the popular page layout and illustration programs.

£35

CALL 01243 379834 FOR A FULL INFORMATION PACK WITH REVIEW EXTRACTS

Authorised stockists for a stunning deal and the peace of mind of a full UK Warranty

A1	Manchester	Music Connections	Bristol	Musical Exchanges	Coventry	Spectre Sound	Huddersfield
A1	Stockport	Music Connections	Chelmsford	Prof. Music Tech.	Southend-On-Sea	Systems Workshop	Oswestry
A1	Preston	Music Connections	Leeds	Prof. Music Tech.	Oxford	Systems Workshop	Bangor
Academy Of Sound	Nottingham	Music Connections	Birmingham	Prof. Music Tech.	Romford	The M Corporation	Ringwood
Academy Of Sound	Leicester	Music Connections	Southampton	Sound Control	Dunfermline,	The M Corporation	Nottingham
Academy Of Sound	Norwich	Music Control	Alsager	Sound Control	Edinburgh	Active Sound	Watford
Academy Of Sound	Sheffield	Music Control	London	Sound Control	Glasgow	Ad Lib	Speke
Carlsbro Retail	Stoke On Trent	Music Village	Chadwell Heath	Sound Control	Dundee	Andertons	Guildford
Carlsbro Retail	Leeds	Music Village	Barnet	Sound Control	Kirkcaldy	Autograph Sound	London
Gigsounds	Streatham	Music Village	Cambridge	Sound Control	Newcastle	AVI	Carlisle
Gigsounds	Croydon	Music Village	Croydon	Sound Control	Salford	Axe Music	Colchester
Music Connections	London	Musical Exchanges	Birmingham	Spectre Sound	Bingley	Axis Audio Systems	Stockport

Blue Systems	Saffron Walden	Electro Music	Doncaster
Bonners	Eastbourne	Eric Lindsey Ltd	Catford
Boomerang Sounds	Manchester	Fairdeal Music	Birmingham
CC Music	Glasgow	Fret Music	Southampton
Chandler Guitars	Richmond	Gamlins Music Centre	Cardiff
Control Techniques	Dublin	Graham Webb Music	Leighton Buzzard
City Music	Birmingham	G. A. & K. Centre	Brighton
Cranes	Cardiff	Hollywood Music	Wolverton
Dawsons	Warrington	Honky Tonk Music	Southend on Sea
Earth Music	Kingston Upon Thames	HW Audio	Bolton
East Coast Music	Jersey C.I.	Intasound	Leicester
Eddie Moors Music	Bournemouth	JB's Music Store	Tunbridge Wells

PHILIPS

Philips have re-written CD history with the worlds first stand alone, re-writable CD recorder

TELEPHONE 01243 379834 FOR THIS MONTHS SPECIAL PROMOTION

Universally acclaimed by the press as a revolutionary new product, Philips new CD Re-Writer will transform the way modern recording musicians present their music to the world.

The recorder provides two writing modes. There's CD-R, a low-cost, 'write once' media - perfect for small-run duplication and compiling tasks. Then, for mastering or updating working reference copies there's CD-RW, or CD Re-Writable. The recorder let's you rewrite a single CD-RW disc a minimum of 500 times with no degradation - so say goodbye to worries about blank media costs.

Every studio needs a CD recorder, but buying a 'write once' unit, or one that needs a computer to run it is a mistake - you know how stretched your Mac or PC is running the latest MIDI/audio programs - just wait 'til the next update comes! The new Philips CD recorder is a re-writable, stand alone device that is simplicity itself to use. With automatic track numbering from CD, DAT, DCC & MD sources, auto-start recording and synchronous dubbing from CD, nothing could be simpler - all you do is hit record.

Philips CD Re-Writer cuts no corners and incorporates a precision die-cast transport, continuously calibrating converters, a full host of coaxial and optical I/O's as well as infra-red remote control. Used with Philips premium quality CD-Recordable media your Re-Writer will give you exceptional sound quality whilst ensuring error-free playback.

Put together the functionality, versatility, engineering quality and price of Philips new CD Re-Writer and it's quite plain which CD recorder you should buy.

SRTL

Philips CD-R & CD-RW discs for digital audio

Philips CD-R74 DA & CD-RW74 DA blank media are premium-quality discs designed and optimised specifically for real time audio recording on Philips new CD Re-Writer. Unlike some other brands, or data storage CD-R, Philips unique DA (Digital Audio) formulation produces unparalleled performance characteristics in realtime recording on the new Re-Writer. Manufactured by Philips Professional Digital Optical (PDO) division, these are the only discs we recommend.

Philips CD-R74 DA

Produces the highest possible quality results on your Philips CD Re-Writer and any CD playback device - we recommend you use no other. The ultra low jitter characteristics ensure error-free playback and the estimated lifespan of a CD-R74 DA disc exceeds 100 years. **Contact your authorised stockist or call SRTL direct for express mail order service.**

Philips CD-RW74 DA

Can be recorded/erased repeatedly - a minimum of 500 re-recordings with no degradation. CD-RW74 DA discs are designed for use exclusively with the new Philips CD Re-Writer whilst offering full forward compatibility with DVD playback devices. Life expectancy exceeds 70 years. **Contact your authorised stockist or call SRTL direct for express mail order service.**

CALL SRTL ON 01243 379834 FROM 9.30AM TO 2.30PM FOR NEXT DAY DELIVERY

Authorised stockists - for a stunning deal and the peace of mind of a full UK Warranty

KGM ..... Wakefield	Musically Yours ..... Cannock	Q Music ..... Birmingham	Sound Pad ..... Barnstaple
Kingfisher ..... Fleet	Music Way ..... Birmingham	Q Audio ..... Stockton-on-Forest	Sounds Live ..... Newcastle On Tyne
Knight Sound & Light ..... Hanwell	Natural Audio ..... Baldock	Raper & Wayman ..... London	Stirling Audio ..... London
Low Fold Audio ..... Lancaster	Neath Music Centre ..... Neath	River Pro Audio ..... London	Street Life ..... Rotherham
MacMusic ..... Falkirk	Nevada ..... Portsmouth	River Music ..... Cleethorpes	Studio Spares ..... London
Marcus Music ..... Belfast N.I.	PA Installations ..... Llanelli	RnB Music ..... Aberdeen	Sutekina ..... London
Marquee Audio ..... Shepperton	P&R Audio Tech ..... Hailsham	Rockbottom ..... Croydon	Syco Systems ..... London
Millennium ..... Nottingham	Phuture Sounds ..... Datchet	Rose Morris ..... London	The Audio Connection ..... Fareham
Mix & Midi ..... Leeds	Picton Music ..... Swansea	Russells Music ..... Cork, Eire	The Music Centre ..... Bedford
Music Lab ..... London	Play It again Sam ..... Derby	Session Music ..... Belfast, N.I.	The Music Station ..... Swansea
Music Solutions ..... Stevenage	Project Music ..... Hounslow	Sofiscotech ..... Bradford	Wisbech Music Centre ..... Wisbech
Musicland ..... Cardiff	PSS Music ..... Grimsby	Sound Business ..... Woodford Green	Way Out West ..... Twickenham

SRTL

Record House, Emsworth, Hampshire PO10 7NS
Tel: 01243 379834 Fax: 01243 430639
email: info@srtl.co.uk web: http://www.srtl.co.uk

Sample shop

Our regular look at the hottest new sample CDs and CD-ROMs.

BLACK II BLACK VOL.3

(2-CD AUDIO SET)

It is possible to confuse feel with emotion. The demo Steve McIntosh and Joe 'JC' Charles (the producers of this double AMG CD) have put together on track one of the first CD is a case in point. It's clever, well-produced, lively, toe-tapping, and bounces along swingingly, but it didn't move me one bit. Plenty of 'feel', sure, but no emotion.

Tracks 2 to 24 on the first CD each feature a soul drum/percussion loop, one or two bars long, plus several variations, and the tempos are up a little on other recent soul releases (around 100, rather than 80/90bpm). All the patterns are clean and sharp, but it's not until we hit the TR808 stuff that the beats really start to get under your skin. I guess here these guys are getting back to their roots, and it shows; these patterns are programmed with effortless aplomb. No cumbersome fills, no over-complicated clave patterns; just good solid feel — the emotional sort. Think back to Marvin Gaye's 'Sexual Healing'. These patterns could herald a resurgence in the noble 808's popularity (it always was a classier act than the 909! Better key colours, too. And that lovely matt-black finish. And those flashing LEDs. And...).

On track 16, 'Swing Bass Loop', you discover Steve and Joe own a Minimoog — there's no disguising that filter. After the loops come some lovely live ensemble brass stabs, swells, riffs and tone clusters; all dry but not dead. It's great stuff if you can use it. Also included are multisampled sets of short notes, and solo trombone, trumpet and sax riffs and blasts, with some great sax resonance on track 32.

Tracks 43-61 are given over to 'Funky Dope Guitars'; these are nice clean stereo wah-wah rhythm parts, fret falls and licks, clean but not toppy, wide but with body, played with a professional session musician's consummate ease and precision. This stuff does the job without breaking any new ground.

Tracks 62 to 77 are given over to bass licks; 10 per track. There are basic snap and pulled licks on what sounds like a Fender Jazz (it's not stated in the sleeve notes, unfortunately), augmented by patterns using a triggered filter. The playing is not quite top-notch, but then who knows how it'll sound in a mix; perhaps the slight sloppiness will add character?

The first part of Disc 2 is devoted to the mouthings of Aneta Gordon's 'Big Mama Vocals', and the lady certainly can sing it large; there are plenty of 'er's 'ah's and 'oooh's, followed by lyric phrases. Words are reprinted in full, so if you're not looking for 'Get up and I wanna see you move' you know where *not* to go on the CD. Vocal hooks are all very well, but they usually work best if there is some interesting lyrical content. It's all style here, I'm afraid.

After some token raunchy vocoded vocals, we reach the keyboards; great big sleazy fat brass chords and sequences honk and chug away respectively, while a superb but retro keyboard player noodles away at some other classic digital synth voices. The portamento solo work is particularly outstanding.

Conclusion: Something old, something new, something borrowed, something blue; and this CD has all of these except something new! However, it is in the retro department that *Black II Black* Volume 3 succeeds best; with its monosynth solos, good old live brass, and 808 patterns. The rest is good enough to support an interest in light soul for a while, but this is not a seminal product. *Wilf Smarties*

£ £59.95 including VAT and UK p&p.
A SampleZone, Unit 2, Borehamwood Industrial Park, Rowley Lane, Borehamwood, Herts WD6 5PZ.
T 0800 731 2939.
F 0181 207 4572.
E sales@samplezone.co.uk
W www.samplezone.co.uk

X-STATIC GOLDMINE 5

(AUDIO CD)

If you are serious about dance music these days, it seems that if you want to get ahead, you need to go retro. The collectability of old analogue synths as well as the deluge of up-to-date clones of ancient synthesizers is testament to the popularity of analogue synth sounds in contemporary dance music. With this 90-track audio CD, the Swedish company e-Lab take us for a trip round many famous and obscure synths with a wide selection of techno-style electronic synth loops and effects. As with the other releases in the *X-Static Goldmine* series, the producers cover a fair amount of ground by keeping the loops within a fairly narrow tempo band (mostly 100, 126 and 133.5bpm). Within each set of loops, the left and right channels carry slightly different loop variants at the same tempo, allowing you to sample an interesting stereo loop (a mixture of the two) or use two mono variations. Stylistically, all the sounds are well suited to the more 'electronic' side of dance music and have a strong early '80s feel, making them ideal fodder for Kraftwerk/Tangerine Dream fans, but programmer Erik Svahn clearly has his ear to the ground of modern dancefloor trends as well, and occasionally tips his hat in the direction of ragga, jungle, R&B and even industrial. As well as the loops and phrases there is (as usual with the *X-Static* series) a vast number of individual synth noises and effects which, again, remain true to the retro-analogue direction of the whole release. These take the form of basses, pads, processed sound effects, and a huge number of individual drum sounds. The drum sounds, as you might expect, come mainly from the early analogue drum modules, and the selection offered here is as comprehensive and useful as any I have heard. The main problem, however, is that although *Goldmine 5* offers us an admittedly wide range of sounds and textures to draw from, it appears to say nothing that we haven't heard many ▶

Whose DMan In Your Life ?

times before. Yes, the loops are 'bleepy' and 'sqwizzy' in the extreme, and are also funky enough to breath life into most dance tracks, but with effects processing seemingly kept to the barest minimum, most of the creativity seems to stem from the groove as opposed to the texture. Could it be that analogue has had its day, or is it just that any audio CD containing short (sometimes too short) synth effects from Moogs, Prophets and the like is now becoming slightly old-hat? Whichever way you look at it, *X-Static Goldmine 5* has a great deal to offer any programmer looking for a wide selection of highly usable sounds and grooves. Whether it has enough originality and staying power to please the more experienced and perhaps choosy producer is open to question. File under 'slightly dated but well intentioned'. *Paul Farrer*

£ £59.95 including VAT and UK p&p.
A Time & Space Distribution, PO Box 4, Okehampton, Devon EX20 2YL.
T 01837 841100.
F 01837 840080.
E sales@timespace.com
W www.timespace.com

XTORTION ONE

(AUDIO CD)

I was a little intrigued by *Xtortion One*; it's the first ever 'X-rated' sample CD I've ever seen or reviewed. It proudly advertises the fact by displaying the words 'Parental Advisory Explicit Lyrics and Samples' in huge letters on the back cover, so after phoning my mum to check it would be OK, I gingerly pressed Play. This 99-track audio CD is also from e-Lab in Sweden, and is packed to the brim with some of the most hardcore industrial and jungle samples you can imagine. Distortion, tasteless compression, cheesy effects, and garbled and often profane vocal samples are the order of the day here; anyone looking for wishy-washy pads or polite drum loops can take the advice of the first vocal sample on track 45 and er... kindly go and look somewhere else. Instead of concentrating on one specific type of sample group, *Xtortion One* selects its musical genre and then provides a huge variety of material that is relevant to that particular style. There are a few tracks of breakbeats (most of which sound as though they were recorded using a cheap cassette machine with a serious wow and flutter problem trapped down a very deep mineshaft), as well as countless snatches of nasty synth effects and a whole host of vocal bites that whilst not exactly breaking new ground sonically, are interesting just the same, and well-suited to the hardcore market. The tempos of all the musical loops and phrases also point to the possible (mis?)use of a few too many vitamin pills in the making of this CD, and by the time you reach track eight and are struggling with the loops from 176 to 265bpm, you start to wonder whether or not your sequencer's tempo setting actually goes that high. Make no bones about it, *Xtortion One* is uncomfortable listening, and is guaranteed to have only a very limited number of potential users, but having said that, this is one of the main reasons that it succeeds so well. Casting aside any notion of mass appeal early on, the producers have set about to create a selection of sounds that work brilliantly within their given context. OK, so I do have one or niggles — despite the CD's blazing streak of originality (particularly in the excellent guitar tracks) there are one or two things we've heard before, such as the ubiquitous Prodigy-style synthesizer played with too much pitch-bend (yawn), or even more samples of the TR909 bass drum (c'mon people, are you serious!!?). Also, most of the vocal snippets are interesting, and again are well-suited to hardcore dance styles, but all too often, they tend to sound like someone de-tuning a radio or just recording what happens when you quickly flick through the channels on American TV, with a bit of flange and obscene amounts of compression added for good measure.

All in all, though, *Xtortion One* will scare the pants off any casual listener, and that is why it works so well most of the time. It's brash, vulgar, extreme, cheesy, original, utterly tasteless and hard as nails, and you can't say that about many products available to buy (with the possible exception of the Tellytubbies). If you are into hardcore, *Xtortion One* will make you glad that you are; and if you aren't, it will either reaffirm your hatred of an often overlooked genre, or will inspire you to delve deeper. Either way, this is not one for the faint-hearted. *Paul Farrer*

£ £59.95 including VAT and UK p&p.
A Time & Space Distribution, PO Box 4, Okehampton, Devon EX20 2YL.
T 01837 841100.
F 01837 840080.
E sales@timespace.com
W www.timespace.com

STRICTLY HOUSE

(AUDIO CD)

Strictly House is one of those one-pattern-per-track releases that are usually aimed more at DJs/remixers than composers, though here you get a shorter section of the beat than usual (four bars typically instead of 64) plus some breakdown products (eg. kick, snare, hat and instrument chops). In fact, DJs and remixers are the last people I'd recommend this CD to!

On the plus side, the beats do sound authentically clubby, with plenty of punch and width, and no tedious stereo to worry your sampler or PC with. On the other hand, this sort of CD is almost by definition going to be in danger of being *passé* even before it is released. After all, any beats or styles which are current on the club scene won't be by the time anybody actually manages to produce and release a sample CD which reflects them. So why consider *Strictly House* at all?

Well, after a certain amount of time has lapsed, a style can become relatively timeless, a classic if you like. House is one such evergreen. What we have here is 909 kick-based 4/4 with a hint of swing, and with tempos all in the zone 120-130bpm. Expect no surprises, but if you are a composer who can't be bothered to sequence, you might find some of these beats useful to hang a tune on. Would I buy it? Of course not. *Wilf Smarties*

£ £59.95 including VAT and UK p&p.
A Time & Space Distribution, PO Box 4, Okehampton, Devon EX20 2YL.
T 01837 841100.
F 01837 840080.
E sales@timespace.com
W www.timespace.com

call on: 0181 570 4444

OR FAX ON: 0181 577 5818

OPEN MONDAY TO SATURDAY 10.00-6.00

WEST LONDON'S BIGGEST MUSIC STORE!

PROJECT MUSIC

433 - 437 GREAT WEST ROAD, HOUNSLOW, MIDDLESEX, TW5 0BY

E-MAIL: 100764,2103@compuserve.com

DIRECT TO DISK RECORDING

Akai DPS 12 with Jaz drive & 2 FREE Jaz Carts	£1299
Fostex DMT8VL with FREE SCSI Interface	£849
Fostex D80 with Mackie CR1604 Mixer and Looms MEGA BUNDLE!!!!!!!!	£1299
Fostex D90 with 2 free 8way looms only	£1299
Fostex D160 with 2 free 8way looms	£2599
Korg D8 8-track HD recorder with Trinity FX ONLY	£799
Sony MDMX 4-track minidisk with FREE Mic	£525
Emagic Home studio kit Logic Audio/Audiowerk 8	£499
Event GINA 2in 8out SPDIF	£475
Digidesign AudioMedia III the Business for Stereo D to D	£CALL
Korg 1212 Card	£549

SAMPLER POWER PACKAGES

STOP PRESS - We are now taking deposits on the Amazing NEW AKAI S5000 & S6000 samplers	
Akai S5000 64-voice sampler with FREE 64Mb RAM and Zip Drive!!!	£SMALL DEPOSIT
Akai S3000XL with free FX board only	£1299
Akai CD3000XL 32Mb RAM only	£1499
Akai S2000 with 18Mb RAM only	£725
Akai S20 with 17Mb RAM only	£499
Akai MPC2000 with 32Mb RAM only	£1075
Akai S5000 64-voice sampler with FREE 64Mb RAM and Zip drive!!!	£SMALL DEPOSIT
Akai S6000 128-voice sampler with FREE 128Mb RAM and EZFlyer drive!!!	£SMALL DEPOSIT
Akai S2000 with 18Mb RAM and Zip Drive	£749
Roland S760 with 32Mb OP board	£1349
MEGA KURZWEIL INTEREST FREE OFFER	
Kurzweil K2000R fully loaded with 32 Mb DEPOSIT £480 + 10 months @ £192 Total Price	£2400
Kurzweil K2500R with 32Mb DEPOSIT £440 + 10 months @ £176 Total Price	£2200
Roland S760 Sampler with free CD-ROM drive	£1099
BOSS SP202 with realtime controls	£299

RECORDING

EVENT P8 powered monitors	£MEGA
Dynaudio BM5 passive monitors	£CALL
Dynaudio MB6 passive monitors	£CALL
Dynaudio MB6 active monitors	£CALL
New amazing Dynaudio BM15A powered monitors	£CALL
Spirit Absolute zero	£189
Spirit Absolute 2	£245
Alesis monitor ones	£249
Alesis Point 7	£169
Yamaha MS101 powered monitors	£159
Yamaha MS202 powered monitors	£269
Samson Servo 170 power amp	£159
Samson Servo 260 power amp	£CALL
Samson Servo 530 power amp	£299
Alesis RA100 power amp	£259
Alesis Nanoverb	£99
Alesis Nanocompressor	£80
Spirit notepad 6 input mixer	£149
Spirit Folio F1 14/2 mixer	£299
Spirit Folio F1 16/2 mixer	£349
Spirit Folio SX mixer	£479
Spirit 8 buss mixers with FREE Absolute 2's	£CALL
Mackie 1202VLZ 12/2 mixer	£299
Mackie 1402VLZ 14/2 mixer	£399
Mackie 1604 mixers from	£499!!
Mackie SR24/4 mixer	£1199
Mackie 8 buss mixers from	£2099
KORG 168RC - LAST FEW	£699!!
Boss SX700 Multi FX unit	£325
Yamaha REV500 FX unit	£349
Yamaha REV100 FX unit	£179
New Zoom RhythmTrak Drum machine	£199
Zoom 1201 24-bit FX unit	£99
Zoom 1204 dual FX with MIDI unit	£CALL
Fostex XR5 Multitracker with FREE Mic	£279
Tascam 414 with FREE Mic	£319
Tascam 424 II with FREE Mic	£439
Yamaha MT50 with FREE Mic	£299
Yamaha MT4X with FREE Mic	£CALL
AKG C1000 condenser mic	£149
AKG C3000 condenser mic	£229
Audio Technica 4033 inc SM	£299
Rode NT1 good all round condenser mic now only	£199
Rode NT2 mic with free tube compressor	£CALL
Full range of SHURE mics in stock	£CALL

0% Finance Credit facilities available, call for a quote!

Roland

EMU

NEW FROM ROLAND

- Professional Groovebox
- 64-voice polyphony, resonant filters, ADSR envelope for editing sounds
- Powerful effects
- 214 onboard dance music patterns
- 512 built-in sounds and 28 rhythm sets
- Revolutionary D-Beam Controller
- Three independent, synchronizable effects processors (inc. Arpeggiator)
- MEGAPACK System
- Full MIDI implementation
- Multiple outputs (3 stereo/6 mono)
- SmartMedia slots for 2 and 4 MB SmartMedia cards

- Affordable, self-contained digital recording studio
- Fully digital recording/mixing
- 12-channel digital mixing and onboard multi-effects processing
- 64 'virtual' tracks of digital recording, 8 tracks at playback
- Stereo digital or dbx effects processor (Reverb, Delay, Chorus, COSM Guitar Preamp and Speaker Simulator, etc)
- New EZ Routing feature
- Records all audio and mix information on low-cost, 100% Zip disks
- Non-destructive audio editing
- Dedicated Guitar Input

- 16 tracks of hard disk audio recording (256 virtual tracks)
- 24-bit MT Pro Recording Mode
- Huge 320 x 240 dot graphic LCD
- 20-bit A/D, D/A converters
- Powerful 24-bit stereo multi-effects processors
- New EZ Routing feature
- 10 audio inputs and two stereo digital (optical/coaxial)
- 12 audio outputs and 2 stereo digital outputs (1 optical, 1 coaxial)
- Direct audio CD recording and data backup

ESI - 4000

- 64-voice polyphony
- 4MB of RAM standard, expandable to 128MB, 72 pin SIMMs
- 64 digital 4-pole filters (16 different types)
- Over 200MB of sample data standard (thousands of presets)
- 4 audio outputs, expandable to 8, plus a stereo effects output
- User friendly interface
- Large palette of powerful DSP tools
- 24-bit dual stereo effects system (comes standard with Turbo unit)
- Compatible with Akai S-1000/1100 and E-mu E-IIIs, ESI-32 and EMAX II libraries via SCSI
- 16 programmable front panel trigger buttons

E8400

Expandable up to 128mb 128 voice, 32 multi 16 outs, dsp card

PACKAGE £1999 DEAL

64 Mb RAM, 6 Gb HDD (with library)

E-SYNTH

- Internal Sounds: 64MB ROM (expandable to 128MB)
- 64 voices (expandable to 128)
- 4-part multi-timbral (expandable to 12)
- 4-track linear-based with loop record
- 24-bit dual stereo effects processing (four sub-mixes per mixer)
- 12 reverb and delay algorithms
- 32 chorus, delay and distortion algorithms
- 2 Synth Keyboard, 2 main 1/4" balanced (expandable to 16)
- 64 digital 4-pole filters (over 20 different types: low band, high pass, notch, EQ, vocal, flange, phaser, and more)
- Digital re-sampling (single person or multi performance)
- MIDI clock assignable (changes VCA, VCF envelope, LFO, and tempo)

MEGA DEAL Fostex D5 balanced DAT recorder	£539
Tascam DA20 Mk II	£599
Tascam DA30 DAT recorder	£979
LA Audio GCX2 stereo comp/gate unit	£189
LA Audio MPX1 voice processor	£249
LA Audio MLX2 dual mic preamp	£169
LA Audio EQX2 dual 3 band parametric	£199
New TLA Ivory range of processors in stock	£CALL
Yamaha MDF2 last few	£199
Peavey PC 1600X	£349

MODULES

NEW ROLAND HIP HOP EXPANSION CARD IN STOCK	£CALL
NEW LOW PRICES ON ROLAND JV1080 AND 2080	£CALL
NEW Roland SC880 64-voice Pro Sound Canvas	£699
Roland MC303 Groove box	£CALL
Korg M5DR 64-voice module	£299
NEW Yamaha EX5R Sampling multi Synth rack	£1599
Waldorf Pulse mega monosynth	£CALL
Waldorf Pulse Plus monosynth with CV gate	£CALL
Waldorf Microwave 2 wavetable synth	£CALL
Waldorf Microwave XT wavetable with MOBS!!!	£CALL
Alesis QSR rack	£549
Alesis Nano range in stock we'll beat any quote!!!!!!!!!!!!	
Alesis QRS rack	£575
Kurzweil Micro Piano	£349
Peavey Spectrum Synth rack	£CALL
Peavey Spectrum Organ	£CALL
Peavey Spectrum Filter	£CALL
Peavey Spectrum Bass	£CALL
NEW Novation Supernova starts at...	£1299
Novation Super basstation rack	£349
Novation Drum Station rack	£CALL

SOFTWARE

Steinberg Cubase Audio XT for Mac	£479
Steinberg Cubasis AV for PC	£115
Steinberg Cubase Producer pac for PC	£499
Sonic Foundry Sound Forge editing software for PC	£249
Bias Peak Editing software for Mac	£199
Red Roaster CD Mastering software for PC	£449
Emagic Logic Audio e.o PC and Mac in Stock FROM	£399
Emagic Logic Audio Discovery for Mac	£199
EMU Creation Studio PC Sound card and software	£249
ReBirth 303 & 808 in stock	£139
Waves Audio Track & EZ verb bundled plug ins	£125
ALL formats of CDR & CDRW disks in stock	BEST PRICES

KEYBOARDS

Yamaha P150 88 note digital piano	£1099
Yamaha AN1X analog modeling synth	£CALL
Yamaha CS1X control synth	£449
NEW Roland XP60 keys of the 50 brains of the 80!!	£1299
NEW Roland JX305 an MC 505 with Keys!!	£949
NEW Roland PC160 MIDI keyboard	£99
NEW Roland PC180 MIDI keyboard	£139
Roland XP50 workstation few left!!!	£739
Roland XP80 76 note workstation	£SCARY!
Roland JP8000 analog scorcher	£JOKE!
NEW Korg M1 88 note weighted 64-voice synth	£1249
Korg Trinity workstation	£1349
Korg Trinity Plus workstation	£1499
Korg Z1 12 Prophecys in a keyboard!!!!	£DEAL
Alesis QS6 with Vintage card	£599
Alesis QS8 fully weighted synth	£CALL
NEW Yamaha EX5 Sampling Multi synth	£1899

SECOND HAND AND EX DEMO GOODIES

S/H Sequential Pro 5	£799
S/H Moog Opus 3 with filter	£249
S/H Roland MC202 Manual	£299
S/H Roland SH101 Mint	£279
S/H Roland MKS80 with PG80 Programmer	£1499
S/H Roland MKS50 with PG300 Programmer	£399
S/H Roland VS880 2gb FX	£999
S/H Roland JV1080 with Dance card	£799
S/H Roland Odisks 10pcs	£20
Ex Demo Roland S760 with 32Mb OP board	£1349
S/H Casio CZ101	£120
Ex Demo Midi Mutator	£549
S/H Quadra 800 with 20" monitor	£799
S/H Boeing 747 boxed with manuals	£OFFERS
S/H Vestax 6-track HD recorder	£499
S/H Akai DR4d 4-track HD recorder/Midicard	£499
S/H Akai MX73 Master Keyboard	£199
Peavey Midi Manager	£149
S/H Roland Super JX MKS70 with 4 cards	£549
S/H Roland D550 with cards	£320
Ex Demo Atari Falcon 030 with HD/no monitor	£249
New Yamaha MV1602 Desk with looms	£999
S/H GEM S3 Turbo workstation	£950
Ex Demo Jazz Drive with 2 carts.	£249
S/H Yamaha QY10	£99
S/H Novation Drum station	£269
Ex Demo Novation Bass station rack	£269
S/H TLA CLV11 8-channel Valve interface	£299
S/H TLA CL-V1S 8-channel switcher	£199

Use CD Rom with Every EVM - Call for Details

All major credit cards accepted. Next day delivery does not include Saturday or Sunday delivery.

PLEASE NOTE WE ARE NOW OPEN UNTIL 6PM ON THURSDAYS

BY APPOINTMENTS ONLY

MUCH, MUCH MORE IN STORE!

Apple NOTES

Having whetted his appetite for MacOS-based software synthesis last issue, this month MARTIN RUSS takes a closer look...

Last month, I mentioned that it might soon be worth looking at software synthesis a little more closely, and there's at least one very interesting new package on the way. But in the meantime, let's consider what programs are available now, and how they work.

LITERALS

The obvious place to start is with the software synths I'll call the 'Literals' — programs that give you an on-screen representation of analogue synthesizer modules, complete with knobs, switches and patch cords, such as Digidesign's *TurboSynth*, and the BeOS-based *Audio Elements*. With these programs, what you see is exactly what you get, and in order to produce decent sounds you need to understand a few basics of analogue synthesizer programming. If you haven't been reading Paul Wiffen's Synth School series, here are a few condensed tips:

- Sine waves are so boring that you have to add vibrato to them to make them even slightly usable.
- Square waves are so dull and hollow that you need to liven them up with some sort of modulation, such as Pulse Width Modulation (PWM) — normally a Low Frequency Oscillator (LFO). The same LFO that you used for the sine wave vibrato will do. Try an envelope as an alternative PWM mod source.
- Sawtooth waves tend to be very bright — take two and detune them to get a glorious chorus effect. This also works with square waves, but note that using PWM as well might be considered overkill.
- Filters should always be swept, preferably with an envelope, though an LFO will do for tremolo-like effects. Long decay times are always preferable to static sustain segments in envelopes. Turning the resonance to just below self-oscillation is also recommended.

HYBRIDS

'Hybrid' software synths such as *Syd* (see below) combine tasty on-screen graphics with hidden complexity and detail. There's often the same patching together of blocks, but the capabilities of these blocks may well surpass that of analogue synthesizer equivalents. There's more power, but the blocks tend to employ mathematical functions and formulae which can make them awkward to use.

The key to understanding this type of software synthesis is to carefully examine some example patches — though it doesn't hurt to have a tame mathematician on call! Fortunately the maths involved tend to be quite straightforward once you get the hang of it.

Syd 1.0.6 PPC / 68k

For example, in Jim Bumgardner's *Syd* (the software synthesizer formerly known as *SoftSynth*) you can work with a simple oscillator that produces the classic sine, square, sawtooth type of waveshapes, or you can 'grow your own' by describing the shape using a mathematical formula. Non-mathematicians beware: you have to remember to multiply the time by $2*\pi$ to produce a whole cycle's-worth of audio, hence its appearance in all of the examples below:

sin(t*2*π) produces a sine wave!

tan(t*2*π) gives a nasty pulse-like waveform

mandel(t*2*π,g*0.1+0.5) uses the Mandelbrot set to illustrate gross quantisation noise on a decaying envelope! (g is global time ▶

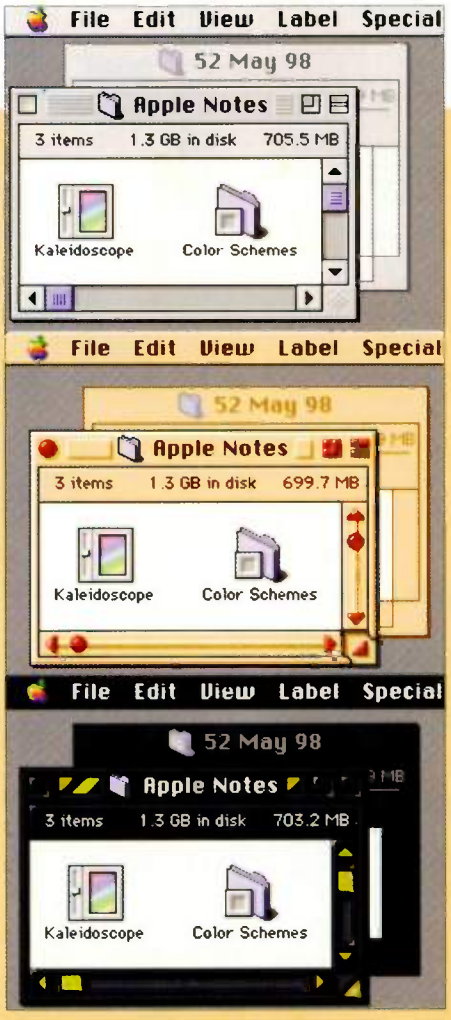
APPLE NEWS IN BRIEF

• KALEIDOSCOPE

Given the carefully designed 'platinum' look of MacOS8 and 8.1, *Kagi*'s shareware website registration statistics are interesting. For the last year, one piece of shareware has consistently been in either first or second place. That software, *Kaleidoscope*, is a very powerful way of customising the appearance of your MacOS: screen colours, scroll bars, go-away boxes, and the like can all be extensively tweaked — and there are loads of of pre-prepared colour schemes for you to try. There are even System 8 look-alikes for System 7 users! Nevertheless, as with all such 'fun, but musically unrelated' add-ons, this is definitely one to avoid adding to the Mac you use for music, despite its seriously high cool rating. The next MacOS, codenamed Allegro, may well incorporate 'themes' to allow exactly this type of in-depth customisation, so wait for that if you feel you need this facility.

• EDUCATION AGAIN

Hands up all those who thought that the eMate — Apple's new personal mobile computer aimed at the education market — was such a wonderful idea that it was stupid to restrict it just to schoolkids. Keep those hands up when I tell you about the new low-cost all-in-one design (computer plus built-in monitor) G3 machines that aren't quite the sub-$1,000 boxes promised, but are certainly a stab in the right direction. So what's the problem? You got it: these machines are solely for the educational market and then only in the US. However, if past events are anything to go by (the eMate was offered to *Sunday Times* readers as a special offer) then this latest 'restricted audience' Mac may eventually turn up over here in one guise or another.



Just a few of the alternative appearances allowed by Kaleidoscope.

Escape into the rhythm of your mind and bring the beat to life

Realise the rhythm of your mind and create your own definition of Groove with Roland's new MC-505 Groovebox. The ultimate synthesizer, sequencer and drum machine in a box. Stun your audience with the new and exciting interactive infra-red D-beam giving you supercool realtime control over your mix. The ultimate Groove experience.

MC-505 features include:

- full MIDI control
- radical new effects
- resonant multi-mode filters
- additional storage on Smartmedia
- 64 voice polyphony
- MegaMix function
- multiple outputs
- D-Beam

GROOVE APPROVED

For more information on Roland Groove products contact:-
Roland (UK) Ltd, Atlantic Close, Swansea. SA7 9FJ Telephone: 01792 515020. Fax:01792 515042
UK Web site: http://www.rolandgroove.co.uk

Make it with a Roland

Sutekina Pro Audio

DISCOUNT DIGITAL SUPERSTORE
In London's World Famous "Tin Pan Alley"

WORLD OF MUSIC

SPECIAL CLEARANCE OFFERS FOR MAY / JUNE

Aphex 104 Big Bottom	£149	Peavey Spectrum Synth	£199	Yamaha YDP 2030 Parametric EQ	£799
Aphex 105 Gate	£299	Peavey Analogue Filter	£199	Yamaha MU100R Synth	£599
Aphex 106 4 channel Comp	£299	Peavey Spectrum Organ	£199	Emu Morpheus	£649
Aphex 108 Easyrider Comp	£199	Tannoy PBM8.II	£299	Emu Planet Phat	£599
Aphex 109 2 X Parametric EQ	£249	Tannoy System 800	£399	Emu Ultra Proteus	£799
Aphex 110 Easyrider Tube	£549	Tannoy System 600	£299	Ensoniq MR Rack	£799
Kurzwiel K2000VX Workstation	£1799	JL Cooper PPS 100 Sync Units	£99	Bellari RP220 Dual Mic Pre	£299
Kurzwiel K2000R VIII	£1899	Yamaha MFC10 Midi foot Control	£99	Bellari ADP3 D.I. Box	£99
Peavey DPM SP	£199	Yamaha YDP2006 Parametric EQ	£799	Bellari MP110	£149

MOST ITEMS AVAILABLE ON FINANCE

YAMAHA 03D

Yamaha 03D Digital Mixer

- Comprehensive Analog/Digital Mixer
- 20Bit A/D ,D/A
- 32bit On Board Multi-affects
- 26 Input /18 Output fully automated mixer
- Optional ADAT/TDIF/AES/EBU Digital I/O Cards
- Very Intuitive interface

RRP £2999
SUTEKINA £BEST

YAMAHA 01V

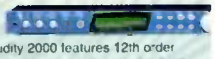
"Many customers have envisioned having the power of the 02R and 03D in a more affordable package, and we are confident that the 01V will meet their requirements. This mixer reflects our ability to bring great value to the market using our own DSP technology plus 10 years of digital mixer experience."

One of the significant differences between 01V and the ProMix 01 is the inclusion of dedicated features for recording. A new OPTION I/O card slot allows the installation of any of three new MINI digital I/O cards. When inserted into the OPTION I/O slot, optional cards facilitate interface to popular 8-channel digital multi-track recorders, work stations and signal processing equipment in Alesis ADAT, Tascam TDIF, or AES/EBU digital formats. Powered by the same 32-bit DSP which gives the 02R its award-winning capabilities, the 01V is sonically identical to the 02R. Additionally, two of latest 32-bit Yamaha digital effect processors are installed to provide effect performance equivalent to that of the Yamaha ProR3 Reverb unit. The 01V can store and instantly recall all mixer settings in 99 on-board snapshot memories allowing the user to return at any time to a previous mix for modifications. In addition to snapshot capability, any external MIDI sequencer can be used to record real-time movement of the 01V's motorized faders.

NEW ITEM
Sutekina £1399

LIMITED STOCK ORDER NOW

EMU AUDITY 2000



Audity 2000 is E-mu's new rhythmic synthesizer that introduces synthesis and rhythm generation technologies to give life to your music like never before. Audity 2000 features 12th order resonant modeling filters, multiple synchronizable modulation destinations and a 16 channel Arpeggiator/Rhythm Pattern Generator. The Audity 2000 not only gives you incredible sounds and rhythms, but also the power to create new sounds and rhythm patterns to express your unique style.

RRP £1299
Sutekina £POA

LIMITED OFFER 0% FINANCE

AKAI DPS12

AKAI DPS12 DIGITAL RECORDER

- 12X16 Bit Uncompressed Audio Tracks
- Records To Internal Jazz Drives Or External SCSI Drive
- Records 8 Tracks Simultaneously
- 3 Band Digital EQ
- All Faders and Panpots send midi controller information
- Total Recall for Mix Snapshots

NEW ITEM
BEST UK £PRICE

KURZWEIL K2500X

KURZWEIL K2500X

- True 48 Voice Polophony (4 Oscilators per voice)
- Plays back Roland,Akai and Ensoniq samples
- Upgradeable to 128Mb of RAM
- 32 Track Sequencer
- Sampling Option Available with Digital I/O
- V.A.S.T. synthesis with 60 DSP's Per Voice

RRP £4799
Sutekina £2995

EMU

EMU E-6400 SAMPLER

- Unbeatable sound quality and features
- 128 Polophony and Upgradeble to 128Mb Ram
- 8 Balanced Outputs (upgradeable to 16)
- 21 64th order filter types
- New V3 EOS ,full sysex control and improved sequncer and Arpeggiator
- Access to free library when purchased from Sutekina

RRP £2799
Sutekina £BEST

MUTRONICS

Mutronix Mutator Analog Filter

- Stereo input /Dual Mono
- Voltage Controlled Filters
- 2 LFO's or Envelope Follower Per Channel
- Envelope follower extracts the contour of an external signal and applies it to the filter cutoff

RRP £799
Sutekina £699

YAMAHA EX5,5R,7

The Yamaha EX5 and EX7 Music Synthesizers, and the EX5R Tone Generator, offer more music performance and production powerthan ever before available in a single keyboard or tone generator unit. All three models feature a unique Extended Synthesis system which incorporates a number of themost advanced tone generator technologies currently available ... plus a full-featured sampling system. The EX-series keyboards and tone generator also offer one of the most versatile and intuitive real-time control systems available, and they're expandable to suit a wide range of professional systems and requirements.

RRP £1999
Sutekina FROM£1399

0% FINANCE AVAILABLE ON EX5 / 7

EMU

EMU ESI4000

- 64 Voice Polophony and upgradeable to 128mb ram
- 4 outputs (Upgradable with Turbo Option)
- SCSI as Standard
- 10 programmable triggers
- Unbeatable DSP for sampler in its class

RRP £1499
Sutekina £BEST

WALDORF

- Over 40 dials for realtime editing of sounds
- 8 Part Multitimbral
- Syncable LFO's and Arpeggiator
- OS V2.0 which includes new filter types
- Expanded DSP RAM to make room for more effects like flanger, overdrive, auto wah, amplitude modulator and delay
- Stereophonic audio input for processing external signals through the filter, amplifier and effect stages of the Microwave XT

RRP £1199
Sutekina £BEST

BEST PRICES ON ALL WALDORFS!!!

MACKIE 1202

Mackie 1202VLZ Mixers

- Unbeatable Sound Quality
- 12 Line Inputs
- 4 Mic Inputs
- 3 Band EQ
- 2 Auxiliary Sends/Returns

CALL FOR ABSOLUTE BEST DEALS ON MACKIE MIXERS

RRP £399
Sutekina £NEW CALL

CLAVIA NORD MODULAR

The Nord Modular is a polyphonic synthesizer where you create your synthesizer, from scratch, on a computer screen. The sounds are generated by an external hardware module. The hardware models are available in two versions. One with a two octave keyboard, perfect for easy editing and real-time playing and one 19" rackmodel. On the screen the user is able to create patches using "virtual cables" that he connects betweenthe various modules (OSC, VCF, VCA, LFO's, filters, all of the classical synth building blocks you might expect, plus a vast range of other useful modules). The modules are 100 % software and new modules will be added by Clavia. The Nord Modular is 4-part multi-timbral and offers a minimum of 4 voices or more depending on patch complexity.

RRP £1499
Sutekina £POA

CLAVIA

- Analog Modelling Synth
- 8 voices. 4 part multi-timbral.
- Arpeggiator, Range: 1 - 4 octave. Modes: up, down, up/down, random.
- 10 analog drumkits.
- 40 user-programs, 59 factory programs and 100 factory performances.
- MIDI clock synchronizing LFO 1 and LFO 2/arpeggiator.

RRP £999
Sutekina £POA

YAMAHA A3000

NEW LOW PRICE

What lies within the A3000 is a 16-bit sampler with a generous 64-notes of polyphony, a standard 2 MB of RAM expandable to a whooping maximum of 128 MB, plus all the dynamic filters, multi-effects processors, EQ and everything else you need to realize virtually anything you can imagine - and even open up new doo of spontaneous creativity that you never knew existed. The A3000 provides you with an enormous range of control over yoursounds not only as you edit individual samples and set up and edit Sample Banks and Programs, but also in realtime during play.

RRP £1299
Sutekina £949

EXCLUSIVE MAIL ORDER LINE 0800 371129 - Call Direct 0171 836 012

QUICK APPROVAL FINANCE AVAILABLE

EXCLUSIVE MAIL ORDER LINE 0800 371129 - Call Direct 0171 836 0127

EMU

EMU CREATION STUDIO SOUNDCARD

- Creative Labs AWE 64 Gold Soundcard With
- 8 Mb Sample Ram
- Digital Output
- Sonic Foundry Soundforge XP Software
- Cakewalk Express SE Sequencer
- Soundtreck Jammer and Vienna Sound Font Studio

RRP £299
Sutekina £249

EVENT GINA

EVENT GINA PCI HARD DISK RECORDING

- 2 Analog inputs thru 20Bit Analog to Digital Converters
- 8 Analog Outputs
- Full Duplex recording
- Compatible with CUBASE,LOGIC,CAKEWALK and other
- SPDIF Digital I/O
- 1/4" Jack Inputs

RRP £499
Sutekina £POA

KORG N1 88 NOTE SYNTH

The N1's tone generator section features KORGs renowned AI2 Synthesis System, with a gigantic 18 Mbytes of PCM ROM. The first 12 Mbytes are identical to the N5, covering everything from imitative acoustic instruments, synthetic waveforms and more. The additional 6 Mybytes (found only in the N1) provides 35 new waveforms including a gorgeous stereo sampled piano, many new electric pianos, a second clavinet tone, more organs and even a vintage CP-80 piano! With a total of 563 multi-samples and 286 drum samples you have all the sounds you need at your fingertips. In addition, the N1 has two completely independent stereo multi-effect units with 48 types of effects, so you can put the finishing touches on your sound. The internal preset area contains 1,169 sound programs, and 302 combinations (N5 compatible). Each combination can bring together up to eight program sounds to create even richer timbres. The user area contains 100 sound programs that take advantage of newly added waveforms, plus 100 combinations. The N1 gives you a total of 1,269 programs and 402 combinations for unbelievable potential.

NEW ITEM
Sutekina £POA

0% FINANCE AVAILABLE

DBX DDP

- All the classic dbx sounds in gating, compression, limiting, de-essing, and sidechain EQ
- The most extensive metering available
- Graphical representation of signal shows composite effects in real time
- TYPE IV Conversion System with TSE (Tape Saturation Emulation)
- 24bit A/D and D/A convertors keep your signal pristine
- "Building Block" style operating system lets you build and save your own presets
- Digital input/output option

NEW ITEM
Sutekina £POA

STEINBERG

- MIDI Sequencing
- Hard Disk Recording
- Real-Time Audio Processing
- Automation /Effect-Processing
- Open PlugIn Architecture
- Wide Range of Third-Party PlugIns available
- ASIO - Audio Stream I/O Devices supported by many
- Multi I/O Hardware Manufacturers

RRP £329
Sutekina £BEST

ROLAND VS840

The VS-840 brings Roland's VS recording technology to musicians at a price that's almost too low to believe. Of course, this makes the VS840 a great track expanderfor current VS-880 owners; but it doesn't mean the VS840 can't stand alone. This recorder sounds amazing and offers some features that even the mighty VS880 doesn't.

The VS recorders' pointer-based audio editing allows you to copy a song or sections of a song to instantly try a new version. If you don't like your edit, or if you still aren't sure, there's no need to worry: with 999 levels of 'Undo' control at your fingertips, you can try different arrangements and audio edits to your heart's content -- with no loss of quality or added noise!

The VS840 records its digital audio to 100MB ZIP disks, allowing you to easily store and retrieve songs and collaborate with friends. Depending on the recording mode you've chosen, the VS840 can store between 37 and 75 minutes of digital audio on a single, inexpensive ZIP disk!

Don't even think about creating drum loops on a digital tape or MiniDisc system. Unless you've got two machines and a gift for offsetting them, tape isn't going to work, and MiniDisc systems don't have this level of audio-editing power.

NEW ITEM
SUTEKINA £BEST

0% FINANCE AVAILABLE

ROLAND MC505 Groove Box

- 64-voice polyphony, steeper multi-mode resonant filters, front-panel ADSR envelope control's Revolutionary D-BeamController allows for effects and sound/note control via hand movement over infrared light beam
- 714 onboard dance music patterns developed by cutting -edge sound designers worldwide
- 512 built-in sounds and 26 rhythm sets, including the latest dance, hip-hop and techno music sounds and classic drum and synth sounds (TB-303, TR-808, JUNO, Jupiter, etc.)

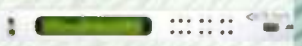
RRP £949
Sutekina £POA

ALESIS

Whether you're a songwriter using MIDI sequencing, or a bass guitar player looking to trigger exciting new sounds, the solution is the Alesis NanoBass. It offers 256 high-quality preset bass programs within its four megabyte sound library. There's a great selection of synth bass sounds for dance music styles, techno, R&B basses, rock, pop, fusion and jazz music, many with exciting resonant filter sweeps and other cool modulation sounds. The NanoBass offers true 64 voice polyphony and high-quality 16-bit 48kHz linear samples. To customize your bass sounds, each program provides one adjustable parameter - Attack, Decay, Brightness, Sub Octave level and so on - that you can change using the convenient front panel controller.

RRP £299
Sutekina £POA

KORG TR RACK



- 32MB of waveform memory featuring the sounds from the Korg Trinity
- 512 programs ,512 combinations
- 16 Part multitimbral
- Powerfull effects section, 14 Main effects ,100 Insert effects
- Optional ADAT Digital interface
- Mac or PC Host interface

RRP £899
Sutekina £BEST

LEXICON

LEXICON MPX1 MUTI FX

- Features Lexicons Proprietary Lexichip
- 56 Effects ,Up To 5 Simultaneos Routable Effects
- Discrete Stereo or Dual Mono Processing
- Dynamic Midi Patching & Midi Automation
- Digital Input and Output
- Midi Automation

RRP £999
Sutekina £BEST

STEINBERG

Steinberg Rebirth 338

Propellerhead Software and Steinberg Soft- & Hardware proudly present ReBirth RB-338. Two silver synths and a black drum machine. Two pieces of classic analog synthesizer hardware reincarnated as software. All the quirks and subtle qualities of analog synths, coupled with the convenience of modern computers. Yet with that unmistakable analog sound.

RRP £149
Sutekina £POA

KRK

KRK ROKIT MONITOR SPEAKER

- 6 1/2 Inch tweeter for extended Low frequency
- 1 Inch silk tweeter set at 1.5k
- Virtually seamless transition between drivers
- Unique enclosure shape giving minimal parallel surfaces to reduce unwanted resonances and improving low end punch
- Magnetically Shielded

RRP £399
Sutekina £POA

ROLAND

The JX-305 GrooveSynth is a high-performance dance-oriented 61-notesynthesizer with killer sounds, cutting-edge preset patterns and massive realtime control. 61-note velocity-sensitive performance synthesizer with 64-voice polyphony 8-track pattern-oriented sequencer, 758 dance and groove-oriented preset patterns and 256 User patterns. Nine realtime control knobs for intuitive sound creation and realtime tweaking, powerful onboard arpeggiator and realtime phrase, full MIDI implementation (In, Out, Thru) with all controlknobs transmitting.

RRP £949
Sutekina £POA

SECOND HAND, EX-DEMO & CLEARANCE BARGAINS - ALL AT LOW LOW PRICES!

·Recording

Akai DR16	£2799
Akai DR4d	£799
Alesis AdatXTboxed	£1699
Alesis BRC	£999
Earthworks TC30 mic	£699
MG UMT 70 mic	£699
MG LM79 Mic	£699
JLC Cuepoint	£350
JLC Datamaster	£479
Mackie LM3204e	£699
Phillips DCC134	£99
Phillips DCC730	£229
Phillips DCC951	£229
Roland VS880V2	£1100
Samson 1602	£499
Samson MPL2242	£599
Samson 2404	£399
Yamaha CBXD5	£799
Yamaha MT4X	£349

Coming Soon!!!!!
World Of Music Website
Featuring all the World of Music shops

·Computer

Antaris IQ TDM	£549
Antaris JVP TDM	£279
Digidesign Sess 8 PC	£899
Emagic Zap	£59
Emagic CBX Extension	£55
Emagic 12/12 Extensions	£best
Ensoniq soundscape	£99
Evolution Mk161	£149
Fatar Studio 1100	£879
Gallery sample Search	£199
Hyperprism VSt	£249
MOTU Freestyle	£199
MOTU Performer	£299
Mediavision PCMIA PC	£199
Nomai 540 drives	£249
SCSI CD Romboxed	£119
Opcode Vision	£165
Passport Alchemy	£299
Samplitude pro	£149
Steinberg ACI adat int.	£265
Syquest EZ Flyer	£265
Terratec Maestro 32	£135
Voyetra V22 Midi Int	£89
Voyetra V24s Midi Int	£229

·Outboard And Effects

Aphex 104typeC	£149
Aphex 108 Easyrider	£199
Art FXR elite	£149
Art MDM8	£450
Bellari MP220	£360
Bellari ADB3	£135
Digitech TSR12	£279
Focusrite Green 1	£725
Focusrite Green 2	£829
Focusrite Green 3	£880
Lexicon PCM80	£1799
Lexicon PCM90	£2349
SPL Optimizer	£999
SPL Tube Vitaliser	£1799
Symetrix 601	£1499
TC Wizard	£1499
Yamha D5000	£850
Yamaha ProR3	£779
Yamaha Rev100	£149
Yamaha Rev500	£299
Yamaha Spx1000	£1100
Yamaha YDG2030	£799
Yamaha YDP2006	£799

·Synths and Sampling

Akai CD3000	£899
Emu Morpheus	£899
Emu Ultra Proteus	£949
Ensoniq MR76	£1899
Kurzweil K2000VX	£1895
Kurzweil K2000rack	£1499
Oberhiem Eclipse	£999
Peavay DPMSX+SP	£499
Roland JV1000	£999
Roland PMA5	£395
Roland S760boxed	£1199
Yamaha Qy300	£499
Yamaha Qy700	£849
Yamaha Qy8	£199

·Misc

Anatek SMP7	£129
Ensoniq KMX Midi	£199
JLC Cuepoint	£499
JLC Datamaster	£549
JLCPPS100sync	£199
KamGMX450	£145
YamahMDF2	£249

·Amps & Speakers

Mass 250 amp	£299
QSC USA 370 amp	£350
Tannoy PBM8	£399
Tannoy System 600	£345
Tannoy System 800	£485
Tannoy ASM8	£1899

This is just a small selection of the ex-demo clearance bargains that we have in stock. Call now and tell us what product you're looking for. Remember we only sell at the BEST PRICES !!

WORLD OF MUSIC

Sutekina Pro Audio

WORLD OF MUSIC

10 DENMARK STREET LONDON WC2H 8LS **FAX** 0171 379 3398.

DIRECT TEL 0171 836 0127. SWITCH BOARD 0171 240 7696

EXCLUSIVE MAIL ORDER LINE 0800 371129 EMAIL:INFO@WOM.NET

All prices include VAT@17.5%. All finance is subject to Status.

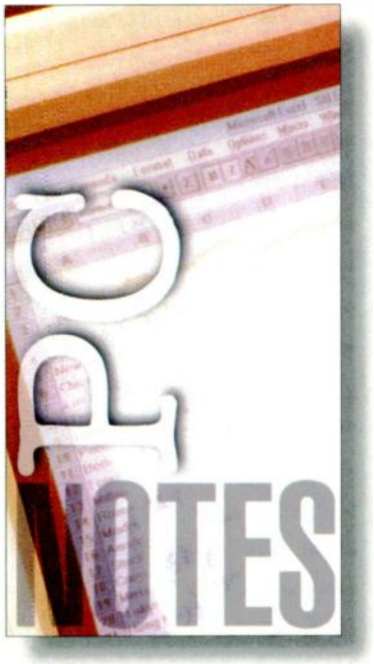


Figure 1: Cakewalk Pro Audio v7. As mentioned in last month's PC Notes, the Cakewalk suite is now up to version 7. Here's a glimpse of the new combined Audio and MIDI virtual mixing console.

Updating software ought to be a simple matter, but often things don't go according to plan. MARTIN WALKER catalogues a selection of problem areas.

I have just bought a bargain sale item — a brand new, boxed, Korg Wavestation SR, which had been languishing in a dusty corner of a warehouse. Since I own several universal editor/librarian programs, as well as sequencers with utility options that enable you to send and receive System Exclusive (SysEx) dumps, I had always assumed that adding appropriate drivers for a new instrument would be a simple matter, but this does not seem to be the case. To determine the correct procedure, the first port of call should always be the manual (or help file). Now although most PC applications tell you how to select devices when first installing the whole program, it's amazing how difficult it can sometimes be to track down any instructions about adding support for further devices. The obvious place to look first is the Install section, followed by a search through the index for the words 'New', 'Update', 'Devices', and so forth.

UPDATING DEVICE DRIVERS

My MIDI Quest universal editor/librarian had an obvious 'Downloading New Instruments' section, but still referred to logging onto a bulletin board — the Internet website took over from this a long time ago. Many manuals have an easily found 'Adding New Devices' section, but this may only allow you to select from the devices that you first installed with the application, and not help at all in the case of new instruments. Often only one small file is needed from the original CD-ROM, but since various compression methods are used, it may be tricky to access this by hand. Other applications need to create new folders to hold multiple files, as well as creating a new initialisation file which points to them, making a quick device update equally difficult.

Thankfully, if you are downloading new support files from the Internet, most websites also contain detailed instructions on how to install such files (which reduces the load on a software house's telephone support helplines), and in some cases taking a look at the website can end up being considerably quicker than wading through the manual or help file. It may also guide you past any problems that arise from new files needing to be installed from a different source than the original installation CD-ROM or floppies. Some applications insist that the Setup.exe program is run again, but let you ignore the main program installation and only install the appropriate device file. This is fine for adding devices already on the installation disks, but may not help with Internet updates.

If the worst happens, and there seems to be no mention of how to add support for a new device to an existing application, you may be tempted to run Setup.exe again in its entirety, on the grounds that this normally has provision to select devices at some point. However, if the entire application has to be re-installed, there is another potential problem to negotiate. There are now so many application updates (aka 'bugfixes') available via the Internet, that the chances are that a complete re-install may return you to an older version of the application! After adding your new device support, to safeguard against this, always check the version number when you next run your application — if the installation has overwritten files with older versions, you may have to dig out and re-run the Internet updates to return to the latest version. Tedious or what?

Am I also the only one who finds it tedious when net updates sometimes come with instructions to copy the files to a floppy disk, and install them from there? You can often ignore this and point to a folder on your hard drive containing the appropriate files, but this can quickly grow complicated if several floppy disks were used, since the install procedure will keep requesting further floppies. This is the

PC DESKTOP TIPS

Although many people like to customise their PC desktops, some of you may not realise that you can also adjust the Taskbar to suit your preferred way of working. Most people know that Start, Settings, Taskbar has an 'Auto hide' option, reducing the height of the Taskbar to a thin line which then pops up when you move the mouse over it. This gives you more of your screen to play with, but it is also possible to re-size the Taskbar (move the mouse near its edge, and then click and drag to make it larger or smaller). If you have more than half a dozen applications running at once, this allows their icons to be larger. However, by clicking on any blank part of the Taskbar, and then dragging around the screen, you can place it at the top or either side of the desktop.

Here's a further Taskbar tip for surfers of the Internet — since so many websites take a long time to appear, and you can launch multiple browser windows (Ctrl+N does this for Netscape), it is often more useful to temporarily unclick the Taskbar 'Auto hide' option. You can then monitor the progress of multiple site downloads, since once they reply, the filename for the appropriate Taskbar entry will change from 'Netscape' to the URL of the site. I can quite happily have half a dozen or more Netscape windows running, and click on the one that appears first. This has the added benefit of keeping the phone bill down.

reason why some CD-ROMs contain folders labelled Disk1, Disk2, Disk3, and so on — they are simply copies of the original floppy disk version. In the end, it is often easier to give in and create a new floppy as requested.

Finally, anyone like me who now has a CD-R drive as well as a CD-ROM may also encounter some strange quirks during future software installations. TC Works make it very clear that their *Native EQ* plug-in, for example, should be installed using the 'first' drive, and this recently gave me the clue to solving a weird problem...

My *QTools/AX* DirectX plug-in had decided to stop working (it failed after insisting that I insert the original CD-ROM while looping a 10Mb WAV file — protection at its most bizarre), but when I tried to re-install it from scratch it just didn't want to know, giving me an error and aborting every time. The solution turned out to be moving the CD-ROM installation disk to my CD-R drive, which allowed the setup program to run. Then part way through, it insisted on the same disk being moved to the other CD-ROM drive, followed by a necessary move *back* to the CD-R to complete the installation. Moral: if you are planning to add a second CD drive to your PC, get ready for some unexpected fun and games.

THE PROCESSOR FAIRY

I had another sobering experience this month. When reviewing the TC Works *Native EQ* plug-ins, I measured a particularly low processor overhead, and double checking against other plug-ins, discovered that everything was consuming about half the overhead than before. I even managed to run three instances of Waves' *Trueverb* in series. Unfortunately, the processor fairy hadn't replaced my Pentium 166 MMX with a Pentium II when I wasn't looking — I had accidentally loaded in a music file with a 22kHz sample rate for the tests!

The moral of this tale is that unless you really do need a bandwidth wider than 10kHz, you can do a hell of a lot more plug-in processing with your current machine by simply using a lower sample rate. Try it — you will probably be pleasantly surprised at how good it sounds.

Mind you, for those few minutes before the penny dropped, I gained an inkling of what it must be like to have a powerful PC, and not have to think every time before switching in another plug-in. Having said that, it often surprises me just how much my machine can achieve, despite its lowly status. There are plenty of musicians out there with slower machines than mine doing lots of useful work, and it is so easy to become locked into the techno-lust spiral, forever wanting larger or faster hardware.

Sadly, what topples us over the brink to buy yet another hardware upgrade is the software. I'm not yet convinced that the majority of musicians are rushing out to buy more and more expensive effects plug-ins, especially given the excellent selection already provided with most modern sequencers and the free ones available for download from various websites. Now that multi-channel soundcards have given us many more outputs, it is perfectly possible to carry on using our hardware effects via an external mixer — you don't have to rely solely on software effects.

Software developers seem to have identified the market for more cost-effective plug-ins. Witness the EZ Waves pack, the two Sonic Foundry *XFX* packs (see Figure 3), and the forthcoming *Native Essentials* from TC Works — all at prices that most people can afford. There will always be a place for the full-priced package that offers the very best professional performance, but even at the budget end of the market, software plug-ins remove the twin bugbears of hum and hiss. With these banished, I suspect many people will be perfectly happy not to have the ultimate algorithm.

PC SOUND BYTES

• There is a new version 2.0.4 driver available for the Darla/Gina soundcards from Event (www.event.com). This now supports multiple cards (multiple Ginas can also be synchronised using their S/PDIF port), 32kHz record and playback, and switching between consumer /professional S/PDIF modes without rebooting. There is also a *SAW* compatibility mode that adds dummy inputs so that the number of inputs and outputs are equal, plus various minor bugfixes. After installation of the new driver and a reboot, I encountered some strange malfunctions during playback in both *Wavelab* and *Sound Forge*, but these were totally cured after restarting the machine from a cold boot.

• If you have ever tried to play along with or just analyse other people's music on CD, you'll already know how difficult it can be. Roni Music (of *Sweet Sixteen* sequencer fame) have just introduced the *Musician's CD Player*, which is an extremely useful and easy to use utility for Win 95. Insert an audio CD, simply enter start and stop positions, then click on the cycle box in the CD section (see Figure 2) — this portion will then keep looping round. This is handy in itself, but by clicking on 'Record' in the Wave section, you create a temporary WAV file which can be timestretched by 0 to 300%. Voila! You can now loop the same section of audio, at the same pitch, but at up to one-third of the playback tempo. Perfect for working out those tricky solos.

***Musician's CD Player* is shareware, and a demo (which will run for 30 days) can be downloaded from Roni Music at http://home1.swipnet.se/~w-11396. The full version is only 25 US dollars. One of the beauties of shareware is direct access to the author — after I suggested marker buttons to click on while the CD is playing (avoiding the need to type in values for start and stop times) a new version appeared on Roni's website within a few days. Now that's what I call feedback!**

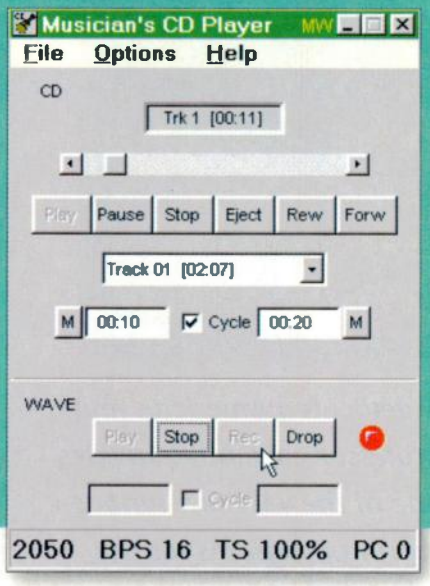


Figure 2: Musician's CD Player. For the perfect way to learn that solo on CD, try the Musician's CD Player from Roni Music — grab any section from an audio CD and play it back at up to one-third speed at the same pitch (see main text for details).

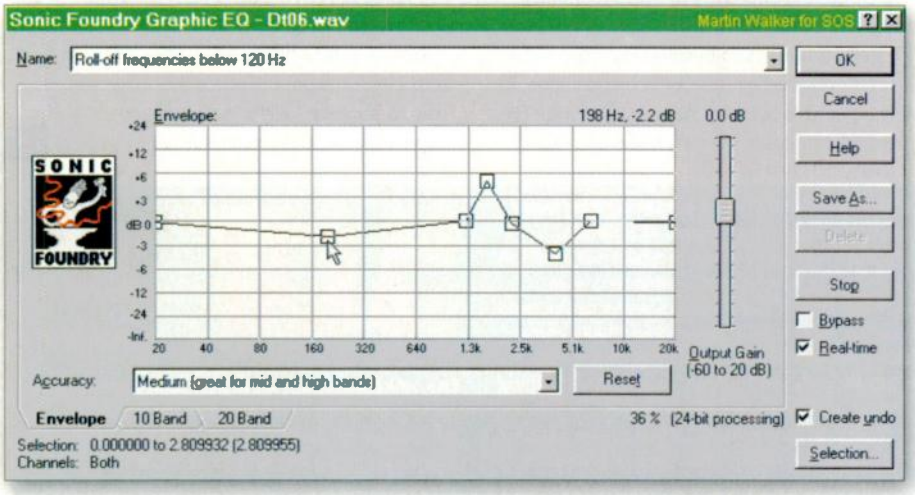
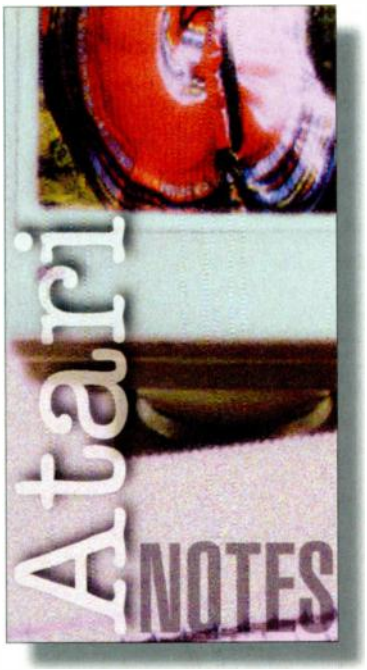
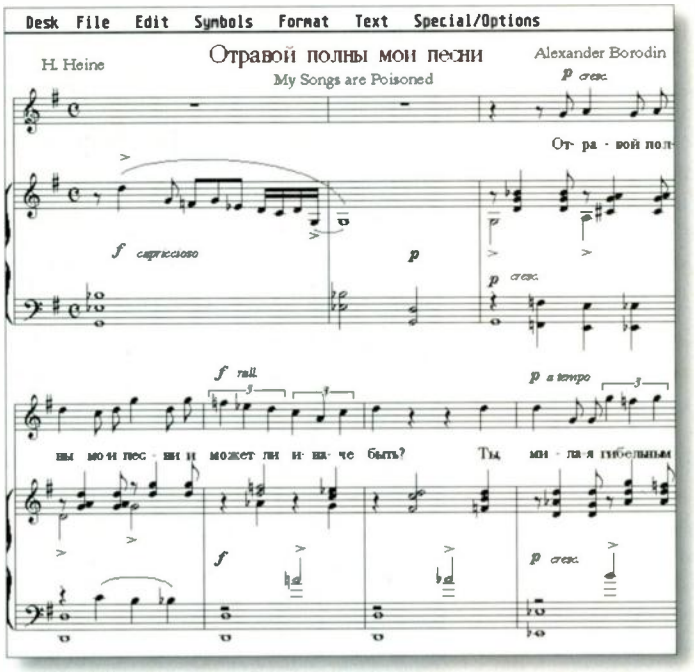


Figure 3: Sonic Foundry XFX2 pack. First mentioned in our March 98 'PC Musician' section, Sonic Foundry now have their XFX2 set of six DirectX plug-ins available, which include several EQs and Dynamics processors. The Graphic EQ is the most different from its previous incarnation within Sound Forge, with a click-and-drag frequency response. The prices of both the XFX1 and XFX2 packs have now been halved to £99. Call SCV (0171 923 1892) for more details.





Proscore is capable of producing near-print quality scores.

A dedicated American music professor currently provides one of the very few serious scoring programs for the ST as $20 shareware. DEREK JOHNSON checks it out, and also discovers a neat utility that could make life easier for Akai sampler users...

Atari users haven't got a lot of choice when it comes to software dedicated to the laying out and printing of musical scores. Currently, there's only one serious option — *Proscore*, now up to v1.92, which has been under development for a number of years. The man behind *Proscore*, Dr Terrence Kelly, is Associate Professor of Music at the University of Wisconsin-La Crosse in the USA. His aim in developing the software was to provide a composer with the same freedom in working with music notation that word processing brings to text. In its present form, *Proscore* is not a MIDI program: it's been designed for the rapid input of musical notation via the ST's keyboard and mouse. While not quite a true music publishing program (it doesn't offer any scaling of printouts), *Proscore* is capable of producing near-print quality scores, with a features list which includes the following:

- Multi-part scores up to 18 parts
- Score size limited only by available computer memory
- Comprehensive cursor commands
- Block functions and part extraction
- Transposition — one part or full score
- Full automation of clef and key signature input
- Full control over spacing
- Comprehensive beaming
- Easy editing and entry of score markings

Dr Kelly continues to develop *Proscore* — he uses it exclusively in his own compositions. In the pipeline is NIFF (Notation Interchange File Format) compatibility, which should make *Proscore* files transportable to other software and computer platforms.

Proscore was designed for the ST/Falcon 030 line, and needs 1Mb of RAM or more and an ST hi-res or better monitor; it's been tested on an STe, and the author runs it on a TT, with the *MagiC* operating system and a large-screen monitor. However, it's not quite that simple. Your computer must also be running a system enhancement tool such as SpeedoGdos v5 or NVDI v3 or v4. *Proscore* uses a scalable TrueType font to display and print musical symbols; this font is public domain and is included with the program. In order to access the on-line documentation, you'll also need the *ST Guide* shareware hypertext desk accessory.

One more thing: *Proscore* isn't free, it's shareware. However, the registration fee is laughably low — US$20 — so if you're interested, there's little excuse for not giving it a try. Note that registration unlocks one very important feature: the ability to print more than just the first page of your score.

As with most new bits of ST software, I disovered *Proscore* v1.92 on the Internet, at the Ultimate TOS Software Index (ping4.ping.be/dipching-drulkhor/PRG-IND2.HTM), which led me to Terrence Kelly's *Proscore* page (www.pressenter.com/~tkelly/).

'SEX AND THE SINGLE SAMPLER!

The Atari ST is a deservedly popular computer even now, offering quite a bit of power for not a lot of cash. Akai's venerable S900 12-bit offers a similarly affordable road to sampling to newcomers and the financially challenged, with a typical street price these days of £300-£400. And what better way to get your ST interacting with your S900 than by checking out Jules Vleugels' *Akai Sample EXchange* (or *AkaiSEX* for short, embarrassingly enough). This program was developed initially to aid those wanting to trade Akai samples over the Internet. Due to Akai's non-standard, non-MS-DOS-compatible disk format, this required a little ingenuity on the part of the author. However, once the format problem was cracked, it was a relatively simple matter to get the program to read S1000 and S3000 disks as well. Now, rather than handling complete disk images, *Akai Sample EXchange* lets you exchange programs and individual samples (or effect settings, or whatever), even between different samplers. So samples can be easily swapped between an S1000 and an S3000, which have incompatible disk formats, or between a 12-bit S900 and a 16-bit S3000, which have almost nothing in common. The conversion is transparent to the user.

The latest Atari version (1.26) reads any specific item (sample, program, effect settings and so on) from S900, S950, S1000, S01, S3000, and S2000 disks, and writes it back to any other of these disks, converting between the different formats and 12-bit/16-bit sample format if necessary. The programs and sampler-specific data are stored in a custom format; samples are stored as standard AIFF-C files, which can easily be converted into other formats, or imported by other programs. It is thus possible to use *AkaiSeX* to import AIFF and AIFF-C files and write their contents to a sampler disk of choice.

Try you favourite PD library for this useful program, or take your Internet browser to www.cs.ruu.nl/~jules/Akai/Disk/akaisex.html, where it can be downloaded. This page also has some interesting information regarding a v4.0 operating system upgrade for the S900.

PROFESSIONAL AUDIO THAT SETS THE STANDARDS FROM

PHONIC

PHONIC DISCO MIXERS

PHONIC POWER AMPLIFIERS

PHONIC FX UNITS

PCL3200 - Signal Compessor / Limiter

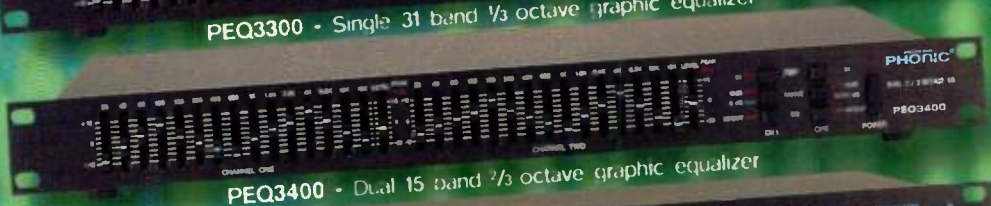
Signal Compressor/ Limiter

A highly sophisticated dual-channel compressor/limiter which, once installed, will become an indispensable part of any audio rack, providing a live or recorded mix with all the clean, clear punch that only a truly professional dynamics controller can offer.

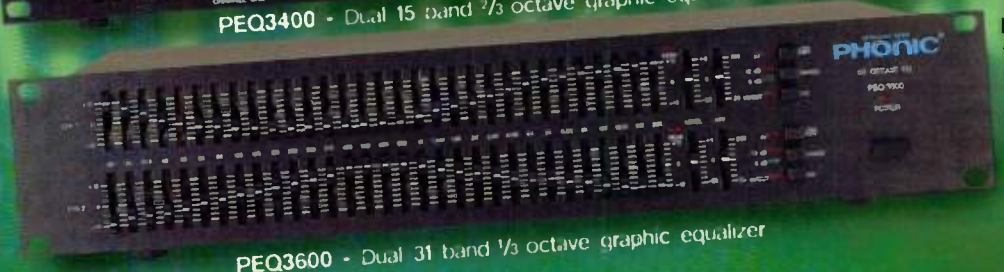
Graphic Equalizers

Introducing a range of beautifully engineered units providing high quality, professional graphic equalising and signal processing for stage or studio.

PEQ3300 - Single 31 band 1/3 octave graphic equalizer



PEQ3400 - Dual 15 band 2/3 octave graphic equalizer



PEQ3600 - Dual 31 band 1/3 octave graphic equalizer

PHONIC COMPACT MIXERS

PHONIC LOUDSPEAKERS

PHONIC AUDIO MIXERS

Introducing the New Phonic professional range - setting new standards in mixing desks, disco mixers, amplifiers, graphic equalizers and speakers. Superb quality, excellent reliability and unbeatable value. New Phonic... phantastic!

HW International,
167-171 Willoughby Lane,
London N17 0SB

NEW PHONIC®

FOR THE FULL STORY ON NEW PHONIC AND INFORMATION ON OTHER QUALITY PRO AUDIO EQUIPMENT FROM HW INTERNATIONAL, CALL OUR FREEPHONE TODAY!

FREEPHONE TO RECEIVE OUR PRO AUDIO CATALOGUE NOW!

0800 7311990

WRH

THE FINEST SAMPLE CDs - FROM ALL THE

A Selection of The World's FINEST QUALITY Sound Sampling Collections, from the cream of World's Developers - See hundreds more CDs in our FREE Catalogue.

Best Service (Germany)

ADVANCED ORCHESTRA

From Germany's No.1 Sample CD developer, BEST SERVICE. Produced by PETER SIEDLACZEK. A complex yet compact and user-friendly sound library setting new standards for symphonic samples. • 5 CD-ROMs or audio CDs • 5455 samples of all instrument groups. ***Vol 1*** - String Ensembles. ***Vol 2*** - Solo Strings. ***Vol 3*** - Woodwinds. ***Vol 4*** - Brass & Effects. ***Vol 5*** - Percussion & Harp. Each Volume: Audio: £59.95 / ROM: £149.00. Or purchase the whole ROM set for only £599. Choose AKAI, ROLAND or EMU for the CD-ROM versions).

NEW! The first in a series of **Upgrade** Sets (3 CD-ROMs) - Upgrade '97 features new categories of Legato Strings, Fast Strings, New Acoustic Environments (large hall), New Instruments (Bass Flute, Harp Single Notes, New Percussion Instruments), with acoustic variations: CD-ROM-set (Akai, Roland or Emu): £179.00

HOUSEMASTER

NEW from Germany's No.1 Sample CD developer, BEST SERVICE. The ultimate collection for varied house collections. Housemaster features more than 1000 fresh drumloops from 120 - 140 bpm. Hundreds of vocal hooks and shouts, house synths and complete chords, organs and high strings, pads and disco-house-strings, kickin' basses and a huge collection of superb new stereo drum sounds. This is an absolute must for the professional house producer.
Audio CD: £59.95, Akai CD-ROM: £99.00

XX LARGE NO KICK

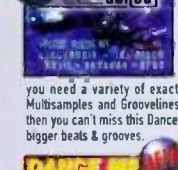
NEW from Germany's No.1 Sample CD developer, BEST SERVICE. Another blockbuster from the XX-Large team and this time an absolute novelty: the first drumloop collection with more than 1500 brand new add-on, percussion and effect loops without bass drums or low frequencies. Perfect for dance productions or soundtracks. Tempos range from 85-160bpm. All of the loops are exactly tuned and sorted into bpm groups to enable you to add them easily to existing tracks. In addition you get many kickin' bass drums as a bonus. Audio CD: £59.95, Akai, Roland, or SampleCell CD-ROM: £99.00

VOICE SPECTRAL II

NEW from Germany's No.1 Sample CD developer, BEST SERVICE. A monster production offering over 2500 samples on 2 CDs of over 150 different voices!! Included are atmospheric intros & break lines for dance, house & Drum'N'Bass; Psychadelic vocals, Ambient hooks. A comprehensive selection of vocals for film and commercial production, plus harmonic choir multisamples for Dance & Pop, male & female shouts, lines, hooks, scratches, laughter, bubbles, screams, computer voices, backing vocals and adlibs plus computer generated voices transformed by Axel Resynth. 2 CD set (Audio CD & Audio/Akai CD): £59.95

REAL MEGA RHYTHM

NEW from Germany's No.1 Sample CD developer, BEST SERVICE. One of the highest quality and most useful sample CD-ROM sets on the market - it gives you 1500 Drum & Percussion samples, 400 loops & fills. You get 1 audio CD with demos and all loops & fills (note that most of these loops are electronic & FX loops). Also you get 2 CD-ROMs, one containing all samples, the other with all loops & fills, ready-mapped for your sampler. Brought to you by the producer of the highly succesful "Real Mega Drums".
3 CD-ROM-Set (Audio/Akai/Akai): £59.95 (Soon also available in Audio/Emu/Emu and Audio/Yamaha/Yamaha!)



IndepenDANCE

NEW from Germany's No.1 Sample CD developer, BEST SERVICE. If you have enough of those Techno and House sampling CDs which contain sounds that you feel you could easily create on your own, and you want to open your mind for ELECTRO, 70's DISCO, BRASIL, BHANGRA, and AFRO, and you need a variety of exactly tuned Drumloops, Singleshots, Multisamples and Groovelines in really different musical styles - then you can't miss this Dance construction kit and Remixer tool for bigger beats & grooves. Audio CD: £59.95

DANCE MEGA SYNTH

NEW from Germany's No.1 Sample CD developer, BEST SERVICE. More than 1500 stunning stereo synth sounds. Typical dance chords, dance organs, voices, choirs, pianos, pads, basses, atmospheres, strings, pizzicato, house sounds, analog & processed synths, single sounds and multisamples. Available in mixed-mode: audio CD & free 500MB Akai ROM (ROM has over 1300 programs, hundreds of sounds - perfectly looped, envelope filters already set, program numbers given, etc, mapped to the keyboard. 2CD package (includes Audio CD and audio/AKAI CD-ROM): £59.95

ADVANCED MEDIA TRAX

NEW from Germany's No.1 Sample CD developer, BEST SERVICE. It was time to take sampling to a whole new level!!! Advanced Media Trax is an unmissable collection of FIVE CDs - the new standard for film and multimedia productions and sound tracks, featuring synth pads, stacks, orchestra hits and lines, atmospheric backgrounds, single pads and multisamples, cutting edge textures and hyper-SFX. And all licence free. Includes over 1 GIGABYTE of Akai CD-ROM data!! (also compatible for Emu and Roland users). Five-CD-Set (Mixed Mode Audio/AKAI): £129.95

Spectrasonics (USA)

SYMPHONY OF VOICES

From acclaimed developer SPECTRASONICS comes an epic production - the most extensive collection of voices ever assembled on CD-ROM. This massive FOUR CD-ROM SET produced by Eric Persing includes a breathtaking variety of multisamples, phrases & FX from some of the world's most prestigious singers. An invaluable tool for the serious composer and producer, & designed to be inspiring for years to come. Disc 1 is devoted to richly-detailed samples of the 80-voice London Chorale, recorded in a large cathedral in England - the first sampled choirs ever presented without heavy vibrato (more playable and useful in any musical contexts). Performance variations include multiple dynamics of multisampled oohs, ohs, aahs, ees, humming, intense staccato stabs, Major, Minor and Suspended Chords with high & low chord voicings, thick clusters, 12-Tone & Ligeti FX, natural Crescendo/de-crescendos, whispering, murmuring, whistling, accents, falls, Avante garde glides, Vertigo fx, octaves, moving vowels, swoops, chattering, guttural groans, shouts, ethereal phrases and more! Disc 2 brings the beauty and power of Classical Soloists - a wide variety of license-free Operatic Tenor & Soprano phrases (both with words and melismatic), & multisamples of each singer. This disc also has more of the London choir samples. Disc 3 focuses on an authentic English Boys' Choir and a Gregorian Mens Choir. Many of the sounds on this disc have never before been available to the electronic musician. The Boys' Choir features multisampled phrases (Kyrie, Allelujah, Amen, Agnus Dei, etc.) plus the soft and loud multisampled static vowels (oos, ahs, ees, mms) and moving vowels (Oh-Eh-Ah and Ah-Eh-Ee-Oo). Also includes Solo Boy phrases and multisamples. The Gregorian Mens Choir is provided with multisampled soft and loud Ohs, Mms, Ees, Fifth Drones, Intervals (Half and Whole Step Up/Down), and ancient Gregorian Chants! Disc 4 offers an overwhelming variety of Lush Multitracked Pop Stacks, created from over 10,000 perfect vocal performances! These "Enya-esque" pads are a must-have for Pop, R&B and New Age music. This disc has the most comprehensive multisampled vowels in the collection including Oos, Ahs, Ehs, Ees, Ohs, Mms, Vvs and Zzs. Moving vowels, Washes and "Scooped" notes. Gorgeous male and female textures that will add that smooth silk to your next hit! **NOW IN STOCK!!!!**

★★★★★
FIVE STAR REVIEW
(Sound on Sound)

FOUR CD-ROM SET: £299.00 (Choose either Roland, Akai/Emu, Kurzweil, or SampleCell). Call to check availability - there's a rush!!!!

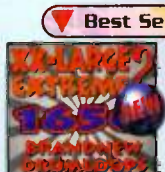
HEART OF ASIA

This product got a 5 star review in every magazine in UK, US & Germany! The most comprehensive collection of Asian instruments & phrases. This remarkable 2-disc set includes over 1Gb of exotic Chinese, Malay, Nepalese, Tibetan Javanese, Hindi, Sanskrit, Mandarin, Thai & Indian samples, including instruments, phrases, opera divas, chants, speech, gamelan orchestra, monks. Perfect for your next film score, album or remix project. *"A treasure chest of lovingly sampled performances"* (Keyboard, USA). *"The range and subtlety is faultless. You won't find a better collection of ethnic sounds anywhere else."* (Future Music, UK). Audio 2-CD set: £79.95. CD-ROM 2CD set : £249.00

BURNING GROOVES

Devoted to raw, aggressive, in-your-face energy! Blazing, all-original live drum grooves by Abe Laboriel Jr. (drummer for Seal) with extreme remixes by producer Eric Persing (who brought you Bass Legends & Distorted Reality). Unrelenting alternative, power funk, progressive soul, rock'n'roll and grungehead loops in a wide variety of tempos put this collection in a class by itself. Each groove has a unique mix (edge, ambient, distorted, lo-fi, etc) and some have Hi-fi and Lo-fi re-mixes. Grooves also played without kick/snare for flexibility in customizing loops. CD-ROM version includes the Audio CD for instant auditioning, plus the incredible SMOKIN' KITS drum library. Attitude! Audio CD: £59.95. CD-ROM (includes the audio CD): £119.00

Best Service (Germany)



XX LARGE EXTREME 2

NEW from Germany's No.1 Sample CD developer, BEST SERVICE. The sequel to one of the world's greatest drum loop collections. Features 1650 brand new drum loops from 80-170 bpm. Every style is included in this brilliant collection. All of the loops are exactly tuned and sorted into bpm groups. You also get another 150 bonus sounds: synths, chords, basses, pads, organs, etc. for all current musical styles (rap, hip-hop, dance, house, jungle, drum 'n' bass, rave). Each sound on the audio CD has an individual index number to make it easy to find any sample during a track. All of the drumloops are looped and arranged in programmes, presets, patches or instruments up to 8MB. Audio CD: £59.95, Akai, Roland, or SampleCell CD-ROM: £99.00

ADVANCED DANCE COLLECTION

NEW from Germany's No.1 Sample CD developer, BEST SERVICE. Uberschall's first CD-ROM for the new Yamaha A3000 Sampler. It contains drum & instrument loops, basses, analog synthesizers, pads, vocals, ad-libs, sound effects, and drum and percussion samples for current musical styles such as house, drum'n'bass, jungle, trip hop, and electro, etc. 460 megabytes of samples and programs which have been specially tuned for the sound capabilities of the A3000. Loops are divided into four tempos: 90bpm, 126, 150 and 160 making it very easy to combine loops. Coversion values between tempi are included in the booklet. Yamaha A3000 CD-ROM: £99.00

Zero-G (England)

DEEPEST INDIA

"The aim of Indian music is to create spiritual awakening in man... and its essence lies in its interpretation" - *Sangeet Karyala, India.* We are intensely proud to announce the arrival of one of the most exquisite and beautifully recorded collections of samples ever created. A 3-CD set of original samples that explores every area of musical emotion from elation to despair - from hauntingly beautiful vocals, through countless joyous orchestral ensembles to authentic indian instrumental phrases. It took ZERO-G's indian producers two years to record this collection, and there's never been anything quite like it available before - anywhere in the world. A true masterpiece made for musicians and composers who seek out and appreciate only the very highest standard in professional sample libraries. None will be disappointed!

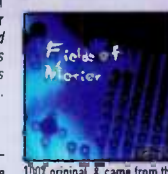
- Disc 1 - Vocals.
- Disc 2 - Instruments.
- Disc 3 - Orchestras & Ensembles
- Audio 3-disc set: £79.95
- Akai S-Series CD-ROM: £249.00
- Other formats coming soon - call for details!

GUITAR ODYSSEY

To give up a promising career in Brain Surgery to pursue a musical dream in pre-glasnost U.S.S.R. says what kind of phenomena the producer of this stunning collection is. The respect he earned throughout Western Europe gave him the confidence to defect in 1993, fleeing with his family to England. Dr. Ika has played with most of the big name Dance DJs in the U.K. This CD captures the essence of what he does live. The Loops illustrate his effortless speed & accuracy. Also sustained chords and FX. Great for use in House, Trip-Hop and Drum and Bass - but the possibilities are endless. For each sample the Style, F.X/Amp used, B.P.M. and Key are given. Audio CD: £59.95

MALICE IN WONDERLAND

Latest in the *'Altered States'* series from Zero-G, produced by IAN BODDY •Rhythm Loops •FX Loops •Synth Percussion Loops & Arpeggios •One-shot Percussion FX •Synth FX •Ambiences & Ethereal Textures •Bell FX •Drones •Weird Voices. Lots of great unique loops! They're weird & interesting & the 'lighter' ones provide great backdrops to put main drum sounds around. Many loops have the Cuckooland organic quality about them but sound cleaner. Textures range from menacing low drones & Spacey FX to really beautiful ambiences & arpeggios. All bpms & keys are provided where appropriate. **REVIEWS:** *"A very impressive source of creative loops... Clearly & logically grouped... Excellent for the off-beat samplist... Loops are generally highly usable... Well programmed patterns... Superb FX loops... The use of effects is interesting & imaginative... Plenty of moody arpeggios... Perfect atmospheric ambient layers."* (Future Music, UK) Audio CD: £59.95 Akai CD-ROM (out now): £119.00



FIELDS OF MOTION

Vol.3 in "Altered States" Series (Zero-G) is a stunningly innovative CD that utilises raw and organic sources to create rhythms and soundscapes with a creative edge. Loops come with individual components allowing infinite variation, plus lots of exciting single hits and ambiences. All material is 100% original, & came from theme parks, factories and industrial sites etc etc. CD-ROM VERSION COMES WITH AUDIO VERSION BUNDLED FREE!! *"A truly unique product which takes a brave & successful step towards providing a good fusion of dance and industrial styles... the selection of usable sample material will keep even the sampling die hards busy... fantastic range and depth... innovative & unusual... new and exciting sonic sculptures... a rich seam of dance floor and jungle influence... a scorching collection of "happening" dance loops... layout couldn't be more logical... will provide that elusive sparkle to your tracks. In short: Pure metallic, steam-driven wonderment. ★★★★★ Five Stars"* (Sound on Sound). Audio CD: £59.95. Akai S-1000 CD-ROM 2-disc set (includes audio CD): £119.00.

VOCAL XTC

EXTREMELY HOT dance vocal sample collection from ZERO-G (UK), performed by some of the hottest session singers from the UK! Totally original pro samples for all your music productions: Gospel choir, Ad-Libs, Melodies, Harmonies, and Backing Vocals. Styles featurd include: Dance, R'n'B, Soul, Rock, and Indie. Both Male and Female singers. These unique vocals cover a wide spectrum of application and are destined to appear in many a chart record in the near future. REVIEW: *"Interesting an innovative... Impressing the pants off any listener... Accurate & beautifully arrange d harmonies... Truly wonderful... The attention to detail an wide range of styles make this CD pretty damn close to perfection."* (Sound on Sound, UK). Audio CD £59.95

JUNGLE WARFARE

NEW! Volumes 2 & 3! If you need Jungle these 3 CDs from ZERO-G are simply unmissable. Each CD features a MASSIVE set of: • Loops • Rolls & fills • Perc Kits • Pads & Chords • Bass • FX • Vocals. Volume 1 is one of our all time best selling sample CDs. Vols. 2 & 3 are even BETTER! REVIEWS of Volume1: *"Excellent fidelity, balance & punch, & variation in feel & sound... there's no serious competition. Rated 5 stars out of 5 ☆☆☆☆☆"* (Sound on Sound). *"Kicking grooves... a wide range of styles... highly useful... AS UP-FRONT AS YOU CAN GET."* (The Mix). *"Jungle Warfare gives you just about everything you need to survive in the remix rain forest."* (KEYBOARD, USA). CD-Audio: £59.95 each. Special offer for limited period only: Get Vols 2 & 3 together for only £99.00 - AVAILABLE NOW!

Big Fish Audio (USA)

BREAKBEAT

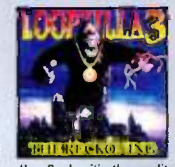
Breakbeats on vinyl - those absolutely authentic beats with the crispy vinyl sound used by top producers from Hip-hop to R&B to Trip-Hop have been notoriously hard to get - until now. Big Fish Audio has collected the all time funkiest breaks - from classics to all-new - on one royalty-free audio CD, along with every hit from every loop. Breakbeat is packed with nothing but 4/4 beats - with punchy kicks, crunchy snares and sizzling hi-hats. These are the type of extended beats that work great as a complete rhythm section, but can also be augmented or edited into numerous stylistic variants. The beats to beat for 98 are all on BreakBeat. Audio CD: £69.95.

SALSA ALL STARS

From Big Fish Audio, Salsa and Afro-Cuban Rhythms played by the master of Latin percussion Eddie Montalvo. Conga's, Bongo's, Cowbell's, Guiero, Cascara and Maracas have never been played better. Every instrument is played separate as well as in sections for the most authentic rhythms and instrument groupings. Add spice to your music with REAL Salsa. Audio CD: £59.95

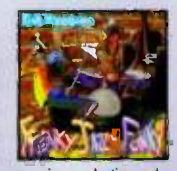
TITANIUM RHYTHMS

From Big Fish Audio, this great new collection takes percussion to a new level. In styles from Ambient to Gabber, with an accent on House, veteran producer Sliver delivers programmed & live loops using sounds from industrial, factory and junkyard settings. Components of loops also included, so making custom beats is easy. These Loops are perfect for Acid or House Tracks, and for stacking over more conventional break beats or four on the floor drums. Audio CD: £59.95



LOOPZILLA 3

Another huge 2-disc audio CD Set from BIG FISH AUDIO busts out of the cage with 140 minutes of brand new drums, guitar, bass, rhodes, vocals, horns, turntable wizadry and much much more. From mad hard Hip Hop Funk to silky Hip Hop Soul - it's the quality that makes all the difference. Featuring the veterans of Loopzilla 1 & 2 plus new talent from Boo Ya Tribe and The Dazz Band. REVIEW: *"Volumes 1 & 2 are legendary... Volume 3 is in finer style than ever and has some seriously funky rhythms... A damn good source of breaks... many are also perfect for Drum'n'Bass... Quality is first class... Very very cool indeed."* (DJ Magazine, UK). 2CD-Set: only £69.95



FREAKY JAZZY FUNKY

From Rich Mendelson, the five-star producer of Phat & Phunky and Dance Industrial, comes the new standard in construction kits. Rich assembled the East Coast's premiere session talent and contributed his own amazing production and programming skills to make this set his best yet. With the included midi-file disk, it's a breeze for the producer to customize the loops and swap sample elements. Exploring the funky side of dance music, Freaky Jazzy Funky is the set to beat for 1997 and with three CDs and a Midi file floppy disk, this collection has to be one of the industry's best value products! The best ears at T+S rate it a total winner. Triple-CD-Set (Audio): Only £79.95

Ilio Ents. (USA)

FINGERSTYLES

NEW from ILIO ENTERTAINMENTS. This approach to creating Acoustic Guitar sample libraries is so inventive, so useful, that you'll wonder why no one had thought of it before. Produced by Dan Portis-Cathers (Spectrasonics "Heart of Africa") Fingerstyles consists of Guitar Patterns, Melodies, Cadences and Endings arranged in construction kits which can be assembled and overlain to create complete, seamless tracks. Music styles include New Age, Blues, Folk, Country, Pop, Ballad Rock, and others - nearly 40 compositions in all, each with as many as a dozen strums, riffs, patterns and melodies. Plus you get a variety of additional strummed chords, including extensions, for more flexibility. The speed with which you can create full-length ultra-realistic guitar parts is startling. It's the perfect solution for soundtrack composers on a tight schedule, or anyone looking to add rich sounding fingerstyles to their mix. The six string acoustic steel is expertly played and recorded, and each performance is tempo-tuned so you can sequence the patterns with complete confidence. Whether soloed or mixed, you won't believe the realism. A class library designed to inspire and get results. Audio CD: £59.95 (Call for availability/pricing of CD-ROM versions - coming soon)

FRETWORKS

NEW from ILIO ENTERTAINMENTS. A landmark library featuring legends of the fretboard. Fretworks boasts an impressive roster of musicians playing an intriguing variety of stringed instruments, including 6-string, 12-string, and slide guitar, vintage 6-string Gibson, National Steel, mandolin, custom baritone guitar etc. This collection is a journey "off the beaten path" capturing the soulful essence of Delta blues, Appalachian Folk, and the roots of rock, bluegrass, swing and shuffle. The rare performances were recorded in a musical context with all of the raw energy and "happy accidents" that make a track live and breathe. The phrases are tempo-tuned for easy sequencing, and most are provided in several tempos for flexibility. They're divided into 2 or 4 bar patterns and free-style riffs which can be strewn in countless ways to create your own unique solos. The vast musical experience represented in these fine performances will bring your tracks to that next level of quality and musicality. Audio CD: £59.95 (Call for availability/pricing of CD-ROM versions - coming soon).

WORLD'S PREMIER SOUND DEVELOPERS

TIME+SPACE - The UK's Leading Supplier of Sampled Sounds for 8 Years. Exclusive UK Distributors for: Best Service, Big Fish Audio, E-Lab (Ilio, Mixman Soundiscs, Spectrasonics, Zero-G, and more.

e-Lab (Sweden)

VINYLISTICS 3

NEW!! Featuring Ruff-style Breaks which have crossed over in all styles, from HipHop to House to Tekno & Jungle - Vinylistics 3 is an important source of Groove inspiration. Loops (with variations) plus their component drumsamples. UltraMonkS - an experimental trip hop duo, together with DJ Toby, have made the loops as Funky & Rough as possible. Edited & mastered with SP1200 sample simulations & Valve EQ's - so the beats are phat & "dirty" to the bone. Often the loops have 2 variations to make them even more varied. Special Fittering gives you that Hihat/Top Loop microphone sound which makes the loops even more creatively useful as "Groove Backrounds". Use them behind a programmed beat to increase the "live" feel for Your Rhythm. This CD, like the others in the Vinylistics series, utilise the "LoopMap™" system developed by e-LAB for the X-Static Goldmine series, making the loops easier to use & "intermix" with each other. If you can only afford one 'Vinylistic' CD get this one. Audio CD (plus bonus demo CD): £59.95

STRICTLY HOUSE

NEW RELEASE!! Are you a Remixer? A House DJ? A PRODUCER? Maybe you are still looking for the Perfect Beat? STOP SEARCHING NOW!!! THIS IS "THE CLUB" SAMPLE CD!!! PUMPIN' HOUSE & GARAGE LOOPS 2 DA MAX. A COLLECTION OF TUFF & DEEP HOUSE LOOPS (120-130 BPM) plus the Loops come WITH VARIATIONS and their component drum SAMPLES. INSPIRED TO CUT SOME RUFF & GROOVY HOUSE TRAXX!! Audio CD: £59.95. *"Spot on. You can't really fault this CD"* (Future Music)

X-FILES OF JUNGLE

Coming soon - Another in the new X-Files series from E-LAB in Sweden (makers of the X-Static Goldmine series). X-FILES of JUNGLE features Drum'N'Bass & Jungle LOOPS & SAMPLES.

These Rollercoaster beats will set off your system like nothing else. Super-Fast beats for anyone looking for the underground sound of Jungle or Drum'N'Bass. Loops, Samples, FX - they're all in there. Please call to check availability - scheduled release date of this HOT new title is April/May '98 (Call for latest news). Audio CD: £59.95

X-FILES OF TECHNO

NEW! - and in stock NOW: Another unmissable CD from the makers of the X-Static Goldmine series.

X-Files of Techno features ACID/ HARDCORE/ TEKNO LOOPS & SAMPLES - the styles which have been dominating Europe's underground scene for Years.

The TR909, TR808, TR303 are all in there - Distorting like crazy. These are the hard beats of the The Underground Charts that set the Trends which others need to follow. Created by a succesful Producer of this underground rave phenomenon. Audio CD: £59.95

X-FILES OF HOUSE

This one's a Goldmine of Deep & Progressive House loops & samples. To give you an idea, the loops and samples are in the style and mood of Armand van Helden, Tod Terry, or Deep Dish. These loops & samples will make your Hair Stand Out - pure joy! You won't be able to stop moving your feet when you hear this one. All samples provided with variations so you can create your own deep house tune instantly - perfect for injecting The new York club sound into your music - the sound of people like "Masters at Work" - OVER 1000 PHAT LOOPS AND SAMPLES. Audio CD: £59.95

STRICTLY 12-INCH

This classic from E-Lab features Dance/Remix/House LOOPS & DRUMS. WHAT VINYLISTICS IS FOR HIPHOP, THIS CD IS FOR DANCE. The idea is similar: Loops, with variations, together with separate hits. This is a Remix CD for anyone in the need for good STOMPING House & Garage Loops. Very much 'DJ sounding', & produced by a Remix/DJ team. If You want the sound of the dancefloor - get this one. All Loops have been tested for reaction on the floor! Audio CD: £59.95

VINYLISTICS 1

From DJ/Producer PHAT FABE (Neneh Cherry, Shaba Ranks, Cherno, Titiyo etc) HOT Loops & samples from Jungle, breakbeat/techno to R&B and hiphop. Extended variations of many loops make this CD great for club DJs, and provide the opportunity to create smaller custom loops. The loops have a vinyl quality about them. An optional floppy disk is also available featuring the MIDI-files of the loops (specify Atari/PC or Mac). REVIEW: *"A real bargain... a CD that any r&b/ hiphop/ soul producer will be pleased to own."* (The Mix', UK). Audio CD: £59.95. Akai CD-ROM: £99.00

X-STATIC GOLDMINE 1

The original dance production mega-collection, re-released by popular demand & completely reworked by creator Erik Svahn. FEATURES OVER 4000 SAMPLES & LOOPS! - an unbelievable resource. One of the most raved about & largest collections of dance samples & loops ever released. And the AKAI S1000 CD-ROM version is the same price! REVIEW: *"One of the most astonishing value-for-money purchases in recent years... This is a great purchase for the first-time sample CD buyer... In the 'pound per sample' challenge, nothing else comes close."* (Sound on Sound, UK). Audio CD: £59.95. Akai CD-ROM: £59.95

X-STATIC GOLDMINE 3

A journey into the clubs of the world. House, Tekno, Rave, Garage & Jungle. Over 500 stereo & mono loops - all made to fit with LoopMaps™. Plus over 1000 samples cut from extensive programming & vinyl manipulation •Sub/Synth Basses •Acid tones/loops •Tekno riffs/stabs •Vintage analog seq hooks •Strings •Tekno FX •Perc, & drums. •Optional MIDI-file floppy disk (specify Atari/PC or Mac). REVIEW: "Well chosen, in-your-face dance material, which you would be well advised not to be without... a collection with plenty of attitude which will not dissapoint." (Sound on Sound). Audio CD: £59.95, Akai CD-ROM (Over 3000 samples): £99.00

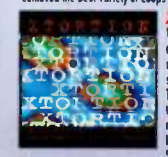
e-Lab (Sweden)

X-STATIC GOLDMINE Vol. 5

Another winner from the 5-star producers at e-Lab. Electro, Techno, Trance, Ambient, House - whatever Your angle is, this CD is an unbelievable resource. 1500 Loops & Samples with incredible crossover potential. e-Lab Used & Abused all kinds of Electronic gear to create the widest possible variety of Synthetic Loops, Patterns & Samples. Tons of Computer Generated Trancey Synth & Acid-like Tones, Loops & voices. Plus a Massive Dose of Vintage Old Modulars - producing Zapping Blips & Twangy Bleeps. Sweepy Synthetic FX and Artificial Electronic Drum & Percussive Samples - all made to fit with the LoopMaps™, developed by e-LAB to enhance the intermixing of Loops with different BPM's. The clear links between 70's bands (like Kraftwerk) & todays techno/electro innovators (like Aphex Twin, LFO & Carl Craig) shows that electronically produced music is vital to keep the "innovative" Dance styles up-2-Date with the next Millenium. So get this CD if You want the Ultimate in Artificial, Analogue & Xperimental Loops & Synth samples. "Pure Artificial Intelligence" - or as Kraftwerk put it - "It's more fun to compute". Audio CD (plus bonus demo CD): £59.95

SYNTHASIA 3 - LOOPLAND

LOOKING FOR SYNTHLOOPS? ACID TONES? EXTENDED FILTER SWEEPS? SLIDING SLURS? ACCENTED POPS? Here's 1800+ BARS OF ACIDSQUEAKS & FILTERPEAKS !! Roland TB 303 + CLONES & MODULARS. This CD captures the No.1 AcidHouse/Tekno & Trance Machine - The Roland TB 303 & some of all the Clones of this Machine! The producers also Used & Abused old Modular Synths to Create a wide variety of TeeBee-like Loops & FilterSweeps, plus many hot Trance-like Patterns. The classic silver box was recorded clean & also forced thru a variety of Exclusive & Cheap FX: from Expensive Valve Eq's to LoFi Fuzz boxes. e-Lab achieved the Best Variety of Loops & Sweeps possible! Audio CD: £59.95



XTORTION 1

Warning! Only for the HeadStrong! Are You ready for an Adrenalin Rush ? Are You ready to be kicked by the hardest Loops & samples ever ? Pounding, Fast, Hard Techno/ Gabber/ Jungle /Industrial Loops that Bang the hell out of Your Braincells like nothing ever did before. Rough Pounding Kicks, Hysterical Transformed Vocals, SuperDistorted Heavy Synth Loops & Tones/Pads, Metallic Crunching Guitar Loops - the list is endless. Only buy it if You have the Guts to create harder stuff than Prodigy or NineInchNails. Otherwise stay away !!!! Xtortion is a Killer's Nightmare. Audio CD: £59.95

SYNTHASIA 1

Welcome to FUNALOG and SYNTHASIA ONE: Analog dance / Remix sounds & samples (no drum loops, only samples). The perfect complement to all E-Lab's dance loop CD's. Analog dance samples made for Dance Producers by Dance Producers. Many danceloop CDs lack good clean, solid & deep synth sounds. This CD will solve your problem of finding the right fun & inspiring analogue synth sample. •Tones •FX •Basslines •Arpeggios •Chords & lots more, from new (like the Nordlead) to vintage (the phat Prophet 5!. Also: TB 303, TR 909, JUNO 106, JUPITER 8, KORG POLY 6, OBERHEIM M6, & many more. Over 1100 CLUB samples! Audio CD: £59.95

SYNTHASIA 2: Back2Bass

"Back2Bass" is the FOUNDATION for all kinds of Club Music: House, Techno, Dub, Soul, HipHop - You name them, You're bound to find a Bass that fits Your Track. Many Sample CD's miss this important part of ClubMusic but now this CD is here to help. Stop fiddling with inferior bass samples - instead get the real thing. Includes all kinds of Phat Bass tones & Loops - both single sampled & multi-sampled. To mention a few, equipment used includes SH101, Prophet 5, Matrix 12, CS70, Oscar, K2000, MKS 50, Jupiter 8 and many many more. Audio CD: £59.95

STRICTLY R'n'B

NEW! Prepare yourself 4 NU Classic Soulbreaks: 800+ X-Clusive Swing & Soul loops & samples (no instruments - only loops & bits). Black traxx from the sons of Soul. Swingbeat & Hipbop loops all with variations plus the component drum samples. A very black-sounding CD, perfect for anyone in need of phat/slow Rumpshaker beats. Like 'Vinylistics', but with a more slick R'n'B touch. Styles range from Hiphop's rougher side to the slicker sound of 90's soul. From the same DJ who produced "Strictly 12-Inch", this loop CD must be on top of your list! A great mixture of slo & groovy loops (60-100 BPM). Are you ready 2 make some slick blakk traxx?! Audio CD: £59.95

VINYLISTICS 2

The best-selling sequel from DJ/Producer PHAT FABE (Neneh Cherry, Shaba Ranks, Cherno, Titiyo etc). Incredible loops and samples in styles ranging from Jungle, breakbeat/techno to R & B and hiphop. Once again, the extended variations of many of the loops make this CD superb for club DJs as they provide the opportunity to create custom loops by cutting out small portions of the main loop. Phat Fabe has put together another stunning collection. REVIEW: *"A real bargain... the range in kit sounds can't be faulted... everything from squeaky clean to rough and raw."* (The Mix'). Audio CD: £59.95

X-STATIC GOLDMINE 2

A journey from the JB's to Snoop, from East Coast to West Coast, a steady stream of phat loops, Grooves & ol' Skool Funk Samples. Deep Bass Tones & Grooves, Funky Guitar Riffs, old Clavinets, Dusty Rhodes & Organs, Horny Horns & Saxes, Cheesy Synths, Jazzy Flutes, Vinyl FX, Rolls, Fills, Drums & Perc. - OVER 1500 KICKIN' SAMPLES (over 3000 on the Akai CD-ROM). •Optional MIDI-file floppy disk (specify Atari/PC or Mac). *"One of the most complete funk/hip-hop sample discs you can buy."* (Future Music). *"Well composed and exciting... a wonderful resource... Buy this one for its loops - they're tough & beat"* (Keyboard, USA). *"As phat and funky as they come and incredibly price-able."* (The Mix, UK). Audio CD: £59.95, Akai CD-ROM: £99.00

X-STATIC GOLDMINE 4

E-LAB have done it again! Over 1500 Ambient and Chill Out Loops & Samples from the dark side of the Moon. TRIPHOP & CHILL-OUT LOOPS, SPEEDY JUNGLE BEATS & SMOOKIN BASS BOOSTERS, ETHNIC CHANTS & BUBBLE BATH DIDGERIDOOS, WET CHILL OUT CHORDS & XPERI-*MENTAL* SYNTH VIBES, ANALOGUE SEQ FX & ENO-STATE VECTOR LOOPS, PSYCHADELIC DELAYS & DUB-ECHOES, AMBIENT BIRDS & JUNGLE WEATHER, SPOOK FX AND LOTS MORE! *"I will say this just once: GO OUT & BUY THIS ONE!... Absolutely brilliant."* (Musiker Magazine, Sweden). Audio CD: £59.95

Mixman Studio

The Hottest Music Creator ever to hit your PC...

✪ "The slickest DJ-like software tool I've seen for looping, layering, and manipulating samples... The user interface is awesome, the price is awesome, and the sound files are *top notch*" (Keyboard, USA). ✪ "Mixman is not a toy. It's a powerful sound creation architecture optimized for creating modern dance music - the next chapter in low cost desktop music production: intelligent software which enables you to be entirely self-sufficient" (Technologica, UK). ✪ "A seriously fun piece of performance software" (Sound on Sound). ✪ "Hands-down the most fun I've ever had with a CD-ROM. OUTSTANDING." (Music & Computers).

Serious power. The coolest sounds. Precision timing. Addictive features.

£39.95

MIXMAN STUDIO has what you're looking for in PC music making tools. Easy to understand without compromising sound quality or control, Mixman Studio provides a dynamic environment to use the world's best creative sound tools - your ears. Pop-down menus organise thousands of head-bobbin', royalty-free loops and samples so you can concentrate on the mix, not the mess. Choose sounds from the Mixman Soundisc™ Library or create your own .WAV files to use in your mix. Go ahead, be adventurous - the program automatically synchronizes all the elements. Tweak the pitch, volume, and panning in each of the 16 stereo digital tracks in real time. Use delay, time stretch, and tempo controls before you record your own CD quality tracks for a movie soundtrack, a web page, or a road trip. Only £39.95

SYSTEM REQUIREMENTS • Pentium (MMX for best Performance) • 16 MB RAM • 5 MB of hard disk (100 MB for full install) • CD-ROM drive • 16-bit DirectX compatible sound card

Mixman SOUNDISC™

FIVE EXAMPLES FROM THE MIXMAN SOUNDISC™ RANGE:

"It's not what you see, it's what you hear"

Seasoned Mixman producers know the easy way to keep their mixes sounding in the groove is to use the Mixman Soundisc Library. These CD-ROMs are fountainheads of inspiration that keep you focused in the mix. The .TRK files on Mixman Soundiscs from your favorite recording artists ensure you always have quality sounds that are easy to use. All the pre-production work has been fortified to get you in the mix quick and never leave you guessing in the creative moment. The samples were created by top international recording artists, producers, sound designers & remixers. All titles come bundled with the Mixman Studio software engine (LE Version). Soundiscs are comparable to the very best pro-audio sample CDs available anywhere - you simply can't buy better. Is it any wonder that Mixman Studio is fast becoming the 'industry standard' platform for PC desktop music? Expect over 30 new Mixman Soundisc titles this year!

FORMATS

.trk
.wav
audio

AMMO FROM THE FRONT LINE

Make no mistake - we are talking SERIOUS sounds - that means Mixman *SOUNDISCS™* are comparable to (and often even better than) the very best professional digital audio sample collections available anywhere in the world today - you simply can't buy better.

THE LEADING PLATFORM

Since the range of Mixman *SOUNDISCS™* will grow into a huge library over the coming months, with more and more recording artists and producers coming on board to make their sounds available to you, Mixman Studio is fast becoming the 'industry standard' music machine platform for PCs.

GEORGE CLINTON. George is back! A complex compound of elements hand selected by Dr. Funkenstein. In-the-pocket grooves, Solid solos, horns, drums, bass, keys, synths, guitars. Old favorites and rare releases. When you're looking for the pure, un-cut funk, remember that its most potent from the source. £29.95

GLOSS. Sounds designed to carry the party mood all night. Influences from Chicago's deep gospel house sound and detroit's moody techno rhythm. Classic house drum sounds, bass patterns, synth melodies, etc. A superb sound package that can back a Diva and inspire futuristic dancescapes. £29.95

SKINNY PUPPY. Aggressive sounds to make grandma dive under her bed. Distorted dark themes from this well-known ensemble of auditory assault. Eerie ambience, wicked basslines, screeching guitars, insane percussive loops, crazy keys, etc. By Skinny Puppy & Zero-G. £29.95

K-KLASS. A compilation from British techno-house masters K-Klass. Unique aural textures which fuse house rhythms, techno sounds, and tribal vibes arranged to make the mixing fun and efficient. Packed full of loops, synths, keys, kicks, and hats, this Artist Series Soundisc is a modern classic. By K-Klass & Zero-G. £29.95

STREET LEVEL. Through the manhole steam clouds and the noisy street traffic, there's a jam goin' on. Packed with mid-tempo-hip-hop-get-ups-for-the-get-downs. West coast disco funk meets up with east coast hard knock loops that set the people swaying'. Lots of scratchin', freakin', and beat seekin' with plenty of funky basslines and vocals to smooth out the mix. £29.95

mixman

Mixman SOUNDISC™

The Official Sound Library for MIXMAN STUDIO **Dealer Enquiries Invited**

LISTEN BEFORE YOU BUY

Over 60 Time+Space Jukeboxes now installed!

Listen to our CDs at dealers nationwide...Over 60 music stores have demonstrated their commitment to keep your sampler fuelled with inspiring new sounds! Visit one of these and listen to the entire contents of the sample CDs that interest you most - you'll find the world's top 100 audio sampling CDs in one of our 100-CD Sample-CD Jukeboxes - and they can supply any CD or CD-ROM from our catalogue! Call for details of your nearest jukebox!

HOW TO ORDER

REMEMBER TO ASK FOR YOUR FREE COLOUR CATALOGUE!

ALL PRICES INCLUDE VAT & UK POSTAGE. We operate a FAST international mail-order service - delivery is usually within 48 hours when you pay by credit card (VISA/ MASTERCARD/ AMEX/ SWITCH/JCB), cash, postal orders, bank draft, or building soc. cheque (USE REGISTERED POST IF SENDING CASH). **TO ORDER:**

● TEL (Orders / Enquiries): **01837 84 11 00** ● FAX **01837 84 00 80**

INTERNET_ http://www.timespace.com ● *e-Mail: sales@timespace.com* ● *Tech support: Tel. 01837-841103*

If paying by cheque, allow up to 7 working days for clearance. Make cheques/POs payable to "TIME+SPACE" and post to:

TIME+SPACE ● P.O. BOX 4 ● OKEHAMPTON ● DEVON ● EX20 2YL ● ENGLAND

International orders: please add £6 airmail or £12 express airmail. EC countries: please give us your international VAT number if you have one. Sales office open: 09.30–18.00, Mon-Fri. Prices are subject to change without notice.

TERMS & CONDITIONS OF SALE: All contracts in respect of goods between the Company and the Purchaser are subject to the Company's standard conditions of sale, a copy of which is available on request (see excerpt below). Prices were accurate at time of going to press. Errors & omissions excepted.

PLEASE READ THE FOLLOWING BEFORE PURCHASING ANY SOFTWARE FROM TIME+SPACE: "By opening the packaging and using the software on the CDs, you agree to become bound by the terms of the Time+Space Licence Agreement. The sound samples recorded on the CDs remain the property of their creators and are licensed, not sold, by Time+Space for use on sampling equipment. A right to use the sounds is granted to the original end-user of the product (Licensee) and is NOT transferable. The Licensee may modify the sounds. The sounds may be used for commercial or non-commercial purposes within musical compositions. The licence expressly forbids resale or other distribution of these sounds, either as they exist on the CDs, or any modification thereof. You cannot sell, loan, rent, lease, assign or transfer all or any of the enclosed sounds to another user, or for use in any competitive product".

TIME+SPACE

THE WORLD'S NUMBER ONE SOURCE FOR INSPIRING SAMPLES

Dealer Enquiries Invited!

VISA

WRH

demo DOCTOR

If you'd like our resident specialist JOHN HARRIS to review your demo tape, just send it on cassette or DAT, with recording details and a photograph, to: Demo Doctor, Sound On Sound, Media House, Trafalgar Way, Bar Hill, Cambridge CB3 8SQ

JON GOOCH

Recording Venue: Home.
Recording Equipment: Tascam TSR8 open-reel 8-track, Audio Technica ATM33a mics, Tandy PZM mics, Phillips DCC recorder, Korg Pandora guitar effects, ART FXR effects, GBS reverb, Behringer Ultrafex II, Yamaha RM800 mixer, Grundig Pro 1500A monitors, Sugden amp.

Jon is a rather fine piano player, and his CD album is aimed at those who like popular classics and pop standards. The main piano used on the recording is his acoustic Yamaha grand, although he does turn his hand to electric piano, synthesizer, and even guitars and drums.

No details of his miking procedure for the piano are given, but the sound he's achieved is excellent. I would guess that he's used the pair of Audio Technica ATM33a mics close up, with possibly the PZMs in the room to capture some of the natural acoustic. The trick is to get the piano to sound even across the keyboard, and also to avoid mechanical noise from the piano itself, both of which he's managed admirably.

There are plenty of solo sections where the piano sound is exposed and can be closely scrutinised. Under such close examination the recording is revealed to be remarkably free of noise, both electronically and physically generated! There's not a creak, hiss or pedal thump to be heard, and the lack of traffic noise or any external sounds suggests that Jon is well away from any main roads as the low-frequency drone of heavy traffic has a nasty habit of finding its way onto acoustic recordings!

The drum sounds from the Premier Olympic kit are sufficiently bright to have been miked up using the PZMs as some form of overheads, with possibly the other microphones on the snare and kick. The snare is a little dull on some of the earlier tracks and should have been EQ'd (by adding some upper-mid). However, it's fine for the most part, especially when played with brushes. Indeed, the bright cymbals sit well in the mix, occupying the presence frequencies from 10kHz up in which real acoustic pianos have very little energy. ❑

BLACK NOT GREEN

Recording Venue: Home.
Recording Equipment: Akai S01 sampler, Compaq PC running Steinberg *Cubase*, Fostex D90 8-track hard disk recorder, Spirit Studio 16-track mixing desk, Alesis 3630 compressor, Digitech Studio Quad V2 effects unit, Samson Servo 170 power amp, KRK monitors, Sony A6 DAT machine.

This is a dance-style demo influenced by the likes of Soundgarden, Underworld, Prodigy, Massive Attack and Pearl Jam. Yes, it contains guitars too, and somehow manages to fuse pop, rock and dance styles.

The first track up is 'Bleacher', and after a long, tension-building fade-up of a storted guitar we're quickly into very familiar territory rhythmically,

with a well-trodden path into Jungle territory. Yet the guitar and the vocals give the mix a completely different character, building on the familiar to pull in the casual listener. A clever bit of word play using the word 'Bleach' runs seamlessly into a sort of chorus from the preceding verse pattern, performed in superb edgy fashion. There are also some cunning drops into half-time loops, using slowed-down samples that hold the interest and are embellished by some interesting harmonies in the vocal.

Quality is oozing from the second track, 'Honeytrap', an excellently penned song that is once again well performed by the singer. The dance element is retained by the drum loop, a relaxed, jazzy rhythm with a double-headed bass drum sound that is left bone-dry in the mix. This is complemented by the use of a fat double-bass line and further enhanced by the use of a familiar organ sound in the lower mids. Basically, this allows the edgy guitar a lot of room in the mids, which is used to good effect by a guitarist who knows how to work within this genre.

Yet again, I was most impressed by the singing, and particularly the opening section. Here the vocal is broken up into five samples and triggered instead of sung. This has the effect of being slightly disjointed, without losing the timing and groove of the backing.

In general, the sound of the album could be improved a little with some EQ. A couple of dB's cut in the harsh 4kHz region and some HF lift above 10kHz helps over my reference monitors. Otherwise, this is an excellent CD deserving of more attention. ❑

Readers submitting demo tapes should note that SOS regards the inclusion of photos or artwork with demos as permission for the magazine to reproduce this material free of charge, as illustration, with any review of the accompanying tape.

WIN AMPEX TAPES

Ampex Professional Media by QUANTEGY

As an incentive to send in your best demos, Quantegy, makers of Ampex tapes, are kindly providing prizes for the best demo tape submitted each month. The lucky winner has a choice of: 20 x Ampex 472 90-minute chrome audio cassettes, 10 x Ampex 467 DAT 90-minute cassettes, 3 x 456 or 2 x 499 half-inch open-reel tapes, 5 x 456, 457 or 499 quarter-inch open-reel tapes, or 5 x 489 40-minute SVHS ADAT cassettes.

EMIS

The Place for keyboards

0117 956 1855

The Old School House, Cossham Street,
Mangotsfield, Bristol BS17 3EN

E-Mail: emis@dial.pipex.com

Open 9am to 5:30pm Monday to Saturday. Closed Wednesday. Next day mainland delivery £10

Special offers this Month

Alesis Microverb III	£139
Alesis Quadraverb 2	£475
Alesis QS7	£825
Alesis Studio 12R	£339
Alesis Studio 32	£849
Alesis Wedge	£349
Art FXR 2	£139
Art FXR Elite	£225
Art The Effects Network	£285
BBE 362 Sonic Maximiser	£149
Boss SX700	£325
Casio GZ5 Midi controller	£29
Casio GZ50M (GM Module)	£85
Clavia Nord Lead	£899
DBX 120XP Sub Harmonic	£239
DBX 262 Comp/Limiter	£149
DBX 266 Comp/Gate	£159
DBX 296 Enhancer	£189
Design Lab Prologue 2+	£199
Dod R512 Multi-Effects	£125
EMU ESI32 SCSI/8M Ram	£799
EMU ESI4000/16Mb Ram	£999
EMU E6400	£1799
EMU E-Synth Keyboard	£2699
Event Darla	£269
Event Gina	£399
Event 20/20 Monitors	£325
Event P20 (Powered Monitors)	£649
Fostex X-14	£135
Fostex XR3	£199
Fostex X55	£299
Fostex X77	£399
Fostex D5 DAT	£699
Fostex DMT8VL	£799
Fostex D90/3 2Gb Drive	£1299
General Music Pro 1	£999
General Music Pro 2	£1399
General Music Pro-Expander	£399
Hammond GM1000	£299
JBL 4208	£249
Kawai K5000s	£849
Kawai K5000w	£1199
Kawai K5000r	£699
Kawai G-Mega	£299
Korg ih	£275
Korg N364	£749
Korg NS5R	£449
Korg X5DR	£299
Phonic MM122	£199
Phonic PMC2402B	£675
Quasimidi Technox	£449
Roland A90 EX	£1475
Roland JV1080	£699
Roland RD600	£1299
Roland SC88-Pro	£549
Samson MPL1502	£225
SPL Vitalizer	£169
Steinberg Cubase Lite PC	£49
Steinberg Cubasis Audio PC	£99
Steinberg Music Station PC	£99
Waldorf Pulse	£299
Waldorf Pulse Plus	£349
Waldorf Microwave II	£799
Yamaha CS1X	£499
Yamaha GC2020 BII	£249
Yamaha MDF2	£249
Yamaha MT50	£249
Yamaha MT4X	£349
Yamaha REV100	£175
Yamaha REV500	£299
Yamaha S15 (Monitors)	£149
Yamaha S55 (Monitors)	£275

Power Amp Clearout

C-Audio ST600	£475
General Music P300	£269
General Music P500	£375
General Music P100	£499
Phonic MAR2	£299
Phonic MAR4	£399
Samson Servo 120	£149
Samson Servo 260	£229
Samson Servo 500	£359
Yamaha A100a	£199
Yamaha P2500	£399
Yamaha P3500	£499

All our prices include VAT

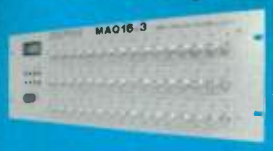
Visit our redesigned web site
http://dspace.dial.pipex.com/emis/index.htm

Buy now - Pay Later

Available on most non sale items
10% deposit balance payable in 6 months time at no extra cost

DOEPFER MUSIKELEKTRONIK

Call us for a free Doepfer catalogue



MAQ 16/3 £549
Analogue sequencer with MIDI & CV/Gate

A-100-CV £999
A real analogue modular system
More than 50
Modules from £19

MAUSI £99
MIDI to CV interface with aux. CV and Sync 24

MS404 £299
A real analogue expander with MIDI and CV/Gate

PK88 £499
88 Note hammer action built into a flight case.
The most compact 88 note keyboard design available

MCV4 £69
MIDI to CV interface with 4 CV's & Gate

MSY2 £59
MIDI to Sync 24 converter

New Products

REGEL WERK	Midi controller / Sequencer £449
SCHALTWERK	- Pattern sequencer £999

Used Instruments

Digital

Casio CZ10	£125
Casio CZ3000	£175
Casio VZ1	£225
Clavia Nord Lead Expanded	£699
Elka EK44	£199
Emu Emax SE	£399
Ensoniq Mirage	£249
Ensoniq SQ1 plus	£399
Fatar Studio 900/Flightcase	£475
Generalmusic SK76	£999
Kawai K1	£225
Kawai K1 mk II	£249
Kawai K4	£299
Korg DS8	£249
Korg T3	£549
Korg Wavestation EX	£649
Yamaha DX7	£249
Yamaha DX7s	£325
Yamaha GS2	£399
Yamaha KX5/flightcase	£199
Yamaha QS300	£599
Yamaha SY77	£599

Analogue

Ensoniq ESQ1	£299
Korg Poly 800	£149
Logan String Melody II	£149
Roland JX3P	£249
Sequential Prophet T8	£1499

Expanders

EMU Proformance Plus	£159
Kawai K1M	£125
Korg EX800	£125
Korg P3 (piano)	£99
Yamaha EMT10	£99
Yamaha FB01	£65
Yamaha TG55	£199
Yamaha TG100 (marks)	£135
Yamaha TG100	£149
Yamaha TX81Z	£135

Sequencers

Alesis Datadisk SQ	£149
Alesis MMT8	£99
Casio SZ1 (4 track)	£75
Kawai Q80	£225
Roland MC202	£249
Roland MC303	£399
Yamaha QX5	£99

Drum Machine

Akai XE8 (2 cards)	£99
Korg DDM220 (latin)	£49
Yamaha RY8	£99
Yamaha RY20 (with card)	£249

Mixers

Dynamix 12:2	£149
Peavey Unity 16:2	£299
Phonic BKX8800 8:2	£125
Roland M240 24:2	£349
Studiomaster 12:2 (old)	£149
Yamaha RM602 6:2	£75

Effects/Recording/Amps/Misc

Aphex Type C Exciter	£125
ART FXR	£99
Boss RPS10 (delay)	£99
Boss RE1000	£125
Digitech Midi Vocalist	£299
Philip Rees MIDI-CV	£75
Roland World (for JV1080)	£99
Samson Servo 500	£299
Studiomaster Dual Gates	£99
Torque Powered Monitors	£149
Yamaha MSS1 (SMPTE)	£149
Yamaha YMC 10	£49

Computers/Software

C-Lab Notator Alpha	£99
Emagic Logic PC	£199
Falcon D2D Hard Disc Recording	£49
Yamaha DB50XG	£75

WRH

demo DOCTOR

JASPER FISH AND THE ALICE BAND

Recording Venue: Home.
Recording Equipment: Roland VS880 digital 8-track, Roland SDE2000 delay, ART RXR Elite Reverb, Kenwood KA Stereo amplifier, Atari 1040 STe running Steinberg *Cubase* sequencer, Acoustic Research AR18 monitors, Digitech MIDI Vocalist, dbx 163X comp/lim and 263A de-esser, LA Audio GCX2 comp/gate, AKG C3000 and Shure SM58 mics, Mackie SR24 mixer, Sony DTC790 DAT recorder.

This is a CD that starts off in an unpromising fashion and gets better. The opening track is reminiscent of one of those demos you used to find on new drum

machines and keyboards in the late '80s. Limp brass is layered with marimba over a latino rhythm for a bit of an instrumental workout, and the result is rather tacky.

Quickly moving to track two, we find a completely different piece of music stylistically — a song with fine vocals and an interesting backing. A warm and compressed-sounding drum pattern loops underneath a simple two-note bass riff that changes key at different points in the arrangement, gathering momentum rather cleverly to the chorus. The instrumentation is all keyboard-based, and I'm glad that Jasper resisted any temptation to add electric guitar, which would have placed the production immediately into the mid-'80s dance-rock era. Instead, keys play the funky licks that embellish the verses.

Yet it's the vocals that are the best thing about the song. The slightly uptight lounge-lizard style is excellently recorded and equalised to sit in the mix and have plenty of clarity. To my ears it sounds as though just the right amount of upper-mid frequency, around 5kHz, has been retained for presence, and some the low bass has been rolled off. The heavy compression has obviously helped too, without causing any problems with sibilance, and I suspect that it has coloured the vocal sound pleasantly in the process.

My favourite song was the fifth one on the CD, 'One solution'. This demonstrates Jasper's ability to put together a theatrical, melodramatic piece that wouldn't be out of place on a Beatles or Sting album. The nod to the Fab Four is in the vocal sound, which is appropriately equalised to sound telephonic by cutting out the bass and a little of the treble, and boosting those frequencies around 800Hz. There are some nice keyboard arrangements of piano and woodwind too. ❑

CHELLOVECK

Recording Venue: Home.
Recording Equipment: Akai S2000 sampler, Samson 1640 mixer, Shure SM58 mic, Pentium PC with *Cakewalk* 6.0 sequencer, Yamaha SW60XG soundcard, Creative Labs AWE32 soundcard, Behringer Autocom Compressor, Yamaha CD400t CD writer.

Tim Scott is a final-year student on an audio technology course and the main man behind this demo. As he's in his last year at college the prospect of getting a job looms large, and he asks for advice on jobs in the music industry as well as a review of his CD.

The problem is that Tim hasn't actually said which area of the industry he'd like to work in, so I guess it's engineering and production. Well, like most other things in life, it's a question of who you know in what is an over-subscribed industry. Tim's demo concentrates on dance, and makes a decent job of it, so that's a good start. However, most professional studios are going to require an engineer who can deal with all types of music, so it's worth getting a demo together which demonstrates other skills in audio.

Another way to get into the industry is to work as an equipment demonstrator, and I notice that there are often ads in the back of *SOS* for such positions. Personally, I found this a good way to get to meet people and make useful contacts at trade shows, through in-store clients, and by working on studio installations.

Tim has blown his own CD for this demo, and the sound of the mixes is, for the most part, clean and sharp, with some graininess evident in the upper-mid frequencies generated by the sound sources. On the opening track he's kept the bass end warm by alternating a drum loop featuring a heavily reverbed kick drum with a bass loop sample that is beautifully lacking in top end.

Vocals on all the tracks are kept low in the mix, and treated with a long reverb which both enhances the relaxed vocal style and blends it into the instrumental mix. This works best on the second track, 'Lost and found', which also features a really fine choice of jungle drum loops and a dub section, complete with clean wah guitar played by one of the guest musicians.

My only criticism of the recording would be its tendency to sound a bit clinical. Undoubtedly this is a result of the equipment used in the process, and is alleviated whenever there is a vocal or real guitar. Yet it's not just a question of using other musicians but concerns how elements like digital filters and modulation sound too. Having recently worked on a project using analogue synthesizers, I was reminded once again how wonderful, varied and interesting are the sounds they produce. It seems to me that this recording could do with a touch of that fat analogue magic in places. ❑

QUICKIES

RICHARD WATSON is a music teacher from Gloucestershire who plays and writes his own instrumental music — when he's not trying to subdue the classroom mob. His main interest is in soundtrack work, so his CD is musically fairly diverse, to demonstrate his abilities. It kicks off with a rock/pop workout and a main riff, shamelessly cribbed from 'Jump' by Van Halen, that tends to waffle on a little too long. The third track demonstrates a little more musicality, with some fine and interesting harmonic structures and themes explored on piano and guitar, although I think it was a mistake to use electric and not acoustic guitar. Other tracks feature jazz, classical and rock material which shows what Richard is capable of. To my ears, the most comfortable-

NEWCASTLE ON TYNE'S LEADING MUSIC STORE

MAIL ORDER A SPECIALITY

GREAT PRICES FAST DELIVERY

Sounds Live

Tel: 0191 230 3422 FAX: 0191 222 1663

Second hand, Ex Demo & Some New Bargains

Art X Pro X15 foot controller	£399
Amadeus 486 Mon mouse + 16 meg + Cubasis	£349
Alesis ADAT XT	£1259
Alesis QS6	£549
Alesis QS7	£779
Alesis QS8	£1799
Alesis QSR	£599
Alesis SR16	£159
Alesis Nanopiano	£279
Boss SP202	£39
Ensoniq ASR X	£1359
Fostex D80	£1095
Fostex DMT8 VL	£799
Fostex XR5	£225
Fostex XR7	£329
Fostex XR3	£189
Fostex D90	£1249
Fostex D5	£549
JBL 4208 Monitors	£225
Korg i5S	£499
Korg N364	£649
Korg Trinity Plus	£1499
Korg N5	£559
Korg N1	£1099
Korg Z1	£1499
Korg X5	£279
Lexicon MPX1	£689
Novation Bass Station Rack	£299
Roland JP8000	£CALL
Roland E86	£699
Roland D20	£399
Technics KN3000	£999
Yamaha TG55	£169
Yamaha VL7 Much better than the Prophecy	£499
Yamaha QY10	£99
Yamaha VL70M	£349
Yamaha RY20	£249
Yamaha RY8	£119
Yamaha P150	£1099
Yamaha MT50	£239
Yamaha MT4X	£329
Yamaha MT8X	£399
Yamaha QS300	£549
Yamaha MU90R	£399
Yamaha Promix 01	£899
Yamaha CS1X	£449
Yamaha AN1X	£569
Yamaha P50M	£239
Yamaha O3D	EVERY LOW
Yamaha MD4	£529
Yamaha A3000	£959
Yamaha QY700	£669
Yamaha REV500	£279
Yamaha PSR730	£685
Yamaha PSR530	£349
Yamaha PSR620	£369

Mics & Radio Systems

AKG C1000S	£149
AKG C3000	£LOW
AKG Solid Tube	£CALL
Audix AX OM3X5	£89
Audio Technica ATM403	£315
Beyer M300TG	£89
Beyer TGX80	£189
Beyer M300	£89
Beyer S150G Guitar System	£169
Beyer S150H Mic System	£239
Beyer S250H Mic System	£349
Beyer S350H	£479
Beyer Boom Mike Stands	£39
Quicklock Boom Mic Stands Pprice	£29
Neumann TM103 Superb Recording Mic	£699
Rode NT2	£199
Rode NT1	£CALL
Samson S12	£59
Samson HT4/SM58 Diversity System	£399
Sennheiser MD504 Amazing New Bass Drum Mic, Now Inc Clip	£99
Sennheiser 1081 Diversity System New Model Lowest Price	£CALL
Sennheiser Evolution brilliant new range of mics starting from really low prices	£CALL
Shure SM58	£84
Shure ETV/58S	£LOW
Shure ETV/58D	£LOW

ALL MAKES OF MIKES AND HEADPHONES, ALL ON GREAT DEALS

Mixers

Alesis Studio 32 in line console	£CALL
Alesis Studio 24 in line console	£CALL
Allen Heath GL3000 Series	£SOUNDS LIVE LOW
Allen Heath Wizard	£799
Allen Heath GL2000 24/4	£SOUNDS LIVE LOW
Behringer MX8000	£SOUNDS LIVE LOW
Behringer MX3282	£SOUNDS LIVE LOW
Behringer MX802	£THE LOWEST
Behringer MX1602	£THE LOWEST
Korg DRS168RC	£SOUNDS LIVE LOW
Mackie 1202 VLZ	£299
Mackie 1402 VLZ	£399
Mackie 1604 VLZ	£LOWEST
Mackie 2482	£SOUNDS LIVE LOW
Soundtracs Topaz 24/8 inc meter bridge	£SOUNDS LIVE LOW
Studiomaster Powerhouse 600w 8/2	£599
Studiomaster Vision 700w 10/2	£799
Studiomaster Horizon 1216	£1399
Studiomaster Trilogy 166	£399
Studiomaster Trilogy 206	£499
Studiomaster PRO2 163	£449
Yamaha MX2000 New 400watt powered version of MX12/4	£CALL
Yamaha MX12/4 inc Reverb RRP £399	£299
Yamaha 03D Great new low price now under £2000	£CALL
Yamaha Promix 01V Amazing new mixer	£CALL
Yamaha 02R Great new low price	£CALL NOW
Yamaha EMX640 Powered Mixer	£SOUNDS LIVE LOW

IF YOU'RE LOOKING FOR P.A. EQUIPMENT WE HAVE MASSIVE STOCKS AND UNBEATABLE EXPERTISE

Keyboards & Modules

Alesis DG8 Inc [illegible] digital piano	£CALL
Alesis Nanofilter few high spec rack mount datafiller	£CALL
Alesis QS6	£SOUNDS LIVE LOW
Alesis QS8	£SOUNDS LIVE LOW
Alesis QS7	£SOUNDS LIVE LOW
Alesis QSR	£LOW
Alesis Nanosynth	£LOW
Alesis Nanobass	£LOW
Alesis Nanopiano	£LOW
Boss SP202 New Budget Sampler	£249
Emu Esi 4000	£SOUNDS LIVE LOW
Emu Planet Phatt	£SOUNDS LIVE LOW
Emu Orbit	£SOUNDS LIVE LOW
Emu E Synth	£CALL
Emu Calamari 8 output + effects and more, for ESi32	£CALL
Ensoniq ASR X Powerful New Sampler	£SOUNDS LIVE LOW
Ensoniq MR Rack	£499
Korg Z1	£SOUNDS LIVE LOW
Korg SG ProX Powerful New Stage Piano with Trinity Sounds	£1399
Korg SG Rack	£CALL
Korg Trinity Plus, with Loads of Free Sounds	£NEW LOWER PRICE
Korg Trinity Standard	£SOUNDS LIVE LOW
Korg Trinity Rack	£CALL
Korg N364	£649
Korg i300	£699
Korg N5SR 64 voice channel module	£399
Korg N5	£CALL
Korg N1 88 note version of N5 massive piano samples	£SOUNDS LIVE LOW
Korg i30	£CALL
Korg X50	£399
Korg i5S	£499
Korg i540	£CALL
Korg i5M Plus Free Sounds	£589
Korg X5DR	£299
Kurzweil PC88	£1259
Kurzweil KMP1 Micro Piano	£319
Novation Super Bass Station Rack	£379
Studiologic SL880	£LOW
Studiologic SL760	£LOW
Yamaha MU100 New Module Massive Spec	£CALL
Yamaha SU10	£SOUNDS LIVE LOW
Yamaha QS300 EXCLUSIVE LTD DEAL, INC FREE SOUNDS	£599
Yamaha EX7	£CALL
Yamaha EX5	£CALL
Yamaha EXR5	£CALL
Yamaha P200	£CALL
Yamaha CS1x	£SOUNDS LIVE LOW
Yamaha AN1X	£?
Yamaha A3000 Mega Spec Budget Priced Sampler	£999
Yamaha AEB1 Sampler Exp. Board	£119
Yamaha VL70M	£SOUNDS LIVE LOW
Yamaha MU90R	£SOUNDS LIVE LOW
Yamaha MU50	£269
Yamaha MU5	£159
Yamaha P500-M Piano Module	£239
Yamaha P150	£1149
Yamaha PSR8000	£SOUNDS LIVE LOW
Yamaha PSR730	£659
Yamaha PSR630	£SOUNDS LIVE LOW
Yamaha PSR530	£329
Yamaha PSR330	£229
Yamaha PRS620 A few boxed left at the craziest price	£369

WE ARE RARELY BEATEN ON PRICE OR SERVICE! SO CALL US LAST!

SOUNDS LIVE EXCLUSIVE DEAL!

Yamaha QS300 Full Synth Workstation With Free Extra Sounds

- 88,000 note sequencer
- 16 Track
- 32 Note Polyhony with disk drive
- XG / GM Compatable
- 61 Keys
- On board rythms
- Loads of free sounds

at an Unbelievable Price Of £599

Computers, Software & Soundcards

We can design and Exclusive Computer Package Around your Needs	£CALL
Band in Box	£89
Cake Walk Pro	£SOUNDS LIVE LOW
E Magic Logic	£SOUNDS LIVE LOW
E.Magic Audiowork 8	£SOUNDS LIVE LOW
E Magix Logic Audio	£SOUNDS LIVE LOW
Ensoniq OS Sound Cards	from £99
Ensoniq Paris	£CALL
Event Darla	£SOUNDS LIVE LOW
Event Layla	£SOUNDS LIVE LOW
Event Gina	£SOUNDS LIVE LOW
Korg 1212i/o Card	£SOUNDS LIVE LOW
MPC Midi Interface with Soundblaster Socket	£55
Midiman. Full range of Midiman Products in Stock	£SOUNDS LIVE LOW
PG Music Jazz Pianist	£25
Steinberg Cubase Score VST	£399
Steinberg Cubase VST	£289
Steinberg Cubasis	£SOUNDS LIVE LOW
Steinberg Rebirth	£CALL
SyQuest EZ135 + SCSI Cable + Disk	£SOUNDS LIVE LOW
Turtle Beach Tahiti + DB50 + Cable Pkg	£SOUNDS LIVE LOW
Turtle Beach Malibu	£SOUNDS LIVE LOW
Turtle Beach Fiji	£SOUNDS LIVE LOW
Turtle Beach Pinnacle	£SOUNDS LIVE LOW
Yamaha W7 Boards, Vintage/Piano/Rhythm/Dance Massive RRP £179	£39
Yamaha DSP1642 it's and 02R + 16 track recorder at unbelievable price	£CALL
Yamaha SFW192 SB + Windows 98 compatible	£69
Yamaha SW1000 Amazing spec	£499
Yamaha DB50XG Daughter Board	£SOUNDS LIVE LOW
Yamaha SW60XG	£SOUNDS LIVE LOW
Yamaha QY20/QY22 Video Manuals RRP £25.99	£9.99
Yamaha CRW 4260 SCSI rewritable CD	£CALL
Yamaha CRW 2260 SCSI rewritable CD	£CALL
VIDEO MANUALS. For most things available at low prices	£CALL
MIDI Interface cables/connectors/sync boxes etc. all from stock	£VERY LOW

ALL COMPUTER SYSTEMS ARE FULLY CHECKED AND DEBUGGED BEFORE SHIPPING

Recording & Effects

Akai DPS12 Digital 12 track plus 1 gig drive	£SOUNDS LIVE LOW
Alesis ADAT XT A few left at this amazing price	£1299
Alesis ADAT LT new 20 bit entry level ADAT at great new low price	£SOUNDS LIVE LOW
Alesis ADAT XT20 new 20 bit high performance ADAT	£SOUNDS LIVE LOW
Alesis Wedge fantastic recording effects	£SOUNDS LIVE LOW
Alesis Microverb 4	£149
Alesis Nanocompressor	£89
Alesis Nanoverb	£99
Alesis Monitor 1	£SOUNDS LIVE LOW
Alesis Midiverb 4	£199
Aphex 104	£199
Aphex 108 Stereo Compressor	£VERY LOW
Audix PM5 High Quality Powered Monitors RRP £669	£299
BBE 362	£149
BBE 462	£SOUNDS LIVE LOW
Behringer Composer	£VERY LOW
Behringer Autocom	£169
Behringer Dualflex	£119
Behringer Ultraflex	£189
Behringer Ultracurve	£THE LOWEST
Behringer Virtualizer	£VERY LOW
Boss SX700	£329
Boss GX700	£LOW
Boss GT5	£CALL
Boss FC50 Foot Controller	£159
Boss ME8	£189
Boss ME30	£CALL
Digitech Studio Vocalist	£SOUNDS LIVE LOW
Digitech Midi Vocalist	£235
Digitech Vocalist Work Station	£SOUNDS LIVE LOW
Digitech Studio Quad	£299
Digitech Studio 400	£SOUNDS LIVE LOW
Digitech Studio 100	£CALL
Digitech RP6	£199
Digitech RP7	£VERY LOW
Ensoniq Paris on demo with Knowledgable staff to answer your queries	£CALL
Fostex DMT8-VL + 1.6 gig + SCSI + £2230 Meg Drive. Incredible offer	£989
Fostex DMT8-VL Inc 1.6 gig drive and vers 2 software	£799
Fostex FD4 Amazing new 4 track mini disk, now under £400	£CALL
Fostex D80	£899
Fostex D 5 Digital mastering	£SOUNDS LIVE LOW
Fostex D90 New 8 track + SCSI +i/O card + hard drive	£DEFINITELY THE LOWEST
Fostex D160 New 16 track + SCSI inc 1.3 gig	£SOUNDS LIVE LOW
Fostex CDR-2000	£RING NOW
Fostex X14 New entry level 4 track	£129
Fostex X24 Brilliant new high spec four track at budget price	£CALL
Fostex XR3	£179
Fostex X 55 New Model High Spec + XLR Inputs	£259
Fostex XR7	£335
Fostex DP8 New Digital Audio Patchbay	£CALL
Harbeth Expression DMP1	£329
HMB CDR8000 + 10 free disks	£RING NOW
JBL 4208 Amazing monitors at this price, Ltd offer	£249
Korg D8 Digital Recorder	£SOUNDS LIVE LOW
Korg DL8000DR Multitap Delay	£CALL
Korg iM	£299
Korg Pandora II	£169
LA Audio GCX2	£SOUNDS LIVE LOW
LA Audio MLX2	£SOUNDS LIVE LOW
LA Audio MPX1	£SOUNDS LIVE LOW
Lexicon MPX1	£699
Mackie HR824 Active Monitors	£1169
Philips CDR870	£CALL
Philips DCC730 WITH FREE RAPES normal deal £2499	£159
Samson Servo 260	£255
Samson Servo 170	£159
Samsamp Tech 21	£CALL
SPL Stereo Vitaliser	£199
Sony MDMX4	£499
Sony DTC A8	£SOUNDS LIVE LOW
Tannoy RA100 monitors	£175
Tascam Porta 02 in stock	£CALL
Tascam 488 MKII in stock	£CALL
Tascam 414 in stock	£CALL
Tascam 424 in stock	£CALL
Tascam 564 in stock	£CALL
Tascam DA30 MKII in stock	£CALL
Tascam DA20 MKII in stock	£CALL
Tascam DA38 in stock	£CALL
TLA Ivory series	£CALL
Yamaha MD8. High spec 8 track mini disk	£CALL
Yamaha MD4	£519
Yamaha MT50	£249
Yamaha MT4X	£329
Yamaha G50 Midi Guitar System	£399
Yamaha REV100 Digital Reverb	£LOW
Yamaha REV500 Digital Reverb	£289
Yamaha ProR3 Serious Digital Reverb	£SOUNDS LIVE LOW
Yamaha MFC10 Foot Controller	£179
Yamaha EMP700 Multi Effects New Boxed	£179
Zoom 505/506/507/508	£SOUNDS LIVE LOW
Zoom 8080	£SOUNDS LIVE LOW
Zoom 1010	£SOUNDS LIVE LOW
Zoom 4040	£199
Zoom 3030	£199
Zoom 3000	£SOUNDS LIVE LOW
Zoom 1010	£SOUNDS LIVE LOW
Zoom 1204	£SOUNDS LIVE LOW
Zoom 1201	£99

Compact Studio Set-ups

Alesis Studio 32 + Alesis ADAT Pkg	£2199
Behringer Eurodesk + Alesis ADAT Pkg	£2099
Behringer Eurodesk + Fostex D80 Pkg	£2399
Korg DRS168RC + Fostex D90 Pkg	£1899
Korg DRS168RC + Fostex D160 + D5 Pkg	£3199
Korg DRS168RC + Alesis ADAT Pkg	£2049
Soundtracs Topaz + Alesis ADAT Pkg	£3089
Yamaha O1V + ADAT pkg	£2800
Yamaha O3D + ADAT Board + Fostex D90 Pkg	£3099
Yamaha O3D + ADAT Board + Fostex D160 Pkg	£4399
Yamaha O3D + ADAT + Optical In/Face Board + Links	£3299

Drums & Sequencers

Alesis SR16	£189
Alesis DM5 Drum Module	£269
Alesis DM Pro new Module	£CALL
Boss DR5	£249
Novation Drum Station	£SOUNDS LIVE LOW
Yamaha DTX Drum Kit System	£GREAT DEAL
Yamaha MQF2	£199
Yamaha MQF3 New Model, Higher Spec	£CALL
Yamaha RY20 Sounds Live Exclusive, New Boxed	£259
Yamaha RY8	£159
Yamaha QY700	£SOUNDS LIVE LOW
Yamaha QY70	£CALL
Zoom Rhythm Track	£CALL

27-29 DEAN STREET, NEWCASTLE ON TYNE NE1 1PQ

TEL: 0191 230 3422 FAX: 0191 222 1663

WEB: http://www.soundslive.co.uk

demo DOCTOR

QUICKIES Contd...

sounding track is the jazz one, 'If only I could catch your eye'. Some of the other compositions tend towards the over-complicated — it doesn't hurt to go for simple and catchy melodies when you're trying to write soundtracks. The initial flute line of 'Sunny Side Up' is a good example of a simpler sounding theme, and all the better for it.

JIM McMAHON's CD contains songs written in the rock/pop style, combining MIDI technology and real instruments. The general sound of the first track is thin, with the keyboards and guitars lacking lower-mid frequencies and the drums over-equalised in the upper mids. This big hole in the mix could be filled by adding a pad keyboard with some lower chord inversions than the guitar, or using some boost at 200-400Hz on the guitar. Having

listened to all the tracks, I find that this problem with the sound layering is prevalent. Even on the Blues song 'That's What I Want', the nice valvey guitars lack back-up from the bass guitar, which is so low as to be inaudible, while the organ tickles away in the background. On the up-side, the hard-hitting drum sound was a good choice. Best mixed track: 'Tears For Miss Christine'.

ALISTAIR SUTTON's CD of early music, entitled *Songs, Madrigals and Rounds*, was recorded over a six-month period using a mixture of live, sampled and synthesized sounds. His aim was to produce a modern interpretation of the pieces, which have been arranged by himself. What he has achieved is a very pleasant-sounding album that makes nice ambient listening but suffers a little from a lack of versatility in the mixes. A similar reverb appears to have been used for many of the recordings, and a lot of it, too. This tends to colour the sound, which has a metallic edge in the 500Hz region. I would have used less, but also would have tried to create some more small hall and chamber-like artificial 'environments' for the more sparse instrumental pieces. Instrumentally, the flutes and synthesized harp are over-used, so it makes a nice change to hear the sampled voices at the start of 'Hey ho, to the Greenwood' and the piano on 'Ballet'.

WAY OUT WEST is a CD of tracks by unsigned dance acts from the West Country, featuring a variety of styles, from techno to heavy dub and ambient. Some of the stuff is pretty minimal, like the Impulse mix 'Life Forms', and wouldn't be out of place at any festival, with its use of slightly overdriven sub-bass sinewave and hardcore drum loops. Caleco introduce some humour into the proceedings with cheeky melodic loops and hammer-on-anvil samples. Yet some of the more interesting beats seemed to be coming from the spacey sounds of MC Doa, resisting the temptation to go for a four-on-the-floor style on 'Trax X1' and going for a more menacing trance-dance style. All the tracks have a continuity of sound, and I suspect that they've been recorded and mixed at the same studio. As they're so minimal, the art is more in the construction than the mix balance, because, frankly, there's very little instrumentation. Echo is used rhythmically in tempo on most mixes, with what sounds like predominantly analogue keyboards (Tek Talk's techno offering being a notable exception). The result is a fat, warm sound with plenty of low end that would get most dancers up on their feet.

UNTOLD: Combining heavy rock with MIDI-driven technology is not new to these demo pages, but perhaps this method of doing it is — recording and mixing of the tape was performed at three sites! Canterbury for guitar, vocals and some MIDI-driven sounds, London

for vocals, and Antwerp for final mixes and CD blowing. Removable hard disks were used to pass MIDI and audio files between each site, and each uses a Pentium PC running *Cubase* sequencing and *Wavelab* digital editing. It's a shame then, that neither the music nor the mixes live up to the method. The sounds are generally brittle in the upper-mid range, as if they've been over-enhanced, and there's a hole in the mixes at about 300Hz.

BRIAN MADIGAN: This album-length composition was recorded using an Emu Proteus and an old Technics PX5 digital piano and is a cyclical exploration of musical synchronicity. Three parts are set up, following a common pattern but in different time signatures, and progressing at correspondingly different rates through all 12 tonal centres. This might sound like a mathematician's way of composing music, but tonal variations are added to the basic patterns on pizzicato strings, bowed strings and bass, using other sounds, such as oboe. Whether it reflects the cyclical nature of our lives and the inevitability of coincidences — 'both harmonic and discordant', as Brian suggests — is a question possibly best left to academics. I simply found it tense, and fast-forwarded through in truly modern style, pausing briefly along the way to sample different sections. Sonically, I thought the string line holding long notes earlier in the piece and later on was a bit loud and piercing, and overall the bass end is light for long sections.

X-XCELL: As Paul Cook, Cookie B of X-XCell has had a couple of reviews over the last few years (patient chap). This is a new offering, where he has collaborated with a female vocalist to produce a garage/house track. The sound is very commercial, with all the classic production touches — fast rolled snares, solid hard kick with a sub-bass note, off-beat hi-hat, explosive reverbed kick-drum punches, and some interesting stereo panning. The vocal is well sung but the sound is quite hard, and I thought it benefited from some cut at 3kHz and boost at 12kHz on this track. The second track is more sparse and allows space for the use of repeat echo on the vocal, which complemented a classic backing track perfectly. Given the conservatism of the dance market when it comes to sounds, Paul has probably done the right thing by going for the tried and tested ones on this mix, and it wouldn't sound out of place in most clubs. Let's hope he has some success with this one.

FAKE are a live band who use electronics and technology as a toy to enhance their music. They also describe their music as messy, liking to sound raw and big rather than 'nice'. It's certainly sparse, as opposed to raw, on the first song, and made interesting by the use of pumping compression on the drums, reminiscent of '60s drum sounds as

the cymbal crashes are heavily compressed and then come back up to their original level. The dub bass is warm and effective, sitting well in the mix with the compressed drums, but I felt that the keyboards could have been louder on the first track. 'Raw' is what the second track is — an excellent, modernised version of what the Beatles were about in the White Album era. This is good stuff!

BOB EVANS' tape contains a good selection of the styles of music he can write. These range from songs for musicals to songs for 'Boy Bands', line-dancing and MOR pop. Some of the songs are sung by him and others by friends. To be honest, singing isn't his main strength, as the semi-spoken style betrays, but he can write a decent melody. He's also got the tone in his voice which suggests that he has a good singing voice when he really concentrates, and this is demonstrated on 'Second Time Around'. Overall, the production is basic, and solid enough, with a good mix balance but little in the way of production flair — those little touches that really make a recording. However, he's strong when it comes to arrangements. ❑

how would you like to learn sound engineering ?

or

certificate-diploma-recording arts (hons) degree*

[26 schools worldwide · international recognition · individual practical studio time · transfer between our schools · a possible internship with disney entertainment · the best studio equipment · the largest number of working graduates · local and international job placement · sound technology course** · bachelor of recording arts (hons) degree* · multimedia producer course · bachelor of multimedia arts (hons) degree* · since 1976 · grants available to those who qualify]

london · united house north road, london n7 9dp, tel (0171) 609 2653
glasgow · unit 6/3, 8 elliot place, glasgow, g3 8ep, tel (0141) 221 3441

Main colleges for each country:
new york · from september 1998
nashville · from october 1998
paris · 45. avenue victor hugo, bat 286, 93534 aubervilliers, paris, france, cedex tel (01) 48 11 96 96
amsterdam · nieuwe kerkstraat 118, vm 1018 amsterdam, the netherlands, tel (020) 622 8790
zurich · pfingstweidstrasse 30, 8005 zurich, switzerland, tel (01) 445 2040
milano · via morimondo 19/21, 20143 milano, italy, tel (02) 8912 0540
vienna · leystrasse 43, 1200 vienna, austria, tel (01) 330 4133
stockholm · rasundavagen 45, 171 52 solna, sweden, tel (08) 730 5100
munich · hoferstrasse 3, 81737 munich, germany, tel (089) 67 51 67
sydney · 57 wentworth avenue, surry hills nsw, 2010, australia, tel (02) 9211 3711
auckland · 18 heather street, parnell, auckland, new zealand, tel (09) 373 4712
singapore · 260 sims avenue, singapore, tel (65) 741 1257
kuala lumpur · no 1 jalan usj 10/1E, usj 10, 47620 subang jaya, kuala lumpur, malaysia, tel (03) 737 0935

www.sae.edu

SAE TECHNOLOGY COLLEGE

** in cooperation with Walt Disney Entertainment ®

* in exclusive cooperation with **MIDDLESEX UNIVERSITY - LONDON**

Dark Side of the Moog

MOOG POLYMOOG ANALOGUE POLYSYNTH

A synth company that produced as many classic and well-loved instruments as did Moog Music is surely allowed the odd turkey! GORDON REID waxes critical over one of them.

There are many ways in which we can categorise synthesizers. They can be badly designed or beautifully elegant. They can be over-priced or offer good value for money. They can be easy to transport and use, or bulky, heavy, and difficult to set up. Once plugged in, they can be sonically limited or supremely flexible; and within those limits they can be uninspiring, or can make all manner of hair stand on end. With so many permutations, you might think it highly unlikely that you would ever stumble across an instrument with a reputation for being badly designed, over-priced, overweight, unreliable, inflexible, and that sounds — at least on the surface — terrible. Yet there was one famous instrument that, by common consent, satisfied these criteria, and more. It is even more remarkable that this instrument hailed from the most famous synthesizer company of them all. The company was Moog Music, and the instrument was the Polymoog.

In the early 1970s, Moog had decided to develop the world's greatest synthesizer. Called the Constellation, it was to have combined at least one fully polyphonic manual, a dedicated monosynth, and a pedal-board that was a synthesizer in its own right. Moog never completed it, although its constituent parts all appeared in one form or another. Most successfully, the pedals were redesigned to become the revered Taurus bass synthesizer, a triumph surpassed only by the Minimoog itself. The monosynth appeared only once. It was originally dubbed the Lyra, but was called the Constellation by Keith Emerson, who used it as his lead synth on the Brain Salad Surgery tour in 1974. The final element in the jigsaw was the Apollo synthesizer that was to have been the core of the instrument. Emerson also used the prototype of this, but the Apollo never made it into production. Instead, Moog's Director of Engineering, David Luce, redesigned it several times before it finally appeared as the Polymoog Keyboard.

Long before most players had heard one, the Polymoog had assumed the status of a dream machine. It was 71 notes wide (unique in 1975), fully polyphonic (unique in 1975), velocity sensitive (unique in 1975), quasi bi-timbral (unique in 1975), and it was a Moog. In a world of Hammonds, Clavinets, Mellotrons, and monophonic synthesis, it was everybody's fantasy to own one.

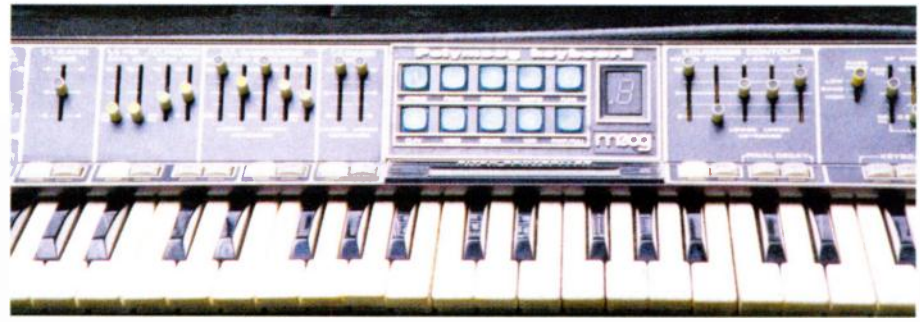
But even in 1975 the Polymoog was an enigma wrapped up in a conundrum, with perplexing controls and unexpected weaknesses. To understand this, we have to take a detailed look at its architecture. So, gentlemen and ladies, hold onto your hats as we delve into the innards of what is, perhaps, the world's most despised polysynth...

THE FIRST TRUE POLYPHONIC SYNTHESIZER?

The core of the Polymoog was called the Mode Selector, and Moog described this — in grandiose fashion — as a "digital logic system". It differed slightly between versions of the instrument, but the most common set of 'Modes' — originally to have been called 'Presets' — was String, Piano, Organ, Harpsi, Funk, Clav, Vibes, and Brass. (A ninth Mode, called 'VAR', allowed you to use the Polymoog as a standard programmable synthesizer.) Many commentators have described the Modes as preset sounds, but Luce saw them more as starting points that embodied the fundamental natures of the sounds named. Thus the Piano mode, for example, was percussive, velocity-sensitive, and sounded vaguely like a Fender Rhodes or Wurlitzer EP200, while the Brass mode had a more aggressive timbre, slower attack, and vibrato. You could use the Modes exactly as programmed, simply by raising the gain of the Mode (Preset) slider in the Master Gain Controls section, and in this way you could play the Polymoog as a very basic, velocity-sensitive, preset synth. But what were these Modes, if they were not patches created from the front panel controls? It worked like this...

The character of each Mode was defined by dedicated chips containing 142 circuits, that Moog described as "Articulators". These were the 71 amplifiers and 71 filters that shaped the sound generated by the oscillators and thus defined the fundamental timbre of the sound. As a result, the Polymoog offered independent velocity sensitivities, amplitude articulations, and timbral responses for every key, making it genuinely polyphonic in its Preset mode. You ▶

The original 1975 Polymoog Keyboard.



The blue QWERTY-style key pad is named the "digital logic system", and selects the Polymoog's Presets: Strings, Piano, Organ, Harpsi, Funk, Clav, Vibes and Brass.

Buy by spec.

Buy Drawmer

Buy by reputation

Buy Drawmer

Buy the Drawmer MX30 at £225

RRP inc. VAT.

Gated/Compressor/Limiter

Bye Bye Compromise

The Drawmer MX30 is an exciting breakthrough... a dynamics processor from the world's experts for the price of, well... something rather less. Think about it: your music flowing through the professional industry's favourite signal path. A Drawmer for £225. RRP inc. VAT.

Don't compromise your audio excellence. Choose Drawmer. You can afford it.

Brochure hotline: 01924 378669

Web: http://www.proaudio.co.uk/drawmer.htm

E-mail: sales@drawmer.co.uk

"Even absolute beginners will find it difficult to get a bad sound out of the MX30.

Although the MX30 is the budget baby of the Drawmer range, it doesn't have either a budget sound or a budget specification."

Paul White
SOUND ON SOUND

DRAWMER Charlotte Street Business Centre Charlotte Street
Wakefield West Yorkshire WF1 1UH ENGLAND
Tel: +44 (0)1924 378669 Fax: +44 (0)1924 290460

had no control over the filter Articulators, but you could bypass them by reducing the gain of the Mode output to zero, and raising the gain of the 'Direct' output. This allowed you to discover — for example — the nature of the high-pass filter in the Harpsichord mode, or the low-pass filtering of the Piano mode.

Fortunately, the Polymoog gave you ample controls with which to manipulate the oscillators' settings and amplitude Articulators within each Mode. Many of these controls were duplicated — one for the Upper zone (the top four octaves) and one for the Lower (the bottom two octaves). This made the Polymoog, to some extent, bi-timbral.

The first such controls — which were arranged in several programming 'panels' — related to the dedicated pulse wave and sawtooth oscillator banks. You could combine and detune these by up to ± a sixth, and the inclusion of pulse-width modulation on the pulse waves enriched things a little further. Unfortunately, a very limited range of footages was available — merely 4' and 8' for the sawtooth, and 8' and 16' for the pulse — and, while there was a volume control for the sawtooth, the pulse was either 'on' or 'off'. But on the plus side, there were independent frequency modulators (vibratos) for the waveforms, and a phase shifter (which doubled as a primitive oscillator 'sync') on the pulse wave.

The next panel contained the VCA envelope controls, which Moog called the Loudness Contour. This modified (or maybe overrode) the VCA Articulators. Either way, editing the Loudness Contour retained the true polyphony of the Polymoog, because each note was correctly articulated according to your new envelope settings. The controls included single sliders for the attack time and sustain levels (which affected the whole keyboard) but two Decay controls — one for the Upper zone, and one for the Lower. Furthermore, and in common with the Minimoog, Decay times also doubled as Release times if you pressed the sustain pedal, or if the unconditional release buttons were 'on'. Finally, as least as far as setting the volume response of each note went, the Loudness Contour also allowed you to determine the Polymoog's response to keyboard dynamics, and a separate Octave Balance panel allowed you to set the loudness of the sounds in three bands: the lowest two octaves, the middle two octaves, and the uppermost two octaves.

NOT THE FIRST TRUE POLYPHONIC SYNTHESIZER?

But it wasn't until you selected the Res (Resonator) and VCF modes that the Polymoog finally revealed its user-programmable filters, either of which could be assigned to the Upper and/or Lower zones. Either of which...? Well, yes. The Polymoog, despite its 71 programmable envelope generators, offered just two programmable filters: a fixed filter bank called the Resonator, and a single voltage controlled filter.

The Resonator was a 3-band equaliser similar to Moog's stand-alone Fixed Filter Bank. It offered low, mid and high bands, each with cut-off frequency, emphasis (filter resonance) and gain. Three filter types were available — low-pass, band-pass, or high-pass — but you could not assign these individually, so, at any given time, all three bands had to conform to the same characteristic.

The Polymoog could be equipped with this set of Polypedals.

The VCF echoed, in style if not sound, the filter on the Minimoog, and featured cutoff and emphasis controls coupled to another ADSD envelope generator. However, unlike the Minimoog, the Polymoog also offered variable keyboard tracking, a dedicated VCF-LFO, and Sample & Hold.

But the VCF proved to be the Polymoog's Achilles heel. The instrument was fully polyphonic in its Preset and Direct modes. But if you attempted to programme your own patches, the single programmable filter meant that the synth couldn't shape the frequency characteristics of any new notes if previous notes were still depressed. As a result, the Polymoog often sounded more like enhanced string ensembles such as the Korg PE1000 and ARP Omni than like later generations of polysynths.

IN USE

Nevertheless, the Polymoog was an exceptional performance synth. There were no pitch or modulation wheels, but there was a ribbon controller, and the rear panel sported no fewer than 11 control inputs and outputs. The Polypedal Controller (a large and expensive pedal board that combined a swell pedal, pitch and filter control, a sustain pedal, and a pedal to toggle between single and multiple triggering of the VCF envelope) used seven of these. The Polymoog's CV and Trigger outputs controlled external monosynths such as the Micromoog and Minimoog, and there were a host of other options, including three inputs that allowed you to pass an external sound source through the Resonators and the VCF. There was even an S-TRIG input that made it possible to trigger the Polymoog from an external synth. Furthermore, the Polymoog's six outputs allowed you to send the Mode, Direct, Res, VCF, and mixed modes to independent mixer channels, for complex, layered sounds.

But even in 1975 the Polymoog's sonic problems and quirks far outweighed its benefits. Much of the blame for its uninspiring character lay within the oscillator circuitry employed by the instrument. The Polymoog used 'divide down' technology (a form of sound generation used in cheap organs and string ensembles) to create its sounds. This meant that there were just 12 pulsewave oscillators and 12 sawtooth oscillators, and lower octaves were generated by dividing the output of each oscillator by factors of 2, 4, 8... and so on. This method proved incapable of generating the powerful timbres previously associated with Moog's name.

Moreover, the near 200% failure rate of the instrument, and the need for constant modifications and updates, must have proved ▶

KEITH EMERSON'S PERSPECTIVE

"The Polymoog design was partly the result of the very good relationship I had had with Bob Moog. Unfortunately, the production version came out when Bob was becoming interested in digital synthesis and was considering leaving the company. Once Bob had decided to leave Moog Music, I felt that, if I couldn't deal with him, it was hardly worth continuing with the company. It was around this time that I heard of the Yamaha GX1, the world's first true polyphonic synth, which, even today, is a glorious synthesizer. It was a turning point for ELP: the GX1 looked great, and I always felt a certain confidence standing behind it. In contrast, the Polymoog was unsuccessful largely because Norlin Music was interested in quick sales and didn't take the time to market it correctly. Nevertheless, it was a hugely important keyboard."

THE PRICES

The Polymoog appeared with a price tag that put it beyond the reach of most players. It is, therefore, surprising how stable the price remained until the instrument was deleted. If you must buy one, please don't pay more than these guidelines. Just think what else (ie. more flexible and more reliable) you could get if you paid more...

INSTRUMENT	RELEASED	DELETED	RELEASE PRICE	DON'T PAY MORE THAN
Polymoog Synthesizer*	1975	1980	£3195	£250
Polypedals	1975	1980	£225	£50
Polymoog Legs	1975	1980	£100	£25
Polymoog Keyboard*	1978	1980	£2295	£100

** These prices included legs, but not the Polypedals.*

New low-cost wonder *Little 2M* MIDI merger

You can't combine MIDI signals just by joining the wires together. Merging MIDI data is a job for a microprocessor, like the state-of-the-art enhanced RISC CPU in our new two-into-one ***Little 2M*** merge box.

The ***Little 2M*** has intelligent prioritisation and interlocks. It properly merges all types of MIDI data including Time Code and SysEx.

This attractive and compact unit is powered via one of its MIDI IN lines. Thus, it requires neither batteries and nor an external adaptor.

Little 2M **MIDI Merge Unit £39.95**

Larger merge units

The established *Philip Rees* range of MIDI merge units are widely acknowledged as offering the best MIDI merge functions available anywhere.

The ***2M*** merges two sources, the ***3M*** merges three, the ***5M*** merges five, while the ***9M*** impressively merges nine! They can handle all types of MIDI data, including Time Code and SysEx. Many automatic features enhance performance and convenience.

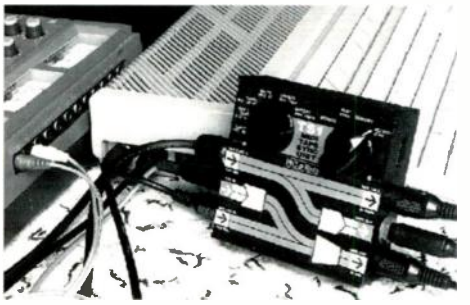
The classic ***2M*** and ***3M*** units have built-in mains power supplies. The high-specification ***5M*** and ***9M*** units are now supplied with external ac adaptors.

2M **MIDI Merge Unit £69.95**
3M **MIDI Merge Unit £99.00**
5M **MIDI Merge Unit £125.95**
9M **MIDI Merge Unit £169.95**

Talented tape sync

You can use the ***TS1*** to sync your MIDI sequencer to any decent tape machine. When you start, stop or shuttle your tape back and fore, ***TS1*** tells your sequencer to play in time, just as if your MIDI voices were extra tracks on the tape.

The ***TS1*** can generate and recognise the usual four SMPTE formats. The ***TS1*** will convert SMPTE to MIDI Time Code (MTC). Alternatively, you can use the ***TS1*** by way of Song Position Pointer/SRT format.



The ***TS1*** merges MIDI data received with its own sync data. You won't need to swap around the MIDI wiring, as ***TS1*** has four MIDI ports and automatic signal routing.

The ***TS1*** has a built-in mains power supply.

TS1 **MIDI Tape Sync Unit £99.00**

Amazing MIDI to CV

For an amazingly low price, the ***Little MCV*** lets your MIDI system control your analogue synths with their great sounds and friendly knobs.

This versatile interface unit can generate control voltages for the 'one volt per octave' (logarithmic) or the so-called 'volts per hertz' (linear) systems.

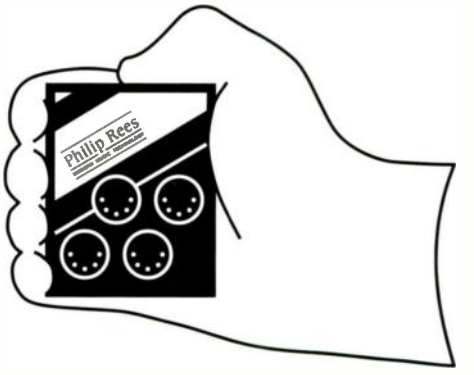
The gate output can be set to five volts positive, ten volts positive or S-trig.

High resolution sixteen-bit conversion allows accurate pitch across the full 128 note MIDI range with smooth modulation, pitchbend and portamento. The CV output also has a wide bipolar voltage swing and a tuning preset is provided.

The MIDI sustain commands are comprehensively implemented. MIDI reception can be set to any channel, using the straightforward front panel rotary control.

There are MIDI IN, CV OUT and GATE OUT sockets. The mains power supply is built-in.

Little MCV **MIDI to CV Converter.. £75.95**



Functional simplicity

Handy MIDI Selectors

These versatile low cost switch-in-a-box gadgets solve many MIDI routing problems and avoid the inconvenience of recabling.

The ***3B*** is a novel changeover switch, which will let you bypass your computer or sequencer without moving cables.

2S **MIDI Selector £12.95**
5S **MIDI Selector £29.95**
3B **MIDI Selector £29.95**
9S **MIDI Selector £39.95**

Low cost thru units

Some MIDI gear may lack thru sockets. Chains of more than three MIDI devices can suffer from data corruption. You can solve these problems at low cost with *Philip Rees'* MIDI thru units.

The ***V3*** is a battery powered 1-into-3 thru box. The ***V4*** has four outputs and is powered via its MIDI input. The ***V8***, which has 2 inputs and 8 outputs, is now supplied with an external ac adaptor. The ***V10*** is a mains-powered 1-into-10 unit. The mains-powered ***W5*** has independent source selection for each of its 5 outputs.

V3 **MIDI Thru Unit £12.95**
V4 **MIDI Thru Unit £19.95**
V8 **MIDI Thru Unit £35.95**
V10 **MIDI Thru Unit £39.95**
W5 **Dual Input Thru Unit £55.95**

Philip Rees
MODERN MUSIC TECHNOLOGY

Philip Rees 5 year guarantee

The above is just a selection from the range of great products which are made in England by Philip Rees. Prices are manufacturer's suggested UK selling prices including 17.5% VAT, valid at the time of going to press.

All our products carry our excellent five-year parts and labour guarantee.

Phil Rees Music Tech, Unit 2
Clarendon Court, Park Street
Charlbury, OXFORD OX7 3PT
(01608) 811215, Fax (01608) 811227
www.philrees.co.uk info@philrees.co.uk

very frustrating for owners and very expensive for the company. And then there was the competition...

In 1975 Yamaha released the GX1. This proved to be the polysynth that everybody had expected from Moog — a three-manual monster with a pedal board. The GX1 generated a sonic depth that you have to hear to believe and, in 1976, it bequeathed much of this to the Yamaha CS80. Each of the CS80's 16 voices was a self-contained monosynth with twin envelopes, twin resonant filters, velocity sensitivity, and its own response to aftertouch. This was heady stuff! Even if you ignored the velocity and poly-pressure sensitivities, the CS80 was years ahead of its competition. It had four memories, a polyphonic ring-modulator, chorus and vibrato, a pitch-bend ribbon, and a superb wooden keyboard. It even proved to be relatively reliable, and it for ever changed players' expectations regarding polyphonic synths.

EPILOGUE

So what were Moog doing? Nothing much. Despite the Polymoog's problems, Luce defended his design resolutely, implying, when interviewed, that players simply didn't understand his creation. He said: "The criticisms that have emerged just don't address the basic question at all".

In 1978 Moog launched the Polymoog Keyboard, a preset-only version of the original Polymoog Keyboard (pardon?), and renamed the original instrument the 'Polymoog Synthesizer'. The new Keyboard offered 14 presets, and you could slightly modify these from the front panel, but with nowhere near the control you had over its forerunner.

It took Moog six years to respond to the CS80 and four years to respond to the Prophet. By this time the company had ceased production of the Polymoog Synthesizer and the Polymoog Keyboard, as well as the Minimoog and the Taurus pedals. Consequently, the Memorymoog, the synth they launched as their response, looked like no other Moog synthesizer. With a return to wooden end-cheeks, a robust chassis, and attractive panel hardware, it looked like a top-of-the-range instrument and, finally, it delivered. Of course, nothing is perfect, and the Memorymoog lacked the Polymoog's velocity sensitivity, so piano-type patches proved unsatisfactory, as did all manner of percussive and plucked sounds. But, by way of balance, its ensemble strings, brass and synth pads have rarely been surpassed.

A year later, the Memorymoog Plus superseded the original model, adding a primitive MIDI interface and a 4000-event sequencer. Then, in the summer of 1983, Moog showed that it had one final trick up its sleeve. It demonstrated the SL8 only once, and in that brief glimpse we saw an instrument that looked very much like a Memorymoog, but with a digital oscillator, analogue VCF and VCA, plus micro-processor generated envelopes and modulation sources. This architecture would have made the SL8 much more affordable than the Memorymoog but, unfortunately, the Yamaha DX7 had already hit the streets, and analogue synthesis was, for a decade, on the way out. Starved of income, Moog (the company, not the man) was bankrupt, the SL8 never made it into production, and the company folded.

The 1978 Polymoog keyboard, a preset-only version of the original instrument.

Then, in 1978, Sequential Circuits burst upon the scene. Its first synth, the Prophet 10, was an unmitigated disaster, but what happened when the company removed half the electronics and renamed it the Prophet 5 is now the stuff of legend. Sequential's chief designer, Dave Smith, had been aiming at producing a polyphonic Minimoog, and he hadn't missed by much. In the light of such competition, the poor old Polymoog didn't have a chance.

HEAR IT FOR YOURSELF

Despite its reputation, the Polymoog graced many — particularly 'progressive' rock — recordings in the 1970s. They may sound dated in 1998, but it's worth checking out the following, if only out of curiosity:

- Abba — *Arrival*
- Gary Numan — *'Are Friends Electric?'*
- Gary Wright — *Dream Weaver*
- Genesis — *Then There Were Three*
- Patrick Moraz — *The Story of I*
- Saga — *Saga, Images at Twilight, Silent Knight, Worlds Apart*
- 10cc — *10 Out Of 10*
- Tomita — *Bermuda Triangle*
- Yes — *Going For The One, Tormato*

DEFINE A POLYPHONIC SYNTH...

No synth should be considered polyphonic simply because it can play all its notes simultaneously. To be truly polyphonic, the instrument must shape each note individually. If you play a second (or third, or fourth...) note, each must follow its programmed tonal and dynamic development without deference to any notes that are already playing. For all but the most basic sounds, this requires at least one amplifier and one filter per note.

AND FINALLY...

The Polymoog's confusing nomenclature used the word 'mode' in two distinct ways: firstly, to describe the eight sound types selectable; and, secondly, to describe the four output modes — Mode, Direct, Res, and VCF — available. I have used 'Mode' for the former, and 'mode' for the latter.

THE POLYMOOG IN 1998

So has the Polymoog had a rough ride? In many ways, the answer is "no". Analogue polysynths are desirable for two reasons: they are simple to use, and they sound lush. The Polymoog barely satisfies these criteria. Its controls are less than intuitive and its basic sounds are thin (although coaxing something better from one can occasionally be a rewarding experience). Of course, not all synths have to be fat, bombastic dinosaurs, and not all sounds have to dominate a mix with huge Minimoog-esque filter sweeps. Indeed, I remember Tony Banks telling me how he replaced his RMI Electrapiano's Organ mode with the Polymoog's thin organ-style sounds.

On the other hand, most players with professional experience of the Polymoog are glad that they no longer need to put up with its limitations and breakdowns. There remain a few enthusiasts who feel that its revival — hanging onto the coat-tails of the current fashion for all things analogue — is justified, but I'm not one of them. As a long-time owner of a pre-1978 Polymoog Keyboard (ie. the synthesizer version) I can confirm that it's an annoying instrument that usually fails to live up to its promise. Add to that the expenses incurred in keeping it fully functional throughout the '80s and '90s, and it becomes hard to justify its existence. Indeed, it developed a new fault even as I was preparing this retrospective. Sure, somebody reading this is going to write in to flagellate me with stories of a beloved and flawless Polymoog that has never seen the business end of a screwdriver... but would you be that lucky?

The Polymoog, as Keith Emerson says, was an important keyboard, and it deserves its place in history. But that is where it should stay. SOS

Just Because You Change Your Application Doesn't Mean You Have To Change Your Console

TRILOGY

TRILOGY

TRILOGY

1 FRONT OF HOUSE

2 RECORDING

3 ON STAGE

There is only one way to make a console that will last and that is to build it properly. At Studiomaster we know our consoles are going to be around for a long time so we cannot afford to cut corners. All channels are on individual circuit boards and all controls are fitted securely to the steel front panel. This traditional approach not only improves reliability and cuts service time, it helps retain the warmth and transparency of the sound in a way that single board, surface mount mixers simply cannot match. Take a listen if you don't know what we mean. Trilogy consoles not only sound great and look good, they're packed with useful features and offer enormous flexibility at a stunningly attractive price. Why not visit your local dealer for a nice surprise?

Studiomaster

WHEN YOU NEED TO GET SERIOUS....

STUDIOMASTER HOUSE, CHAUL END LANE, LUTON, BEDS LU4 8EZ ENGLAND.
TEL +44 (0) 1582 570370 FAX +44 (0) 1582 494343
STUDIOMASTER INC., 3941 MIRALOMA AVENUE, ANAHEIM, CALIFORNIA92807 U.S.A.
TEL (714) 524 2227 FAX (714) 524 5096
INTERNET at http://www.studiomaster.com

WRH

79 - 80
North Road
Brighton
BN1 1YD
01273 671971

We are not just a guitar shop. Here are a few facts:

We are one of the largest outlets for hi-tech in the south

we are not box shifters & offer superb after sales service with 2 on site engineers + 7 experienced sales people.

We simply refuse to be beaten on price and will beg, steal or borrow to get you the best deal.

We stock all items & much more than our advert suggests. All are on demo within our huge 5000 sq ft showroom.

All members of staff run their own digital studios.

We are young and hungry for your business

We love P/X & secondhand deals

We specialise in crossover music, we offer 700 guitars & 25 drum kits to back up our huge hi-tech department

We can't print most of our prices because they are so low.

In just over 4 years we have gone from a £3000 bank loan + dingy backstreet guitar shop to one of the largest outlets in the south, why don't you ring or come in and find out why.

THE GUITAR, AMP &

We are now open 7 days a week from 9.30 - 5.30. Telephone calls

You name the price you want to pay (within reason) 5000 Sq Ft of showroom!!!

Phone: 01273 671971

24 Months Interest Free Credit

1. Fill in a simple form over the phone **2.** We send you the form to sign **3.** Send it back & we despatch the goods

It really is that simple, Read on.

KEYBOARDS/SYNTHS

	Deposit	Per Month
Korg Trinity	£149	£56.25
Roland XP10	£39	£14.25
Korg X5D	£46	£17.62
Korg X5	£50	£18.70
Roland XP60 New	£129	£48.75
Roland JX305	£94	£35.62
Roland A70	£99	£37.50
Roland XP50	£89	£33.75
Roland JP8000	£99	£37.50
Roland RD600	£129	£48.58
Roland XP80	£129	£48.75
Korg N1	£139	£52.50
Korg N5	£69	£26.25
Korg Trinity Pro	£199	£75.00
Korg Trinity Plus	£169	£71.08
Korg SG Pro X	£154	£58.12
Korg Pro X	£220	£105
Kurzweil PC88	£149	£56.25
Yamaha EX7	£189	£71.25
Yamaha EX5	£139	£52.50
Yamaha ANIX	£74	£28.12
Yamaha CS1X	£49	£18.58
Yamaha P150	£129	£48.75
Fatar Studiologic 760	£42	£16.12
Fatar Studiologic 1100	£79	£29.83
Fatar Studiologic 880	£59	£22.50
Alesis QS6	£69	£26.25
Alesis QS7	£99	£39.50
Alesis QS8	£129	£48.75
Roland A33	£39	£14.83
Roland VK7	£124	£46.87

We stock many many more drum modules and sound modules. We refuse to be beaten on price and will provide you with service and technical support second to none!!

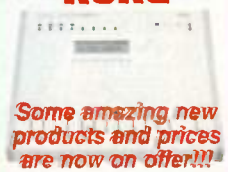
SOUND MODULES

	Deposit	Per Month
Alesis QSR	£64	£24.37
Roland SC880	£94	£25.50
Roland MC505 New	£94	£35.62
Kurzweil Micro Piano	£39	£14.83
Roland JV 2080	£104	£39.37
Roland JV 1080	£79	£30.00
Roland SC88 Pro	£69	£26.25
Roland MC303	£42	£16.12
Roland PMA5	£39	£14.83
Yamaha MU90	£49	£18.75
Yamaha MU80	£42	£16.12
Yamaha P50	£35	£13.08
Yamaha VL70	£39	£15.00
Yamaha SU10	£30	£11.20
Yamaha RY20	£38	£14.20
Yamaha QY700	£79	£30.00
Yamaha MU100	£64	£24.37
Yamaha QY70	£42	£16.12
Emu Audity 2000	£139	£52.50
Emu Planet Phat	£79	£30.00
Emu Carnival	£79	£30.00
Emu Orbit	£79	£30.00
Novation Drum Station	£39	£14.83
Novation Bass Station	£39	£14.83
Korg Trinity Rack	£94	£35.62
Korg SG Pro X Module	£69	£26.25
Korg NS5R	£47	£19.00
Korg X5D Module	£39	£15.00
Korg X5 Module	£39	£14.83
Waldorf Pulse	£39	£15.00
Waldorf Pulse Plus	£44	£16.87

Microphones/Studio Monitors/Power Amps

		Dep	Per Mth
Audio Technica ATM4050	Mic	£49	£18.75
Audio Technica 4033A	Mic	£33	£12.75
Rode N2	Mic	£39	£15.00
Rode N1	Mic	£34	£13.12
Rode Classic	Mic	£99	£37.50
AKG 414	Mic	£69	£26.08
AKG WMS350 (cordless)	Mic	£29	£11.25
Event 2020	Monitor	£39	£14.83
Soundcraft Absolute Twos	Monitor	£27	£10.08
Alesis Monitor Ones	Monitor	£29	£11.25
Alesis Monitors Twos	Monitor	£69	£26.25
Turbosound 121's	Monitor	£99	£37.50
Harbeth Xpressions	Monitor	£37	£14.25
Yamaha NS10	Monitor	£29	£11.25
Samson Servo 260	Power Amp	£29	£11.25
Samson Servo 550	Power Amp	£39	£15
Alesis RA100	Power Amp	£29	£11.25
Studiomaster 700	Power Amp	£47	£18
Studiomaster 1200	Power Amp	£64	£24.37

KORG



Some amazing new products and prices are now on offer!!!

Soundlink 168RC Digital Mixer NOW £795
£79 Deposit. 24x£29.83 = 0% Finance

New Product:
Korg N1 Incorporating the fantastyic N5 Synth
£139 Deposit. 24x£52.50 = 0% Finance

Korg 12/12 1/0	RRP £599
Korg 880 A/D	RRP £599
Korg 880 D/A	RRP £499
Korg 21	RRP £1695
Korg Trinity	RRP £1499
Korg Trinity Plus	RRP £1799
Korg Trinity Pro	RRP £1999

All products available on 24 months interest free credit

Korg X5D Keyboard	£399
Korg X5D Module	£299
Korg NS5R Module	£399

NEW FROM KORG

Trinity Rack	RRP £999
N5 Synth	RRP £729
D8 Multitracker	RRP £869

Not allowed to print - SORRY!!

Korg SGX Stage Piano	£1350
Korg SG ProX Rack	£595

ALESIS

ADAT XT	RRP £1995	£1395
Quadraverb II	RRP £699	£349
Microverb IV	RRP £299	£179
Midiverb IV	RRP £399	£249
3630 Compressor	RRP £269	£169
MEQ 230	RRP £299	£225
DM5 Drum Module	RRP £399	£269
QS8	RRP £1895	£999
QS7	RRP £999	£799
QS6	RRP £899	£575
SR16 Drum Module	RRP £269	£189
Midiverb	RRP £169	£135
Nanocompressor	RRP £149	£99
Nanopiano	RRP £349	£259
Nanobass	RRP £349	£199
Nanosynth	RRP £349	£249
Alesis ADAT LX 20		RRP £1699
Alesis ADAT XT 20 New 20 bit ADAT		RRP £2299

Roland

MC505

Incredible 64 voices 53 Arpegiator Patterns + 714 Dance Groove patterns 3 FX processors + integrated D Beam Controller make this one of the prooooducts of 98. RRP £949
Available 24 months 0% finance

VS840

New digital 8 tracker with built in Zip Drive, FX Processor + 64 virtual tracks. Simultaneous Recording on 4 tracks. Very easy to use with new "EZ Routing" mix memory function. Fantaastic value RRP £949
Available 24 months 0% finance

VS1680

16 track digital recorder, 8 track simultaneous automated 26 channel mixer 24 bit recording, FX Board, E2 routing + Loads more RRP £2199
Available 24 month 0% finance

JX305	RRP £949	£94 Deposit. 24 x £35.62 = 0%
XP60	RRP £1299	£129 Deposit. 24 x £48.75 = 0%
SP808	RRP £1099	£109 Deposit. 24 x £41.25 = 0%

Roland MC303	£399
JP8000	£99 deposit 24 x £37.50 = 0%
JV 10.800	£79 deposit 24 x £30 = 0%
JV 20.80	£104 deposit 24 x £39.37 = 0%

RD600	~~RRP £1495~~
XP10	~~RRP £995~~
VK7	~~RRP £1295~~
Roland MC303	~~£279~~
Boss 202 Sampler	~~£269~~
Boss SX700	~~£329~~

Much Less, Verry Silly Price

Plus loads more Roland & Boss

YAMAHA

NEW Yamaha MD8: 8 track Minidisk, 8 tracks (4 simultaneous recording) on removable Mini Disk. Great 4 Buss Mixer with Mid sweep. Great Value! RRP £999 Available 24 month 0% finance.

Digital Mixer 03 Desk bundled with Sony A8 Dat	£2239	Mixer MX1204	£329
Keyboard AN1X	£699	4 track MT4X	£349
Sampler A3000	£999	MD4 Minidisk	£579
Keyboard CS1X	£Excellent	Piano P150	£Too Low censored
Sequencer QY70	£Best UK	MDF III	£299
Mixer Pro Mix 01	£895	RY20 Drum Machine	£249

As one of the largest Yamaha Dealers we naturally stock virtually all of their products. The range is far too great to print. Please ring for the best quote in Europe.

4 Track Recording

Tascam 414	£299
Tascam Porta 2	£149
Fostex x 14	£149
Fostex XR 55	£349
Fostex XR77	£429
Tascam 424	£399
Yamaha MT50	£269
Yamaha MT4X	£369

All 4 tracks come with £100 worth of free extras!

NEW PRODUCT
Fostex FD4 NEW Digital 4 track with Zip Drive RRP £499
£49 deposit
24 x £18.75 = 0%

BEHRINGER

Special Offers of the month
Behringer Ultracurve RRP £729 Now £289

Composer
Dualfex
Ultrafex II
Autoquad
Edison
Ultracurve
Multicom
Multigate
Intelligate

1. Every item in stock
2. We guarantee best best UK deals
3. Last time we printed our Behringer prices we upset the entire music industry.
4. We are in Behringers top 5 dealers

Eurodesk	£1049 Best Value Ever
Eurodesk 32:8:2	£849 Incredible
Eurodesk 24:4:2	£849 Incredible
1602 Mixer	£179 (*No Misprint*)
802 Mixer	£139
26:4:2 Mixer	£379
28:4:2 Mixer	£339
20:4:2 Mixer	£259

MAIL ORDER HOTLINE

KEYBOARD CENTRE

4 Phone Lines

01273 671971

will be taken until 9.pm every night for 24 hour mail order delivery

9 experienced staff!! Yes we are huge! Hi-Tech recording specialists

Fax: 01273 671971

Please ring for different payment plans

1. Payment over 6, 12, 18, 24, 36, 48 Months!!! 2. Pay nothing for 6 months then spread the payment over 36 months
3. *We are licensed credit brokers*

DIGITAL & ANALOGUE RECORDING

	Deposit	Per Month
Alesis LX20 New	£169	£63.75
Alesis ADAT XT20 New	£219	£82.50
Roland VS840 New	£95	£35.58
Akai DPS 12 New	£129	£48.75
Korg D8 Digital 8 Track New	£79	£30.00
Philips CDR 870	£49	£18.75
Tascam DA20	£59	£22.50
Roland VS880 Fully Loaded	£139	£26.81
Fostex D90 + SCSI	£149	£56.25
Fostex D80	£129	£48.75
Fostex DMT8VL	£89	£33.75
Fostex XR7	£44	£16.87
Fostex XR5	£35	£13.50
Fostex D5 Dat player	£59	£22.50
Fostex FD4	£39	£15.00
Tascam 424 Mark II	£49	£18.75
Tascam 414	£35	£13.08
Yamaha 01V New Digital Mixer	£99	£56.25
Yamaha MD8 Mini Disk	£99	£37.50
Yamaha MD4 Mini disk	£59	£22.50
Yamaha MT4X	£49	£18.75
Alesis Adat XT	£169	£63.75
Akai DR16	£399	£150.00
Yamaha 03D Mixer	£239	£90.00
Yamaha 01D Mixer	£109	£41.25
Fostex D160	£249	£93.75
Tascam DA38	£185	£69.37
Akai DR8	£199	£74.83
Korg Soundlink	£79	£30.00
Korg 1812 1/0 Card	£59	£22.50
Mackie 24.8	£249	93.75
Soundcraft 168	£99	£37.50
Spirit Folio SX	£47	£18.00
Mackie 1604	£90	£33.75
Behringer 26.4	£39	£14.83
Tascam DA30 II	£99	£37.50
Tascam 564 Minidisk	£99	£37.50
Sony MDMX4 Minidisk	£70	£26.20

SAMPLERS

Akai S3200XL	£169	£63.75
Akai S3000XL - 32 Meg - Zip - EB16	£149	£56.25
Akai S2000	£69	£26.25
Akai S20	£49	£18.75
Akai CD3000XL	£159	£59.83
Akai MPC2000	£119	£45.00
Boss SP202 Mini Sampler	£29	£11.25
Emu ESI4000	£109	£41.25
Emu ESI4000 Turbo	£149	£56.08
Emu E6400	£179	£67.50
Kurzweil K2500	£239	£90.00
Yamaha A3000	£109	£41.25

AKAI

We are an authorised Akai Repair Centre.
Buy from product experts with total confidence

End of financial year Mega Package Deals:

3200XL: RRP £2499 One only be quick..... £1499
3000XL: RRP £1495 + EB16 +32 Meg..... £1499
Deposit £149 24x £56.25 = £0% Finance
2000XL RRP £799 + 32 Meg..... £799
Deposit £79 24x £30.00 = £0% Finance
DR16 & DR8 On Demo. Available 24 months interest free credit
MPC 2000..... £999
S20 Sampler..... £449

Akai DPS12: 12 tracks of Digital Recording with digital mixer, built-in Jaz drive and SCSI interface. Best value product of 98 Deposit £1288 24 x £48.37 = 0% finance

0% Finance on All Emu Products over 24 months.

New Product: E-MU Audity Incredible new synth Rack
RRP £1395. Dep £139. 24 x £52.33 = 0% Finance
ESI4000 + 32 meg Deposit £119 24 x £45
ESI400 Turbo/Zip + 32 Meg Deposit £169 24 x £63.58
Turbo Calamari Board Deposit £29 24 x £11.25
Orbit 2 Deposit £79 24 x £30
Carnival Deposit £79 24 x £30

Special Offer Emu E6400 + 64 Meg..... £1795
Deposit £179. 24x £67.33 = 0% Finance

All products on permanent demo.
Ring for a fantastic quote on the E4X + E4X Turbo

Yamaha EX5, EX7, 5R Synth
From £1399
Deposit £139 24 x £52.50 = 0% Finance
+ Free Flight Case worth £100

E-MU Audity 2000
RRP £1395
Ring for more details
Deposit £139 24 x £52.50 = 0% Finance

KORG N1
RRP £1395
Merging the SG Pro X Stage Piano with a synth engine based on the N5
Deposit £139 24 x £52.50 = 0% Finance

MIXERS

Soundcraft Ui 12 RRP £339
Soundcraft Ui 16 RRP £449
Soundcraft 14.2 RRP £239
Soundcraft Folio RRP £149
Soundcraft Ui 24 RRP £599

Save up to 20% off RRP

Mackie 32.8.2 Save over £1000!
Mackie 24.8.2 Save over £1000!
Mackie 24.4.2 Save over £500
Mackie 14.2 £429
Mackie 12.2 £329

Behringer Eurodesk: Save over £1000
We are dealers for Soundcraft, Mackie, Behringer, Studiomaster, Tapco, Yamaha and many more

MICS

All Solid Tube RRP £799 - 0% Finance 24 x £33 = 0%
AKG Cbx90..... £199
AKG C1000..... £149
AKG 660..... £65
AKG 770..... £55
Audio Technica 4033a..... £299
Audio Technica 4050..... £495
Shure SM58..... £89
Rode NT1..... £199
Rode NT2..... £296
Rode Classic..... £899

We stock too many microphones to list.
Ring for Great Quote on Shure & Sennheiser. We are main headphone dealers for Sony & AKG.

Time + Space & Sounds OK
CD Sample Juke boxes on permanent Demo!

Outboard Compressors Gate/Mic PreAmps

TL Audio Fantastic Ivory Range in Stock

5001 4 channel valve Mic Pre-Amp..... £459
5013 2 channel valve EQ..... £459
5021 2 channel valve Compressor..... £459
5051 Mono Valve Vince Processor..... £459
5050 MonoValve Mic PreAmp/Compressor..... £289
Joe Meek VC3..... £149
Joe Meek VC1..... £395
DBX 263A..... £149
DBX 286A..... £179
DBX 1066..... £395
TL Audio Crimson 3011 4 Band EQ..... £169
TL Audio Crimson 3021 2 Channel Compressor..... £299
TL Audio Crimson 3051 Voice Processor..... £229
SPL Vitaliser..... £159

FATAR

New Studiologic series in stock

SL2001..... £best UK
SL1100..... £595
SL880..... £495
SL760..... £395
SL161..... £195

Software/Soundcards

Emagic Logic Audio Discovery Pc	£ Call!
Emagic Logic Audio PC	~~£399~~ £325
Emagic Logic Audio Mac	~~£599~~ £499
Emagic Audiowork 8	~~£499~~ £429
Steinberg Cubase VST 3.5	~~£329~~ £Call
Steinberg Cubase Score VST	~~£499~~ £Call
Steinberg RE-BIRTH 338 (PC/Mac)	£Best UK
Steinberg RE-CYCLE (PC/Mac)	~~£199~~ £159
Cakewalk Pro-Audio - PC	~~£329~~ £279
Steinberg Cubasis A/V (PC/Mac)	~~£129~~ £Call

Wide Range of VST Plug ins in Stock.
Call now for Best UK Prices.

There's not enough space to print all our software. Call if you don't see what you want.

All Soundcards in Stock!

Terratec Gold 32	£Best
Terratec Maestro 32/96	£119
Emu Creation Studio (AWE 64 Gold Package)	£Call
Event Gina	£Call
Event Layla	£Best UK
Event Darla	£Best UK
Korg 12/12 1/0	£Less
Turtle Beach Fiji	£315
Midiman D.Man	£Call

Full Midiman Range in Stock

Midiman Merge 2 x 2	£69
Macman - Midi up Your Mac	£45
Syncman Sync up your 4/8 track	£109
Portman 2 x 4 (2 ins - 4 outs)	£129
Thru 1 x 4	£39
Winman 2 x 2 (2ins - 2 outs)	£79

Special Offers Of The Month

Yamaha PRO MIX 01	£889
Behringer Ultracurve	£299
Sony DC A8 DAT Player	£499
AKAI 3200 XL	£1499
SPL Vitalizer	£159
Lexicon MPX1	£649
Korg Soundlink 168RC (digital mixer)	£729
Alesis QS8 (keyboard)	£999
Sony MDMX4 (mini disk players)	£529
Yamaha 03 Desk + free sony DTC A8 Dat player	£2239
Roland MC303	£399
Rode NT1 (great value mic and award wining amp)	£194
Samson Servo 170	£164
ADAT XT	£1399
Alesis Nano Synth	£229
Korg NS5R Module	£399
Joe Meek VC 3	£149
Behringer Eurodesk	£1049
Fostex D5 DAT	£529
Spirit 16.8.2	£899
Boss SP 202 Sampler	£349
Yamaha MT4X 4 track	£349
Roland XP 50 keyboard	£799
AKG C3000 studio mic	£199
AKG C1000 studio mic	£149
As Audio Technica 4033a mic	£299
Alesis Quadraverb II	£349
Korg 21	£1399
TL Audio 'creimson' 3021 Compressor	£299
Kuzweil micro piano	£279
Samson servo IZO amp	£139

Here are some more factastic New, Used, Ex-Demo Bargains and Clearances

Fostex D80	£999
Tascam DA30	£799
Yamaha MT8X	£495
Akai DR8 + KGA + Midi Board	£1499
Kurzweil K2500 Keyboard + Sample Option	£1995
Zoom 1202	£79
Alesis Wedge	£269
Alesis Microverb 4	£169
Fostex R8	£495
Fostex B16	£799
Mackie 24.8	£1999
Behringer Eurodesk 24.8.2	£1099
Audio Technica AT4033A	£279
Spirit Studio 16.8	£825
Behringer 26.4.2	£339
Behringer Ultracurve	£349
Korg Z1	£1349
Korg N5	£579
Akai 3000XL	£1095
Akai 2000XL	£599
Tascam DA20	£525
Behringer Autocom	£99
Lexicon MPX1	£599
Novation Drumstation	£325
Alesis MEQ230	£199
Alesis 3630	£99
Roland JV1080	£649
Akai MPC2010	£949
Alesis ?	£199
Yamaha MD4 Minidisk	£535
Korg Trinity Pro with sample Playback	£1699
Mackie 16.04	£749
Yamaha RY8	£249
Roland PM?	£349
Akai 520 Sampler	£420
Roland RD600	£1098
Roland VK7	£1095

All items come with a full one year written quaruntee!

Novation

Drumstation..... £349
Superbassstation..... £349

Waldorf

Pulse + Pulse Plus..... From £299
Microwave 2 + Microwave XT..... From £749

Digitech / Zoom

NEW Digitech Talker only..... £249
NEW Zoom Rhythmaster Drum Machine..... £199
Digitech Mod Vocalist..... £249
Digitech Portamax..... £289
Digitech Studio Vocalist..... £695
Digitech Workstation..... £595
Digitech Cloud..... £269
Zoom 1201..... £99
Zoom 1204..... £Call

We stock the entire range of Zoom & Digitech

700 Guitars in stock. All leading makes

Separate acoustic department

Massive drum department. 25 kits in stock !!

Amazing after service

Helpline

PA Specialists

Installations

0% Finance

Next Day Delivery

Easy Parking

Educational Discounts

Demo Suite

WE ARE THE ULTIMATE HAGGLERS!

PLEASE RING NOW!!

01273 671971

KEYBOARDS

AKAI SG01v, very good condition, manual, £130 ono, will swap for Alesis DM5 drums. ☎ Jeff 0171 263 9395.

AKAI SG01v vintage synth, 32-note polyphonic, 256 great sounds, drums, reverb, easily edited, boxed as new, £175; Roland MC303 groovebox sequencer, with drums, effects, all in one box, as new, £330. ☎ 01933 678608.

ALESIS QS6, 6 months old, includes sustain pedal, manual and CD-ROM, as new, £450 ono. ☎ 0115 967 8279 (Nottingham).

ALESIS QS6, with eighTechno dance card, 64-voice poly and CD-ROM running Cubase, £600 or swap with Roland W30 or Ensoniq EPS16+. ☎ 0151 280 7176 (Liverpool).

ARP ODYSSEY MkI, white, includes original manual, hard case, pedal, Kenton CV kit, best offer. ☎ Rik 01203 736281 (Warwickshire).

BOHM DESK top MIDI controller, comprehensive MIDI keyboard in a box, 10 by 7 by 4-inch, £150, also FT3 patch commander, £25. ☎ 01235 202789 (Oxon).

CASIO CZ5000, full size keyboard, sequencer, mint condition, many manuals, £150 ono; Sony 55ES DAT, 44/48 digital analogue input, £250; Pro Tools 3, Nubus, full system including 882 disk I/O, DSP, 1Gb, extensions, £3000. ☎ Mark 0121 520 6132 (Dudley).

CASIO GZ50M GM sound module, 8 drum sets, 32-note polyphonic, 10 digital effects, boxed with manual, £50. ☎ 01604 234349 (Northampton).

CASIO VZ10M digital multitimbral synth module, fully editable interactive phase-distortion synthesis, includes manual and extra sounds on RC100 ROM card, £220 ono. ☎ Chris 01892 541146 (Kent).

CHEETAH MS6 with manual, fat sounds and hundreds of presets, £150. ☎ Andy 0151 201 8490 (Merseyside).

CLAVIA NORD LEAD keyboard, 8-voice expansion, RAM card, mint, £730; Korg Wavestation EX, RAM card, ROM card, boxed, mint, £440; Roland JX8P MIDI analogue synth, mint, flightcase, £280. ☎ Martin 01244 376446 (Chester).

CLAVIA NORD LEAD 2, mint, still boxed, manuals, extra sounds on disk, 6 months old, still under warranty, offers around £1080; Fostex R8, offers. ☎ Alan 01942 749868 (Cheshire).

CLAVIA NORD LEAD 2, guaranteed, boxed, £975; Korg Wavestation A/D, v1.25, £735, double-dutch sample expander for Korg, reads Akai, EPS disks, £450. ☎ 01275 332957/0468 647432 (Bristol).

ELKA SYNTHEX the analogue machine to have, excellent condition, £1250. ☎ 0498 695249/01274 878626 (West Yorkshire).

EMU EMULATOR 3 keyboard, 4Mb RAM, hard disk, £800; BBXP Turbo, 32Mb, 8 outs, library, £1000; CD-ROM Polaris synth, sliders, MIDI, £600; many more items, all ono. ☎ Simon 0181 459 7674.

EMU PLANET PHATT, 6 months old, boxed, manual, mint condition, £600. ☎ 01303 257714 (Kent).

EMU ULTRAPROTEUS 64-voice rack, containing the best of the Proteus family, Proteus, Morpheus, Proformance piano, plus great effects, £600. ☎ Ricky 01475 630181 (Renfrewshire).

ENSONIQ ASR10, effects, sequencer, sampler, 8 outs, 10Mb RAM, £1300 or swap a synth/sampler, MT50 4-track EQ, records on 4 tracks at once. ☎ 01604 472040 (Northampton).

ENSONIQ SQ80, 3 oscillators, polyphonic aftertouch, 20800-note sequencer, disk drive, £350; Yamaha TX812 synth module, £120. ☎ Tim 01473 225503 (Suffolk).

FENDER RHODES STUDIO, built-in speaker type, £300 ono. ☎ Paul 01702 589339 (Southend).

HAMMOND A100, 1963, Leslie 145, both in immaculate and original condition, pedal board and stool included, £1800 ono. ☎ 01738 446300 (Perthshire).

HAMMOND T500 tonewheel organ, 2 x 44 note keyboards,13 pedals, built-in Leslie, good working condition complete with owner and service manuals, £150 ono, buyer collects. ☎ Hugh 01242 679264 (Cheltenham).

HAMMOND XB2, version 2, superb organ, expression pedal, boxed with manuals, £900. ☎ Steve 01582 564625 (Luton).

KAWAI K1, in very good condition, hard case, £300 ono, 12 units, full flightcase, as new, £140 ono. ☎ 01509 238521 (Leicester).

KAWAI K1, good condition, manual, power supply, semi-flightcase, £200 ono. ☎ Tim 0115 970 5176 (Nottingham).

KAWAI K1 excellent condition, PC editor, 1000 sounds on disk, all manuals, one RAM card, £170 ono. ☎ Paul 01908 569947 (Bucks).

KAWAI K1R, full working order, card, manuals, £100. ☎ Andrew (between 6.30 and 9pm) 01703 556788 (Southampton).

KAWAI K4, excellent condition, with manual, £300; Korg DW8000 digital waveform synthesizer, £300. ☎ Imran 0121 241 2513 (Birmingham).

KORG DW8000, hybrid poly megasynth, fat sound, perfect working order. ☎ Brendan 01232 592794 (Belfast).

KORG i3 workstation, excellent condition, boxed with manuals, foot controller and style disks, £750 ono; Alesis Microverb 3, boxed, £65 ono. ☎ Steve 01422 350281 (Halifax).

KORG i3, workstation, immaculate condition, £750; Roland D50, immaculate, home use only, £450. ☎ Dave 01249 720580 (Wiltshire).

KORG i3, £850; Kurzweil micro piano, £225; Korg BX3, £995; Atari STE, Unitor, Notator, monitor, £225; Samson Mixpad, £75; JBL Control Ones, £75; Philips DC930, £75. ☎ Mal 01482 864558 (East Yorkshire).

KORG M1, Juno 6, Bass Station, R8, Atari, tape deck, offers on all please. ☎ 01376 346828 (Essex).

KORG M1, £500; Yamaha SY77, aluminium case, £500; Roland D5, £250; Roland SH101, £200; Emu ESi32, £800; Roland D50 with PG1000, £550; all items in either excellent or perfect condition. ☎ Paul 01621 840121 (Essex).

KORG M1, £450; Akai S2800, £800; Alesis D4, £150; Vintage Keys, £350; Novation Bass Station, £200; Lexicon Alex, £160; Phonic mixer, £100. ☎ 01780 410019 (Lincs).

KORG NS5R, 1200 sounds, drumkits, combinations, 6 months old, boxed, £360; Boss DR880, in very good condition, no manual, £120. ☎ Steve 0191 281 8733 (Newcastle).

KORG 01/W FD, £650 or swap for Jupiter, Prophecy or JD800. ☎ 01324 872115.

KORG 05R/W, immaculate condition, Midlands area, £250. ☎ Steve 01902 397104 (Wolverhampton).

KORG POLY 6 and Poly 61, both in perfect working order, £170 for the Poly 6 and £130 for the 61, or both for only £250; Korg Wavestation ROM cards, £20 each or all five for £80. ☎ Paul 01296 334866/0374 963829 (Bucks).

KORG POLY 800, original case, manual, power supply, tape-in, superb condition, £160, various U110 cards, £25 each. ☎ 01732 465875 (Kent).

KORG PROPHECY with video, £360; Korg Wavestation with 2 cards, £890; Akai S20 with 17Mb upgrade, £360; DMT8, £650, all as new. ☎ 0961 157247.

KORG TRINITY, fitted with 4-track 48kHz digital audio board, external 2Gb drive, total mixer automation, £1850 ono. ☎ Andrew 0171 407 6121.

KORG TRINITY touch sensitive screen, 80,000-note sequencer, SCSI upgrade, 1Gb hard disk, 24Mb sounds, £500 ono, must sell due to financial difficulty. ☎ 01253 354095 (Lancs).

KORG TRINITY PLUS, perfect condition, all optional extras including playback sampler, hard disk recording, SCSI board, digital in/out, manuals, £2100. ☎ Chris 0181 325 7523 (Kent).

KORG TRINITY PLUS, new condition, boxed, £1100; QuickGal stand also available, £1140 for the pair. ☎ 0411 334307 (Southampton).

KORG TRINITY PRO, 76-key synth, excellent condition, hardly used, manuals, and boxed, home use only, £1450 ono. ☎ Tony (evening) 01280 705403 (Northants).

KORG WAVESTATION, manuals, as new, will demo, £500 ono. ☎ Brian (evening) 01332 607581 (Derby).

KORG WAVESTAION AD, superb effects, analogue inputs, loads of extra sounds, mint condition, home use only, boxed, manuals, £800 ono. ☎ Andy 01484 647210 (Huddersfield).

KORG WAVESTATION EX with piano card, soft bag, manuals, excellent condition, never gigged, £500. ☎ Anthony (after 6pm) 0161 787 7691 (Manchester).

KORG WAVESTATION SR module, over 500 of the worlds greatest Wavestation patches plus Atari Editor, immaculate, boxed, manuals, £480. ☎ 01256 468208 (Hants).

KORG WAVESTATION SR, boxed with manuals, mint condition, £475. ☎ 01483 832251 (Surrey).

KORG X3, good condition, home use only, £500, would consider swapping for a Korg Prophecy. ☎ (after 6pm) 01553 766049 (Norfolk).

KORG X5D, £390; Hammond X82, £850; Korg G4 rotary effects pedal, £100; all ono and in excellent condition; Roland D10 with slight non-critical fault, hence £150 ono. ☎ Steve 01473 251591 (Ipswich).

KORG Z1 brand new, in box, £1300 ono. ☎ 01564 742629 (Redditch).

KURZWEIL K2000R, 32Mb RAM, 1/2Gb hard drive, big sound library, excellent synth and sample player, good condition, box, manuals, reads Akai, Roland WAV files, £1600. ☎ Ciaran 01273 704607 (Brighton).

KURZWEIL PC88, mint, £950. ☎ 0115 9622771 (Nottingham).

MOOG PRODIGY, 2 oscillator monosynth, in very good condition, £260; Roland PS5 piano module, multitimbral reverb/chorus effects, immaculate, £250. ☎ Paul 01287 638018.

OBERHEIM MATRIX 6R module, excellent condition, £250 ono; Yamaha CP80 grand piano, also in excellent condition, has only ever been used in the studio. ☎ 91 708674 (Ireland).

OBERHEIM MATRIX 12, £650; Yamaha QS 300, £400; Roland MC303, £275. ☎ Mike 01395 513287 (Devon).

OBERHEIM MATRIX 1000, in excellent condition; Roland PC200 MkII controller keyboard, £90; in excellent condition with original box and manuals. ☎ Paul 0141 554 7430 (Glasgow).

OBERHEIM OB8 MIDI, £695; PPG Wave 2.2, MIDI, £650; Technics WSA1R, £420; Roland JD800 with 808/909 card, £795; Roland CR68, £95; SKB 6U, £65; SKB 12U, £95; Transcend ANT 2000, £199; Korg Poly 6, £150; Drawmer DS201, £140; Alesis 3630, £120; Soundcraft Spirit 24:8:2, £950. ☎ 0181 300 8554 (Kent).

OCTAVE KITTEN, £160; Casio CZ3000, £150; Feebles, £100; Phonic 6-channel mixer, £25. ☎ David (evenings) 01509 219323.

QUASIMIDI QUASAR (with techno expansion), £450; Waldorf Pulse, £300; Roland vintage synth module, £200; £800 for the lot. ☎ Dale (after 6pm) 0116 2202818 (Leicestershire).

QUASIMIDI TECHNOX for only £180, buyer pays postage, email P.Knuppel@t-online.de or ☎ Martin 0049 35 52 82 43 (Germany).

ROLAND D10 8-part multitimbral LA synth including card, owned from new, £140. ☎ Andy 01482 448674 (Hull).

ROLAND D20 synth, sequencer, manuals, MIDI, needs attention, offers, must sell. ☎ Melissa 01253 731143 (Lancs).

ROLAND D20, almost unused, complete with manuals, £350. ☎ David 01444 258298 (West Sussex).

ROLAND D50, cards, manuals, £300; Roland S50 sampler, manuals, £350. ☎ Stephen 0161 672 8920.

ROLAND D50, £250; Yamaha DX21, £100; Kawai K4R, £200; all in excellent condition with extra sounds. ☎ 01785 607440 (Staffs).

ROLAND D50, £375; Casio CZ1, £200; Bit 99, £175; R8M drums, £250; Cubase Audio, unregistered, £90; Part Exchange M1 Rex, D550 and PG1000, MIDI Express XT, JP8000, JD800, SE70 rack effects, Minidisk, SH101 Mod Grip, grey, £50; R8 cards, SN-R8-01 contemporary percussion, £20; SN-R8-02 jazz brush, £20; Prophet 2000 sampler, filters, arpeggiator, needs new disk drive, £300. ☎ 01902 744293 (Wolverhampton).

ROLAND EP7E digital piano, mint, ideal controller, £399 ono, may swap for X5D, Kawai K1M, £125, X5DR module, immaculate, £299. ☎ Ben 01283 512108 (Staffs).

ROLAND GR500 guitar synth (all analogue, pre-MIDI), with Roland guitar and Transcendent 2000 expander, good condition and working, first ever guitar synth early '70s, very collectable, £549 for the pair of will sell Transcendent module separately. ☎ Paul 01684 561397 (Midlands) or email 100844.1336@compuserve.com.

ROLAND JD800, both manuals, good condition, £1100 ono. ☎ John 0131 5562441 (Edinburgh).

ROLAND JD800, mint condition, one owner from new, classic real-time fader synth, slider or switch is MIDI programmable in real-time, £1000. ☎ 01625 266235 (Cheshire).

ROLAND JD800, home use only, data card, £850 ono. ☎ Dave 01273 272117 (Brighton).

ROLAND JD800, mint condition, boxed, £750; Sony D7 DAT, mint, boxed, £300; Tascam 488, offers; all home use only. ☎ (evenings only) 01543 300176 (Staffordshire).

ROLAND JD800, never gigged, home use only, mint condition, with one card and manuals, £1000 ono. ☎ Graham 0181 464 8248 (Kent).

ROLAND JD800, in mint condition, a classic programmable synth, loads of knobs and sliders, both manuals included, £850 ono. ☎ Louis 0121 426 4843/0973 563868 (Birmingham).

ROLAND JP8000, six months old, boxed with manuals, £650. ☎ Ok 0797 093 1090 (Surrey).

ROLAND JP8000, keyboard, perfect, £750; Roland JD990 rack, £575; SKB 8 unit flightcase and 12 unit suspension case, £50 and £100. ☎ Paul 0961 123706/0191 425 1448 (Newcastle).

ROLAND JP8000, hardly used, will exchange for Ensoniq MR61 or basic Trinity, will consider other synths, part-exchanges or straight sale. ☎ 01474 356340 (Kent).

ROLAND JP8000, 8 months old, boxed, manuals, immaculate condition, genuine reason for sale, hardly used, £900. ☎ 01264 356791/333260 (Hants).

ROLAND JUNO 1, £250; Korg Wavestation with cards, £520; Boss ME8, £190; PG300, £160; Tascam DA20, £490; Fostex DMT8, £480; MKS50, £280; Waldorf Pulse Plus, £360; MKS70,

SOUND ON SOUND

FREE ADS

HOW TO BOOK YOUR FREE ADS

Fill in the form below, up to 28 words (one per box) and post to:

Free Ads, Sound On Sound, Media House, Trafalgar Way, Bar Hill, Cambridge CB3 8SQ

Your ad will appear in the next available issue after receipt — or post your ads on our website

www.sospubs.co.uk/adverts/

PLEASE NOTE

We are inundated with Free Ads, and whilst we endeavour to publish ads in the next available edition of the magazine, space restrictions mean that this is not always possible, and there may be a one or two month delay. Therefore, if you wish to *guarantee* that your advert appears in the next available issue, may we suggest that you call our Classified Dept on 01954 789888 and use your credit card to book yourself a Classified Lineage advert — your ad will then appear in the Classified Ad pages, and not in these Free Ads. This costs a mere £1 per word (inc. VAT), and the minimum number of words is 15. **PLEASE BE AWARE THAT WE WILL NOT ACCEPT FREE ADS OVER THE TELEPHONE.**

☎ **01954 789888** (office hours)

Fill in the form below
(up to 28 words, one per box) and send to:
Free Ads, Sound On Sound, Media House, Trafalgar Way, Bar Hill, Cambridge CB3 8SQ.

WARNING: Always check when buying secondhand music software that you are not buying a pirate copy; ensure that all disks and manuals are included. We reserve the right to refuse or amend ads, especially if we believe they offer pirated software, pirated MIDI files or pirated sounds. We accept no responsibility for typographical errors or losses arising from the use of this service. *Trade Ads will not be accepted.*

SOUND ON SOUND

PLEASE NOTE

Please tick which one classification you would like your ad to appear in.

❑ KEYBOARDS ❑ SAMPLERS ❑ DRUM MACHINES ❑ WANTED ❑ MISCELLANEOUS
❑ SEQUENCERS ❑ RECORDING ❑ PERSONNEL ❑ COMPUTERS/SOFTWARE

		☎	☎

NAME _____ ADDRESS _____

_____

_____ POSTCODE _____

SOS Free Ads will only be accepted if your name and address details are completed.

WRH

£470. Fostex XR5, £250. ☎ 0961 157247 (Merseyside).

ROLAND JUNO 2, M64C cartridge, Roland MT100 disk drive, sequencer/tone generator, both immaculate, manuals, PSU, will exchange for CS1X, MC303, QY70 or PSR 630. ☎ 01639 768103 (South Wales).

ROLAND JUNO 60, classic analogue synth with Roland MD8 MIDI interface, good condition, great analogue sounds, £245; Yamaha SY85 with full 2.5Mb sample RAM upgrade (with extra RAM card worth £60), great sounds and sequencer, superb condition with manuals and box, £499. ☎ 01628 663980 (Berks).

ROLAND JUNO 106, mint condition, manual, packhorse flightcase, immaculate, home use only, £550 ono. ☎ Rob 0161 224 3294 (Manchester).

ROLAND JUNO 106, £350; SH101, £200; Roland CM32L sound module, £70; Alesis MEQ, £135; Roland MV30 workstation, £275; Atari 1040 with monitor, £150. ☎ 01375 387823 (Essex).

ROLAND JUNO 106, mint condition, padded flightcase, stand, £440. ☎ Martin 0118 9418136 (Berkshire).

ROLAND JUPITER 6, MIDI upgrade, manual, very good condition, £625; Kawai K1m, £110; Boss DR660, £195; HR16B, £110; FB01, £69; D110, £125; all with manuals, some boxed. ☎ 01708 250846 (Essex).

ROLAND JUPITER 8, MIDI upgrade, perfect condition, never gigged, £975. ☎ 01684 569058 (Worcs).

ROLAND JUPITER 8, mint condition, flightcase, £780; TB303, mint, £560; Korg Poly 6, mint, £225; Prophet 5, flightcase, £950. ☎ 0181 455 7677.

ROLAND JV1080, 3 months old, £580; Fostex DMT8 v2, digital hard disk recorder, both home use only and in mint condition. ☎ Stuart 01142 557707/0114 266 1768 (Sheffield).

ROLAND JV1080, 64-voice polyphonic sound module, boxed as new, home use only, £550. ☎ David 0191 263 9581 (Newcastle).

ROLAND JX3P keyboard, very good condition, manual. ☎ 01206 397217 (Colchester).

ROLAND JX3P including PG200 programmer, £350, Alpha Juno 2 with flightcase, £350; both mint with manuals. ☎ James 0966 122934.

ROLAND JX8P classic analogue synth, excellent condition, manual, heavy-duty flightcase, 2 memory cartridges, still boxed, Atari Editor, velocity sensitive, aftertouch over MIDI, £349. ☎ David 0191 372 2297 (Durham).

ROLAND MKS80, with MPG80, both in very good condition, £1275; Juno 2, PG300 with flightcase, £425; R5 rhythm, £140; Kawai K5 module, £275; Peavey QFX4X4 4-channel multi-effects, £275; Oberheim Systemizer, gives master keyboard functions, £60. ☎ 01363 866151 (Devon).

ROLAND MKS7 vintage analogue module, manuals, Cubase Mixer-maps, £600; Roland MS1 sampler, ideal for a beginner or DJ, £150. ☎ Martin 01563 822086 (Ayrshire).

ROLAND MKS70 super JX module (two JX8Ps in a rack), awesome analogue sounds, bi-timbral, Sys-Ex, MIDI file cartridge, mint condition, £375. ☎ 01273 324995/561023 (Brighton).

ROLAND MSE1, string ensemble sound expansion module, dedicated orchestral string sounds, with JV80 synthesis, £135; Roland Juno 1, £200; BBE362 Sonic Maximiser, £100. ☎ 01752 562343 (Devon).

ROLAND MT32 multitimbral sound module, manuall adaptor, excellent condition, £115. ☎ Dave 01403 243190 (Sussex).

ROLAND RD300S stage piano/mother keyboard, MIDI split weighted keys, flightcased, hardly used, £750 ono. ☎ Daniel 0171 586 7746/0181 674 0728.

ROLAND SC7 Sound Canvas with PC200II controller keyboard, 126 great sounds, 6 drum-sets, dial for home, stage and studio, use with amp, PC/Mac, mint, £220. ☎ Alan 01494 533607 (Bucks).

ROLAND SC55, £225; Emu Proformance, £110; Samson MPL1502 mixer, £160; patchbays, £30 each, MIDI thru, merge modules, £30 and £50, all in excellent condition, boxed with manuals. ☎ Terry 01420 84030 (Hants).

ROLAND SH09, MIDI CV converter and manuals, excellent condition. ☎ Iain 01273 329662 (Brighton).

ROLAND SH101, blue analogue monosynth, in excellent condition, very collectable, Roland MT32 expander, offers please. ☎ Jason 01803 851185.

ROLAND SH101, analogue monosynth with inputs for audio, filter and modulation, in very good condition, £285; Studio rackmount cabinet with removable sides and glass door, £95. ☎ 0181 305 2533.

ROLAND U110 sound module, manual, MIDI lead, excellent condition, additional ROM card, SKB 4 tiered module flightcase, £280 ono. ☎ 01203 679473 (Coventry).

ROLAND U20 keyboard, hard flightcase and manual, just been serviced, £325. ☎ Dan 0161 445 4482 (Manchester).

ROLAND U220, £250; Casio piano module, £50; Zoom 503 amp simulator, £70; Digitech Studio Quad, £230; Monitor Audio 352 speakers, £150; all in perfect condition. ☎ 01256 468208 (Hants).

ROLAND VP330, and a vocoder for sale. ☎ Alan 01232 797759 (Belfast).

ROLAND W30, sampler/workstation, excellent condition, boxed with Roland sample library, £500 ono. ☎ Steve 01752 361745 (Plymouth).

ROLAND XP10 GM/GS, 16-part multitimbral manual, stand, hard case, £350 ovno; Atari 1040STE, Pro 24 v3 D-edition, £100 ovno. ☎ Graham 01302 816426 (Doncaster).

ROLAND XP50, great workstation, lots of good sounds, versatile sequencer, as new, £600. ☎ 0191 213 2643 (Newcastle).

ROLAND XP50 workstation, Total Experience board, 3 months old, £700. ☎ Martin 0181 769 5538.

ROLAND XP50, £595; Korg 01/W FD, £595, both boxed, manuals. ☎ Steve 01429 222517/285838 (Hartlepool).

ROLAND XP80 synth workstation, contains JV2080 synth with 16-track sequencer, 12 weeks old, original packaging, manuals, £900 or part-exchange for WSA1R and cash. ☎ 0958 607578 (Midlands).

ROLAND XP80 including dance and techno expansion boards, case, pedal, excellent condition, £1150. ☎ 01628 482560 (Bucks).

ROLAND XP80, excellent condition, never gigged, manuals, £950; Behringer Eurodesk, 24:8:24, boxed, manuals, excellent condition, £950; Tascam TSR8 analogue multitrack, Tascam sync and tapes, £900. ☎ 01722 327520.

SEQUENTIAL SIXTRACK, multitimbral synth with MIDI, £275 ono. ☎ Steve 0973 970695.

SEQUENTIAL CIRCUITS PRO ONE, mint condition, Kenton Electron cs Pro Solo MIDI to CV converter, 10 months guarantee, £400 ovno. ☎ Storm (daytime) 0115 933 0473 (Nottingham).

SEQUENTIAL PROPHET 10, Roland D50, JD800, Yamaha DX1, Korg M1, CS80, Emu EIIIXP, 64Mb, Roland 700 system, Moog Modular, ARP 2600 offers invited by fax. ☎ 0171 727 0363.

TECHNICS KN5000 keyboard, as reviewed in April '98 SOS, only 3 months old, genuine reason for sale, low price for quick sale, £1650 ono. ☎ 0151 526 8221 (Merseyside).

VOCE MICRO-B hammond emulator, half-rack unit, 3-part multitimbral, MIDI control and front panel selection, includes key-click, distortion, harmonic/percussion, in very good condition, £100; Seck 18:8:2 desk, 3-band EQ with swept-mid, 2 aux-sends and foldback, in very good condition, £500. ☎ Stuart 01353 669854 (Cambridgeshire).

WALDORF MICROWAVE XT, 3 months old, Oberheim Matrix 1000 and real-time controller, offers. ☎ 01483 762718 (Surrey).

YAMAHA AN1X, £525; Roland Juno 106, mint, £410; Yamaha CS1X, £325; Behringer MX1602 mixer, £95; all as new and nearest offer. ☎ 01582 570574 (Luton).

YAMAHA CP80 ELECTRIC GRAND PIANO excellent condition, only ever used in the studio. ☎ Gerry (evenings) 91 798674 (Ireland).

YAMAHA CS1X, stand, sustain pedal, PC lead, box, manual, excellent condition, £350. ☎ 01703 347679 (Southampton).

YAMAHA CS1X control synth, immaculate condition, boxed with manuals, £385. ☎ Bob 01992 893317 (Essex).

YAMAHA DX7, mint condition,sustain pedal, Cube amplifier, flightcase, one owner from new. ☎ 0181 371 9896.

YAMAHA DX7IID case, manuals, £320; Oscar MIDI, £720; Roland JX10, £550; Roland JD800, £950. ☎ Jamie 01253 827485 (Lancs).

YAMAHA MU90R, over 700 sounds, 6 effects processors, 2 A/D inputs, 2 months old, £299 or swap for ESI Calamari Turbo board. ☎ Gareth 0113 274 8261 (Leeds).

YAMAHA MU100 sound module, over 1500 voices, vocal harmoniser, 3-months old, home use only, £525. ☎ Roy 01384 294026 (West Midlands).

YAMAHA P300 electronic piano, excellent for stage, studio, or home use, superb piano samples, powerful mother keyboard, good condition, cost £3000, will accept £1200. ☎ 0113 237 1941 (Leeds).

YAMAHA SK50D analogue synth, £200 ono, buyer collects. ☎ 01253 874107 (Fleetwood).

YAMAHA SY77 workstation synth, fair condition, £350 ono. ☎ 0181 680 4142 ext 293 (Surrey).

YAMAHA SY77, thousands of sounds, £600; Yamaha QY10, £50; Quasimidi Raven with Max card, £600; korg Wavestation SR with card, £500. ☎ 0161 449 7391 (Chester).

YAMAHA SY77, with 2 voice data-cards and manual, unegged, in very good condition, £475; Roland AX1 shoulder keyboard, complete with plush case, £250; Quik Lok 2-tier keyboard, stand, £30. ☎ 0181 675 0651.

YAMAHA SY85 workstation synth, 8-track sequencer, 16-part multitimbral, four outs, real time controls, loads of sounds, loads of sample RAM, boxed, manuals, extra sounds on disk, good condition, £750 ono. ☎ 01354 695239.

YAMAHA SY85 workstation, includes stand, expanded memory card, sound disks, great effects, realtime mixing, £630 ono. ☎ Martin 01628 473076 (Bucks).

YAMAHA SY85, 2.5Mb, boxed, £625; Emu Proformance+, £150; Alesis MMT8, £110; Atari 1040STE, 4Mb SM144, Cubase v2, £225; Cubase Score 2.0, original, Atari version, £200; all ono. ☎ Jason 01865 774289 (Oxford).

YAMAHA SY85, £400; Alesis Nanosynth, £260; Fostex DMT8, £700; Roland MK550 extra sounds, £300; MKS70, £480; Phantom power, £40; Tascam DA20, £500; Roland Juno 2, £300; Sony HRMP5, £270; Boss ME8, £200; all items as new, can send with insured courier. ☎ 01523 172676 (Liverpool).

YAMAHA TG33 synth, 512 patches, 32-note poly, 16-part multitimbral, RAM cards, effects, 4 outputs with manual, £175. ☎ Simon 0161 860 6139.

YAMAHA TG77, boxed, cards, manual, £399; HR16B drum machine, boxed, manual, £110; Kawai Kim, boxed, manual, £110; DR660 drum machine, box and manual, £195; D110, £125. ☎ 01708 250846 (Essex).

YAMAHA TG77 tone generator, excellent condition, separate outputs with Steinberg synthworks editing software, manuals, £450 ono. ☎ Anthony 0181 883 8753.

YAMAHA TG500, £375; Yamaha DX7, £250. ☎ 01908 613373 (Milton Keynes).

RECORDING

AIWA DAT recorder, audio, optical, digital in/out, perfect condition, cables, manuals, remote, £225; Alesis Microverb III, digital reverb, £85; Tascam MIDI/tape synchroniser, £45. ☎ 0181 302 5849 (Kent).

AKAI DPS12 digital 12-track studio, less than two weeks old, unwanted gift, boxed, warranty, £995. ☎ Carl 0121 351 4827 (Birmingham).

AKAI DR4VR, in very good condition, including MIDI board, without HD, £400. ☎ Ian 01484 646242 (Huddersfield).

AKAI MG1214 12-track studio, as new, Nanoverb and tapes for free, £1095; Yamaha Organ EL-90i, concert model, £5250 ono. ☎ Tony 01273 686637 (Brighton).

AKG C3000, £165; Art Multiverb Alpha 2.0, £175; Quad 405 amp, £180; TOA, 280ME monitors, compact and powerful, £225 patchbays, £28 each; Ensoniq SD1 with ROM, £620. ☎ 01295 721696 (Oxfordshire).

ALESIS ADAT XT, as new, boxed, small quantity of home use, £1650. ☎ (evenings) 01925 740335 (cheshire).

ALESIS ADAT XT, less than 12-hours use, boxed, in excellent condition, £1700. ☎ 01703 869792 (Southampton).

ALESIS BRC remotelsync for Alesis ADAT range, one year old, very good condition, home use only, £800 ono. ☎ Tony 0966 209471 (Leicestershire).

ALESIS 3630 compressor, boxed, mint condition, £100. ☎ Phil 01303 221081 (Kent).

ALESIS MICROVERB 3, £80, good condition. ☎ Mark 01952 413975 (Telford).

ALESIS QUADRAVERB, £150; Yamaha R1000 reverb, perfect condition, £50; Drawmer DS201 noise-gate, £200; Sonic Scintillator audio enhancer, £75; Yamaha REV7 digital effects processor, reverb, echo, chorus, £450; all in perfect condition. ☎ Paul 0114 287 9758 (Sheffield).

AMEK ANGELA 28-channel in-line mixer, extra P/B, F/X rack, with £4000 of studio wiring, Tannoy FSM, control room monitors, Tascam 32 2-track, Drawmer, Alesis, Aphex, XRI, Fostex, offers. ☎ 0161 736 1168 (Manchester).

APHEX104 Aural Exciter, used once, still boxed, cost £200, offers around £130. ☎ 0151 339 4404.

AUDIO TECHNICA Midnight Blues MB4000C, cardioid condenser mics, 2 of them for £60 including carriage. ☎ 01628 473853 (Bucks).

BEHRINGER EURODESK 24:8:24, £950; Fostex B16 16-track recorder, £850; Korg M1, £400; Dynaudio BM10, £450; Akai S1000, £500; Matrix 1000, £200; Roland MVS1, £250. ☎ Tim 01923 267733.

BEHRINGER SURPRESSOR 2-channel de-esser and feedback-eliminator, £90 ono; Behringer MX1602, 12:2 mixer, £140 ono; Behringer Composer, 2-channel auto-compressor, £140 ono. ☎ Joern 0141 221 1937 (Glasgow).

BOSS SE50, £150; Korg Pandora PX1, £60; Roland SK50 keyboard, £170. ☎ 0956 528041 (London).

BOSS SE70, £400, mint; TC 2240 stereo parametric EQ, £350; TC2290 decay, £800; Klark Technic DN410 dual parametric, £850. ☎ 0121 422 9605.

CELESTION SR3 MkII up-graded speakers as new; SRC MkII controller, £550; Korg DDD5 classical programmable drums, £100. ☎ 01202 524643 (Bournemouth).

COMPLETE STUDIO, samplers, modules, keyboards, outboard, 8 buss desk, computer, software, monitors, amps, preamp, racks, stands, looms, many items new and boxed, £3995. ☎ 07050 126513 (Cambs).

DDA PRO CONSOLE, 32:8:24, as used by major artists, absolutely mint condition, quick sale, was £16,000, will sell for £2850 ovno. ☎ 01932 889964/0956 951468.

Why buy secondhand when new could be as cheap?

Our entire advertisement can now be seen from pages 18 to 29.

Many secondhand and ex-demo bargains also featured.

turnkey

EUROPE'S LOWEST PRICES GUARANTEED*

*We will beat any genuine quote from a UK or European dealer at the time of order. We must be able to substantiate the quote and the goods must be available and in stock.

Fresh. Not Canned.

Looking for some fresh, new sounds? Well, your search is over. The JP-8000, the synth that's going to prove you've not heard it all before. This is more than your average synth. Much more. Utilising Analogue Modelling™, this innovative sound source delivers all the classic waveforms, along with variations never before possible. Knobs and sliders allow you to manipulate, and even record, many sound parameters in realtime, for an endless variety of fat, powerful, analogue-type sounds. Our newly developed Ribbon Controller gives you the freedom to

Make it with a Roland

control combinations of front panel parameters for maximum expression.

Effects? Of course. Along with other features such as an RPS Sequencer and a performance-oriented arpeggiator for heart-pumping techno and dance applications. Add it all up and you get a totally unique synth of unprecedented versatility and, with it, a whole new way to express yourself.

Call 01792 515020 now for your FREE DEMO CD. The JP-8000, another classic Roland original. It'll have you believing in creation again.

JP-8000

Analogue Modelling Synthesizer

MAKING MUSIC AWARDS
Best Synthesizer
Roland JP-8000

Roland®

For details of this and other Roland and Boss products call the Roland Brochure Hotline: ***01792 515020***

Roland (UK) Ltd. Atlantic Close, Swansea SA7 9FJ. UK web site: http://www.roland.co.uk

DRAWMER LX20, £95. DL 241, £195. Drawmer 231, £195, Roland R8M, £140, Yamaha SPX990, £350, Boss SE50, £225, Yamaha DTR2, £350, Korg MS10, £150, everything in very good condition. ☎ 01226 790541 (Barnsley).

DRAWMER M500 dynamics processor, gating, ducking, compression (hard/soft knee), expansion, limiting, de-essing, timed auto-fading, envelope recording/super-imposing, full MIDI-control, mint condition, £450. ☎ Paul 0114 287 9758.

ENSONIQ DP4 FX, £900; Sonic Maximiser, £150; Roland R8, £700; 16U rack, £40; Rodent 2 mic, £400; Hammond, £300; Fender bass amp, £350; Studio speakers, £300; amp, 400W, £150; Dama guitar, £250; patchbay, £30; Behringer composer, £150. ☎ 0797 0505324.

EURORACK MX1602 mixer, 16-channel, portable, unused, boxed, immaculate condition, £170. ☎ Gerry 0181 678 6677.

FOSTEX A8, mint, quarter-inch 8-track with remote control and tapes, £380 plus £10 for pelitage. ☎ Keith 01854 612554/612924 (day/evening).

FOSTEX B16 analogue multitrack, same as the E16, looms, manual, 9 Ampex 456 half-inch tapes, £900. ☎ Stuart 0117 942 9490 (Bristol).

FOSTEX D80, hard disk recorder, good condition with manuals and box, £650. ☎ 0181 408 0830 (Surrey).

FOSTEX DMT8VL hard disk recorder, as new, £750 ono. ☎ David 01268 590792/0402 343479 (Essex).

FOSTEX 280, 4-track recorder, 8 inputs, MTC1 MIDI sync, £250. Soundcraft Spirit Folio, Si mixer, 18 inputs, £200, home use only. ☎ Marc 0973 767074 (London).

FOSTEX E16 and R8. Sack 18:8:2, Korg M1, Atari 4Mb, monitor, Notator SL, Unitor II, Alesis D4, Quadraverb+, 3030 Midiverb II, XR03 SMPTE, MIDI, AKG C1000S. ☎ 01223 234850 (Cambs).

FOSTEX G24S, with sync card, hardly used, £3500; Fostex G16 with remote extension, home use only, £2100. ☎ 0171 916 2724.

FOSTEX 280 multitracker, boxed, manuals, in excellent condition, £300. ☎ 01494 782373 (Bucks).

FOSTEX 450 mixer, 8:4:2, 100mm faders, 3 aux sends, suitable for A/B track recording, mint, £200. Sony Minidisc Walkman player, £140 ono. ☎ Rob 01509 269590 (Loughborough).

FOSTEX M80, 8-track quarter-inch, £395. Sack 12:8:2, £275. ☎ Justin 01703 231864 (Southampton).

FOSTEX M80 8-track recorder, £300. Roland JX3P and PG programmer, both in excellent condition, £300. Korg M3R synth module, £150; Korg PolySix, just serviced, £275. ☎ 01288 354905 (Cornwall).

FOSTEX R8, excellent condition with loom, tapes, head demagnetiser and remote extension, £580. Tascam A3440 4-track reel-to-reel with dbx, £200. ☎ 01763 853244 (Herts).

FOSTEX R8, 8-track recorder, remote extension, in very good condition, £450. ☎ Steven 01273 663031 (Brighton).

FOSTEX XR5 multitrack cassette recorder, good condition, manual, £200. ☎ Carl 0121 451 2102 (Birmingham).

FOSTEX XR7 multitracker, good condition, heads cleaned regularly, excellent condition, £325. ☎ Colin (evenings) 01225 884740 (Perthshire).

KORG SDD3300, digital triple-delay unit, MIDI, programmable sampling function, each delay has separate in/outs, £295. Akai S900 sampler, £325 ono. ☎ 01288 5?5347 (Essex).

INTIMIDATION BLUE MIXER, uprated faders, crossfade, fitted by Intimidation, kill switches, transform buttons, pan controls, 10 months old, £200. ☎ Ian 0151 339 4404 (Wirral).

KORG A1, quality reverb, pitch shifting, distortion, flexible effects-chain, real-time knobs, £570; Sony DPS M7,pro modulation effects, £470; Digitech DSP, £256. ☎ 0336 782 888.

KORG G3 effects, reverb, chorus, overdrive, £60; vintage guitar amp distortion, reverb, £80; Yamaha DD11 drum machine, MIDI, 8 assignable pads, £40. ☎ (after 6pm) 01900 825312.

LEXICON LXP1s, 2 of them with MRC remote editor, £500; Korg 03RW with RE1 remote editor, £360; Turtle Beach Tahiti PC soundcard, £170; Steinberg Midex+ for Atari, £160. ☎ 01506 834498.

LEXICON LXP1, reverb effects, superb condition, 2 units, £275 each; Lexicon MRC MIDI remote control with read-out, controls up to five different modules/devices simultaneously, £275, will consider swaps. Roland GM70 guitar MIDI converter, rackmount, 128 memory, pickup, fits any guitar, plays any synth module, immaculate with manual, £295. ☎ 01482 448767 (Hull).

MACKIE 32:8 BUSS, £2800; Yamaha Promix 01, £750; Fostex Model 80 8-track, £450 ono. ☎ 01234 409868.

MACKIE 32-CHANNEL 8-bus console, with meter bridge, one year old, £2300 ono; Digidesign Session 8, Nubus system, 882 interface, Apple Mac 7100, 32Mb, 14-inch monitor 1Gb AV hard drive, £2200 ono. ☎ 01429 429180/0961 945198.

MACKIE 1202 MIXER, excellent condition, home use only, original box and manuals, £200. ☎ Paul 0141 554 7480 (Glasgow).

MACKIE CR1604, 16-channel, mixing desk, very clean sounds, just serviced with documents, as good as new, £460 ono. ☎ Will 01792 391172 (South Wales).

MACKIE CR1604 mixing desk, 16 inputs, great mic preamps, 3-band EQ, 6 aux sends, two sets of stereo outs, rack mounting, with Rotopod for moveable jackfield, not VLZ version, manuals, box, one owner since new, good condition, great sound, £620 ono. ☎ 01354 695239.

MACKIE CR1604, 16-channel mixer, six aux sends, 3-band EQ, insert points, excellent sound with manual, good condition, £400. ☎ Jason 0171 701 7965/0956 339865.

MACKIE 1604VLZ, 16 inputs, 6 aux, 4 busses, 3-band EQ, £646. Korg X5 keyboard, 340 multisounds, 32 voices, £359, all items in perfect condition and home use only. ☎ 0181 742 6671.

MACKIE VLZ1604 rack-mixer, perfect condition, £700 ono; Alesis Quadraverb, £175, Drawmer LX20 dual compressor, £175, all ono. ☎ 0191 425 1448 (Newcastle).

MARANTZ DCC digital tape deck, with digital and analogue inputs and outputs, manual, remote-control, tapes, £130. ☎ Steve 0191 281 9733 (Newcastle).

NEUMANN TLM193, large diaphragm condenser, plus matching elastic suspension, mint condition, original box, wooden case, instructions, £650; Spirit Folio, 12:2, boxed, instructions, PSU, £199. ☎ Reading 0118 975 2036 (Berkshire).

NEUMANN U87 mic, recent new capsule, £850; patchbays, quarter-inch jack, 10 or 20 rows from £10 each. ☎ 01865 776587 (Oxford).

OMNI-AUDIO studio monitors, 200 Watts, 91dB, 12-inch, 1kHz, 7kHz crossover, acoustic suspension, 8 ohms, brand new, were £1200 new, will sell for £460 ono for the pair. ☎ Sam 0171 394 1946.

OMNIPHONICS S50, studio amp, 100W into 4 Ohms, rapid transient response, excellent overall sound performance, £170. ☎ 0161 861 7261 (Manchester).

OTARI MTR90 Mk1, 2-inch 24-track tape recorder, full remote and autolocate, highly modified electronics, well maintained, can try in studio before buying, £4800, Philip Rees TS1, MIDI tape sync unit, £50. ☎ 0121 453 3327/0468 900770.

PHILIPS CDR870 CD-R & CD-RW recorder with two re-writable disks, mint condition, hardly used, boxed, manual, bought March 1998 for £499, asking £395 ono. ☎ 0181 747 3704.

RECORDING STUDIO for sale, large live room in NW1, call for further details. ☎ Lee 0171 267 1928.

REVOX PR99 Mk3, 2-track reel-to-reel, in very good condition, £300; Juno 6, £100; Power PC 8100/100, 64Mb, £500; Digidesign Session 8 NuBus card, £800. ☎ 01293 534601/0973 962623 (Sussex).

REVOX/STUDER PR99 professional 2-track analogue master/edit machine, balanced ins and outs, electronic counter, 7 S/15ips, excellent condition, cost £3300, will accept 1800 ono. ☎ 0881 109796 (London).

REZLO RIBBON vintage 1960s microphone, complete, excellent condition, £80 ono. ☎ 01270 872 167 (Staffs).

ROLAND VS880 8-track digital workstation, effects board, 1Gb internal drive, video, all manuals, boxed, £1100. ☎ Andy 01992 560341 (Essex).

ROLAND VS880 V-EXPANDED, Roland XP80, Yamaha QS300 synths, Tascam DA20 DAT, Spirit Absolute 2 monitors, Alesis RA100 amp. ☎ 01869 347167 (Oxfordshire).

SAMSON SERVO 260 studio power amplifier, latest model, immaculate condition, brief home studio use only, boxed with manuals, still under warranty, £200. ☎ 01952 260064 (Telford).

SANSUI MR6 6-track cassette recorder, sounds great, Dolby C, sync option, little use since recent overhaul and service by Panic Music, with manual, box, £350 ono. ☎ 01354 695239.

SECK 12:8:2 mixing desk, in perfect condition, 3-band EQ, mid-sweep, 2 aux sends, XLR and jack input, £300 ono. ☎ Robert 01945 582239.

SECK 18:8:18:2 mixing desk, quality sound, immaculate condition, £550 ono, Yamaha 8-track MIDI sequencer, QX5 with manual, as new, £70 ono. ☎ (after 5pm) 01778 344740 (Peterborough).

SIMMONS SPM 8:2, MIDI-controlled 8-channel mixers, 3-band EQ, 2 effects-sends/returns, snapshot crossfade, excellent condition, £120 each or £200 for the pair. ☎ Paul 0114 287 9758 (Sheffield).

SONY A6 DAT, £500; Roland JV1080, £600, Studiomaster 102 mixer, £100; Cubase VST for PC, £150. All absolutely mint and virtually unused. ☎ Iain (6 to 8pm) 0115 979 1171).

SONY DAT 60ES with box, hardly used, £450; ATC mid-range domes, new, offers; Studer 2-track, heads and transport, offers. ☎ Robert 0181 675 0335.

SONY DT1000ES DAT, £375; Sony TCD10 Pro2, £750; Akai S950, mint, £575; BRC, boxed, unused, £675; Yamaha SPX1000, £475; Behringer composers, £145 each; Symetrix S11A NR, £225. ☎ 0121 753 0171/0378 945293 (Birmingham).

SONY DTC-690, recently serviced, 48K/44.1K/32K LP, digital I/O. ☎ Jules 01235 202040 (Oxfordshire).

SONY TCD D7 portable DAT machine, excellent condition, head cleaner and power supply unit, £320. ☎ 01869 347204 (Oxon).

SOUNDCRAFT DC2000, 24:8:24:2 console, moving fader automation, offers £5500 to £6500, DDA d-series 16:8:16 console, reflex automation, offers £1000 to £2000; Soundcraft S2400 console, £1500 to £3000. ☎ Darryl 0468 997522 (London).

SOUNDCRAFT GHOST LE24, boxed and unused, £2000 ono. ☎ Aaron 0411 540132 (Warrington).

SOUNDCRAFT SPIRIT Folio Rac Pac, 14-channels, 4 bus, 6 aux sends, perfect condition, boxed with manuals, £300 ono. ☎ Darren 01480 352026 (St Neots).

SOUNDCRAFT 1624 24:16:24:2 mixing console, needs a good home, 2 hits recorded on this great sounding studio mixer, 6 aux, manual, can be seen working. ☎ £2250 ono. ☎ 0181 523 0110.

SOUNDTRACS SOLO MIDI 32:8:32, £2000; Alesis ADAT, 595 hours, 11 tapes, £1000; Mackie LM3204, £500; Lexicon LXP15, £450; Roland SDE330, £450; Digitech Vocalist II, £450. ☎ 0151 708 6669 (Cheshire).

STUDIOMASTER DIAMOND PRO 12:3 mixing desk, 4 aux sends, 3-band EQ, mic and line inputs, perfect condition, £275 ono. ☎ Phil 0831 293794/01225 754174 (Wiltshire).

STUDIOMASTER 16:8:2 mixing desk, 4 aux, sweepable mid EQ, tape/line in/out, quiet desk, £395. ☎ James 0181 342 8445.

STUDIOMASTER P7, 24:8:2 mixing desk, as new, £1200; Roland SH101 with mod grip, just serviced, in very good condition, £225; Boss DR660, as new £200. ☎ 01275 854802 (Somerset).

STUDIOMASTER P7 24:8:2 mixer, full MIDI mute, can be used with 24-track recorder in line, hardly used, £950 ono; Casio FZ10M sampler, £300 ono. ☎ 0181 568 2538.

TASCAM DA20MkII rackmount DAT recorder, only used once, boxed with manuals, remote, guarantee, £500. ☎ Nigel 01703 324922.

TASCAM DA30MkII, hardly used, manual £650; Tascam DA20MKII, as new with manual, £450. ☎ Rick 0171 231 4586.

TASCAM 38 half-inch 8-track, perfect condition, part-exchanges considered, £450. ☎ Steve 01207 581991.

TASCAM 38 half-inch 8-track with remote, Tascam 2-channel noise reduction unit, tapes, looms, excellent condition, £500 ono; Roland MC303 groovebox, boxed as new, £350 ono. ☎ 0121 247 4890 (Birmingham).

TASCAM 38 half-inch 8-track recorder, plus DBX noise reduction units, recently serviced, clean, in top working condition, 14 reels of tape, £500, Drawmer MidiMan MIDI processor, turns MIDI clocks into trigger pulses and converts any MIDI keyboard into a master keyboard with split/transpose, £40. ☎ Paul 0114 287 9758.

TASCAM 38 half-inch 8-track recorder, mint condition, recently serviced, boxed with manuals, £450; Allen & Heath 24:8:2 system 8 mixing console, 16-tape inputs, 40 channels available at mixdown, 3 auxs, manual. ☎ 01929 556224 (Dorset).

TASCAM 234 rack 4-track, boxed, mint condition, £250, Mirage rack sampler, £150, Amiga A1200, 1084S monitor, hard drive, Clarity 16 sampler, £175. ☎ John 0118 942 8716 (Reading).

TASCAM 464, inserts, swept EQ, boxed, 12 channels, in very good condition, £350; Microverb III, boxed, £80; TR626 drum machine, £65, Bass Station keyboard, £160; MS1 sampler, £160; all ono. ☎ 01273 208099 (Hove).

TASCAM 488, Akai S2000, Atari with high-res and Cubase, lots of other studio gear, sold together or individually, offers. ☎ Dave 01253 623752 (Lancs).

TASCAM 488MkII portastudio, very good condition, nearly new, 8-tracks of great sounding audio, boxed with manuals, £550. ☎ 01260 252823 (Macclesfield).

TASCAM 564, digital mini-disc portastudio, boxed, manuals, 2 data-disks, excellent condition, £750. ☎ 01303 257714 (Folkestone).

TASCAM 688 8-track, MIDI-mute and sync, 20 inputs, dual-mix facility, good condition, home-use only. ☎ Tobin 01225 447611 (Bath).

TASCAM MM1, 20-channel mixer, MIDI muting, £275, Alesis ADAT with JL Cooper Data Sync, will sync to sequencers using MTC, very low hours, £1000; 14U rack flightcase, foam lined, mixer compartment on top, cost over £400, will sell for £170. ☎ Brad 01633 869142.

TASCAM M2516 desk, superb condition, 16 channels, 4 sends, 6 returns, MIDI-mutes, semi-parametric EQ, light home use only, reluctant sale, £700 ovno. ☎ 0181 257 0172 (anytime).

TASCAM M3700 24-channel, VCA automation mixing desk, as used by Moby, fat, warm, clean sound, excellent condition, cost £10,000 new, will accept £3495 ovno. ☎ Darren 01554 820561.

TASCAM PORTA ONE, 4-track tape recorder, boxed, built-in mixer, swept EQ, £200; Akai S900 sampler, v2 software, £325, Yamaha QY10, boxed, £50. ☎ 01268 525347 (Essex).

TASCAM TSR8 8-track tape machine, excellent condition, all the dynamic and warmth of analogue recording, £800 with manuals and tapes. ☎ (evenings) 0171 738 9222.

TASCAM TSR8 half-inch 8-track, latest model, very quiet, home use only, boxed and manual, £900; Revox B77 quarter-inch 2-track, NAB adaptors, reels, 7.5/15ips, £300 ono; Atari 1040STFM and SM124 monitor, £80 (needs repair). ☎ 01842 293017.

TECH 21 SANSAMP PSA1 guitar amp simulator/analogue distortion, EQ, rack-mounting, 100 presets, programmable inserts, mint, £375; Pioneer PDR 05 CDR machine, as new, sample-rate conversion, £350. ☎ Nigel 01361 890279.

TECHNICS SL1200 mixers (2), phones, 100 12-inch dance singles, £650; Technics WSA1 synth, £650, swap either for dance synth or analogue/samplers. ☎ Jim 07970 741503 (Cardiff).

3M M79 multitrack 2-inch recorder, a rack of Dolby A, audio kinetics sync/locator, well maintained, all manuals, £4000 ono; Tannoy 15-inch speakers. ☎ 01792 844634 (Swansea).

UREI 809 MONITORS superb detailed main monitors, cost £950, will sell for £500; need collecting as they weigh 35Kg each. ☎ Dave 01959 570867 (Westerham).

YAMAHA DMP7 mixing consoles, one needs attention, built-in effects compression, motorised faders, can recall over 67 mixes, offers. ☎ 0181 607 8760 (Middlesex).

YAMAHA MT2X, 6 channel, 4-track multi-recorder with YMC2 MIDI converter, good condition, boxed with manuals, £200 ono. ☎ 01446 421018 (South Wales).

YAMAHA MT3X 4-track portastudio, excellent condition, boxed with manual, recently serviced, home use only, £250. ☎ 01296 399915 (Bucks).

YAMAHA MT8X portastudio, hardly used, £500 ono. ☎ Mick 01376 512700 (Essex).

YAMAHA MT8X 8-track portastudio, boxed with manuals, home use only, £450 ono. ☎ Gareth 01327 263731 (Northants).

YAMAHA PROMIX 1, total automation, £720; Emu Piano+, £130; Mr Rack, £450; MVS1, £215; W30, SCSI, £490; EVS1, £80; JX3P and PG200, £325; PG800, £220. ☎ 01261 815707.

SAMPLERS

AKAI CD3000I, 10Mb sampling inputs fitted internal effects, SCSI, 10CD-ROMs, in very good condition, £900; Korg NS5R module, 1117 sounds, in very good condition, £320. ☎ 01244 376446/0468 173939 (Chester).

AKAI CD3000XL, 24Mb, effects board, fitted with CD-ROMs, disks, still boxed, hardly used, £1200, Kawai MDK61II master keyboard, boxed as new, perfect condition, £120. ☎ Paul 01536 761014 (Northants).

AKAI S20, 17Mb upgrade, 5 sample CDs, library, £350; Korg Wavestation, £530; Roland Juno 2 keyboard, editor, £275, all as new, courier delivery included. ☎ 01523 172676.

AKAI S612, disk drive, lots of quick disks, £120, SKB 4U rack case, unused, £80; Soundlab DLP1R turntable, £70; Accessit spring reverb, £40. ☎ Gareth 01772 728571/01704 878698 (Merseyside).

AKAI S900, £375, Roland S10, £200, Roland MKS700, MIDI/DCB sequencer, £150. ☎ Nik 01203 736281 (Warwickshire).

AKAI S900, S950, S1000PB, all in perfect working order. ☎ Pete 0171 582 9767.

AKAI S950 sampler, 8 outputs, fully-expanded, boxed, no manual, £500 ono. ☎ Jude 01524 844394 (Lancaster).

AKAI S1000, 8Mb, SCSI, 4.4v software, manuals, disk drive, just serviced, excellent condition, £700 ono. ☎ Darren 01277 623126 (Essex).

AKAI S1000 sampler, upgraded to accept S3000 software, 10Mb memory, boxed as new, manuals and rackmount, £1000 ono. ☎ 01902 330753 (Wolverhampton).

AKAI S1000, 16Mb, £795, MOTU MIDI Express XT, 3 months old, £275. ☎ (evenings) 01344 625900 (Berkshire).

AKAI S1000, 10Mb, £850; Yamaha SY85, stand, cover, 64K RAM, many disks, £600; Korg Wavestation SR, £550; Alesis Quadraverb+, £220; Soundcraft Spirit Folio, £200; all manuals. ☎ Ian 01727 862879 (Herts).

AKAI S1000HD hard disk sampler, digital AES/EBU interface fitted with optical in/out, SCSI, expanded memory to 20Mb, pristine condition, box and manual, £999. ☎ 01904 789698 (York).

AKAI S1100 EX expansion for S1000/S1100, 8Mb, £250 ono; Atari 1040ST, 4Mb, SM124 monitor, various software, £200 ono; or £400 for the lot. ☎ Mark 01904 784552.

AKAI S1100 EX, near-mint, never used, comes with original manuals, £450 (UK price), excludes shipping; Roland RE501, near mint, brilliant analogue tape chorus/echo sound, £350 (UK price), excludes shipping, wanted: S950 and EPS upgrade kits. Mail me on: replikator@pacific.net.sg

AKAI S2000, six months old, 32Mb RAM, effects board fitted, Zip drive with five disks, boxed with manuals, £800. ☎ Oli 0797 093 1090 (Surrey).

AKAI S3000XL, 18Mb, £1200; Akai CD3000, audio inputs fitted, 1Gb external drive, £1000; Akai MPC2000, 32Mb I/O expansion board, 8 outputs, digital I/O, £1100; all in excellent condition. ☎ 01703 869792 (Southampton).

AKAI S3000XL sampler, hardly used, boxed, EB16 effects processor, expanded to 18Mb, £1150. ☎ 01706 211131 (Lancs).

AKAI S3000XL, 18Mb, boxed as new, £1100 ono; Mackie CR1604VLZ, mint, boxed, £650 ono. ☎ Phil (after 6pm) 01752 228374 (Plymouth).

AKAI S3000XL, 22Mb quad-effects board, SCSI, CD-ROM drive, zip drive, mounting kit included, perfect condition, £1500 ono. ☎ 0191 425 1448/0961 123706 (Tyne & Wear).

AKAI S3200XL, 32Mb, new absolute bargain, with box and manual, £1900; Opcode Studio 4. ☎ 0181 275 0693.

CASIO FZ10M, in very good condition, 16-bit, resonant filter, large LCD, XLR input/out, 2Mb memory, easy to use, £400 ono. ☎ Chris 0181 894 7306.

EMU ESi32, 32Mb, mint condition, top spec sampler, all the DSP tools you need, one owner. ☎ Simon 01625 266236 (Cheshire).

EMU ESi32, sampler, 8Mb RAM, 32-note polyphonic, 4 outputs, SCSI, trigger keys, excellent condition, v3.01, £590. ☎ 01933 678608 (Northants).

EMU ESi32 sampler, 32Mb, expansion board, zip drive, Roland XP50 synth, Yamaha SW60XG soundcard, XG Edit, Logic Audio 2.5, manuals, dongle. ☎ Richard 0121 550 6699/01384 230446 (West Midlands).

EMU ESi32 sampler, turbo expansion board, 8 outputs, effects, 21 filters, SCSI port, digital in/out, 8Mb RAM, immaculate condition, £750. ☎ Mike (evenings) 01206 503471 (Essex).

EMU ESi4000, 64-note polyphony, 17 filter types, SCSI, comprehensive DSP features including doppler, exciter, time-stretch, Emu Turbo expansion board, provides 24-bit multi-effects, digital in/outs, 6 more outputs, both for £1050. ☎ 0171 288 0128.

ENSONIQ ASR10R, 10Mb, SCSI, 10 outputs, superb effects, mint condition, boxed, £1000 ono. ☎ Andy 01484 647210 (Huddersfield).

ENSONIQ ASR-X pads, SCSI, 32Mb RAM, 24Mb sound board fitted, boxed, £800; Pioneer PDR04 CD recorder, boxed, £350 including £100 worth of disks. ☎ Felix 0171 586 0384.

ENSONIQ EPS16+, 8 outs, great effects, library, waveboy filter, spare disks, rack mount, £500. Yamaha MT100II portastudio, £200, all immaculate with manuals. ☎ David 0181 880 2046.

ROLAND MS1 stereo sampler, great for loops, easy use, MIDI, £180. 4Mb flash ram card for same with up to 12-mins sampling time, £50; or £210 for both; Boss DR660 drum machine, 39 kits, 255 sounds, reverb, chorus, as new, boxed, £195. ☎ 01933 678608 (Northants).

ROLAND SP700 module, 8 outs, superb filters, EQ, boxed, manuals, excellent condition, £795 ono. MKS70 with cartridges, £495 ono. ☎ (evenings) 0161 440 8759.

DRUM MACHINES

ALESIS D4 DRUM MODULE, excellent condition, with original box and manuals, home use only, £180. ☎ Paul 0141 554 7480 (Glasgow).

ALESIS D4 MIDI drum kit, all drums with real heads, 7 cymbal pads, home demo, £950. ☎ 01843 293017 (Kent).

ALESIS SR16 drum machine, 233 voices, good condition, power supply and user manual, all boxed, £170; Alesis Quadraverb with effects unit, £230; or £370 for both. ☎ Norman 0956 852014.

BOSS DR660 drum machine, 808 and 909 sounds, mid effects, manual, no box, only £200. ☎ 01253 398277 (Blackpool).

BOSS DR660, £199; Alesis HR16B, £110; Korg DDD1, £99; D110, £125; Roland TR727, £125; D50 cards, JD990 cards, K1, K4 disks, X3 disks. ☎ 01708 250846 (Essex).

BOSS DR5, 16-bit drum and sound module, with excellent sequencer, guitar interface and more, brand new, still guaranteed, boxed with manual, £210. ☎ 01332 236819 (Derby).

EMU SP1200 drum machine, disks and manual, will accept reasonable offers. ☎ Ed 0181 788 0741.

KENTON PRO-KADI, music percussion computer, excellent condition, 9 individual outs, all sounds tuneable, very rare, manual, £350 ono. ☎ Paul 01908 569947 (Bucks).

NOVATION DRUM STATION, £300, Novation Bass Station, £200; Korg Wavestation AD, £700, all in excellent condition. ☎ 01703 869792 (Southampton).

NOVATION DRUM STATION, £320, Drawmer DL241 compressor, 2-channels, stereo link, £330. ☎ Jay 0181 742 6671.

NOVATION DRUM STATION, as new, box and manual, 808 and 909 sounds, rack, comprehensive MIDI control, £275. ☎ Harry/Woody 0161 374 3807/202 6377.

ROLAND DR5 rhythm section, £220; Steinberg Pro24 software for Atari, £40; classical

WAY OUT WEST

music company

tel: 0181 744 1040/1050 fax: 0181 744 1095

WORLDWIDE MAIL ORDER

Recently voted "Best shop for studios" by Evening Standard Magazine

SAMPLERS

E-MU ESI - 4000 £1299

E-MU E6400 £1795 inc 1Gb HD RAM

Great Drum and Bass Sampler

AKAI S2000 £799 S3000xl £1399

YAMAHA A3000 £999

AKAI S20 £450

HARDWARE & SOFTWARE

UNBELIEVABLE - CALL FOR DETAILS!

Steinberg

AUTHORISED DEALERS

Cubasis AV - 8 Tracks of Audio	£129
X-POSE (Video Sampler For Mac)	£449
RE - BIRTH	£145
WAVELAB 1.6 - Audio Editing	£299
CUBASE VST PC 3.5	£279
CUBASE SCORE - Composition Sequencer	£479

emagic

AUDIOWERK 8	£CALL
LOGIC AUDIO (PC)	£CALL
LOGIC DISCOVERY	£CALL
AUDIO WERK 8 PLUS LOGIC AUDIO (PC)	
PLUS AM 8 WAY LOOM	£CALL

BARGAIN BASEMENT

ALESIS MICROVERB III	£119
ALESIS MIDIVERB II	£139
ALESIS HR 16 DRUM MACHINE	£99
ALESIS QUADRAVERB +	£245
ATARI 1040 COMPUTERS FROM	£199
AUDIO LOGIC PA 88A ENHANCER	£99
ALESIS MEQ 230 GRAPHIC EQ	£199
BEHRINGER ULTRALINK	£119
BOSS BX 80 8 CH STEREO MIXER	£125
E-MU PROTEUS I MODULE	£350
FOSTEX A8 1/4" 8 TRACK	£450
FOSTEX 4050 REMOTE/SYNC	£350
FOSTEX 24-12-2 MIXING DESK	£999
FOSTEX 4030 + 4035 EI6 REMOTE + SYNC	£300
FOSTEX 280 MULTITRACKER	£250
HARRISON 300 w STUDIO POWER AMP	£350
KORG KEC 42 COMPANDER	£75
KORG P3 PIANO MODULE	£150
LINN LM1 VINTAGE DRUM MACHINE	OFFERS
MESA BOOGIE TRI AXIS	£799
ROLAND D50 CLASSIC SYNTH	£275
ROLAND U 220 INC 4 CARDS	£299
ROLAND JUNO 6 SYNTH	£199
ROLAND JUNO 60	£275
ROLAND D 110	£175
ROLAND PC 200II + SOUND CANVAS SC7	£350
ROLAND MKB 300 FULL SIZE MIDI KEYBOARD	£350
ROLAND D20 LA WORKSTATION	£250
ROLAND MV-30 STUDIO M PRODUCTION SYSTEM	£199
SIMMONS MTM MIDI TRIGGER PROCESSOR	£175
STUDIOMASTER 8 INTO 4 RACK MIXER	£199
STUDIOMASTER MIXDOWN 24-8-2	£895
STUDIO RESEARCH NEM 24:2 NOISE ELIMINATING MIXER	£150
SIEL DK 600 ANALOUGE SYNTH	£150
REVOX B77 MK I + MK 2 FROM	£225
TASCAM 488 8 TRACK PORTASUDIO	£495
TASCAM 688 MIDI STUDIO	£599
TASCAM TSR 8 ½ INCH 8 TRACK	£899
TASCAM DAP-1 PORTABLE DAT	£999
TASCAM 488 II 8 TRACK PORTASTUDIO	£699
TASCAM 348 1/4" 4 TRACK	£299
TLA DI VALVE MIC PRE AMP	£199
VOICE MICRO B ORGAN MODULE	£150
XR 300 MTC PRO SMPTE UNIT	£125
YAMAHA KX 88 WEIGHTED CONTROLLER K/BOARD	£575
YAMAHA TG 300 TONE MODULE	£365
YAMAHA RY8 DRUM MACHINE	£149
YAMAHA SPX90 REVERB	£175

MORE USED & EX DEMO EQUIPMENT EVERY MONTH

MEMORY UPGRADES

0% Finance available
Call for details
Subject to status

SEE W.O.W. PRO AUDIO AD ON PAGE 43 OF S.O.S.

KEYBOARDS / MODULES

Roland XP 10 £BEST XP 60 £BEST XP 80 £BEST

Roland MC 303/505 £CALL

Roland JP8000 £1049

Roland JV 1080 £CALL JV 2080 £CALL

YAMAHA CS1-X £495

YAMAHA AN 1X £725

ORBIT V2	£799
PLANET PHATT	£799
CARNAVAL	£799

...in stock call for details

Roland NEW FROM ROLAND JX 305 SYNTH + SC880 PRO MODULE

PROFESSIONAL SERVICE
WE BUY USED GEAR & PX
FREE PARKING
1 MINUTE FROM TWICKENHAM STATION

47 London Road Twickenham TW1 3SA UNITED KINGDOM

esale@wowmusic.demon.co.uk

EXPRESS NATIONWIDE & OVERSEAS DELIVERY
WOW MOBILE NATION WIDE INSTALLATION SERVICE
EDUCATIONAL DISCOUNTS

metronome, £30, Gallien-Krueger Gk200MV bass-tube 100w combo, £450. ☎ (weekends) 0181 908 1126.

ROLAND R8, drum machine with Jazz Card, £300. ☎ Dan 0171 545 0733/923 3285.

ROLAND R8, 8 outputs, electronic card, 808 sounds, manual, Korg 05RW sound module, boxed, manuals and disks. ☎ Ian 01782 810845/04325 145708 (Staffordshire).

ROLAND R70, over 200 fully editable sounds, including 808, 909, CR78, 4 outs, reverb, modulation, effects, as new, boxed, manuals, £300 ono. ☎ Sam 0181 455 6393.

ROLAND R8M drum module, manual, 3 sound-cards, 909, 808 and contemporary percussion, no splits or exchanges, £330. ☎ 0171 622 6412.

ROLAND R8M, mint, £349. Boss DR660, as new, £199. Atari Mega ST2 and SM124 monitor, Cubase v3.0, £299. ☎ Malcolm 0467 637725 (Glasgow).

ROLAND TR77, £110. CR8000, rough but working, £60. CSQ600 analogue sequencer, £120. ☎ Chris (after 6pm) 01232 236093 (Belfast).

ROLAND TR505, sorry, no manual or power pack, £40. ☎ Barry 01384 825490 (Stourbridge).

ROLAND TR808, with MIDI, £550. Roland Jupiter 8 with MIDI, £999. Atari SM144 monitor, £50. ☎ 01224 323007 (Aberdeen).

ROLAND TR808 drum machine, manuals, MIDI retro-fit, excellent condition, £450 ono. ☎ 0161 286 9709 (Manchester).

SCI DRUM TRAX plus manual, £275 ono. ☎ 0113 293 6896 (Leeds).

YAMAHA RX8, £50. ☎ 0181 363 2880.

SEQUENCERS

QUASIMIDI 309, 4 months old, audio exp drum exp, boxed, with receipts guarantee, £600. ☎ 0181 527 2122.

ROLAND MC50, sequencer, £180. Roland R5 drums, £125. Yamaha RX8 drums, £100, all with manuals. ☎ Steve 01925 860471 (Warrington).

ROLAND MC202, with more control, great step-time sequencer, free 8-channel Roland CV/MIDI thrown in, £295. Digitech's original Vocalist, £345. Akai PEQ6, £139. Tascam PE40 EQ, £175. Yamaha DD5 MIDI drums, £20. ☎ 01257 462809 (Lancs).

ROLAND MC303 sequencer, drum machine, 4 months old, £300 no offers. ☎ 01355 904948.

ROLAND MC303, 4 months old, home use only, £300, no offers. ☎ (after 6pm) 01355 904948 (Isle Of Lewis).

ROLAND MC303, very good condition, boxed with manual, £325. ☎ 01225 335923 (Bath).

ROLAND MC303, £325. Quasimidi 309 RAVE-O-Lution, £350. Yamaha CS1X, £350, open to swaps with analogue gear such as TR909 or TB303. ☎ Kevin 01353 663613 (Cambs).

ROLAND SD35 data-filer, boxed, ideal for gigging duos, £320. Yamaha SY55 workstation, £280 or swap either for a Fender lead or bass guitar. ☎ Paul 01229 466238 (Cumbria).

ROLAND TB303, in mint condition, case, manuals, £600. Yamaha CS5 analogue mono-synth, slight fault with release, £150. ☎ Andy 0117 954 1580 (Bristol).

ROLAND TB303, mint, £695 ono. Roland SH-9 with PG200 controller, £295. ☎ Stephen 0131 466 2882/0468 781785 (Edinburgh).

YAMAHA QY70, mint, barely used, £350. ☎ 0181 664 6821.

YAMAHA QY70 plus Yamaha power supply and software, boxed and in mint condition, £350. ☎ 01235 532207 (Oxon).

YAMAHA QY300, 16-track sequencer, 128 voices, 8 drumkits, auto-accompaniment, micro-keyboard, disk drive, manuals, video, as new £400. Roland PC200MkII, MIDI keyboard controller, as new, £100. ☎ 0113 255 4219 (West Yorkshire).

YAMAHA QY300, with manual, GM compatible, built-in sound module, drum machine, immaculate condition, £300. Roland R8 drum cards, various, £100. ☎ Dave 07970 629258 (Cleveland).

ROLAND QY300 sequencer, complete with manual and power supply, excellent condition, £450. Solton MS5 synth keyboard, flightcase, excellent condition, £450. ☎ Peter 0151670 0052 (Merseyside).

YAMAHA QX5 sequencer, £40. Simmons Hexagon drum pads, £20 each. Quadraverb plus, £190. Casio FK1 bass pedals, £40. Roland Quicklinks, £10 per box. Deltalab flanger, £95. ☎ 01342 323094.

PERSONNEL

ARE YOU A talented singer? Want to become the biggest pop sensation? Singer required to join talented songwriter, composer, keyboard-player, singer, single release this year. ☎ 0956 270872 (rugby).

FEMALE PROGRAMMER seeks nice, inventive, experienced programmer for creative trip-hop, pop, orchestral project with dance and guitar influence. ☎ 0171 252 6028.

FEMALE VOCALIST REQUIRED, knowledge of French/German, interest in Krautspace, experimental, lo-fi electronica, influences: neu!, Stereolab, Air, Suicide, Stooges, Cope. ☎ Anthony. ☎ Manchester 0161 448 9302 (Manchester).

FREELANCE LIVE SOUND ENGINEER available in late May, own console, outboard racks, van, first-class work. ☎ Sid 0861 904978.

LIVE DRUM 'N' BASS band, can play live at raves, for remixes, dubplates, or just for DJ. ☎ Dameon 0956 139029.

MALE SINGER/SONGWRITER/GUITARIST, seeking musical soul-partner(s), musicians or band in London to make '98 shake! pop/funk/rock, influences Radio Head, Zeppelin. ☎ Brian 0181 569 8900 (Middlesex).

NEW LABEL seeks artists and demos, house garage, deephouse, techno, hip-hop, soul, jungle, drum 'n' bass, trance, breakbeat. ☎ 0370 791180 (Manchester).

PIANIST/KEYBOARDIST, wants collaboration with other musicians who write their own music, themes, songs, pop, rock, ambient, techno, experienced and pro level. ☎ 01206 874288 (Colchester).

PLAYWRITE seeks keyboard/piano composer for collaboration, Elton John, Beautiful South style, West Midlands and Shropshire area. ☎ 01743 353153 (evenings).

RAPPER REQUIRED for live agro, hip-hop/dance/punk band, influences include Senser, Asian Dub Foundation, Gunshot, PWEI, Prodigy. ☎ 01373 471746 (Somerset).

TALENTED SONGWRITER/MUSICIAN and beautiful female singer/dancer, require industry brain with a good track record to launch a new project. ☎ 0171 385 4648.

TUNESMITH/ARRANGER required to kick songs into shape, familiarity with Wavemaster, Cubase Audio and Notater essential. ☎ 01379 853982 (Norfolk).

COMPUTERS/SOFTWARE

APPLE MAC PowerPC Performer 5260, 100mHz processor, 12Mb RAM, V-RAM expandable to 64Mb, 800Mb hard drive, 4x CD-ROM, 16-bit stereo sound, 8 expansion ports, 3 internal, SCSI, 14-inch monitor, Internet ready, software, £700. Box of Mindtrics, £25 for the box or £3.50 each, Emagic Audio (Mac), with dongle, £300. ☎ 0161 877 1996 (Manchester).

APPLE MACINTOSH 7100/80/32, 1Gb-CD, keyboard, VST, plug-ins all on disk, Reid Valiet Autotune, Waves, ReCycle, Timebandit, £1150, may split. Mac 660/610 PDS NuBus converter, £50. Audiomedia I audiocard, £70. Amazon D60 amp, £130. ☎ 01924 216047 (Wakefield).

APPLE MACINTOSH IICI, Finale v3.2 music Notation software, System 7.2 plus lots of other software, £500 ono, can separate. ☎ 01449 673561.

APPLE POWER MAC 5400, Mac 32Mb, 256k L2 cache, immaculate condition, includes Claris Works, Videoshop, Cubase VST3.02, boxed manuals, £950. ☎ 0411 334307 (Southampton).

APPLE POWER MAC 8100/100, 40Mb RAM, 1Gb hard drive, CD-ROM, 2 cards fitted, £1150. Soundtracs Solo MIDI 32, 72 inputs, 6 aux, 4-band EQ, MIDI muting, pristine condition, was £4500 new, sell for £2300 ono. Midimation 1U rackmount unit, gives 16 channels of fader and mute automation, works with Cubase, Notator, £350 ono. ☎ 01633 613342 (Newport).

ATARI FALCON, 32MHz, 4Mb RAM, 65Mb Apex Media, disks, boxed, £400. ☎ 01582 451584 (Luton).

ATARI FALCON, 14Mb RAM, 1Gb drive, monitor, SPDIF, output expander, 64-channels MIDI expander, Cubase Audio 2.06, accelerator hardware, complete desktop recording system, offers. ☎ 01483 452400 (Guildford, Surrey).

ATARI FALCON 16Mb, 500Mb SCSI, SVGA monitor, Steinberg FD1 digital interface, FA8 8-output expander, Cubase Audio 16, £699. ☎ Chris 01628 478991 (Bucks).

ATARI GEAR, all in excellent condition with manuals, cables, SM125 monitor, as new, £65, double-sided drive, 720k, perfect, £25, 520STFM with faulty drive, £55. ☎ 01635 32333 (Berks).

ATARI HIGH resolution emulator, converts any TV or colour monitor into high-resolution, complete with instructions, £10. ☎ 0181 785 9862.

ATARI MEGA STE, 4Mb, built-in hard drive, high-res monitor, used for Cubase, separate keyboard, mouse, complete system, £200 ono. ☎ 01884 257487 (Devon).

ATARI MEGA ST2, SM125 monitor, 40Mb hard drive, Hybrid Arts SMPTE Track pro sequencing software, other software, £350. ☎ 01295 721696 (Oxfordshire).

ATARI SM124 high-res mono-monitor, good condition, £70. ☎ Mike (after 6pm) 01962 867818 (Hampshire).

ATARI SM144 high-res mono-monitor, good condition, £60. ☎ Geoff 01592 755001.

ATARI ST, monitor, Cubase, £140, Emu ESi32, 8Mb, £575, MC303, £350, Roland D5, £200, DR550 drums, £90, 12-2 mixer, £120, Wanted CS1X, Studio Quad, TR909, TB303. ☎ 01252 377638 (Hants).

ATARI STE, new, monitor, Cubase, 2 disk drives, £225, Yamaha SU10, £200, Alesis SR16, £150, Fostex X28H 4-track, £190. ☎ Paul (evenings) 0181 657 3538 (Surrey).

ATARI STE 4Mb, SM125 monitor, soft case, mouse, cables, books, various software, £220. Sony MO1 optical drive, £572Mb, 3 cartridges, 19-inch rackmount, £200. ☎ 01327 811618 (Northamptonshire).

ATARI STE 2Mb plus shareware sequencer, £100 ono. ☎ Dave 01738 636391 (Perth).

ATARI 520STE, high-resolution, black & white monitor, two 3.5-inch disk drives, 4Mb RAM, software, cables, excellent condition, boxed, £175. ☎ Karl 01202 872503 (Bournemouth).

ATARI 520STFM, high resolution grey scale monitor, mint condition, boxed as new, easily upgraded with more memory, £100. ☎ Andy 01484 647210 (Huddersfield).

ATARI 1040ST, high-res monitor, all leads, cables, cubase, tutorials, manuals, boxed as new, £50. ☎ 01276 64601 (Slough).

ATARI 1040STE 4Mb RAM, high-res monitor, Cubase, manuals, cables, software, mouse £210. ☎ Winston 01276 64601 (Berks).

ATARI 1040STE, high-res monitor, mouse, discs, Cubase, manuals, boxes. ☎ Liane 0958 415974 (Cowes).

ATARI 1040STE, 4Mb RAM, high-res monitor, ideal MIDI system including Cubase tutorials, mouse, manuals, excellent condition, £220. ☎ 0956 505985 (Surrey).

ATARI 1040ST no mouse, no monitor, no software, just the ST, it worked last time I used it, £70 ono. ☎ Martin 01225 329100 (Bath).

ATARI 1040STE, high-res, 14-inch swivel base monitor, fully upgraded to 4Mb RAM with Cubase, v3.24, good condition, £230. Atari 1040ST, £160. ☎ 0181 656 0291 (Croydon).

ATARI 1040STE, mint condition, with two joysticks and lots of games, no monitor, but at this price ideal as backup share, £50. ☎ Ian 0113 278 3690 (West Yorkshire).

ATARI 1040STE, 1Mb SM125 monitor, Cubase v3.01 with dongle and manuals, £300. ☎ Stuart 0191 237 4158.

ATARI 1040STFM, monitor, 1Mb, Notator software, Unitor SMPT MIDI expander and export, 3 MIDI outs, offers. ☎ 01908 613373 (Milton Keynes).

CD-ROM DRIVE, external SCSI type, works with Akai, EMU and others, £100 ono. ☎ 01270 872167 (Staffordshire).

C LAB FALCON, monitor, FAV8+FDI interface, audio tracker, 8-track hard disk recording software, Micropolis hard drive, £600. ☎ 01395 223577 (Devon).

CUBASE VST 3.5, PC version, CD-ROM, brand new, still in box, £250. Yamaha TQ5 sound module, £50. ☎ 01829 733828 (Cheshire).

CUBASE VST3.52 SCORE for Mac, plus a range of the best plug-ins, offers. ☎ Olly 0191 272 2142 (Newcastle).

CUBASE VST SCORE 3.5.2, with 25 plugins for Mac, Rebirth, Recycle, best offer. Power Mac 200mHz 604e, 64Mb RAM, 2Gb hard drive, 4Mb V-RAM, 24X CD. ☎ Dan 07771 728110 (Norfolk).

DELL 2200 PENTIUM II 233MHz, 128Mb RAM, 4Gb, SCSI, AWE64 Gold, Cubase VST, dongle, manual, Wavelab with manual, 10 months old, home use only, £1500. ☎ 01344 625900 (Berkshire).

DIGIDESIGN PROTOOLS III BRIDGE I/O NuBus card, Digidesign Sound tools DAT I/O, Opcode Studio Vision for Mac. ☎ 0336 782 882.

DIGIDESIGN PRO TOOLS 442, hard disk editing/recording system, Apple Mac Quadra 950 computer, SampleCell sampler, library, Sound Designer II. ☎ Mick 0781 743 7523.

DIGIDESIGN PRO TOOLS TDM, system 882 I/O two 1Gb drives, loads of plugins, Power 100 computer, CD-writer, 19-inch monitor, system is racked and portable, too much to list, may split, must sell, £5000 ono. ☎ 0181 459 7674.

DIGIDESIGN SESSION 8, 882 studio, 8 digital ins/outs, built-in digital mixer, 10-channel subgroup mixer, compatible with pro Tools, Emagic, Logic Audio, £800. ☎ 0131 225 4890 (Edinburgh).

DIGIDESIGN SESSION 8 for PC, including 882I/O, £800, ADAT interface, £500, Aphex109, £175, Tascam DA20 DAT, £300, 12U rack-mount, £50. ☎ 01703 870334 (Southampton).

EMAGIC AUDIOWERK SOUNDCARD, £300. Alesis Midiverb, Midifex, Microverb and Microenhancer, £200 for all four, no offers. ☎ 01427 811434 (Lincs).

EMAGIC AUDIOWERK 8 PCI card, UMR software, manuals, still under warranty, £250. DB50x6, £70. Roland d10 synth with semi-flightcase, £200. ☎ 0117 924 3895 (Bristol).

EVENT GINA, brand new, unopened, unwanted gift, only £350. ☎ Rick 0171 231 4586.

IOMEGA PARALLEL ZIP drive, boxed, manuals, software, £60. Steinberg Rebirth RB338, two 303 synths, one 808 drum machine, pattern based sequencing, delay, distortion, £60. ☎ 0958 778169 (Dorset).

M1 EDITOR/LIBRARIAN 'Powertools' M1 accessory for Atari ST, runs within your sequencer as desk accessory, original copy including manual, £25 ono. ☎ Mark 01203 480516/ 0973 818574 (Warwickshire).

PENTIUM 166 monitor, 64Mb, 2 hard drives, 6Gb, Windows 95, Cubase VST 3.5, dongle, manuals, Claris Works, Turtle Beach, Pinnacle digital I/O, hardly used, £1400. ☎ 01323 721741.

PENTIUM 2 233MHz, 6Gb drive, 64Mb RAM, 17-inch monitor, SCSI card, VST 3.55, Logic 3.0, Wavelab, all brand new, £2000 ono. Fostex G16, with looms and demag, mint condition, £2500 ono, Roland JV1080, £900, Korg Prophecy, £500, Roland JP8800, £900. ☎ 0171 515 1101.

REBIRTH 338 v1.5, as new, all boxes, unregistered, £190. ☎ Martin 0118 941 8136 (Berkshire).

STEINBERG CUBASIS AUDIO, v1.6 for PC, powerful sequencer, easy to use, hard-disk recording capabilities, only £40. ☎ Richard 0171 288 0128.

STEINBERG CUBASE SCORE VST for Mac, v3.5, as new, genuine package, complete with manuals, CD, manuals and registration card, £300. Windows version 3.55 with dongle, manuals and card, £300. Simmons SDSV brain, with five modules, bass, snare, 2 toms, cymbal, 2 pads, £250. ☎ 01993 812739.

STEINBERG CUBASE VST Score v3.52 for Mac. ☎ Marcus 0181 851 8804.

STEINBERG REBIRTH RB338, techno micro-composer, emulates Roland TB303 and TR808, quick sale, £75. ☎ Mark 01536 485224 (Northants).

SYNTRILLIUM COOL EDIT Pro software, swap for your Steinberg Wavelab or Sound Forge CD Architect for PC. ☎ Trevor 0836 593070 (Surrey).

TERRATEC EWS SOUNDCARD, 64XL with front panel, v2.03 software, 6Mb RAM, list price £399 will sell for £270 ono. ☎ 01862 832886.

TURTLE BEACH Pinnacle, project studio digital I/O plus Kurzweil daughter board, 8Mb sample RAM installed £500 ono. ☎ Tim 01474 703304 (Kent).

TURTLE BEACH PINNACLE pro soundcard, hardly used, boxed as new, manuals, disks, 8Mb RAM, excellent condition, £249. ☎ 0181 305 6761.

TURTLE BEACH MOTEREY soundcard, boxed as new, £200, or exchange for a Digitech Vocalist. ☎ 01484 313508 (Huddersfield).

TURTLE BEACH TROPEZ, PC sampling sound card, 12Mb on-board sampling RAM, fitted, software and manuals, £125. ☎ Dan 0161 445 4482 (Manchester).

MISCELLANEOUS

ALESIS DATADISK, as new, home use only, never gigged, boxed manuals, PSU, £250. ☎ Alan (after 5pm) 01642 466211 (Cleveland).

CD-ROM DRIVE with SCSI cable, brand-new, boxed, unwanted gift, £130 ono. ☎ 0151 339 4404 (Wirral).

COMPLETE SMALL VENUE PA, system, Yamaha EMX2200, 250 Watts-per-channel, powered mixer with effects, flight case, with or without Yamaha speakers. ☎ Dave Buck 0467 643 288.

CP-CASES EURORACK, 8-unit, extra-deep version, the best box around, hardly used, £100. ☎ Paul 0141 554 7480 (Glasgow).

BP EQUIPMENT rack, £20. Ultra-metal guitar foot-pedal, £20, both including postage. ☎ Carl 01507 606956.

FALCON ADAT INTERFACE, £220. FDI interface, £125. Cubase Audio for Falcon, £210. Fostex R8 with MTC 1, perfect condition, £600. Roland AF70 Anti-feedbacker, £165. Sound City 4x12 cab, complete, £50. ☎ 01702 521570.

INTIMIDATION DON 2 DJ mixer, kill switches, BPM counter, drum base, barely used, home use only, boxed as new, £399. ☎ 01203 413413 (Coventry).

KORG 031RW soundcards, best of M+T, best Ethnic, as new, will not split, cost £240 new, will sell for £100, no offers. ☎ Alex 0181 661 0454.

KRAMER FOCUS 2000 guitar, will swap for good sound module, approx exchange value £220. ☎ Ian 01727 842995 (Hertfordshire).

LARGE QUANTITY of Ampex 457 quarter-inch tape, used once, £5 per roll. ☎ Bob 01931 712764 (Cumbria).

MARSHALL 9100 rand new, dual mono bloc amplifier, swap for keyboard, sampler, sound module or similar. ☎ 01344 891110 (Windsor).

MARSHALL VALVESTATE 40 WATT amp, £100. Korg G1 Tone-works, £100. Roland MS1 sampler with 2Mb card, £200. MC303 Groove Box, £300, all in perfect condition. ☎ Jamie 01635 32191 (Berks).

SKB 4U flight case, shock-mounted, flightcase, ideal for protecting samplers and synths on the road, was £400 new, will accept £325 or near offer. ☎ 0973 970695 (Hanwell).

SYNTH MANUALS, Arp Solus, Avatar, Bit 1, Trilogy, CAT, Wasp, Moog MG1, Prodigy, Rogue, PolyMoog, Sequential Pro1, Roland SH101, SH2, Juno 60, Juno 106, Jupiter 6, Yamaha CS01 and more, £10 each plus postage. ☎ 01942 814818.

VARIOUS 2-inch tapes, once used, £10 to £40. ☎ 01425 473452 (Hampshire).

YAMAHA SY85 sound disks, Korg i3 style disks for sale. ☎ 01246 209560 (Derbyshire).

YAMAHA WX11 MIDI wind controller, with MIDI module and BC7 interface, £350. Midiman serial MIDI interface for the PC, £40. Art valve preamp, £70. ☎ 001275 332957/0468 647432 (Bristol).

WANTED

AKAI S20 wanted for home studio, also Korg Prophecy, Rode Condenser, Pro 1, Wavestation rack, Juno 106, Ensoniq MR rack, PG800. ☎ 0861 157247.

ALESIS ADAT XT wanted, must be in good condition, cash waiting. ☎ 0151 643 1964 (Merseyside).

ALESIS MMT8 required, in good condition, can collect from London area. ☎ Pete 0181 876 3419.

ALESIS S31Q 31-band graphic EQ, £95. Beyer DT100 headphones, £70. Soundtech stereo compressor with noise-gates, high-quality, £145. Yamaha EMT10 pitch and sound module, £85, all excellent. ☎ 01482 448767 (Hull).

ENSONIQ ME16 memory cartridge and SCSI interface, price negotiable for EPS16+ sampler. ☎ Paul 0113 232 0537 (Leeds).

EPSILON IN MALAYSIAN PALE by E. Freese wanted on CD. ☎ 07292 316608 (Troon).

EVENTIDE HARMONISER DSP4000 or DSP4000B, Digitech Studio Vocalist, Lexicon MPX1, Yamaha Pro R3 or Rev 500, Klark Teknik DN6000, Neumann microphone and valve microphone. ☎ 0171 431 1654.

EXPANSION BOARD for the S760, with extra outs and mouse, limited budget. ☎ John 0930 731280 (Essex).

FAULTY ELECTRO-HARMONIX, Maestro, Mutron, A/DA spare parts. ☎ (evenings only) 0121 470 3295.

KAWAI K1 rackmount, must be in good condition, preferably swap for my K1 keyboard, or I will pay cash if reasonably priced. ☎ 01768 352317 (Cumbria).

KORG 770/770S, any condition, cash waiting. ☎ 0956 891966.

KORG 800DV, must be in top condition, cash waiting. ☎ 0498 695249/01274 878626 (West Yorkshire).

KORG SM20 Doncamatic Stageman or Korg Mini Pops 7. ☎ Chris 01232 236093 (Northern Ireland).

KORG Z1 and Roland JP8000 in good condition. ☎ (after 4pm) 01703 867809 (Southampton).

MULTI-EFFECTS UNIT urgently needed, smallish with reverb, delays, chorus, flanger and quirky effects, possibly a vocoder, £50. ☎ Darren 01707 262397.

NORD LEAD WANTED prefer keyboard but rack would be okay, cash waiting. ☎ 0956 505985 (Wokingham).

POWERMAC SYSTEM 7200/8200 or 8500, must be in good condition, cash waiting for the best offer. ☎ Andy 01633 613342 (Newport).

ROLAND A80 master keyboard, with case if possible, Alesis Midiverb or Quadraverb. ☎ Tim 01788 815171/0468 083175 (Warwickshire).

ROLAND JP8000, £600, PC MIDI interface, minimum 4-in/out, £150. Juno 106, £250 swap Yamaha CS1X for Roland JV1080 plus £150 cash. ☎ Rick 0171 231 4586.

ROLAND JUPITER 4, £250, nothing too tatty. Moog Source, £300 (depending on condition). ☎ Dave 01933 385321 (Northants).

ROLAND JUPITER 8, or Oscar factory-sounds cassette, original or copy. Jupiter 8 user's manual. ☎ David 0468 328426.

ROLAND JV2080 or JV1080, with expansion boards, especially orchestral, bass and drums, dance, techno, hip-hop. ☎ 0171 431 1654.

ROLAND R8 drum machine wanted, preferably R8 Mk2, in good condition, with manual and in box if possible, cash waiting! ☎ Phil 0181 521 6715/0831 117 675.

ROLAND R8, sound cards wanted. ☎ 01392 499115 (Exeter).

ROLAND TR606, 626 or possibly 505, modified or in original form, must be in good condition, Atari running Cubase wanted. ☎ James 01484 662477 (Huddersfield).

ROLAND U110 soundcard wanted, Orchestral Strings. ☎ Steve 0191 477 0912 (Gateshead).

ROLAND VG8 guitar modelling unit. ☎ Andy 0161 620 5570/0802 519037 (Oldham).

SAMPLER WITH FLOPPY drive, MIDI, Akai or Roland preferred, cash waiting, up to £300. ☎ Dicky 01279 426545 (Essex).

SEQUENTIAL PROPHET VS rack, must be in good working order, broken Prophets also welcome for spare parts, cash waiting. ☎ Simon 0836 667799.

SIMMONS HUGGERS, 1 master and 1 other, or 2 slaves required. ☎ Barry 01384 825490 (Stourbridge).

SIMMONS SDS9 drum brain, cash waiting. ☎ Taylor 0181 406 5359 (Croydon).

TASCAM DAP-1, I just want to hire the thing for ten days during July to take abroad on tour with the Surrey Youth Orchestra, around about £100 to £150. I'm also looking for a pre-transistor Hammond, a T100 perhaps, £300 tops. ☎ Tom 01342 833100 (Surrey).

UNITOR N OR UNITOR II for the Atari Mega 4 running C Lab Notator, cash waiting for the best offer. ☎ Dan 01484 326380 (Huddersfield).

VOCE V3 organ module, if the price is right, possible part-exchange for Ensoniq SQ80 and Yamaha TX812. ☎ 01473 225503 (Suffolk).

YAMAHA ETHNIC SOUNDS, soundcard set for the SY85 synth. ☎ 0191 384 7871 (Durham).

British Music Fairs are Proud to Present

The UK's Biggest Music Show Ever!

Hundreds of Stands - All the latest recording and tech gear for you to get your hands on!

The Mad About Music Show '98

19-20-21 June '98

10 till 5 each day

London Arena, Docklands

LONDON ARENA

VH1

95·8 CAPITAL

Door £6.00 or £4.50 in advance

Buy 2 Tickets and get 3rd one FREE!

☎ 0171 538 1212

www.madaboutmusic.co.uk

Save a quid on the door and get in for a fiver with this cut out coupon

one voucher per person

win

£2000 of Zoom & Tech 21 Gear

from Exclusive Distribution

It's as easy as one, two, three.... and four!

Prizes kindly donated by Exclusive Distribution (01462 481148).

This month, we are running the first half of a two-part competition, to be concluded in the next issue of *SOS*. In association with Exclusive Distribution Ltd, we have almost £2000 worth of equipment to find new homes for. The list looks like this:

- 1 x Tech 21 Trademark 60 combo
- 2 x Zoom 1204 effects units
- 3 x 234 Rhythmtrak drum machines
- 4x Zoom 1201 effects units

That's 10 prizes in all, and we'll be choosing 10 winners from your entries, but first, let's take a closer look at what's on offer.

Those of you who have been spending too much of your hard-earned cash on synths, samplers, mixers and recorders to the detriment of your guitar setup should take a look at the Tech 21 Trademark 60 Combo amp. Widely acclaimed for their excellent amp simulators and pedals, Tech 21 have designed a compact 60-watt, vintage-styled guitar combo, with two switchable channels, and a 12-inch speaker. The amp offers a full complement of modern features, including tube-amp emulation circuitry and a built-in speaker-emulated DI, so it can be plugged straight into a PA or recorder without the need for a mic. A boost function gives an output increase of 9dB on each channel, and there's a triple-function footswitch which can handle channel select, reverb on/off and effects bypass. The whole combo weighs in at just 36lbs and costs a mere £500 — or nothing if you win this competition!

Zoom have made their name offering quality effects processors at reasonable prices, and the 1204 multi-effects unit, reviewed in *SOS* October '96, is one of them. An 18-bit, 1U rackmounting stereo processor, the 1204 sports 512 presets and 100 user memories, and its patches can be accessed either via the front-panel controls or over MIDI. All the usual hall, plate, vocal, echo, reverbs are present, as are modulation effects like tremolo, chorus and flanger. There are both parallel and serial dual effects and finally some special effects including a vocoder and distortion. We have two of these extremely useful effects units to give away, and of course we're giving away more Zoom gear next month. In the meantime, check out our reviews of the Zoom Rhythmtrak and 1201 in *SOS* May '98 and September '97 respectively.

Now it's time to exercise your brain (but not *that* much). Correctly answer the questions and tie-breaker provided on the left of this page and then do nothing.. Until next month, that is, when you'll need to answer the questions in part two, and then post *both* completed forms to us at the address below. That's right: you need to send in both forms to be eligible for this competition. Entries comprised of just one of the two forms will be used as delightful paper darts to amuse the editorial staff, and will then be thrown away. Be warned!

QUESTIONS

What does the Trademark 60's 'boost' function do?

a. It helps to build confidence ☐
b. It cuts output level by 9dB ☐
c. It boosts output level by 9dB ☐
d. It's just a cosmetic detail ☐

How many channels does the Trademark 60 have?

a. BBC1, BBC2, ITV, Channel 4 ☐
b. 60 channels ☐
c. 2 channels ☐
d. Oh... as many as you like ☐

Where on the 1204 do you store your own edited patches?

a. They can be taped to the back panel until needed ☐
b. Inside the quarter-inch jack socket ☐
c. In one of the 100 user memories ☐
d. In any cool, dark place ☐

Which of the following is an effect type found on the Zoom 1204?

a. Blur ☐
b. Extrapolate ☐
c. Encrust ☐
d. Distortion ☐

Would you like to receive more information on Zoom or Tech 21 products? If not, please tick this box. ☐

TIE-BREAKER

Zoom are renowned for offering good-quality studio gear at reasonable prices; first effects units, and now drum machines. What kind of gear would you like to see them release next? Please answer in not more than 30 words...

.....

.....

.....

.....

.....

.....

.....

Name .....

Address .....

.....

..... Daytime tel. no .....

Post your completed entry to: *SOS* Exclusive Distribution Competition '98, *Sound On Sound*, Media House, Trafalgar Way, Bar Hill, Cambridge CB3 8SQ.

Exclusive Distribution Competition

the small print

1. Only one entry per person is permitted. 2. Employees of SOS Publications Ltd, Exclusive Distribution Ltd, and their immediate families, are ineligible for entry. 3. No cash alternative is available in lieu of the stated prize. 4. The competition organisers reserve the right to change the specification of the prize offered. 5. The judges' decision is final and legally binding, and no correspondence will be entered into. 6. No other correspondence is to be included with competition entries. 7. Please ensure that you give your DAYTIME telephone number on your entry form. 8. Prizewinners must be prepared to make themselves available in the event that the competition organisers wish to make a personal presentation.

WRH

Do You Want To Be A Sound Engineer?

WE PROVIDE THE KNOWLEDGE, THE GEAR & GUARANTEE MORE PRACTICAL TIME THAN ANY OTHER COLLEGE

YOU GET OVER 1000 HOURS of HANDS ON, INDIVIDUAL PRACTICAL TIME ON OUR INTENSIVE FULL TIME DIPLOMA COURSE AND OVER 400 HOURS, ON OUR YEAR LONG, PART TIME COURSE

SSL G Series with automation, Euphonix CS3000, Soundcraft, Trident & Yamaha Consoles
PC, Mac & Atari Computers. Running Logic & Cubase Audio,
Soundscape, Cooledit Pro & Fairlight DAW's Mics by Neumann, AKG,Schoeps, EV, Beyer, MB, Calrec, Shure etc

CREATING THE NEXT GENERATION of AUDIO PROFESSIONALS

ALCHEMEA

College of Audio Engineering

See our Web Site:

www.alchemea.demon.co.uk

for more details. Including on line registration documents.

Or contact us for a free Prospectus & further details

ALCHEMEA **College of Audio Engineering**
The Windsor Centre, Windsor Street, London N1 8QH
Tel 0171-359-4035 E-mail: info@alchemea.demon.co.uk
FAX: 0171-359-4027

Massive Stocks, Massive Discounts, Exclusive Deals, Fast Friendly service!

Let us Beat your best quote!

TEL: 01202 395135 FAX: 01202 397622

BUY WITH CONFIDENCE FROM ONE OF THE UK'S LARGEST INDEPENDENT RETAILERS ESTABLISHED OVER 30 YEARS

KORG N264 SYNTHESIZER

RRP £1499 OUR PRICE £749

Another EMM Exclusive deal. A Professional 76 note Korg keyboard workstation for under £750. The N264 is 64 note poly,has a 32,000 note sequencer,a built in disc drive and four individual outputs.There are also 400 program and 400 multi sounds plus a full set of GM sounds for Midi File playback.From the makers of the famous M1 the N264 is a superb fully programmable synthesizer with no competition at this price.

ALESIS ADAT XT LIMITED STOCK £1299

RRP £2499 OUR PRICE £1299

When it comes to digital multitrack the ADAT XT is the industy standard.At EMM we have managed to obtain a limited quantity of this fully professional machine at almost half price.
Don't miss out order yours today
ADAT XT packaged with Beringer Eurodesk £2299
Spirit Studio 16-8-2 £2199. Alesis Studio 32 .....£1999
Studiomaster Trilogy £1599.Yamaha O3D.....£2999

TASCAM 564 DIGITAL MULTITRACK

Our Exclusive 564 deal means you can now buy the ultimate digital portastudio for the same price as many lower specified machines. The Tascam MD Drive mechanism is the fastest in the world & offers 37 minutes of 4 track recordindg with up to 5 songs on one disc.

STUDIOMASTER TRILOGY EXCLUSIVE

The Trilogy is a professional quality 4 buss console suitable for many applications such as Multi-track, front of house and Stage monitoring.Features include smooth EQ with sweepable mid, 6 aux sends,balanced mic inputs, inserts on all mono channels. Expandable format for added flexability.Incedible Value at £389

AKAI S3200XL SAMPLER EXCLUSIVE

RRP £2699 OUR PRICE £1649

Akai are recognised as the industry standard in sampling technology. The S3200XL is the top of the range With professional features such as 20 bit a/d converters and balanced inputs the S3200x also comes loaded with both the digital effects and digital filter boards. Our exclusive deal includes 32Mb of RAM making the S3200xl the most powerful sampling package available at this price.

Korg 8 Buss Digital Desk Exclusive

We have a limited number of Korg Soundlink Digital Desks at £729

Features include:
16 digital ins & outs (ADAT Optical)
8 Analogue inputs.
3 Band EQ sweepable with "Q" on MIDI. 2 Internal digital effects precessors and MIDI control automation with 100 scene memory recall

Packaged with:
ADAT XT.....£1899
Fostex D90.....£1799
Korg 1212 I/O.....£1199

RRP £1899
£729
EMM Price

LOWEST PRICES ON ALL SYNTHESIZERS

Korg Trinity Series

Trinity. Trinity Plus. Trinity Pro. Trinity ProX
Prices too low to print.We can beat your best quote

LOWEST UK TRINITY PRICES

Roland JP8080

JP8000. XP10. XP50. XP80. VK7. A90EX MC303.
We can save you money on all Roland Products.

LOWEST UK ROLAND PRICES

Korg Z1 & N Series

Korg Z1 £CALL Korg N264 £649 Korg N364 £649

LOWEST UK YAMAHA PRICES

CS1X. AN1X. A3000. VL70M. P50M.QY70. SU10.

UNBEATABLE PRICES ON ALL EMU SAMPLERS AND AUDIO PRODUCTION EQUIPMENT

Emu E synth Rack Sampler
Call us for a great deal on this superb new sampler

E SYNTH RACK £CALL

ESI 4000 Custom Pro Sampler includes 16 Mb RAM 230 Mb removable HD.

ESI 4000 PRO EXCLUSIVE

Emu Orbit V2

Lowest UK Prices on all Emu Expanders

E4 TURBO NEW LOW PRICE

Call for our new deal on Emu Systems flagship sampler includes 128 voice poly.8 Balanced outs.AES EBU. 32Mb RAM. 2Gb internal HD. 18 bit dual stereo effects

E6400 Custom Pro Sampler includes 64 voice poly.8 Balanced outs.16 Mb RAM. 230 Mb removable HD. Plus 2 x Emu Library CD Roms.

E 6400 SAMPLER £CALL

Emu E synth Keyboard Sampler
See how much money we can save you . Call Now

E SYNTH KEYBOARD £CALL

Emu Planet Phatt

Emu Carnaval

Our Custom Pro Sampler Deals deliver you Maximum Facilities at The Lowest Possible Price.
If you think you have already been offered a good deal on any Emu product
Call us Now
Let us Beat your Best Quote

EDDIE MOORS MUSIC LTD 679 CHRISTCHURCH ROAD BOURNEMOUTH DORSET BH7 6AE

THE LOWEST UK PRICES ON ALL AUDIO EQUIPMENT

BUY WITH CONFIDENCE FROM ONE OF THE UK'S LARGEST INDEPENDENT RETAILERS. ESTABLISHED OVER 30 YEARS

SONY DTCA6 DAT RECORDER

We have just secured this excellent deal on the Sony DTCA6 Rackmountable DAT recorder Features include 3 sample rates. SPDIF in and out. If you are lloking for an affordable high quality DAT for mastering or digital back up,the DTCA6 offers the very best value available today. imited stock at £499 Limited stock at this price. Call for details

MARANTZ PMD601 DIGITAL RECORDER

The **PMD 601** is a **Pro spec** portable **DCC digital mastering recorder.** CD Quality recording. Features include: XLR stereo balanced Mic in. Battery pack. Optical in/out. Coax digital in. Mains Adaptor. Also plays standard cassettes

ULTRA LOW MODULE PRICES

Roland JV1080 / 2080

Best UK Price on all expansion Boards

LOWEST KORG PRICES

Korg Trinity Rack

All the Sonic Power of the Korg Trinity in a low cost rack. Amazing Value

Korg SG Piano Rack

Simply the very best piano expander we have ever heard.Also includes many of the best Korg Trinity presets making it a realy powerful music tool.

Waldorf Pulse Exclusive

Waldorf Pulse Exclusive

Limited stock of this superb synthesizer at £299. Check our prices on Microvave II Microwave XT and Pulse Plus

RRP £499 OUR PRICE £299

We can beat your best quote on any expander

HAMMOND XB1 DRAWBAR ORGAN

RRP £1099 CALL FOR OUR PRICE

We have secured the first UK stock of this brand new model from Hammond.The XB1 has all the main features of the XB2 at a far lower price. Fully programmable set of Hammond drawbars. Built in Leslie simulator. Split funtion . Digital effects. Midi. Stunning Sound.

HAMMOND XM1 ORGAN MODULE

System available from only £749

RRP £1099 OUR PRICE £899

The XM1 perfectly recreates the sound of the B-3 the legendary Hammond sound used by professionals world wide. Full Drawbar control offers 2.5 million variations. Features include built in programmable Digital Leslie, 128 sound patches and digital reverb.

WE ARE THE UK AKAI SPECIALISTS CALL NOW FOR LOWEST EVER PRICES

Akai S3000XL Exclusive

The industry standard in pro samplers Our package deal is unbeatable!. **S3000XL plus 18 Mb of RAM and 230 Mb Removable drive**

S3000XL Package £1399

Akai S2000 Exclusive

The S2000 is a 32 note polyphonic sampler, expandable up to 32Mb . **Our price includes 230Mb Removable hard drive**

S2000 Package £779

Akai CD3000XL Exclusive

CD3000 XL has all the features of the S3000XL plus a integral quad speed CD ROM. 24 Mb of RAM, 230Mb Drive and over £300 worth of Akai library

CD3000XL Package £1499

Akai DR8 HD Recorder

Unbeatable DR8 & DR16 Packages

Akai MPC2000

S20

Check our new low price on the S20 stereo sampler

Akai DR16 HD Recorder

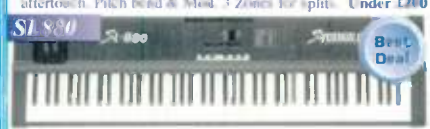
Best UK Deals on all Akai Equipment

LOWEST POSSIBLE PRICES ON STUDIO LOGIC KEYBOARD PACKAGES

SL161

The SL161 Features 61 full size Velocity sensitive keys with aftertouch. Pitch bend & Mod. 3 Zones for splits. **Under £200**

SL880



SL 880 High performance cost effective master keyboard 88 fully weighted keys. Pitch bend & Mod. 3 Zones

S900

88 Fully weighted piano action master keyboard. Limited stock

Package Examples

SL880+KorgTrinity Rack £1349
SL880+Roland JV1080 £1149
SL880+Micro Piano £799
SL880+Korg SGPiano rack£1075

Call for more packages!!

UNBEATABLE DEALS ON ALL CASSETTE MULTITRACK SYSTEMS

MT50 plus £283

414 plus £339

MT4X plus £359

424 plus £419

Tascam 488mkII

Limited stock of this top of the range 8 track Portastudio at only £699.

Our Digital Multitrack plus package has a retail value of over £1000 & includes a free tape pack and a Samson S11 Dynamic Mic.

TEL 01202 395135 FAX 01202 397622 E-MAIL: sales@emmsavesyoumoney.demon.co.uk

Massive Stocks, Massive Discounts, Exclusive Deals, Fast Friendly service!

Let us Beat your best quote!

TEL: 01202 395135 FAX: 01202 397622

BUY WITH CONFIDENCE FROM ONE OF THE UK'S LARGEST INDEPENDENT RETAILERS. ESTABLISHED OVER 30 YEARS

CHECK OUT OUR SUPERB STUDIO AMP & MONITOR PACKAGES

Lowest Samson Prices

eg. Servo 170 only £159

Servo 120 plus Alesis 7[illegible]295
Servo 170 plus Alesis Monitor 1 £395
Servo 170 plus Spirit Absolute 2 £395
Servo 120 plus Spirit Absolute Zero £295
Servo 260 plus Yamaha NS10M £499
Servo 260 plus Harbeth DPM1 £525

Alesis Point 7

We can Beat your Best Quote on all monitor amps & speakers

We offer The Best Prices on Genelec. JBL. KRK. Yamaha. Alesis. Harbeth. Fostex plus many more makes of studio monitors & power amplifiers. Call us Now for a quote We Can Save You Money

Alesis Monitor 1

LOW[illegible]K PRICES ON ALL MICROPHONES

AKG C3000S

AKG C1000S

RØDE NT2

SOLID TUBE

Lowest Prices on Shure. Audio Technica. Beyer. Call for a quote

OUR DAT PRICES ARE THE LOWEST YOU WILL FIND

Tascam DA20

Lowest ever DA20 Price £499

Tascam DA30MkII

Lowest ever DA30MkII Price

Fostex D5

Tascam DAP 1

Professional Portable DAT

Panasonic

SV-3800. SV-4100

LOWESTUK PRICES ON RECORDABLE CD

HHB CDR800

Designed specifically for the professional user The CDR800 delivers exceptional sonic performance at a really affordable price **Ask for our special CDR800 price**

We are now able to offer a huge price reduction on the Fostex CR200 Limited Stock

Fostex CR200

We offer TheBest Prices on Philips, Fostex, Marantz & Pioneer CD recorders.
Prices from under £500

WE OFFER THE VERY BEST DEALS ON ALL SOFTWARE, PLUG INS SYNCHRONIZERS & MIDI INTERFACES. CALL NOW AND SAVE MONEY.

EVENT

LAYLA, GINA & DARLA

Best UK Price on Korg 1212

E Magic

Logic. StudioLogic. Audiowerk 8 New Low Prices

Emagic Unitor 8.MOTU Micro Express. Opcode Opcode Studio 5LX.
Best Prices on all Midi Interfaces

Steinberg

CubaseVST. Cubase Audio. Recycle. Rebirth. Call us For a Great Deal

SUPERB DEALS ON A HUGE RANGE OF AUDIO EFFECTS PROCESSORS WHATEVER YOU ARE LOOKING FOR CALL US FOR THE BEST DEAL

Digitech Midi Vocalist

Our exclusive deal makes this Digitech pro harmonizer easily affordable.Chordal mode for automatic vocal harmonies.4 voice detune for vocal thickening. Vocoder mode for direct control of each harmony voice.Comprehensive Midi spec.

RRP £699 £235 EMM Price

Alesis QUADRAVERB 2

The Quadraverb 2 is the most advanced signal processor ever created by Alesis. Designed for professional applications, it's completely programmable multieffrcts and lush vocal reverbs,offer the sonic quality of the worlds finest studio processors

RRP £799 £369 EMM Price

Lexicon Alex

Our exclusive deal makes this high quality Lexicon processor easily affordable. Features include 16 presets,3 adjustable parameters giving over 400 effects combinations.Never before have we been able to offer the legenary Lexicon quality sound at such a low low price

RRP £429 £145 EMM Price

Digitech Studio Quad

The Studio Quad is a four channel effects processor.4 independent inputs and outputs mean you can use it like four seperate effects units. The top quality S-DISC chip delivers the highest level of sonic excelence. Limited stock at £259

RRP £529 £259 EMM Price

Lexicon MPX1

Best UK price Guaranteed on Lexicon MPX1. PCM80. PCM90 and TC Electronic Finaliser Plus

Finalizer Plus

We stock effects and dynamic processors from all leading manufacturers.Alesis. Zoom. Behringer. DBX. Boss. Focusrite.Lexicon. TL Audio. Eventide.LA Audio. Drawmer. Joe Meek. Aphex. Yamaha plus many more Call us and save money

EDDIE MOORS MUSIC LTD 679 CHRISTCHURCH ROAD BOURNEMOUTH DORSET BH7 6AE

THE LOWEST UK PRICES ON ALL AUDIO EQUIPMENT

BUY WITH CONFIDENCE FROM ONE OF THE UK'S LARGEST INDEPENDENT RETAILERS. ESTABLISHED OVER 30 YEARS

WE ARE THE UK DIGITAL MULTITRACK SPECIALISTS

ADAT LX20 Packaged with
Alesis Studio 32 ..... £2299
Spirit Studio 16:8:2 ..... £2299
Beringer Eurodesk £2499
Korg 168 Digital Desk £2099

Alesis Adat LX20

Best Deal

Tascam DA88

Save £900

The Tascam DA88 & DA98 are the ultimate in super professional digital multitrack recorders.
Our new low prices make them more affordable than you may think!!

DA38 Packaged with:
MX8000 Eurodesk £2699
Spirit Studio 16:8:2 ..... £2499
Alesis Studio 32 ..... £2399
A&Heath Wizard 20:8:2 ..... £2699

Tascam DA38

Save £900

FREE DTCA8

Fostex D80 & D90 LET US BEAT YOUR BEST QUOTE

D80 Packaged with:
MX8000 Eurodesk £1999
Spirit Studio 16:8:2 ..... £1799
Korg 168 ..... £1599
Studiomaster Trilogy £1399

Our Fostex D160 deals are the best Packaged with: Beringer Eurodesk £2099, Alesis Studio 32 £2649, Many more available. Call for details

YAMAHA DIGITAL MIXERS CALL NOW FOR LOWEST EVER PRICES

Programmable mixer 01

NOW £899

We have just obtained an exclusive deal on the incredible Yamaha Mixer 01. Did you think you could not afford a 16 channel digital mixer with on board digital effects and dynamics processing, motorized faders and total recall? You can now!!

BEST DEAL GUARANTEED

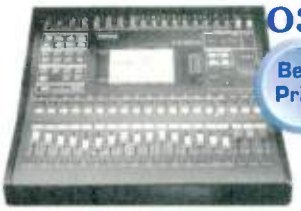
02R

Best Price

40 input / 8-buss Fully Automated Digital Mixing Console

O3D

Best Price



THE BEST PRICE &THE RIGHT ADVICE ON ALL RECORDING CONSOLES

Lowest UK Prices on all GHOST & GHOST LE Desks

Superb Package Deals GHOST 24LE plus ADAT XT £3999. GHOST 24 LE plus TASCAM DA88 £4899. GHOST 32LE plus ADAT XT £4699

WE CAN HELP YOU CHOOSE THE RIGHT DESK TO SUIT YOUR NEEDS

Topaz

Save 40%

Mackie

Save £££s

Behringer Eurodesk

RRP £1999
£1099
EMM Price

Spirit

Save £££s

THE LOWEST UK PRICES ON ALL 8 BUSS MULTITRACK MIXERS

New Alesis Studio 32

RRP £999

Designed specifically for digital multitrack. Huge top quality spec &16 tape returns Check our special price

Allen & Heath Wizard

We can Beat your Best Quote on all Wizard Mixers

SAVE £180

Wizard 20:8:2

8 Buss Recording Console

If you want the very best deal on any A&H product Call us Now. All series available GL2000 GL3000 GL4000 & Contractor

LET US BEAT YOUR BEST QUOTE ON ANY MINI DISK OR DIRECT TO DISK MULTITRACK SYSTEM ASK ABOUT OUR PACKAGE DEALS

Fostex

DMT8VL *plus* £789

Yamaha

MD4 *plus* £599

Akai

DPS12*plus* £Call

Yamaha

MD8 *plus* £Call

Our digital multitrack *plus* package has a retail value of over *£100* & includes the relevant disc or dat backup media plus a Samson S11 Dynamic Mic.

Roland

Save £400

BEST PRICE

Price includes 230Mb removable hard drive + cartridge
New VS840 & VS160 Now Available

VS-880 V-Xpanded

Save £100

D8 plus £849

The Sony MDMX4 offers up to 37 minutes of digital quality four track recording on a removable MD data disc.
Features Include
10 input 4 bus intigrated mixer with 3 band EQ and 2 aux sends
Instant random access editing with cut, paste, undo and redo. Superb midi sync capabilities for MMC/MTC sequencing and synchronization.
Cheap fast storage on 3.5 MD data discs. No need for dat backup

Sony MDMX4

SAVE £450

MDMX4 £549

Buy a Sony MDMX4 with a Lexicon Alex & save even more money. Package Price £675

TEL 01202 395135 FAX 01202 397622 www.emmsavesyoumoney.demon.co.uk

SOS Mail Order 01954 789888 SOS Mail Order 01954 789895

SUBSCRIBE AND GET 10% OFF ALL BOOKS

OVERNIGHT DELIVERY OPTION: £6.50! See Order Form For Details

SOS Book Shop

BEST SELLERS

THE COMPLETE CUBASE HANDBOOK
3rd Edition

by Udo Wieyers

This new edition addresses all three computer platforms (PC, Mac, Atari) and differences between versions are discussed in the appropriate sections. The new Audio and VST functions of Cubase are dealt with in separate chapters, bringing the Handbook bang up-to-date. Filled with real world applications and down to earth explanations of how to use all the powerful features offered by Cubase. A not-to-be-missed purchase for users of Steinberg's hugely popular music software.

CODE B195 £29.95

Postage: UK £4.50, Europe £7.50, R.O.W. £14.50

THE FAST GUIDE TO CUBASE

By Simon Millward

This book aims to provide a quick and readable introduction to Cubase, saving you the trouble of wading through the bulky user manual. All platforms are covered — PC, Atari and Mac — with useful tutorials, 'smart moves', glossary and index. These should be something in this book for everyone, whether you're a beginner or established user, and all the program's essential elements are outlined, including the Arrange window, the Inspector, Key, List and Drum Edit, Quantise, Synchronisation, Master Track, the MIDI Effect Processor and special functions on Score and Logical Edit.

CODE B336 £10.95

Postage: UK £1.95, Europe £4.95, R.O.W. £7.50

SOUND RECORDING PRACTICE (4th Edition)

NOW IN PAPERBACK!

by John Borwick

This now classic text reaches its Fourth Edition, and has been enlarged and revised to cover up to date developments in the recording industry. The contents of this 600+ page is too diverse to summarise in such a short space. Suffice to say that every serious recordist, whether amateur, semi-pro or professional should have a copy of this book.

CODE B107 £22.50

Postage: UK £4.50, Europe £7.50, R.O.W. £14.50

BEAT IT

Joe & Pauly Ortiz

If you prefer the idea of programming your own drum parts to using sampled loops and breaks,but don't really know what makes a good drum pattern tick, this book is for you. It provides over 200 drum patterns in grid form, and so that you can hear how they work, there's an accompanying disk of MIDI files of the patterns. You can also read informative comments and analysis of the patterns you're programming, which are grouped into styles such as 50's & 60's, Soul & Dance, Jazz & World Rhythms. Price includes MIDI file, for PC, Mac, or Atari.

CODE B356 £11.95

Postage: UK £1.95, Europe £5.50, R.O.W. £8.50

RECORDING & PRODUCTION TECHNIQUES

by Paul White

This highly informative book by SOS's own Editor demystifies the techniques used by professionals in the recording of contemporary music. It reveals how to make full creative use of all manner of studio effects and signal processors. These techniques can be utilised both in the home and commercial studio. The book concludes with an invaluable section on master tape formats and an overview of the various processes and vinyl records.

CODE B200 £12.99

Postage: UK £2.50, Europe £5.50, R.O.W. £8.50

RECORDING

CREATIVE RECORDING TWO MICROPHONES & RECORDING TECHNIQUES

by Paul White

A complete guide to understanding and using microphones in a recording environment.In plain English, it explains how the different types of microphone work, discusses the advantages of the various different types, and shows how they can be used to get the sound you want onto tape.

Code B316 £9.95

Postage: UK £1.95, Europe £5.50, R.O.W. £8.50

CREATIVE RECORDING THREE ACOUSTICS, SOUNDPROOFING & MONITORING

By Paul White

Soundproofing, Acoustics and Monitoring is designed to take the mystery out of studio design. Whether you run a bedroom studio or a commercial recording facility.

In plain English, it explains how soundproofing works, how you can change your room acoustics to give the optimum monitoring environment and how to choose and use your monitor system.

Code B317 £9.95

Postage: UK £1.95, Europe £5.50, R.O.W. £8.50

RECORDING THE GUITAR

by John Harris

This book focuses specifically on all aspects of getting the sound of the guitar, electric or acoustic, onto tape, hard disk or into your sampler. Starting with, setting up, strings, intonation and playing techniques. Electric guitarists will learn when to mic up. Diagrams illustrate different mic positions. You'll find out how to use compression, reverb, delay, gates, flange, chorus and harmonisers. There is also a section on recording MIDI guitar and using sequencers.

CODE B353 £10.95

Postage: UK £1.95, Europe £5.50, R.O.W. £8.50

MODERN RECORDING TECHNIQUES (Fourth Edition)

by David M Huber & Robert E Runstein

Weighty, up-to-date textbook that addresses all the areas of the project studio recording market - digital recording, MIDI, mic placement, signal processing and the business side of things are all covered - there's even a comprehensive glossary. While approachable enough for the home recordist, more experienced recordists should find this to be a helpful book.

CODE B349 £23.95

Postage: UK £4.50, Europe £7.50, R.O.W. £14.50

HOT TIPS FOR THE HOME RECORDING STUDIO

by Hank Linderman

Learn how to lay down music the way you want it to sound, with advice for getting the best from your mixer, multitrack, compressor etc. Discover tricks and what traps to avoid, unlock the mysteries of timecode, prevent noise problems. Packed with sound advice.

CODE B326 £12.99

Postage: UK £1.95, Europe £5.50, R.O.W. £8.50

HOW TO SET UP A HOME RECORDING STUDIO

By David Mellor

If you are thinking of setting up a home studio, a project studio or a DJ studio, this book is the place to start. It takes a highly practical 'nuts and bolts' type of approach to help you produce an efficient and productive studio. It covers soundproofing, keeping the sound in and the noise out, acoustics, studio layout, and studio equipment, and advice on the kit you are likely to need. The book ends with an invaluable questions and answers section, a glossary of terms and a list of contacts.

CODE B116 £8.95

Postage: UK £1.95, Europe £5.50, R.O.W. £8.50

HOME RECORDING MADE EASY

by Paul White

All you need to know to make your own recordings is presented here in clear terms with the minimum of jargon. Using the information in this book, you'll be able to make your own professional sounding recordings, no matter how tight your budget.

CODE B352 £11.95

Postage: UK £1.95, Europe £3.95, R.O.W. £5.50

PRACTICAL RECORDING TECHNIQUES

by Bruce & Jenny Bartlett

Another recording textbook that offers a mine of information in one volume. Mic placement, recording spoken word, working with MIDI and digital audio are covered, and there are even sections on location recording and recording classical music.

CODE B350 £22.95

Postage: UK £3.50, Europe £5.50, R.O.W. £8.50

MUSIC BUSINESS

SHOWCASE INTERNATIONAL MUSIC BOOK 1998

"The Bible of the music industry" - 30th edition - all the contacts you need in one handy volume, 544 pages, thoroughly researched and totally updated. This is the book used by the professionals within the industry to contact record companies, artist management, studios, producers, manufacturers, promotors, venues, tour support services etc etc. UK, plus sections for Europe, Middle East, USA/Canada, Australia, South Africa. Accurate comprehensive information in a well thought out and easy to use format. Highly recommended.

CODE B192 £35.00

Postage: UK £3.50, Europe £6.95, R.O.W. £9.50

CAN YOU SING A HIGH "C" WITHOUT STRAINING

BOXED SET

by Thomas Appel

Appel's proven vocal training system is guaranteed to dramatically increase the range of your voice. You'll learn how to develop vibrato, improve your vocal tone, and create your own style. This special boxed set comes with two CDs packed with over two hours of vocal examples and exercises, as well as a third CD, 'The Secrets to Successful Speaking', which features a vocal workout specifically designed to warm up and protect your speaking voice.

CODE B319 £24.95

Postage: UK £3.50, Europe £5.50, R.O.W. £8.50

THE STUDIO BUSINESS BOOK

by Jim Mandel

This is a rarity: a book dealing solely with the business side of the recording industry. No mic placement or working with MIDI, but simply good sound advice on running your studio as a going concern. While the bias is definitely American, much of the advice and tips can easily be translated into useable techniques on this side of the Atlantic.

CODE B351 £24.95

Postage: UK £3.50, Europe £5.50, R.O.W. £8.50

THE COMPOSER'S GUIDE TO MUSIC PUBLISHING (2nd Edition)

Written & compiled by Annie Gunning

This book has been produced by the Association of Professional Composers and examines the business of musical copyright and music publishing from the composer's point of view. It aims to educate composers of all kinds of music in the operation of the music publishing business to help them obtain, negotiate and benefit from publishing agreements and avoid expensive mistakes. Apart from publishing, the book also covers copyright legislation, performing and mechanical rights, the royalty administration societies, music in film, broadcasting, theatre and ballet and commissioning agreements. There is also advice for composers setting up their own publishing companies. An exhaustive and useful book.

CODE B297 £18.95

Postage: UK £3.95 Europe £6.95 R.O.W. £9.50

THE WHITE BOOK INTERNATIONAL PRODUCTION DIRECTORY 1998

This is the latest edition of the essential source of contacts for artists, performers, venues, services and facilities associated with music, concerts, shows, festivals, film, TV, video, conferences, exhibitions and corporate hospitality - there's even a comprehensive international section. The layout is logical and an index makes fast finding an easy task - altogether an indispensable 534 pages. The new edition once again comes with a complementary copy of The Little White Book, which distils the contents of the larger volume to a pocket sized list of names and phone numbers.

CODE B259 £60.00

Postage: UK £5.50, Europe £8.50, R.O.W. £16.00

ALL YOU NEED TO KNOW ABOUT THE MUSIC BUSINESS

by Donald S Passman

This book is a must: the author manages a portfolio of high profile clients and teaches music business law at the University of Southern California, and has produced a clear overview of the music business. He starts at the beginning of your career, with advice on choosing a manager, lawyer and agent, and moves through getting a record deal, songwriting and music publishing and finishes with details of copyright, mechanical royalties, songwriter deals, films and more. An exhaustive and entertaining read. 415 Pages.

CODE B302 £19.99

Postage: UK £3.50, Europe £5.50, R.O.W. £8.50

POSTAGE IS PAYABLE ON ALL MERCHANDISE

SOS SOS
SOS SOS Mail Order 01954 789888 01954 789895

SUBSCRIBE AND GET 10% OFF ALL BOOKS

OVERNIGHT DELIVERY OPTION: £6.50!

HOW TO SUCCEED IN THE MUSIC BUSINESS

Allan Dann and John Underwood
Completely updated and revised from the original edition, this has become the classic guide to avoiding the pitfalls that can beset a newcomer in the music industry. The book contains sections on songwriting, recording and artist management, as well as sample contracts and a general guide to the kind of terms offered by publishers, record labels, managers and agents

CODE B360 **£8.99**
Postage UK £2.50 Europe £5.50 ROW £8.50

MIDI INFORMATION

MIDI FOR THE TECHNOPHOBE

by Paul White
In this book the absolute beginner is introduced to the concept of MIDI by way of analogy with familiar technology. Myths relating to the dehumanisation is introduced in a straightforward, logical order. In just a few hours, with no confusing jargon, you'll find out how MIDI works, what hardware is needed to build your own MIDI system and how to use that system to create, record and edit your own music

CODE B355 **£11.95**
Postage UK £2.50 Europe £5.50 ROW £8.50

MUSIC TECHNOLOGY REFERENCE BOOK

by Peter Buick & Vic Lennard
Written by Peter Buick and Vic Lennard (author of SOS's Atari Notes column), this book offers information at your fingertips and is an indispensable reference source for the musician or sound professional in the recording, broadcast, live, video, computer, multimedia, post production and theatre industries. It includes comprehensive MIDI spec, General MIDI, MTC, MSC and SysEx information. It also includes charts, check lists, useful hints, tips, and ideas, plus a glossary, list of contacts and a comprehensive indexed, it is also organised into convenient sections. 150 Pages

CODE B305 **£12.95**
Postage UK £1.95 Europe £5.50 ROW £8.50

WHAT'S MIDI

by Jon F Eiche
This slim 62 page book introduces MIDI in very simple terms. If you're a total beginner, then this could be an essential purchase

CODE B347 **£3.95**
Postage UK £1.95 Europe £5.50, ROW £8.50

THE MIDI COMPANION

by Jeffrey Rona
A recently expanded edition of a popular book. The new edition contains a comprehensive rundown of all areas of MIDI, with helpful explanations of System Exclusive, using computers, troubleshooting and new explanations of the General MIDI standard

CODE B348 **£7.95**
Postage UK £2.50 Europe £6.95, ROW £9.50

PLAYING TECHNIQUES

MUSIC IN SEQUENCE

by William Lloyd & Paul Terry
Still one of our best selling books. Easy to follow, practical guide to making real use of your sequencer, written by people who really understand music and how to create it using today's technology. This brilliant, unique book carries the SOS seal of approval

CODE B155 **£12.95**
Postage UK £2.50 Europe £5.50 ROW £8.50

1000 KEYBOARD TIPS

by J Dreksler & Q Harle
The hi tech musician's guide to the basics of music, scales, chords and harmonies. 256 pages covering chord relationships, improvisation, suggested drum machine patterns, plus comprehensive chord table. Too good to miss!

CODE B113 **£13.95**
Postage UK £3.50 Europe £6.95 ROW £9.50

THE MIDI FILES

By Rob Young
This book comes from Prentice Hall and aims to help you get the most out of your MIDI system, by providing loads of tips on programming realistic instrument and rhythm parts, using sequencers to create advanced effects. Basic MIDI concepts are covered, along with advice on setting up a MIDI based home studio. More advanced discussions cover specific types of MIDI messages and what you can achieve with them. All the techniques in the book are illustrated on a supplied floppy disk

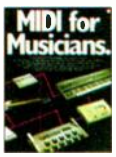
CODE B334 **£19.95**
Postage UK £2.50 Europe £6.95 ROW £9.50

MAKING THE MOST OF MIDI

By Paul Overaa
This is a MIDI book unlike any other. It explains the fundamentals of MIDI and MIDI sequencing for the beginner, and it goes much further, dealing with issues that will be of help to more established users. Advice on MIDI fault finding, help for musicians using sequencers with live bands, MIDI messages and MIDI files, plus programming material. So if you are a keen first time user or a MIDI veteran, there will be something in this book to interest you

CODE B321 **£14.95**
Postage UK £2.50, Europe £5.50 ROW £8.50

MIDI FOR MUSICIANS



by Craig Anderton
How musical instrument digital interface really works, what computers and software are all about, why MIDI is changing the way we record music, and how to make MIDI work for you.

CODE B359 **£10.95**
Postage UK £2.50 Europe £5.50, ROW £8.50

A BEGINNERS GUIDE TO MIDI

by RA Penfold
The title says it all: all aspects of MIDI are explained and many common beginner's problems are discussed

CODE B287 **£4.95**
Postage UK £1.50 Europe £3.95, ROW £5.50

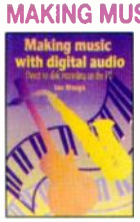
COMPUTER & MUSIC

THE DESKTOP MUSCIAN

By David M Rubin
A comprehensive guide to MIDI and audio on PC and Macintosh computers. Purchasers are provided with a CD-ROM full of MIDI software demos to get them going, and the text — over 400 pages of it — covers all aspects of music and computers, from first concepts to advanced arrangement techniques

CODE B335 **£27.95**
Postage UK £3.95 Europe £7.50, ROW £14.50

MAKING MUSIC WITH DIGITAL AUDIO



by Ian Waugh
In this practical and clearly-written book, Ian Waugh explains all aspects of the subject from digital audio basics to putting together a system to suit you own music requirements, using the minimum of technical language. The book explains exactly what you need to know. On a practical level you will learn about sample editing, digital manufacturing, digital FX processing, intergrating MIDI and digital audio, using sample CDs, mastering to DAT and direct to CD, digital audio and multimedia. 256 pages

CODE B364 **£14.95**
Postage UK £2.50, Europe £5.50, ROW £8.50

THE MUSICIANS GUIDE TO THE INTERNET

Gary Hustwit
A comprehensive overview of the most popular features of the internet geared specifically for musicians - the complete guide to getting you and your music online!

CODE B362 **£12.95**
Postage UK £2.50 Europe £5.50 ROW £8.50

SYNTHESIZERS

ARRANGING TECHNIQUES FOR SYNTHESISTS

For amateur or professional musicians who wish to increase their knowledge of arranging. Gives you an understanding of acoustic instruments, voices and sound production

CODE B358 **£10.95**
Postage UK £2.50 Europe £5.50 ROW £8.50

THE A-Z OF ANALOGUE SYNTHS PART ONE: A-M / PART TWO: N-Z

by Peter Forrest
Complete rundown of all the major analogue synths and keyboards ever made, spread across two books. Each is a testament to the massive amount of research and effort put in by the author. Featuring pocket company histories and detailed data on the instruments produced, each book provides a comprehensive overview of the qualities of various instruments; charts and tables assess second hand values and maintenance levels necessary to keep a given instrument playable as well as such intangibles as sound quality, collectability and user interface. Includes colour photos of many classic instruments.

PART ONE: A-M CODE B294 £14.00
Postage: UK £1.95 Europe £5.50 ROW £8.50

PART TWO: N-Z CODE B338 £16.00
Postage: UK £1.95 Europe £5.50 ROW £8.50

VINTAGE SYNTHESIZERS

By Mark Vail
This well illustrated, 300 page book covers synth history, interviews with designers and overviews of important instruments. Mark Vail's book could be the most entertaining and useful synth book yet – check out the definitive history of the Minimoog, complete with pre-production designers' sketches. While not strictly a buyers' guide, there's a comprehensive section to sourcing, valuing, upgrading and servicing classic instruments

CODE B199 **ONLY £12.95**
Postage UK £3.50 Europe £6.95 ROW £9.50

LIVE SOUND

LIVE SOUND REINFORCEMENT

Scott Hunter Stark
A comprehensive guide to PA and music reinforcement systems and technology. From basic principles to nuances in the art of engineering, this is the definitive work on live sound and all its users

CODE B361 **£19.95**
Postage UK £2.50 Europe £5.50 ROW £8.50

LIVE SOUND

Peter Buick has produced a book written for live sound engineers and gigging musicians with practical applications and real life scenarios very much in mind. The whole ambit of live sound engineering is addressed, including the equipment used and how to get the most out of it, the problems you will confront and how to fix them, and various other related subjects such as safety, feedback, as well as automation and MIDI in the live sound field

CODE B337 **£14.95**
Postage UK £2.50 Europe £5.50, ROW £8.50

SOUND CHECK

Sound Check is a simplified guide to what can be a tricky subject: an easy-to-understand explanation of the principles and physics of sound. Sound Check goes on to cover amplifiers, speaker hookup, matching speakers with amps, sound reinforcement, mixers, monitor systems, grounding and more. Includes many diagrams, lots of illustrations, and a glossary of items for audio made easy!

CODE B357 **£8.95**
Postage UK £2.50 Europe £5.50, ROW £8.50

Other Books Also Available

RECOMMENDED READING

THE ART OF RECORD PRODUCTION
CODE B363 ..... £9.95
SOUND ASSISTANCE
CODE B354 ..... £14.99
THE AUDIO WORKSTATION
CODE B341 ..... £19.99
TECH TERMS
CODE B230 ..... £7.95
SOUND SYNTHESIS AND SAMPLING
CODE B340 ..... £25.00
AN INTRO. TO ACOUSTICS & PSYCHOACOUSTICS
CODE B342 ..... £25.00
HARD DISK RECORDING FOR MUSICIANS
CODE B307 ..... £15.95
MUSIC & NEW TECHNOLOGY
CODE B156 ..... £14.95
MULTI-EFFECTS FOR MUSICIANS
CODE B306 ..... £10.95
INTRODUCING DIGITAL AUDIO 2ND EDITION
CODE B274 ..... £7.95
GOOD VIBRATIONS
CODE B331 ..... £9.99
PROFESSIONAL COMPOSING
CODE B298 ..... £3.95
STUDIO MUSICIAN'S JARGONBUSTER
CODE B343 ..... £12.95

RECORDING

MACKIE COMPACT MIXERS
CODE B330 ..... £12.95
RECORDING TECHNIQUES FOR SMALL STUDIOS
CODE B198 ..... £10.95
PRACTICAL STUDIO TECHNIQUES
CODE B301 ..... £15.00
THE MUSICIANS GUIDE TO HOME RECORDING
CODE B314 ..... £16.95
TIPS FOR RECORDING MUSICIANS
CODE B309 ..... £8.50

SAMPLERS

WHAT'S A SAMPLER
CODE B104 ..... £3.95

MUSIC BUSINESS

CREATING MELODIES
CODE B322 ..... £12.99
SUCCESSFUL LYRIC WRITING
CODE B327 ..... £12.99
SONGWRITER'S WORKSHOP
CODE B260 ..... £15.95
MUSIC PUBLISHING
CODE B328 ..... £12.99
WRITING BETTER LYRICS
CODE B325 ..... £12.99
SONG & DEMO SUBMISSION FORMATS
CODE B258 ..... £12.99
BEGINNING SONGWRITER'S ANSWER BOOK
CODE B253 ..... £10.95
88 SONGWRITING WRONGS & HOW TO RIGHT THEM
CODE B254 ..... £11.95
NETWORKING IN THE MUSIC BUSINESS
CODE B251 ..... £11.95
MUSICIAN'S GUIDE TO READING & WRITING MUSIC
CODE B224 ..... £7.50
SONGWRITERS IDEA BOOK
CODE B250 ..... £12.99

MIDI INFORMATION

HANDBOOK OF MIDI SEQUENCING
CODE B333 ..... £13.95
MIDI FOR THE PROFESSIONAL
CODE B227 ..... £14.95
ADVANCED MIDI USER'S GUIDE (2ND EDITION)
CODE B152 ..... £10.95

ELECTRONIC PROJECTS

HIGH POWER AUDIO AMPLIFIER CONSTRUCTION
CODE B282 ..... £3.95
ELECTRONIC MUSIC AND MIDI PROJECTS
CODE B203 ..... £9.95
MIDI PROJECTS
CODE B278 ..... £2.95
PRACTICAL ELECTRONIC MUSIC EFFECTS UNITS
CODE B290 ..... £4.95
PRACTICAL ELECTRONIC MUSIC PROJECTS
CODE B289 ..... £4.95

COMPUTER & MUSIC

MUSICAL APPLICATIONS OF ATARI ST'S
CODE B280 ..... £5.95
MULTIMEDIA ON THE PC
CODE B272 ..... £11.95
COMPUTERS AND MUSIC
CODE B098 ..... £8.95
PC MUSIC HANDBOOK 2ND EDITION
CODE B332 ..... £10.95
SEQUENCER SECRETS
CODE B299 ..... £7.95

DRUM MACHINES

MIDI SURVIVAL GUIDE
CODE B196 ..... £7.95
DRUM MACHINE RHYTHM DICTIONARY
CODE B110 ..... £16.95
RHYTHMICAL GROOVES & PATTERNS
CODE B115 ..... £11.50
260 DRUM MACHINE PATTERNS
CODE B019 ..... £7.95
DRUM MACHINE PATTERNS
CODE B018 ..... £7.95

PLAYING TECHNIQUES

ROCK IN SEQUENCE
CODE B320 ..... £14.95
SOLID GROOVES
CODE B172 ..... £11.50
CLASSICS IN SEQUENCE
CODE B193 ..... £12.95

LIVE SOUND

LIVE SOUND MIXING
CODE B256 ..... £19.95
SOUND REINFORCEMENT HANDBOOK
CODE B105 ..... £23.95
PUBLIC ADDRESS LOUDSPEAKER SYSTEMS
CODE B283 ..... £3.95
LOUDSPEAKERS FOR MUSICIANS
CODE B284 ..... £3.95
INTRO TO LOUDSPEAKER & ENCLOSURE DESIGN
CODE B281 ..... £3.99

SYNTHESIZERS

KEYFAX 5
CODE B231 ..... £12.95
KEYFAX 2
CODE B096 ..... £5.99
THE MUSEUM OF SYNTHESIZER TECHNOLOGY
CODE B291 ..... £12.95

RING FOR MORE INFORMATION

POSTAGE IS PAYABLE ON ALL MERCHANDISE

SUBSCRIBE AND GET 10% OFF ALL BOOKS

SOS SOS SOS SOS Mail Order 01954 789888

SUBSCRIBE AND GET 10% OFF ALL BOOKS

SOS Videos

EMAGIC

THE EMAGIC LOGIC TUTORIAL VIDEO

Produced by Emagic themselves, this video once again sees Tim Walker in the tutor's chair. This takes you through the first steps of getting the software up and running, and covers virtually all the contents you'll need. This video is valid for all versions of Logic, whether being run on an ST, Mac or PC. Presentation is rather intriguing, with a mobile camera that helps to hold the interest more than the average training video and some interesting graphics that aid comprehension and help to quickly find specific tutorials and bits inside tutorials. Contents as follows:

- Tutorial 1: The Arrange window and basic sequencing
- Tutorial 2: Playback parameters & Toolbox
- Tutorial 3: Controlling MIDI data flow
- Tutorial 4: Manipulating sequence data
- Tutorial 5: Moving around in Logic
- Tutorial 6: Windows and key commands
- Tutorial 7: More sequencing
- Tutorial 8: Score
- Tutorial 9: Looking at the Event List
- Tutorial 10: Editing the Event List
- Tutorial 11: Using the Environment
- Tutorial 12: The best of the rest (HyperEdit, Matrix Editor, Cycle Mode and more)

CODE V023 £29.99

Total running time 70 minutes Format: VHS (PAL)
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

RECORDING

THE V-XPANDED VS 880

In association with Roland UK & Roland Corp USA

At last! The video you've all been waiting for! Nick Cooper unveils the incredible versatility of the VS 880 in this fully comprehensive Video Owners Manual. Nick clearly explains every feature, function and effect of this powerful new award winning Digital Studio Workstation, the video covers every aspect of the unit's capabilities in fullest detail, enabling you to realise its full potential. The video also incorporates Labyrinth's unique Video Index System VIS TM, which uses a combination of permanently on screen Time Code together with a Contents Listing.

CODE V074 £24.99

Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

MACKIE 8•BUS VIDEO

Almost 60 minutes of fun-packed, detailed explanation of the various features of Mackie's popular range of 8 buss mixing consoles (16•8, 24•8, 32•8, 24•8) and how best to utilise them. Onscreen numbers allow quick searching to desired topics.

CODE V068 £9.95

Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

MACKIE ULTRA MIX VIDEO

This highly informative video for the Ultramix automation system, clearly demonstrates how to set up and use Ultramix's many time-saving features to get the best from your system. The cost of the video may be redeemed against the purchase price of an Ultramix system, making the video a good way to try before you buy!

CODE V066 £9.99

Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

CUBASE

STEINBERG CUBASE

This manual is presented by Chris West, Steinberg expert. It's very much a practical 'get up and running' video, showing the novice user exactly how to install and begin using Cubase, whether they're running the program on an ST, Mac or PC computer — there's even a basic background on using the computers themselves! All of Cubase's controls are shown, explained and demonstrated in depth. Once you're familiar with the basic controls, Chris takes you slowly through recording your first session, followed by overviews of the various edit screens. It's rather like having an expert tutorial that you can run again and again in the comfort of your home, until you can use Cubase like a true pro.

Topics covered include: the main screen, customising names and outputs, copying and pasting between arrangements, MIDI filter, cycle mode recording, the tool box, all edit screens.

CODE V011 £29.99

Run time: 1 hour 30 minutes Format: VHS (PAL)
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

SYNTHESIZERS

ROLAND XP-80

In association with Roland UK & Roland Corp USA

You will have the knowledge of an experienced Product Specialist permanently available in your own home when you purchase this essential video. It enables you to quickly grasp the knowledge of the many functions, and how to use your newly acquired knowledge. The video also incorporates Labyrinths unique Video Index System VIS TM, which uses a combination of permanently on screen Time Code together with a Contents Listing.

CODE V073 £24.99

Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

ROLAND XP-50

This XP-50 video owners manual is produced by Roland Corporation US and covers all the major features of the instrument in detail. This is an application based video that provides many examples of how your new found knowledge can be applied. Just a few of the 30 separate topic areas covered are: Effects, Choosing Sounds, Loading a Song, Loop Recording, Copying a Track to Pattern, Making an RPS Set, Track Editing, Multitrack Recording, Pitch Editing, Creating Splits & Layers in a Patch.

CODE V063 £24.99

Running time: 60 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

ROLAND JV-1080 VIDEO MANUAL

Roland's amazing JV-1080 synthesizer module is covered in detail in this informative video. Presented by Tim Walker the video the video guides you through the basics, and leads you painlessly onto the advanced features. The video even shows you how to fit the expansion boards & gives demonstrations of some of the wonderful sounds they contain. Once again this video has been produced in association with Roland UK & USA to ensure that everything it contains is accurate, and relevant to the new and more experienced users alike.

CODE V046 £19.99

Running time: 60 minutes Format: VHS (PAL)
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

SOS Binders

£5.95 each or 2 for only £10

These high quality, red leather-effect binders will help you organise your copies of the magazine, providing an ideal reference source whilst keeping your favourite hi-tech mags in tip-top condition. Each binder holds 6 current issues of *Sound On Sound* magazine, but will take up to 12 slimmer editions from earlier years.

SINGLE BINDER: CODE BIN01 £5.95

Postage: UK £1.50 Europe £3.00 ROW £4.50

2 BINDER OFFER: CODE BIN02 £10.00

Postage: UK £3.00 Europe £6.00 ROW £9.00

Other Videos Also Available

KEYBOARDS

PLAY KEYBOARDS NOW!
CODE V054 ..... £12.99

PLAY KEYBOARDS NOW! MELODIES
CODE V057 ..... 12.99

RECORDING

START HOME RECORDING NOW!
CODE V055 ..... £12.99

SEQUENCERS

YAMAHA QY300 VIDEO MANUAL
CODE V025 ..... £19.99

YAMAHA QY20 MUSIC SEQUENCER VIDEO MANUAL
CODE VC16 ..... £19.99

GUITARS

ACOUSTIC FINGERSTYLES
CODE V059 ..... 12.99

PLAY BLUES NOW!
CODE V051 ..... £12.99

ACOUSTIC BLUES GUITAR
CODE V058 ..... £12.99

PLAY HEAVY METAL NOW!
CODE V052 ..... £12.99

PLAY GUITAR NOW! ACOUSTIC & ELECTRIC
CODE V053 ..... £12.99

COMPLETE ELECTRIC GUITAR
CODE V050 ..... £12.99

COMPLETE ACOUSTIC GUITAR
CODE V056 ..... £12.99

DRUM MACHINE

BOSS DR-5 DRUM MACHINE
CODE V043 ..... £19.99

SYNTHESIZERS

KORG X5
CODE V027 ..... £19.99

KORG X3
CODE V018 ..... £19.99

ANALOGUE HEAVEN
CODE V026 ..... £12.95

KORG PROPHECY VIDEO MANUAL
CODE V049 ..... £14.99

ROLAND G800
CODE V060 ..... £19.99

GETTING THE MOST OUT OF THE KORG M1
CODE V002 ..... £24.95

ROLAND JV-90 SYNTH
CODE V044 ..... £19.99

EMAGIC

EMAGIC NOTATOR VIDEO TRAINING MANUAL
CODE V012 ..... £19.99

RING FOR MORE INFORMATION

VOICE TRAINING

VOCAL WORKOUT Video

by Sam West

Singers of varying abilities will find this video a great aid in assisting their vocal efforts. It begins by explaining the principles of voice production. Breath control excercises plus general vocal techniques are all explained and visually demonstrated. All the exercises are written out in an accompanying booklet, with piano accompaniment.

VIDEO CODE V067 £22.95

Running time approx 50 minutes
Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

VOICE BUILDING

Cassette/CD

by Sam West

Although geared towards singers of varying abilities, voices and styles, the contents of this recording are often challenging even to the professional singer! The video (code V067) goes into more technical detail, whereas the CD or Cassette concentrate on more intensive practising. First of all the exercises are sung, in various keys and then with musical accompaniment and melody line, so you can concentrate more on your voice while practising (karaoke style). Vocal exercises can be boring, but this studio recording has been produced and presented to a very high standard, with interesting musical accompaniments to the exercises.

CASSETTE CODE MC001 £7.95

CD CODE CD037 £10.95

Postage: UK £1.50, Europe £3.95, R.O.W. £5.50

SOS CDs

SHOWCASE INTERNATIONAL MUSIC DATABASE 1997

This product combines the comprehensiveness of the music industry's top directory, the Showcase International Music Book, with the added power of computer searches. It contains all the companies and all the artists listed in the book. If you are on the internet you can jump straight to companies web-sites and you can also keep the data up to date by downloading regular Database Updates from the Showcase Publications Ltd web site. (PC Only)

CODE CD039 £49.95

Postage: UK £1.50, Europe £3.95, R.O.W. £5.50

SOUND CHECK CD II

Recorded & compiled by Stephen Court & Alan Parsons, Sound Check has become an international reference for producers, musicians and sound designers. The new version features all the test signals and reference recordings made at Abbey Road Studios of the original - including pink noise bands, 1/3rd octave bands, sine and square wave spot frequencies, sweep tones and SMPTE timecode utility tracks - plus some new operatic vocal and music items, to a total of 99 tracks. The major innovation offered by Sound Check II is that it is available in a special package that features a built in mic and spectrum analyser, for use with the CD's 1/3rd octave tracks. The package is thus a compact and convenient method of measuring frequency response, wherever and whenever you may need to.

CODE CD038 SOUND CHECK II £28.99

CODE CD038S PLUS SPECTRUM £73.50

Postage: UK £1.50, Europe £3.95, R.O.W. £5.50

SYNTHESIZER TECHNOLOGY ASTRAL AMBIENCE CD

Hours of research and endeavour in the raw liminal archives of the largest collection of analogue synthesizer systems in the world have resulted in the release of the first in a long awaited series of creative resource CDs. The vast psycho-acoustic spectrum of the Museum of Synthesizer Technology has now been opened up to the music-making populace — Over 1500 samples.

Code CD036 £19.95

Postage: UK £1.50, Europe £3.95, R.O.W. £5.50

HOW TO GET THE MOST OUT OF HOME RECORDING

3 TOP CLASS VIDEOS

A superbly presented set of videos which no home recordist should be without. Have you got your set yet?!

LEVEL ONE

This well presented video explains how to set up and operate a simple cassette-based multitrack home studio. It clarifies all the basic terminology and demonstrates the recording of a song from beginning to end, covering how to record guitars, keyboards, vocals and drum machines; which microphones to choose; how to patch in effects units and use them well; what makes a good arrangement; what makes a good mix; plus what to master on to and why.

Full of professional tips and clear examples, this superb video offers the musician with no recording experience a fast route to successful operation of a simple home studio.

CODE V005 £24.95

Running time: 1 hour 10 minutes

LEVEL TWO

This is, in our opinion, the best ever guide to the equipment and skills needed to produce high quality results from a home studio.

Full of clear examples and graphic information, the video majors on effects and how to use them well. It also covers the do's and don'ts of track bouncing; microphones and mic techniques for different applications; getting the most out of multi effects units; plus an analysis of guitar effects with top session guitarist Milton MacDonald and an enlightening interview with ace producer Alan Parsons. Writer/ presenter Julian Colbeck packs the programme with *professional tips, allowing musicians of all kinds to get the most out of their home studio.*

CODE V006 £24.95

Running time: 1 hour 45 minutes

LEVEL THREE

This video is packed with information and professional tips on advanced MIDI applications in the home studio, including interfacing with sequencers, which sync code is best for which application and why. Hit producer Martyn Phillips (Erasure, London Beat) discusses modern recording techniques, and top programmer Paul Wilton examines the opportunities and benefits offered by hard disk recording. It offers practical advice on sampling - how to save time and tracks; plus professional tips on advanced arranging and mixing techniques, including spectrum mixing.

CODE V007 £24.95

Running time: 1 hour 30 minutes

Format: VHS (PAL) / NTSC Stereo Postage: UK £1.75, Europe £4.95, R.O.W. £6.95

PLEASE REMEMBER: POSTAGE IS PAYABLE ON ALL MERCHANDISE

WRH

SUBSCRIBE AND GET 10% OFF ALL BOOKS

SOS SOS SOS SOS Mail Order 01954 789888 SOS SOS SOS SOS Mail Order 01954 789895

SUBSCRIBE AND GET 10% OFF ALL BOOKS

OVERNIGHT DELIVERY OPTION: £6.50! See Order Form For Details

SOS Quality Cables

Due to the popularity of our range of silver/slate right-way cable looms, SOS Mail Order can now offer you even more products in a similar vein. All cable is manufactured to the same high quality as the looms, and prices are once again excellent. Whatever your cable needs, you should find something in our list at a price that's right.

3M 8-WAY PHONO TO PHONO
CODE CRA803 £27.90
Postage: UK £2.50, Europe £5.95, R.O.W. £9.95

3M 8-WAY PHONO TO JACK
CODE CPR803 £27.90
Postage: UK £2.50, Europe £5.95, R.O.W. £9.95

3M 8-WAY JACK TO JACK
CODE CPP803 £27.90
Postage: UK £2.50, Europe £5.95, R.O.W. £9.95

MIDI FEMALE - MIDI FEMALE ADAPTOR (JOINS TWO MIDI CABLES)
CODE GMD108 £3.49
Postage: UK £1.75, Europe £3.50, R.O.W. £5.25

7M 8-WAY JACK TO JACK
CODE CPP807 £39.00
Postage: UK £3.50, Europe £9.95, R.O.W. £16.95

3FT MIDI CABLE
CODE MID303 £3.30
Postage: UK £1.75, Europe £3.50, R.O.W. £5.25

1.5FT JACK TO JACK PATCH-BAY CABLES, 8 PER PACK
CODE CPP845 £14.70
Postage: UK £1.75, Europe £3.50, R.O.W. £5.25

10FT MIDI CABLE
CODE MID310 £4.80
Postage: UK £1.75, Europe £3.50, R.O.W. £5.25

20FT MIDI CABLE
CODE MID320 £6.70
Postage: UK £1.75, Europe £3.50, R.O.W. £5.25

25FT JACK TO JACK CABLE
CODE GTR425 £9.99
Postage: UK £1.75, Europe £4.50, R.O.W. £6.50

1M INSERT LEADS - STEREO JACK TO TWO MONO JACKS
CODE STP201 £4.50
Postage: UK £1.75, Europe £3.50, R.O.W. £5.25

STEREO JACK TO 2X MONO FEMALE SOCKET ADAPTOR
CODE YPP117 £3.40
Postage: UK £1.75, Europe £3.50, R.O.W. £5.25

One of the most important, but most often overlooked, pieces of equipment in the signal path are your audio and MIDI cables. Why sacrifice performance quality when you can rely on Piranha cables — available now from SOS Mail Order.

• Piranha cables are designed for professional use and manufactured to the very highest quality. • Piranha cables use top quality Neutrik connectors, the industry leaders. • Piranha cables are manufactured to combat any external interference. • Piranha cables use braided shields to counteract AC interference while still allowing maximum 'bendability'. • Piranha cables are designed to minimise ground loops. • Piranha cables employ fibre fillers to pack out the jacket, maintaining dimensions and mechanical stability in all studio/stage situations. • Piranha cables are exceptionally soft, whilst offering unsurpassed flexibility and durability. • All Piranha cables come with a lifetime guarantee.

MICROPHONE CABLE - Twin Core oxygen-free copper cable made to the highest specification, using high density spiral braided shield to provide superior performance and rejection of hum and noise. Special supersoft Polymer jacket makes this probably the most flexible cable available, giving the ultimate in protection against mechanical interference noise. Overall cable diameter: 6.5mm.

INSTRUMENT CABLE - Single Core oxygen-free copper cable, as above spec. Overall cable diameter: 6.2mm.QUAD MIC CABLE - Our Piranha supersoft mic cable is now available in a Quad version, offering further protection against susceptibility to outside interference. If you think of your cable as being 'double balanced', it is not difficult to understand the dramatic improvements in noise rejection that this cable affords. Overall cable diameter: 6.7mm.

Please **add** your cable colour code R (red), B (blue), Y (yellow), G (green) or K (Black) at end of *each* Order Code to specify cable colours required when ordering (use coupon at end of Mail Order section). Example: **INS-03JJ-Y** means a *3 metre Jack-to-Jack Instrument cable in Yellow.*

MICROPHONE CABLES

Length / Type	Price	Order Code
1 metre XLR-to-XLR	£7.95	MIC-01XX
2 metre XLR-to-XLR	£9.50	MIC-02XX
3 metre XLR-to-XLR	£10.50	MIC-03XX
5 metre XLR-to-XLR	£11.75	MIC-05XX
6 metre XLR-to-XLR	£12.75	MIC-06XX
10 metre XLR-to-XLR	£17.50	MIC-10XX
20 metre XLR-to-XLR	£28.00	MIC-20XX
1 metre XLR-to-Jack	£7.95	MIC-01XJ
2 metre XLR-to-Jack	£9.50	MIC-02XJ
3 metre XLR-to-Jack	£10.50	MIC-03XJ
5 metre XLR-to-Jack	£11.75	MIC-05XJ
6 metre XLR-to-Jack	£12.75	MIC-06XJ
10 metre XLR-to-Jack	£17.50	MIC-10XJ
20 metre XLR-to-Jack	£28.00	MIC-20XJ
1 metre XLR-to-Right-angle Jack	£7.95	MIC-01XRJ
2 metre XLR-to-Right-angle Jack	£9.50	MIC-02XRJ
3 metre XLR-to-Right-angle Jack	£10.50	MIC-03XRJ
5 metre XLR-to-Right-angle Jack	£11.75	MIC-05XRJ
6 metre XLR-to-Right-angle Jack	£12.75	MIC-06XRJ
10 metre XLR-to-Right-angle Jack	£17.50	MIC-10XRJ
20 metre XLR-to-Right-angle Jack	£28.00	MIC-20XRJ

QUAD MICROPHONE CABLES

5 metre Quad XLR-XLR	£14.00	QMIC-05XX
10 metre Quad XLR-XLR	£19.95	QMIC-10XX
20 metre Quad XLR-XLR	£30.00	QMIC-20XX

MIDI CABLES

With pro Neutrik 'crush-proof' metal DIN plugs.

1 metre	£6.50	MID-01
2 metre	£7.50	MID-02
3 metre	£8.50	MID-03
5 metre	£9.50	MID-05

INSTRUMENT CABLES

1 metre Jack-to-Jack	£7.95	INS-01JJ
2 metre Jack-to-Jack	£9.50	INS-02JJ
3 metre Jack-to-Jack	£10.50	INS-03JJ
5 metre Jack-to-Jack	£11.75	INS-05JJ
6 metre Jack-to-Jack	£12.75	INS-06JJ
10 metre Jack-to-Jack	£17.50	INS-10JJ
20 metre Jack-to-Jack	£28.00	INS-20JJ
1 metre Jack-to-Right-angle Jack	£7.95	INS-01JRJ
2 metre Jack-to-Right-angle Jack	£9.50	INS-02JRJ
3 metre Jack-to-Right-angle Jack	£10.50	INS-03JRJ
5 metre Jack-to-Right-angle Jack	£11.75	INS-05JRJ
6 metre Jack-to-Right-angle Jack	£12.75	INS-06JRJ
10 metre Jack-to-Right-angle Jack	£17.50	INS-10JRJ
20 metre Jack-to-Right-angle Jack	£28.00	INS-20JRJ

SPEAKER CABLES

3 metre Jack-to-Jack	£10.00	SPK-03JJ
6 metre Jack-to-Jack	£12.75	SPK-06JJ
10 metre Jack-to-Jack	£17.50	SPK-10JJ
3 metre Speakon-to-Jack	£11.75	SPK-03SJ
3 metre Speakon-to-XLR	£11.75	SPK-03SX
6 metre Speakon-to-Jack	£14.00	SPK-06SJ
6 metre Speakon-to-XLR	£14.00	SPK-06SX
10 metre Speakon-to-Jack	£18.75	SPK-10SJ
10 metre Speakon-to-XLR	£18.75	SPK-10SX
3 metre Speakon-to-Speakon (2.5mm)	£19.95	SPK-03SS
6 metre Speakon-to-Speakon (2.5mm)	£28.00	SPK-06SS
10 metre Speakon-to-Speakon (2.5mm)	£38.75	SPK-10SS

☎ 01954 789888, 9.00am to 5.30pm to order and give the following details: the order code and quantity you require, your name, address and daytime telephone number, your credit card number, expiry date (and issue number if a SWITCH card). Your credit card will not be charged until each item is sent. Orders are well packaged and sent promptly. UK readers: to use our new overnight delivery option (£6.50) please ring 01954 789888 before mid-day and ask for an overnight delivery. Depending on stock availability, items will reach you on the next working day (not Saturday/Sunday).

SOS PRIORITY ORDER FORM

Post to:
SOS Publications Ltd,
Media House, Trafalgar Way,
Bar Hill, Cambridge CB3 8SQ.

Please make cheques/postal orders payable to:
'SOS Publications Ltd'.

Overseas payment must be in Pounds Sterling drawn on a British bank.

PLEASE REMEMBER WE CANNOT ACCEPT CREDIT CARD ORDERS UNDER £5.00

To ensure that our pricing policy is as fair as possible, postage is payable on each individual item. Refer to the item details for the amount of postage. *The Postage Calculator system used previously no longer applies.*

SOS Subscribers are only entitled to 10% discount on their book order if they enter their current subscriber number in the boxes provided.

BLOCK LETTERS

Name .....

Address .....

.....

.....

.....

Post Code ..... Tel (Daytime) .....

Do you currently subscribe to SOS? Y ☐ N ☐ Your Subscribers Ref. No. ☐☐☐☐☐☐

AMERICAN EXPRESS/ACCESS/VISA/SWITCH/SOLO accepted.

CARD No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Valid from ☐☐ ☐☐ Expiry date ☐☐ ☐☐ Switch Issue No. ☐☐ Signature .....

ORDER CODE	QTY.	DESCRIPTION	PRICE	POSTAGE	SUB-TOTAL

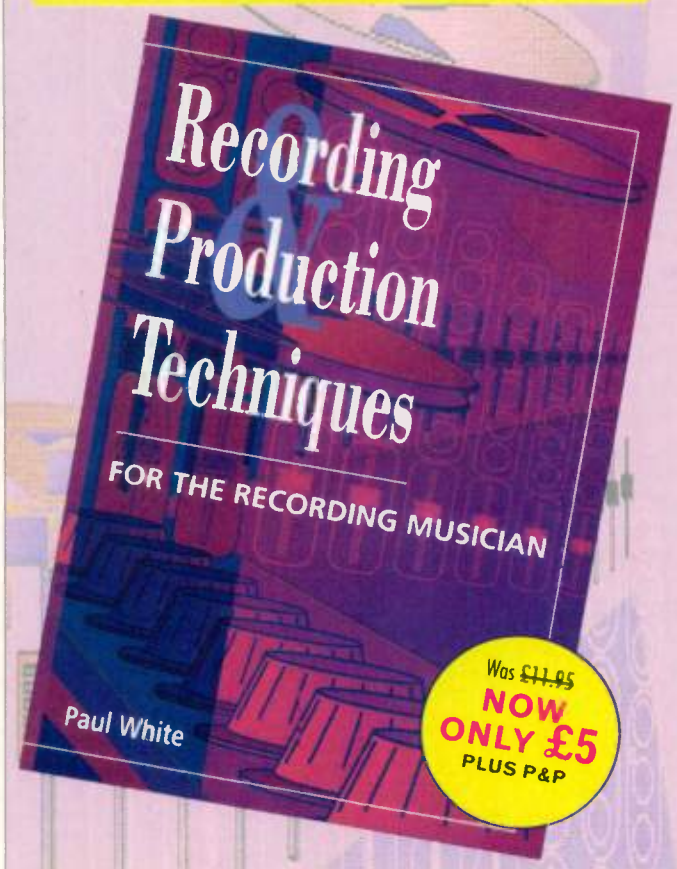
PLEASE DO NOT USE THIS FORM TO ORDER YOUR SUBSCRIPTION — SEE SUBS AD ELSEWHERE IN THIS ISSUE

ORDERS ARE DESPATCHED 10-14 DAYS FROM THE TIME WE RECEIVE THE ORDER, DEPENDING ON STOCK LEVELS AND CHEQUE CLEARANCE. **TOTAL**

WRH

SPECIAL OFFER

WHILE STOCKS LAST



Recording & Production Techniques

(1st Edition) BY PAUL WHITE

Recently updated, we have limited stocks left of this original, first edition book from *SOS* Editor Paul White.

The book demystifies the techniques used by professionals in the recording of contemporary music. In logical order, it takes you through the planning stages of a recording session, explains how to gain the best performance from artists, how to produce the best possible mix, and reveals how to make full creative use of all manner of studio effects and signal processors.

Packed with hints, tips and meaningful explanatory diagrams, the techniques can be utilised both in the home and commercial studio.

This 1st Edition concludes with an invaluable section on master tape formats and an overview of the various processes involved in duplicating CDs, cassettes and vinyl records.

Order your copy NOW on

01954 789888

Order Code B200-S

£5.00 *plus postage & packing*

UK £1.95 EUROPE £5.50 REST OF WORLD £8.50

Available direct from the SOS Bookshop — please use the coupon on the Mail Order pages when ordering by post.

Why should you buy a computer system from us?

We have a unique blend of knowledge in the field of Audio Recording and Personal Computers, and will provide you with the advice and backup service you need.

We manufacture our own computers specifically for Audio & MIDI recording using the highest quality components available giving very fast, stable performance.

Your computer will be pre-configured with all the software installed, and will be ready to run straight from the box. We are so confident about the quality of our computers we offer a full 3 year warranty, and telephone support on all our new systems.

Please call us and we will help you make the best choice.

AUDIO WORKSTATION SPECIAL OFFERS

The Machine :-
Intel P-200 MMX Processor
32 Mb EDO RAM, 72 Pin
3.2 Gb Ultra DMA Hard Drive
16 Speed CD ROM Drive
4 Mb PCI Graphics Card
1.44 Mb Floppy Drive
15" Digital Colour Monitor
Keyboard & Mouse
Windows 95
Cakewalk pro Audio v6

Option1
With ARC 88 PCI Soundcard (8 Analogue in + 8 out & Digital I/O, CD quality and it's supported by VST & Cakewalk) **£1695.00**

Option 2
S/H Digidesign 'Session 8' 882 Interface + Core system
1.7 Gb SCSI AV Drive & Digidesign SMPTE Slave Driver.
The Famous Digidesign quality and rock-solid Sync. at the staggering price of **£2679.00**

Cubase VST & the Korg 12/12 are a great combination.

We are authorised main dealers for both, and can build **THE BEST COMPUTER SYSTEMS AVAILABLE** for these products.

For example:
Intel Pentium-2 266 Mhz Processor
64Mb fast SDRAM
6.4Gb UDMA Audio Hard Drive
2.1Gb UDMA Program Hard Drive
16 Speed CD ROM Drive
4Mb AGP Graphics Card
15" Digital Colour Monitor
Cubase VST v3.55
Korg 12/12 Audio Card
Korg 168 RC Digital Mixer
Optical Cables

£2695.00 inc. VAT

KORG

Upgrade options:
Korg 8 Channel A-D Convertor (19" Rack unit) £499.00
Korg 8 Channel D-A Convertor (19" Rack unit) £429.00

THE RED Submarine COMPUTER COMPANY

Some companies sell computers...some sell audio equipment.. **WE SPECIALISE IN BOTH**

WE CAN CUSTOM BUILD COMPUTER SYSTEMS TO YOUR SPECIFIC NEEDS - CHECK OUT THESE EXAMPLES

These systems are configured by our engineers to get the best possible results for MIDI & Hard Disk recording, and are supplied with the software and soundcard of your choice.

HOME STUDIO PC SYSTEM

- Intel P-233 MMX Processor
- 32Mb SDRAM
- 4.3Gb Ultra DMA Hard Drive
- 16 Speed CD ROM Drive
- ATI 3D 4Mb Graphics Card
- 15" Digital Colour Monitor
- Windows '95 + Manual & CD
- Midi In & Out - Cubase VST

MIDIMan Dman £169.00
Maxi Sound Pro 64 ....£195.00
MIDIMan 2044.....£295.00
Event Darla £395.00
Turtle Beach Pinnacle..£475.00

This range is designed for audio professionals who demand the best.
With a 300 Mhz processor & AV SCSI Drive (specially chosen for it's low noise), it can realise the full potential of today's advanced software packages like Cubase VST.

Every system in this range includes are unique "[illegible] Software Assistance Package". - If you run into software configuration problems, we will dial into your computer via the built-in Modem, and fix the problem in minutes!

PROFESSIONAL SERIES COMPUTER SYSTEM

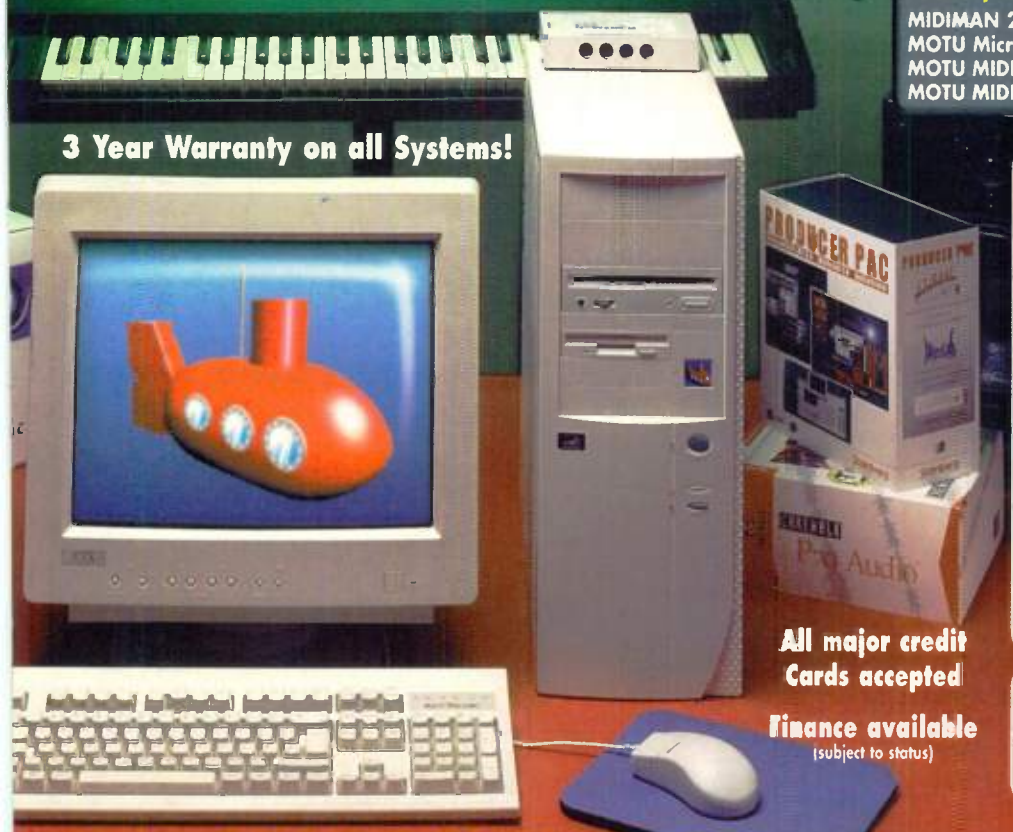
Pentium-2 ATX Motherboard, LX Chipset
Intel Pentium-2 300Mhz Processor
64Mb Fast SDRAM 4.3Gb AV SCSI Drive
2.1Gb UDMA Program Drive
24 Speed CD ROM Drive
4Mb AGP Graphics Card
17" Digital Colour Monitor
PS-2 Keyboard & Mouse
Windows '95 Cubase VST

AUDIO INTERFACE	ANALOGUE IN	ANALOGUE OUT	MIDI	DIGITAL	Now Only
TERRATEC EWS 64 XL	4	4	2x2	2x2	£2395
EVENT GINA	2	8	-	1x1	£2475
KORG 1212	2	2	-	10x10	£2595
EVENT LAYLA	8	10	1x1	1x1	£2695
MOTU	8	8	-	24x24	£2949
[illegible]	8	8	-	32x32	£4195

MIDI/Synchroniser options for professional series

MIDIMAN 2 in, 4 out External Midi interface	£109.00
MOTU Micro Express (4 in, 6 out MIDI + SMPTE)	£239.00
MOTU MIDI Express (8 in, 8 out MIDI + SMPTE)	£389.00
MOTU MIDI Timepiece (As above with Video & digital sync)	£589.00

3 Year Warranty on all Systems!



CD RECORDERS

Burning your own audio CD's is now easy with a PC. They can also be used for data storage of your MIDI files etc.
They come with 'Nero' - the best CD utility software available.

YAMAHA 2260, Dual speed re-writable	£295.00
YAMAHA 4260, Quad speed re-writable	£359.00
Teac 4 x 12, Quad speed write, 12 speed playback	£359.00
Blank CD's, good for audio duplication etc.	£0.99 each!

Also -

Steinberg Wavelab V2 available now!	£call
Hyperprism DX-Great Sounding Plug-in for VST etc.	£289.00

All major credit Cards accepted

Finance available (subject to status)

Errors & Omissions Excluded

40 Heslington Road, York YO1 5AU

TEL: 01904 624266 FAX: 01904 635636 E-Mail: sales@sub.co.uk

SUBSCRIPTION OFFER!

BEAT THE PRICE RISE!

From the January 1998 issue, the cover price of SOUND ON SOUND is £3.60. So **SUBSCRIBE NOW** and

BEAT THE PRICE RISE!

- UK subscribers SAVE 60p per month on the newsagent price!
- 12 issues @ £36 (only £3 each) **SAVE £7.20**
- 24 issues @ £72 (only £3 each) **SAVE £14.40**

BEAT THE PRICE RISE!

SPECIAL UK OFFER
For the first time ever, we are offering UK readers the chance to subscribe NOW for 2 years and protect against future price rises!

- **FREE** delivery to your home (UK only)
- Be protected against future cover price rises!

PLUS – SAVE 10%
discount on all SOS Mail Order books
purchased during your subscription period

SOUND ON SOUND

BLOCK CAPITALS PLEASE

Name .....

Address .....

.....

.....

TOWN / City .....

County / State .....

POSTCODE / Zip .....

Country .....

REMEMBER: As a valued SOUND ON SOUND subscriber, you not only receive 12 issues of your favourite mag but are also entitled to a 10% DISCOUNT ON ALL MAIL ORDER BOOKS. Quote your Subscriber PIN Number when ordering.

SOS SUBSCRIPTION OFFER

SUB983 offer closes 30 Sept 1998

❑ UK *special offer price:*	12 issues	*only* £ 36
❑ UK *special offer price:*	24 issues	*only* £ 72
❑ Europe *price:*	12 issues	£ 60
❑ World *price:*	12 issues	£ 75

❑ I enclose a Cheque / Postal Order payable to **Sound On Sound Ltd.**

❑ Please debit my Visa / Access / Switch / AmEx / Mastercard.

Signature ..... Date .....

Daytime Telephone No. .....

All overseas payments must be in Pounds Sterling drawn on a British bank

Card No:

Valid From ..... Expiry Date: ..... Switch Issue No: .....

SUBS HOTLINE TEL: +44 (0) 181 861 0690 FAX: +44 (0) 181 427 4168

Post to: SOS Subscriptions, c/o Demographix Ltd, 4 Admiral House, Cardinal Way, Wealdstone, Middlesex, HA3 5SQ, UK

CLASSIFIEDS

Classified Dept., Sound On Sound,
Media House, Trafalgar Way,
Bar Hill, Cambridge CB3 8SQ

☎ 01954 789888 📠 01954 789895 - Patrick Shelley

DISPLAY BOX
£30.00 + VAT
per single column centimetre
Discounts offered for series.

SITUATIONS VACANT
£35.00 + VAT
per single column centimetre.

LINEAGE
£1.00 per word including VAT
(minimum of 12 words).

(3 column page). Rates include full colour + typesetting.
Box Numbers available at an additional £40.00 per insert.

The attention of advertisers is drawn to the Business Advertisements (Disclosure) Order of 1977, which requires by law that from the 1st January 1978 all advertisements by persons who seek to sell goods in the course of business must make that fact clear. From the above date, consumers, therefore, should know whether an advertisement relates to a sale by a trader or a private individual.

Index to Advertisers

Artists Wanted	300	Digital Mastering	296	Insurance	291	Situation Vacant	301
Clubs	300	Duplication	292-296	Lineage	291	Soft Cases & Covers	296
Composition	301	Flight Cases	296	Recording Studios	300	Studio Acoustics	300
Courses	298-299	For Hire	297	Rehearsal Studios	300	Tuition/Programming	299
Digital Editing	296	For Sale	285-291	Services	297	Wanted	291

FOR SALE

MULTITRACK SALES

ALESIS ADAT XT (150 hours as new)	£995
MACKIE 32/8 (as new)	£1995
AKAI MPC2000 (unused as new)	£689
FOSTEX D5 PRO DAT (as new)	£445
SEQUENTIAL PRO ONE (mint)	£299
KORG MONOPOLY (midi)	£399
STUDIOMASTER P7 16/8 (as new boxed)	£795
STUDIOMASTER SERIES II 32/16/24	£1299
FOSTEX B16 + REMOTE (fully serviced a1)	£899
EMU PLANET PHATT (as new)	£539
ALESIS BRC V2 (mint)	£695
FOSTEX R8	£390
EMU PROTEUS 3 (6 outs)	£295
RODE NT2 (f/cased as new)	£299
BEHRINGER MX2642 (as new)	£289
ALESIS MIDIVERB 4 (as new)	£175
AKAI S1000 PB	£299
ALESIS MICROVERB III (as new)	£99
BEHRINGER COMPOSER/MULTIGATE	each £145
ROLAND XP50 (mint boxed)	£595
ALESIS RA100 (mint)	£175
ROLAND PG800 (JX10/MKS70 programmer)	£199
DIGITECH STUDIO TWIN (mint)	£139
BOSS GX700 (as new)	£250
LEXICON ALEX (mint)	£99
FURMAN 6 WAY H/PHONE AMP	£175
YAMAHA TX802 (8 outs)	£275
ROLAND D550 + 3 CARDS	£275
AKG C3000 (as new)	£150
ROLAND R5 DRUMS	£95

WANTED
ALL STUDIO & MUSIC EQUIPMENT
☎ ASCOT (01344) 891110 or (0831) 882666

PhutureSounds

PO Box 221, Slough SL3 9XT
Tel 01753 582 221
Fax 01753 592 220
24hrs. 0378 838 217
E-Mail sales@phuture.co.uk website http://www.phuture.co.uk

ALL SAMPLER MEMORY & UPGRADE
At Trade Prices

WANTED WANTED
analogue synths & drum machines / all samplers we can pay cash & collect

ANALOGUE / FOR SALE

Alesis D4 mint and boxed, as brand new	£199	Lexicon Alex mint and boxed	£149
Alesis Midiverb 4 mint and boxed, as brand new	£199	Micropolis 1Gb AV SCSI 1gb hard drive ideal for direct to disk	£99
Analogue Systems TH48 16x3 analogue sequencer, limited edition, new	£549	Oberheim Xpander good condition, with manuals	£1599
Atari 1040 STF 1mb memory with SM124 mono monitor	£150	Phillips DCC134 portable dcc player, remote, earphones	£49
Behringer Autocom mint condition	£99	Phillips DCC170 portable dcc recorder, remote control, mic, earphones	£175
Behringer Composer workhorse compressor, hardly used, mint, boxed	£135	Phillips DCC730 18bit recorder, boxed, manuals, remote control	£125
Behringer Ultrafex 2 mint condition	£119	RE'AN 48 Way Patchbay 48 way jack to jack normalised	£29
Boss SE-70 with manuals and rad-50 rack adaptor	£399	Roland MC-202 with cv, gate and filter sockets fitted, good condition	£265
Boss SX-700 mint & boxed, brand new	£249	Roland PC-200 Mk2 midi controller keyboard, boxed, excellent condition	£99
E-MU ESI-32 32mb memory, turbo option with filters, 10 outs and effects	£999	Roland TB-303 excellent condition with manuals	£599
Evans AE-205R analogue delay and reverb	£99	Sequential Six Track excellent condition	£299
Kenton Pro Solo as new	£85	Yamaha CS1X mint & box4ed, as brand new	£349
Korg M1 excellent condition, with manuals	£349	Yamaha Promix 01 excellent condition	£799
Korg WVSTAT A/D excellent condition	£599	Yamaha RX-15 basic midi drum machine	£49
LA Audio CX2 compressor, limiter, de-esser	£109		

THE ABOVE PRICES EXCLUDE DELIVERY. CREDIT PAYMENTS ARE SUBJECT TO A SURCHARGE OF 3%

Digital Media Specialists

SPECIAL OFFERS.....
PHILLIPS CD Recorder 870 .....£399
SONY MDS-JE510 .....£179
SONY (DISCMAN) MZR30 .....£189
TDK SA90 (Box of 10) £7.99

MINI DISCS		DAT Tapes	
MD 74min	£2.75	D15 from	£2.65
MD 60min	£2.25	D30 from	£2.95
MD Data Disc	£9.99	D46 from	£3.30
MD Cleaner	£6.99	D60 from	£3.50
Storage Box	£2.50	D90 from	£3.99
		D120 from	£4.50
CDR (Consumer)			
CD-R 74mins	£2.99	**MISC**	
CD-RW 74mins	P.O.A	DCC D90	£2.99
		Floppy Disc 1.44Mb Box of 10	£2.49
CD-R (Computer)		Zip Discs	£8.99
Branded	£1.25	CD Label Kit	£28.50
Unbranded	£0.99		

We can also supply cassettes, DVHS and various other media. Please call us for best pricing and full brand details

Place your order by calling us NOW!!
0181 813 8082
2257

'Hands On' MIDI Software Ltd

FREE - Post & Packing on orders over £30.00

Superior quality MIDI files - suppliers to I.B.M, Roland, Yamaha and Microsoft
MIDI SONG FILES
Buy 4 MIDI files Choose Another 1 FREE
Buy 7 MIDI files Choose Another 3 FREE
Bulk Discounts Available
The Hits are BACK!! - Latest Releases From Hands On Germany
Here's Where The Song Ends - TLC
All That I Need - Boyzone
Dance The Night Away - The Mavericks
Let Me Entertain You - Robbie Williams
Angel Street - M People
All I Want Is You - 911
I Get Lonely - Janet Jackson
Stop - Spice Girls
Frozen - Madonna
How Do I Live - LeAnn Rimes
My Heart Will Go On
(Love Theme From Titanic) - Celine Dion
Never Ever - All Saints
High - Lighthouse Family
Angels - Robbie Williams

WANTED
Due to our continued expansion 'Hands On' is currently looking for Midi File Programmers to join their busy team. Programmers must be fully conversant with GM (level 1). Please contact Adrian at the office for further details and Programmers pack. Previous applicants need not apply.

LOOK
Unsure What Song To Purchase ?
NO PROBLEM
Over 1100 Songs To Choose From.
Get Your "Hands On" Our *Dial A Demo* Service Giving You the Customer a Chance to Listen to Short Demos of Your choice, from our Song Library & latest releases
Calls are charged at standard rate
The FIRST Midi File / Audio Company !!
To Offer This Unique Service To It's Customers
Because Our Customers
"Are Simply The Best"
Telephone *DIAL A DEMO LINE*
(01705) 783 500 *NOW !!*

PLEASE
For your free MIDI file and product catalogue Today (01705) 783100

NEW
Programming Service Starting From £35.00
Call Office NOW !!

BACKING TRACKS AVAILABLE ON MINI DISC /CD / DAT /CASSETTE

HANDBOOK OF MIDI SEQUENCING
HIGHLY RECOMMENDED
Covers all topics on MIDI Sequencing including Guitar, Bass & Drum Programming for Beginners to Advanced users, Over 240 Pages all the Giveaway Price of only
£13.95 Plus £2.50 +P&P

Sweet 16
24 + 24 Track, 32 MIDI channel MIDI Sequencer for IBMpc and Atari ST. Demo versions available. Excellent Value £24.95

Got an Atari? ...Want a MIDI file player? You've already got one with.....
On Stage
Onstage Soft £39.95
Excellent Reviews, Crash Proof! - phone for details.

"Hands On" Midi Software Ltd., 11 Warfield Avenue, Waterlooville, Hampshire PO7 7JN
Tel: 01705 783100, Fax: 01705 783200, BBS 01705 783400, Dial A Demo: 01705 783500
Compuserve 100316,3542, Internet: http://www.hands-on-midi.com

THE UMATIC SPECIALISTS'
SOUND TO PICTURES ?
- Massive Range of Quality Umatic Players & Recorders
- Low Band / High Band
- Time Code / Multi-System

3/5 WHITFIELD ST, LONDON W1P 5RA
CALL NEIL / BOB 0171-323-2117

Stage 1 music
Telephone or write for a FREE Catalogue
MIDI SONG FILES
Tel: 01843 836150
6 Linden Close, Westgate, Kent CT8 8EH
Fax: 01843 836151

1 x Studiomaster P7 16:8:16 Console midi mute.....£700
1 x Boss DR660 drum machine.....£200
1 x Yamaha TG500 sound module.....£375
1 x Casio CZ101 keyboard.....£120
1 x Novation Bass keyboard.....£200
TEL 0161 483 8551 ANYTIME
0468 - 946450 MOBILE
E-mail DWebs95615@aol.com

RECORD YOUR OWN CDs
PC 2x2x6 CD RE-WRITERS ONLY £299
MAC 4x2x6 CD RE-WRITERS ONLY £399
MAC 4x12 CD RECORDERS ONLY £399
60 CD LABELS ONLY £6.99
CALL FOR OUR CATALOGUE AND SAVE £££'s
RIVER Direc 0171 231 4805
Trade Inquiries Welcome

INSTANT MEDIA
STORAGE + IT SPECIALIST
Yamaha 4260 Kit (Re-Write).....£376.00
Sony CDU-928E Kit £233.83
Re-Writable CD Media £10.56
Branded CD Media.....£1.41
Samsung Unbranded CD Media £0.88
Consumer Media (Phillips 870) £2.17
CD Label System £23.50
All Prices Include VAT
0181 549 1490

Music World
Sales Hotline/Fax (01252) 822877. (24HR) 0410 948396
MUSIC TECHNOLOGY SPECIALISTS
NEW · USED · EX-DEMO · ALL EXCELLENT
SALE
Phone Now!
CASH TODAY
For all recent equipment & complete studios
Sonic House, PO Box 400, Camberley, Surrey GU15 2YN

the HIT SQUAD!
At last! - professional quality Midi Songfiles at the right price.
ONLY £1.24 PER SONG!!
Over 125 Albums are available each containing 8 full songs including melody. Choice includes:
Pop Classics, Rock Classics, Sixties, Seventies, Eighties, Glam Rock, Nineties, Soul, Dance, Brit Pop, New Romantics, Top of the Pops, Country, Chart Toppers, Disco
and many more - only £9.95 each Album!
THE BEST MIDIFILES
THE BEST PRICE
Programmed with REAL FEEL!
CALL FOR OUR FREE BROCHURE
MIDI MANIA
0181 651 0768

MIDIFILES
Or choose from our new range of Recent Chart Hits
Last Thing On My Mind - Steps
Truly Madly Deeply - Savage Garden
Let Me Entertain You - Robbie Williams
Brimful Of Asha - Conershop
My Heart Will Go On - Celine Dion
All I Have To Give - Backstreet Boys
Stop - Spice Girls
Doctor Jones - Aqua
High - The Lighthouse Family
Never Ever - All Saints
Together Again - Janet Jackson
Angels - Robbie Williams
Open Road - Gary Barlow
Perfect Day - Various Artists
Too Much - Spice Girls
Torn - Natalie Imbruglia
Barbie Girl - Aqua
and more!! New titles every week. Only £4.95 per song.

NEW SOUNDS FOR YOUR KEYBOARD

JV1080/JV2080 XP50/80
Vol 1 Dance Culture
Vol 2 Analog & Digital Culture
128 new programmes
32 new performances
Both volumes on one ram card for the JV1080 or JV2080. Excellent value at only £69.00
Disk version for XP50/80 £21.00
Blank ram card for JV1080/JV2080 £55.00
The verdict is clear: If you have a Roland JV1080 (JV2080/XP50/80), this card is well worth plugging into "Great Sounds".
FM Rating 80%. Review FM August 96
Dance Culture Vol 2.
128 new programmes
32 new performances
By Gary Mason
On ram card for JV1080 or JV2080 £69.00
Bread & Butter Expansion
By Peter Brew
for XP50 - JV1080-JV2080.
A collection of Big and Beautiful sounds aimed at boosting internal bread & butter patches such as ; Pianos, basses, Brass, Pads, Solo Synths, Drums etc. Contains 128 patches 32 performances and 2 drum kits.
ram card JV1080/2080 £69.00
XP50 disk £21.00
Essential Drum Loops
for XP50 - JV1080-JV2080.
2 Volumes each containing 60 2 bar drum and percussion loops in a range of styles. BPMs range from 60 to 160. Each loop is fully editable
Volume 1 & 2 now available £21 each.

WAVESTATION +EX,AD,SR
By Sounds OK
Dreamwaves Volume 1.....£55.00
Dreamwaves Volume 2.....£55.00
TranceWaves vol 1 Wavesequences.....£55.00
TranceWaves vol 2 Sounds.....£55.00
By Voice Crystal
Vol 1 50 programmes with patches/seq..£55.00
Vol 2 50 programmes with patches/seq..£55.00
Vol 3 50 programmes with patches/seq..£55.00
Vol 4 50 programmes with patches/seq..£55.00
Any two cards for only £95 and save £15.

ROLAND U SERIES CARDS
SN-U110-03 Ethnic £39
SN-U110-04 Electric Grand & Clavi £39
SN-U110-06 Orchestral Winds £39
SN-U110-08 Synthesizer £39
SN-U110-09 Guitar & Keyboards £39
SN-U110-10 Rock Drums £39
SN-U110-11 Sound Effects £39
SN-U110-12 Sax & Trombone £39
SN-U110-13 Super Strings £39
SN-U110-14 Super AC Guitar £39
SN-U110-15 Super Brass £39

ROLAND JD800/JD990
Sounds OK
Pure Synthesis.....£55.00
Textures and Soundscapes.....£55.00
Dance.....£55.00
Extreme Dance.....NEW.....£55.00

KORG Z1
Need more dance sounds and fewer brass sounds ? These sounds are no joke ! A set of intense dance sounds, everything from subtle background strings to aggressive leads plus resonant bass, analogue sting pads, and many other Dance categories. These sounds are far away from the standard factory presets.
128 programmes plus Multi setups. On card £69.00

BLANK MEMORY CARDS
Roland JV80-JV880 £55
Roland JV1080-JV2080 £55
Roland JD800-JD990 £55
Roland D50-D550 £55
Korg M/T series. All Wavestation £65
Korg 03rw - 01W series Please call
Waldorf Microwave £65
Alesis Quadrasynth S4 £69
Ensoniq SQ1 and 2 KS32 Please call

KURZWEIL K2000/K2500
By Sounds OK
Vintage to Modern (Programmes).....£21.00
Acoustica (Programmes).....£21.00
Analog Dance (Samples Programmes).£21.00
VectorWaves (Samples/Programmes)...£21.00
By Voice Crystal
Vol 1 100 programmes with samples £21.00
Vol 2 100 programmes with samples £21.00
Vol 3 100 programmes with samples £21.00
Vol 4 100 programmes with samples £21.00
Vol 5 2 disk set 100 progs + samples £31.00

SAMPLE CDs
Voice Crystal
NEW PRICES
£39.95
Reduced from £44.95
Phone for list

Sounds OK
TEL 01276 682313
FAX 01276 682717
10 Frimley Grove Gardens, Frimley Camberley, Surrey, GU16 5JX. UK.
Please add £2 P+P to orders. All Prices include VAT.
Items advertised are normally in stock and are despatched 1st class same day if ordered by 3.30 pm
VISA SWITCH

over 10,000 items available.

EUROPE'S WIDEST DATABASE SELECTION OF NEW, SECONDHAND AND VINTAGE SYNTHESIZERS, SEQUENCERS, DRUM MACHINES, SAMPLERS AND PROFESSIONAL RECORDING EQUIPMENT.

- AUTHORISED SERVICE CENTRE
- 0% FINANCE SUBJECT TO STATUS
- NEXT DAY DELIVERY AVAILABLE
- EDUCATIONDISCOUNTS
- PART EXCHANGES WELCOME
- ALL SECONDHAND EQUIPMENT IS SERVICED BY OUR QUALIFIED SERVICE DEPARTMENT AND GUARANTEED FOR 3 MONTHS
- RECENT CLIENTS INCLUDE: THE VERVE, THE CHARLATANS, CARL BROWN, SUEDE, ELASTICA, ECHOBELLY, HOWIE B, CJ BOLLAND, TEXAS, THE THE, REPUBLICA & DAVID HOLMES.

BRAND NEW PRODUCTS

AKAI S5000/S6000 NEW RANGE OF AKAI SAMPLERS	£ CALL
AKAI DPS12 (12 TRACK RECORDER)	£ 1299
ALESIS ADAT XT20 (NEW ADAT)	£ 2299
ALESIS PCR (PERSONAL COMPUTER RECORDING SYSTEM PC OR MAC)	£ 499
CLAVIA NORD MODULAR	£ CALL
DRAWMER MX50	£ 289
EMAGIC LOGIC AUDIO PLATINUM	£ 549
EMAGIC LOGIC AUDIO GOLD	£ 399
EMAGIC LOGIC AUDIO SILVER	£ 199
EMU E-SYNTH DANCE (+ 5 FREE CD ROMS)	£ 2975
EMU AUDITY 2000	£ 1399
FOSTEX MD4 (NEW 4 TRACK DIGITAL RECORDER)	£ 399
ROLAND MC505	£ 949
ROLAND VS1680 (INC. 2.1 GIG HD, VS8F2 & 3 YR GUARANTEE)	£ 2199
SPRIT DIGITAL 328	£ 3499
YAMAHA EX5	£ 1899
YAMAHA EX5R	£ 1599

NEW EQUIPMENT

AKAI CD3000XL (32)	£ CALL
AKAI S3000 XL (32 & ZIP)	£ 1499
AKAI MPC3000	£ 2575
APPLE MAC G3 SERIES	£ CALL
CLAVIA NORD LEAD II RACK	£ 1299
DRAWMER 961 EQ	£ 1079
DRAWMER MX40 (4 CHANNEL NOISE GATE)	£ 359
DRAWMER MX50 (DUAL DE-ESSER)	£ 269
EMAGIC AUDIOWERK 8	£
459EMAGIC LOGIC AUDIO	£ 556
EMU E-SYNTH	£ CALL
EMU EXTJRBO (2 GIG DRIVE)	£ CALL
EMU ESI4000 TURBO	£ CALL
EVENTIDE H3000SE	£ 1849
FOSTEX D90 (INC. HD & SCSI CARD)	£ 1499
FOSTEX DMTSVL VER. 2.0	£ CALL
KORG TRINITY PLUS	£ CALL
KORG TR RACK	£ 999
KORG 1212 I/O	£ 529
LEXICON MPX1	£ CALL
LEXICON PCM81	£ CALL
LEXICON PCM91	£ CALL
MACKIE U BUS	£ CALL
PANASONIC SV3800	£ CALL
PHILIPS CDR	£ 449
ROLAND JV2080	£ 1039
ROLAND JV1080	£ 749
ROLAND VS880CD (INC. CDR, CD & SOFTWARE)	£ CALL
SPIRIT FOLIO SX	£ 429
TASCAM DA302	£ CALL
YAMAHA 02D	£ 2499

USED EQUIPMENT

AKAI S01	£ CALL	KORG CX3	£ 679	ROLAND JX8P	£ 299
AKAI S900	£ 299	KORG DW8000	£ 299	ROLAND JX3P	£ CALL
AKAI S950	£ 379	KORG M1	£ 499	ROLAND MC202	£ 279
AKAI S1000	£ 799	KORG M3R	£ 299	ROLAND MKS7	£ 279
AKAI S3000	£ CALL	KORG MONOPOLY	£ 449	ROLAND MKS50	£ 379
ALESIS QUADRAVERB +	£ 249	KORG MS10	£ 249	ROLAND MKS80	£ 899
ALESIS MIDIVERB IV	£ 299	KORG MS20	£ CALL	ROLAND PG300	£ 249
ALESIS NMT8	£ 149	KORG POLY 6	£ 279	ROLAND PG800	£ CALL
ARP MODULAR	£ CALL	KORG TRINITY	£ 999	ROLAND R8	£ 379
ARP ODYSSEY	£ 549	KORG VC10	£ 449	ROLAND RE201/301/501	£ CALL
ARP 2600	£ CALL	KORG WAVESTATION	£ 529	ROLAND SRE555	£ CALL
ARP OMNI 1	£ CALL	KORG WAVESTATION SR	£ 449	ROLAND SVC350	£ 549
ARP OMNI II	£ 199	KORG X3	£ CALL	ROLAND SYSTEM 100	£ 1499
ARP SOLINA	£ CALL	KURZWEIL K2000	£ CALL	ROLAND S750/760/770	£ CALL
CASIO FZ1	£ 429	LEXICON PCM70	£ CALL	ROLAND SH101	£ 279
CASIO FZ10M	£ 399	MACKIE CR1604	£ 549	ROLAND SE70	£ CALL
CRUMAR SPIRIT	£ 309	MOOG PRODIGY	£ 299	ROLAND SE50	£ CALL
CHEETAH MS6	£ 199	MOOG MODULAR	£ CALL	ROLAND TB303	£ CALL
DRAWMER DS201	£ 229	MOOG MINI MOOG	£ CALL	ROLAND TR808	£ CALL
DRAWMER DL221	£ 229	OBERHEIM M1000	£ 329	ROLAND TR686	£ 149
DRAWMER DF320	£ 349	OBERHEIM M6/6R	£ CALL	ROLAND TR909	£ CALL
DRAWMER DL251	£ 449	OBERHEIM OBXA	£ CALL	ROLAND W30	£ 629
DRAWMER LX20	£ 149	OBERHEIM 4 VOICE	£ CALL	SEQUENTIAL DRUM TRAX	£ CALL
EDP WASP	£ 319	OBERHEIM XPANDER	£ 1679	SEQUENTIAL PRO 1	£ 429
ELKA SYNTHEX	£ CALL	OCTAVE CAT	£ 429	SEQUENTIAL PRO V	£ 1099
EMU ESI 32	£ CALL	OSC OSCAR	£ 799	SEQUENTAIL PROPHET 600	£ 599
EMU E64	£ CALL	PEAVEY SPECTRUM BASS	£ 99	SEQUENTIAL SIXTRAK	£ 379
EMU MORPHEUS	£ 499	POLYFUSION MODULAR	£ CALL	TASCAM DA30	£ CALL
EMU PROTEUS 1	£ 249	RHODES CHROMAR	£ 899	TASCAM DA88	£ CALL
EMU PROTEUS 2	£ 379	ROLAND A80	£ 749	YAMAHA CS5	£ 189
EMU SOUND ENGINE	£ 99	ROLAND CR78	£ 249	YAMAHA CS15	£ 349
EMU SP1200	£ CALL	ROLAND D110	£ 249	YAMAHA CS40M	£ 499
ENSONIQ DP2	£ CALL	ROLAND D50	£ CALL	YAMAHA DX100	£ 199
ENSONIQ DP4 +	£ CALL	ROLAND JD800	£ 799	YAMAHA DX7	£ CALL
FENDER RHODES STAGE 73	£ CALL	ROLAND JP6	£ 749	YAMAHA SPX1000	£ CALL
FOSTEX 812	£ 399	ROLAND JP8	£ 999	YAMAHA SPX90	£ 229
FOSTEX R8	£ 549	ROLAND D70	£ CALL	YAMAHA SPX90 II	£ 299
KAWAI K1	£ 199	ROLAND JUNO 2	£ 349	YAMAHA SY77	£ CALL
KAWAI K4R	£ 279	ROLAND JUNO 106	£ CALL	YAMAHA SY85	£ 629
KORG 01W FD	£ 699	ROLAND JUNO 60	£ 349	YAMAHA TX816	£ 599
KORG 8X3	£ CALL	ROLAND JX10	£ 549		

MUSIC CONTROL HQ:
CHAPEL MEWS, CREWE RD,
ALSAGER, STAFFS. ST7 2HA
tel: 01270 883779 fax: 01270 883847

MUSIC CONTROL SOUTH:
43-44 HOXTON SQUARE, LONDON. N1 6PB
tel: 0171 729 4100 fax: 0171 729 7400

MUSIC CONTROL SURREY
tel: 01252 715700

EMAIL:
chris / emma / daz@music-control.co.uk
http://www.music-control.co.uk

music control

WHAT THE WORLD IS LOOKING FOR

0 1 2 7 0 8 8 3 7 7 9

WRH

FOR SALE

MUSIC HOLLY END
YOU CAN SOUND LIVE AT LAST

BACKING TRACK SPECIALIST

AVAILABLE ON GM/GS/XG MIDI FILE CASSETTE OR CD
ANY SONG YOU REQUIRE. WE CAN DO IT, WITH OUR GUARANTEED BEST PRICED PROGRAMMING SERVICE.
PHONE FOR FREE CATALOGUE AND DEMO DISK
TEL./FAX: 01892 534676
E-Mail: hollyend@mailexcite.com

Add a little 'spice' to your Cd's

Max's PressIT

CD-ROM LABELLING KIT

Blank GOLD CDR's as little as £99p Each!

Blank SILVER and CD-RW Cd's also available...

We also stock a large selection of Quality Backing Tracks & MIDI Files

GEMWORKS DIRECT
Tel: 01227-742790 Fax: 01227-742791
Email: sales@gemworks.demon.co.uk
http://www.gemworks.demon.co.uk

BUYING OR SELLING

CALL EARTH TODAY

We pay a little bit more and sell for a lot less!

- Sell quickly, hassle free
- Top prices paid
- collection arranged
- Open Sundays 11.00am - 4.00pm and late till 8 Thursdays

Roland Jupiter 8	£1095	Yamaha SY85	£6999
Roland JD800	£895	Emu E3 sampler	£799
Roland XP50	£795	Emax II sampler	£399
Roland JX8P	£399	Korg Trinity	£1249
Roland JV1080	£749	Fostex R8	£499
Oberhiem OBXa	£899	Fostex E16	£1199
Yamaha VL7	£599		

Lots more bargains, All Guaranteed

Great range of Software/ Soundcards for PC
SEND FOR FREE FACT PACK TODAY

earth music
56 SURBITON RD, KINGSTON
SURREY TEL: 0181-546 9877
www.dialin.co.uk/earthmusic

TASCAM TSR8 1/2" 8 track recorder, excellent working condition £750. Telephone 0181 801 4344
EMT PLATE REVERB 1950's valve, ex Decca, used by Stones, Sinatra etc. Worth £1000 - Offers or swaps mics, outboards, synths w.h.y. Telephone Steve 0171 636 4390
AKAI S1000 sampler, upgraded to accept S3000 software 10Meg memory, boxed as new, manuals and rackmount £1000 o.n.o. Telephone 01902 330753 (Wolverhampton)
100 REELS 2" TAPE, space needed, £500, buyer collects. Telephone 01202 752691 or 0378 109019
KORG XSD keyboard plus hard case, leads, manuals £350 o.n.o. Telephone 01202 429767

ELECTROFIX SALES & CLASSIFIEDS

Quality used gear
TEL: 0117 9239119 FAX: 0117 946 6343
Advertise your gear in our classifieds IT'S FREE!

Roland JD800 plus four Card sets	£1250		
Roland JV1080 plus one Card	£500		
Roland PMA5	£500	Yamaha AN1x	£500
Coda Finale for PC (unused)	£200		
Tascam 488 mk-2	£500	Rode NT-2	£250
AKG C1000s			£75

All items in perfect condition complete with boxes & manuals
Will Deliver Free. Call Matt - 0411 303296

PRESTIGE MUSIC SERVICES
Sales : 01527 60033
Fax : 01527 591115

Specialist in Band in a Box Music Software

Band in a Box V7	See ad
Style Disks from	£21.95
Soloist Disks	£24.95
Fake Disks	from £13.95
Training Videos	£39.95
The Pianist Range	£29.95
PowerTracks Pro Audio	£29.95

Plus Passport, Voyetra Steinberg, Evolution Software & Products

June Special Offer
Band in a Box Version 7 for Mac or PC
£79.95

Phone for Free Catalogue or see our full catalogue (with Demos) on the Web.
http://webspace.dialnet.com/prestige_music

"ANG ON A SEC"

Don't sell your Keyboard, Sampler or Studio Gear until you've phoned us, as we can give you the best cash deal around
01932 82 92 70 (24 Hrs)

Sound Effects

- Ten CD Library of 1000 SFX
- All digital recordings (DDD)
- Never previously available in the UK
- A complete library of every type of effect

£49.99 For all 10

Info / Credit card orders - 0121 434 4000

BOOMERANG Sound
SALES INSTALLATION MAINTENACE
43A Elsinore Road, Old Trafford, Manchester, M16 0WG
0161-873 7770

New Apple G3 Power Mac	From £1435
Digidesign Toolbox - D-Fx & Pro Tools V4 software	
Audio Media III PCI Pro soundcard	£699
Event Gina 20-bit Multitrack Recording PCI Card	£425
PC CubaseVST / Event Darla Package	£1495
PII 233 / 64MB / 4GB HD / 24x CD / W95 / 14" Monitor / 4MB AGP Graphics / Keyboard & Mouse	
PC CubaseVST / Event Darla Package	£1195
P200 MMX / 32MB / 4GB HD / 24x CD / W95 14" Monitor / 2MB Graphics / Keyboard & Mouse	
Opcode Midi Interfaces	From £49
Iomega Zip Drive	£125
Iomega Jaz Drive	£265
Philips CDR870 - ReWritable CD	£425
Tascam DA20 MkII DAT	£625
Tascam DA38 - 8Track Digital	£1899
Tatung 17" Digital 75 Hz Monitor - 2 year warranty	£295
Midiman DMan 2044 - 4in/4out PCI Soundcard	£249
Midiman Co2 - Coaxial/Optical bi-dir Converter	£45
Teac 12 x 4 CDR - Inc SCSI card & Software	£395

All prices include VAT - Next day delivery at cost
Studio Design & Installation Service - Mac & PC Hard Disc Recording Specialist
Fax: 0161-872 4494 E-Mail: boomerang@compuserve.com

PRO-MIDI B.F.P.

CAXTON HOUSE, CAXTON AVE, BLACKPOOL. FY2 9AP
TEL: 01253 345386 DAY. (01253) 591169 EVENINGS FAX: 01253 406899
e-mail promidibfp@aol.com web page http://members.aol.com/promidibfp

OVER 2000 TOP QUALITY MIDIFILES AND BACKING TRACKS

20 SONGS OF YOUR CHOICE FOR £60.00 +pp
50 SONGS OF YOUR CHOICE FOR £100.00 +pp
Minimum Order 4 songs @ £6.00 Each +pp
Licenced by MCPS & EMI

LOOK AT OUR PRICES!
NO VAT TO PAY

SPECIAL OFFERS

STOP PRESS!!
WE CAN SUPPLY ANY SONGS ON CD

LINE DANCING CLASSICS
MALE BALLADS
FEMALE BALLADS
IRISH COLLECTION
WARTIME SONGS
DANCE CLASS

PARTY PACK
SINGALONG
SPECIAL OCCASIONS
BEST OF THE SHADOWS
DINNER DANCE COLLECTION

MIDI Hardware By Viscount

SONGS PROGRAMMED TO ORDER
SEND FOR OUR FREE BROCHURE

ATARI REPAIRS
WHILE-U-WAIT!!

ATARI 520/1040 ST/STM/STF/STFM/STE £59.95
Atari Mega ST/Mega STE.....£Quotation
Atari/Phillips/Protar Monitors *£59.95
*All monitors' repair charges exclude CRT & LOPT.

MEMORY UPGRADES

520 STF/STFM to 1 Meg	£34.95
520/1040 STF/STFM to 2.5 Meg	£59.95
520/1040 STF/STFM to 4 Meg	£99.95
520 STE to 1 Meg	£9.95
520/1040 STE to 2 Meg	£49.95
520/1040 STE to 4 Meg	£99.95

ATARI INTERNAL FLOPPY DRIVES £39.95

COMPUTERS, MONITORS AND HARD DRIVES

520/1040 STFM/STE with 4Meg	£225
Monochrome Monitor	£130
262Mb Hard Drives with Cables & Software	£250

2.06 TOS SWITCHES

STE TOS 2.06 ROMs	£44.95
STE TOS Switcher & ROMs	£69.95
STFM TOS Switcher & ROMs	£69.95

POWER SUPPLIES & ACCESSORIES

STFM/STE Power Supplies (Service Exchange)	£34.95
New STFM/STE Power Supplies	£49.95
STE/STFM Lead to Phillips CM8833	£14.95
290dpi Mouse	£14.95

ANALOGIC ANALOGIC ANALOGIC
Analogic Computers (U.K.) Ltd,
Tel: 0181 546 9575 Units 6 & 8, Ashway Centre, Elm Crescent, Kingston-Upon-Thames, Surrey KT2 6HH
Fax: 0181 541 4671 Mon-Fri. 8.00am-5.30pm, Sat 9.00am-5.00pm

• All prices include VAT • Fixed charge for Repair does not include Disk Drive replacement & keyboard • All prices subject to change without notice • We reserve the right to refuse any repair • Please allow 5 working days for cheque clearance • P&P £3.50 by Royal Mail or £6.00 + VAT by Courier • All sales/repairs are only as per our terms and conditions, copy available on request

MasterCard Access VISA DELTA

FOR SALE

FOSTEX R8 multi track tape machine plus SECK 18:8:2 mixing desk £900. Telephone 0161 973 8533

KURZWEIL 250 keyboard, mint condition, hardly used, no serious offer refused. Telephone 0114 245 2705

KAWAI K4 synthesiser excellent condition, including hard flight case and RAM card £250. Telephone 01622 678580

GENELEC 1022B active speakers plus stands, excellent condition £2250 o.n.o. Telephone Tim or Mike 0114 272 0300

KORG Z1 Megasynth, 2 months old, mint condition £1350. Waldorf Microwave 2 rackmount synth, very powerful, 6 months old, mint condition £650. Telephone 01228 595497 (Cumbria)

ROLAND XP80 keyboard, hard case leads, manuals £1100 o.n.o. Telephone 01202 429767

SEQUENTIAL PROPHET 5 3.3 completely overhauld by Synthesiser Service Centre £925. Telephone 01426 262470

TASCAM 424 porta studio, 4 track plus ping pong, manual and power supply, stereo input, effect loop, sync loop, vgc £250. Telephone 0121 436 6724 (Birmingham)

PRO-TOOLS III (PCI) 16 track core-system + 4.1 Software + Masterlist CD, as new, boxed with manuals £3200 (with 882 interface £3800) Phone 0171 278 0427

HOME STUDIO CLEAROUT - Yamaha, Kurzweil, Atari, Casio and more. Phone 01474 536152

ROLAND MT100 sequencer/sound module, including hard flight case leads and discs, 17000 note memory, 158 sounds £100. Telephone 01622 678580

TEAC 80-8 Tascam series 8 track recorder DBX noise reduction unit £500. Telephone 01277 633139 (Essex)

MACKIE 1202VLZ desk £280, Behringer Composer £150, Roland PMA5 portable sequencer £300, ext CDROM drive £30. Phone 0171 278 0427

PROFESSIONAL WEBSITES FOR BUSINESS AVAILABLE, Domain names, 50meg with email forwarding. Telephone 01695 559353

COMPLETE HARD DISK RECORDING SYSTEM Digidesign Session 8 882 I/O, Apple Mac Quadra 650, Cubase XT, Re-Cycle and Time Bandit, Micropolis 1 Gig hard drive, disks and manuals - £Offers, may split. Telephone 01636 611899

8810 LINEAR PHASE, studio monitors 125 watts, brand new, boxed £800 o.n.o. Telephone 0117 973 3673

FOR HIRE

VAN / CREW BUS 3.5 tonne VW / Mercedes plus Driver / Sound Engineer plus full PA Hire available for small Band Tours, Shows, Conferences, etc. Reliable, experienced, professional. SPM Mobile Telephone/Fax 0181 657 8363

INSURANCE

MUSICOVER

The complete insurance for all musical instruments, electronic gear, stage props, lighting, amplification etc.
Designed by a musician for musicians.
Covered at home, out and about, at gigs, in vehicles.
Policy underwritten by General Accident and only available from
Golden Valley Insurance
The Olde Shoppe, Ewyas Harold, Hfds., HR2 0ES.
Call 01981-240536 for free info pack , or Fax 01981-240451

Sound Insurance
PHONE LINDA OR ROB
FOR YOUR FREE QUOTATION
HENCILLA CANWORTH
INSURANCE GROUP
0181 686 5050
Insurance House,
27/29 Brighton Road,
Croydon CR2 6EB

G.M. INSURANCE IMBER BROKERS LTD.
WHY PAY MORE FOR YOUR INSURANCE THAN YOU NEED?
Our specifically designed schemes for musical instruments and equipment, employers & public liability, non appearance, travel & motor will help cut costs.
G.M. IMBER LIMITED
FREEPOST SE5052 GRANGE HOUSE
GRANGE WALK LONDON SE1 3DT
Tel: 0171 231 5005 Fax: 0171 252 3656

WANTED

WANTED
ALL MUSICAL INSTRUMENTS & EQUIPMENT
STUDIO/RECORDING EQUIPMENT • MIXERS • KEYBOARDS • SAMPLERS
DRUM MACHINES • PA • BACKLINE & OUTBOARD GEAR • ATARI ST
ACOUSTIC, ELECTRIC & BASS GUITARS • SAXOPHONES • DRUMS • CYMBALS
STANDS • FOLK, ETHNIC & ORCHESTRAL INSTRUMENTS • TUITION VIDEOS
ACCESSORIES • FLIGHT CASES
BUY • SELL • TRADE
Please bring offical ID with address & signature when selling or exchanging
MUSIC EXCHANGE
56 Notting Hill Gate, London W11
OPEN 7 DAYS 10am - 8pm ☎ 0171 229 4805
LARGE SELECTION ON SALE

INSURANCE

Pavilion
insurance for music and entertainment
BEST POLICY - BEST PRICE
INSTANT QUOTES and COVER
01203 555900

WANTED

MUSIC STORE
TUNE INN
WANTED
ANALOGUE & DIGITAL SYNTHS
SAMPLERS - SEQUENCERS
DRUM MACHINES - FX
HI-TECH - COMPUTERS
PA & RECORDING EQUIPMENT
0181 - 698 4446
COMBOS - GUITAR FX - DRUMS
NEW & VINTAGE GUITARS
SAXES - CLARINETS - FLUTES
BUY! SELL! P/EX!
124-126 ST. MILDREDS RD LEE LONDON SE12 ORG
OPEN: MON - SAT 10.00 - 6.30
452

FREE CASES LABELS SAMPLES CATALOGUE

Audio Cassettes ANY LENGTH

	Blank	Duplicated
C10	25p	35p
C20	28p	38p
C30	31p	43p
C60	38p	53p
C90	45p	60p

Overwrapping ~ On body Printing ~ Printed Labels
Short Run CDs from Only ~ £4.99 each

EXPRESS CASSETTES & CD's
Freephone 0800 056 4956

CD "R" US !!
5 CD's £33, 10 CD's £54, 20 CD's £94
to 74 min. inc. vat & Full Colour Labels
No Hidden Extras Just A1 Service
CPS 01929 556224

Duplication
Blanks & Accessories
CD's, Dat's, & Labels etc.
FREE ! Catalogue & Sample
Downsoft Ltd 01372 272422

CD Audio • CD Rom
Prime CDs Ltd
Tel 0171 700 3060
Fax • 0171 700 5544
100 • 300 • 500 • 1000
Package Prices On
Cassette Production x 300+
Contact Phil or Andy
One off CDs & CD-Roms
including on body Printing
Runs of 10-100 • Call for details
Top Class Graphic Design
• Digital Mastering Studio •
Prime Multimedia Ltd.
Cassette • PQ Encoding
Digital Mastering Studio
Video • Graphic Design

Compact Disc Manufacture
One off CD's up to 74 mins £20.00 + VAT

500 CD Singles complete only	£650.00 + VAT
500 CD Albums complete only	£740.00 + VAT
1000 CD Singles complete only	£925.00 + VAT
1000 CD Albums complete only	£1100.00 + VAT

Digital/Post Mastering
Sadie - Focusrite - GML - Neve
Lexicon - TC Electronics - MD2
20 Bit A to D - 32 bit DSP.

Artwork Design & Layout
Drum Scanning - Typesetting
Fine art -Imagesetting
to Film & Bromide.

Tel C.R.S. 01424 444141

ONE OFF CDs from: £15
5 CDs £31, 10 CDs £51, 100 CDs £251
Prices include CD labels & cases, editing, compilation, PQ & VAT
Ring Marcus @ dBMasters
Tel: 0181 851 8804 Fax: 0181 851 5335
http://dspace.dial.pipex.com/town/drive/kbv23/

Panton Music
Audio Cassette & CD Duplication Services including
Blanks · Compilation Editing · Printing etc.
Call Dave Panton 0121 558 8338
between 10am-4pm Mon-Sat

THE COMPLETE CASSETTE & CD PRODUCTION SERVICE
CASSETTE DUPLICATION & CUSTOM LENGTH BLANKS
COMPACT DISC MASTERING & REPLICATION
DIGITAL EDITING • ONE-OFF CD's
ARTWORK, DESIGN & PRINT
O·C·T·A·G·O·N RECORDS & TAPES
FOR A FREE BROCHURE & ALL THE ADVICE YOU NEED
(0191) 495 2324
(0191) 495 2306 FAX

CDC
We specialise in short run compact disc duplication at incredibly low prices . . . .
5 CDs with On Body Printing £30 + vat
10 CDs with On Body Printing £46 + vat
20 CDs with On Body Printing £58 + vat
30 CDs with On Body Printing £69 + vat
50 CDs with On Body Printing £99 + vat
100 CDs with On Body Printing £149 + vat
• 24-bit processing
• P & Q encoding
• On Body Printing
• Full Colour Inlay Cards
• CD Roms
CD's Are Now Affordable !
Mail Order Welcome
Full artwork service. We can print CD and Cassette inlay cards, booklets etc. at very competitive rates. Call for prices.
0171 - 713 1465

Ground Bass Productions
AUDIO & MULTIMEDIA POST PRODUCTION
V/Over for Radio & Picture
CD-Rom / CD-Video
Audio & Image Acquisition
Web Design & Hosting
CD Duplication - from 42p per unit
&
Pro -Mastering - £200 per Album
Vinyl
Cassettes
Music Composition
Facilities Hire
Rapid trouble-free manufacturing from initial Artwork Brief, through High End Pro-Mastering to the finished product...
email: sales@groundbass.com web: www.groundbass.com
Windsor Centre, Windsor Street, The Angel London N1 8 QH
Tel: 0171 288 1833 Fax: 0171 288 1834

Telephone: 0181 521 2424 Facsimile: 0181 521 4343
Website: www.hgrove.demon.co.uk Email: hiltongrove@hgrove.demon.co.uk

- *Compact Discs*
- *Pro-Mastering*
- *Digibin Cassettes*
- *Reprographics*
- *Print*
- *One-off CD's*

HILTONGROVE
where sound advice counts

- *32 Bit Technology*
- *Cedar*
- *Sound Restoration*
- *3 Studios*
- *MD2*
- *3 Band DSP*

The Hiltongrove Business Centre, Hatherley Mews, Walthamstow, London E17 4QP
3 mins walk from Walthamstow Central (Victoria — Br), 11 mins M25, 8am - 8pm 7 days. (Tel)

RMS cassette copying
DAT, 1", F1, Free colour labels
SADiE editing, precisely PQ'd CD-Rs.
0181 653 4965
(South London)
1112

TapeLine
CASSETTES & CDs
- BLANKS
- LOOP BIN DUPLICATION
- APEX DIRECT PRINT
- COMPACT DISCS
- ACCESSORIES
- NATIONWIDE DELIVERY

0161 406 8608
1447

ONE OFF CD'S
2006
Add that professional touch & have your music put onto CD.
We can transfer your recordings from DAT or cassette onto CD.
- *1 CD Single* £15 / *CD Album* £20
- *3 CD Singles* £27 / *CD Albums* £38
- *5 CD Singles* £38 / *CD Albums* £60
- *10 CD Singles* £73 / *CD Albums* £90

All prices include VAT, printed inlays & labels, CD cases, track compilation, digital enhancement, & PQ master encoding.
Personal small order specialists! Mail order welcomed.
Professional recording set-up established since 1989
Call or fax Paul for a CD info brochure on *01273 572090*

CD Mastering
CDRs from just £7.50
Copy Masters and Editing
Real Time Cassette Copying
CD Manufacturing: 1000 c.£650
Laser printed labels & inlays
Every copy individually checked
Excellent quality & presentation
Best prices, ultra fast turnaround

RPM
Repeat Performance Mastering
6 Grand Union Centre
West Row
London W10 5AS
Tel. 0181 960 7222
Fax. 0181 968 1378
www.repeat-performance.co.uk

CD PACKAGES
SHORT RUN
Includes: 2 page full colour booklet / Rear inlay / Full on body printed label / Standard jewel case / Graphics set up
300 -£580 / 200 -£420 / 100-£225 / 50 -£150
LARGE RUN
Includes: 4 page full colour booklet / Full colour rear inlay / 2 colour on body print / Standard jewel case / Graphics set up / Film separations
500 -£850 / 1000 -£1040
Just send us your Audio Master and photo / artwork / copy of text to be included and we will do the rest
THE PRICE YOU SEE IS THE PRICE YOU PAY
CALL NOW FOR CATALOGUE
01698 841439
2211

CODA Productions
Audio Cassette • DAT • CD Duplication
Blank Cassettes & CD-Rs
Call for FREE catalogue
33 New Road, Bradford on Avon
Wiltshire, BA15 1AR
Tel:Fax: 01225 865582 • email: coda@lineone.net

Get it properly mastered!
We've been mastering for over ten years and we guarantee to improve the sound of your recording. In fact we're so confident that you'll love what you hear, we won't charge you if you prefer the original. Call us now or visit our web site. You can't lose out.
No charge if you don't like it

RPM
Repeat Performance Mastering
6 Grand Union Centre
West Row
London W10 5AS
Tel. 0181 960 7222
Fax. 0181 968 1378
www.repeat-performance.co.uk

DIRT CHEAP PRICES !
500 CD ALBUMS: Only £720
500 12" SINGLES: Only £600
500 Cass ALBUMS: Only £500
500 7" SINGLES: Only £480
PRICES BASED ON DAT MASTER & FINAL FILMS BEING SUPPLIED
SHOP READY PRODUCT ☆ NO EXTRA V.A.T.
FOR MORE "DIRT CHEAP" PACKAGE DEALS & FREE INFO PACK CALL:
DAT-2-DISC on 0181-536 0700

DOCdata
committed to delivering quality on time
>cd audio >cassette >vinyl
>cd rom >cd extra
>creative print/packaging solutions
>complete fulfilment
250 york road, battersea, london, sw11 3sj
contact the sales department on 0171 924 1661
or e-mail admin@docdata.co.uk
uk, benelux, france, germany, usa

REAL CHEAP
REAL TIME & CDR's
From DAT, CD's, Cassette or 1/4" Half-Track (even High-Fi VHS)
Small quantity specialists
Excellent inlay/label designing
Free image scanning DAT to DAT (re-ordering if required)
J B AUDIO/VIDEO 01621 783518
1987

CD DUPLICATION
One off CD's by The Best!
Print on CD's *Competitive Prices*
Fast Turnaround *Free UK Delivery*
Your one stop service established over 15 years
RRS music LEEDS, WEST YORKS **0113 278 6671**
THE PROFESSIONALS IN THE NORTH

sound performance
CD pressing, cassette duplication, design and repro, print, booklets, inlays, labels
expect
quality product at excellent rates
need
a supplier that meets delivery dates
want
a company that cares about getting it right with experienced professionals to co-ordinate your work
don't compromise your chance of success, work with the best.
call sound performance you'll notice the difference.
tel: 0181 691 2121 *fax:* 0181 691 3144
unit c, 80 blackheath road, greenwich, london se10 8da
1348

BLANK CASSETTES
Wound To Your Requirements
EXAMPLE PRICES
C11 19p, C30 24p, C45 26p, C90 38p
PRICES EXCLUDING VAT & DELIVERY
OTHER SERVICES AVAILABLE
Duplication through Digital Bin
Quality BASF Tape, On Body Printing & Overwrapping
Library Cases and Labels at very impressive prices.
JETHRO DIGITAL AUDIO & VIDEO
For Details TEL 01566 783 512
or FAX 01566 783 518 *6 Lines*
VISA SWITCH DELTA MasterCard
2092

REAL TIME CASSETTE DUPLICATING
LABEL & INLAY PRINTING.
BLANK CASSETTE SALES.
DAT & AMPEX REEL TAPES.
FRIENDLY, PROFESSIONAL SERVICE
TEL: 01252 794253 FAX: 01252 792642
Keynote for CASSETTES

So why DO our customers keep coming back??
1,000 cd's inc 4-page booklet & cases £995*
500 cd's inc 4-page booklet & cases £699*
*no extra VAT etc - only delivery charges!
Champagne Lake Productions
0181-845-4979

SURGE STUDIOS
ONE OFF CDs from £10
• professional mastering with tripleDAT to CDR
• digital editing
• album compilation
• scanning • artwork • printing
specialists in small high quality runs
Tel : 01483 830621

10th PLANET
BEST CDR PRICES IN U.K.
excellent quality, unrivalled service
0171 252 0610

Sound Cuts Ltd - 0181 964 4091
CD Mastering Digital Editing CD Duplication-Sound Restoration
Sonic Solutions No Noise™
TC Electronics multi band dynamic processing
CD-ROM
One-off CDs
COMPACT DISC COPIES
5 CDRs £ 45 + VAT 20 CDRs £140 + VAT
10 CDRs £ 75 + VAT 30 CDRs £180 + VAT
15 CDRs £105 + VAT 50 CDRs £250 + VAT
ON BODY PRINTING 50p PER DISC EXTRA

CDS! CDS! CDS!
CD DUPLICATING
PRICES FROM
20 CDS £2.80 each
50 CDS £2.00 each
100 CDS £1.95 each
CALL NOW FOR BEST PRICE
CDS WEST STREET STUDIOS
(01280) 816221

MASTERING STUDIO
DIGITAL EDITING
Waves MultiRack
Sound Designer II
Pro Tools 4, Maxx Bass
24 TRACK ADAT
Voice-Overs, Pre-Production
UK'S LEADING ONE STOP SHOP
SOUND Discs MANUFACTURING
MANUFACTURING
CD CDR CD-ROM
VINYL CASSETTE
VIDEO PRODUCTION
AVID EDITING
GRAPHIC DESIGN
for major labels, indies and self-financed projects
TEL: 0181 968 7080 FAX: 0181 968 7475 for expert advice and brochure

CHAIN REACTION
MANUFACTURING ✪ MAJOR DISTRIBUTION ✪ PROMOTION ✪ PUBLISHING ✪ LICENSING
Please send us your tapes/releases
12" Vinyl 45p/unit (500min)
500CD Singles only £485 1000CD Singles only £800
500CD Albums only £625 1000CD Albums only £880
Prices from DAT and final film supplied and are plus VAT. CD Singles up to 25 mins, CD Albums up to 74 mins.
93 Harehills Lane, Chapel Allerton, Leeds LS7 4HA. PRICE MATCH GUARANTEE Suite 206, Saga Centre, 326 Kendal Road, London W10 5BZ
Phone/Fax: (0113) 225 2246 Phone 0171 460 1104 Fax 0171 460 3288

SOUNDS GOOD
The Best Has Just Got Better!
★ New Low CD Prices!
★ New Mastering Studio!
★ New CD-R Duplication Service!
★ New Brochure - send for one!
Tel: 0118 930 2600 Fax: 0118 930 3181
email: office@sounds-good.co.uk
web: http://www.sounds-good.co.uk
CD Mastering
CD Pressing
Cassette Duplication
CD-R Duplication
Design & Repro
Inlay Print

Mirror Image
500 CD's Complete Price: £860 !
Cassette Copies (from 50+)
Dat 2 Dat / CD Copies / 1-off CD's
Digital Editing / CD Pre-Mastering
De-Hissing / Eq / EQ Encoding
Design / Artwork / Film Production
Tel / Fax: 0161 228 1119
e-mail: Mirrorimage@btinternet.com

MANUFACTURING
Compact disc
Vinyl Records
Audio Cassette
Design & Print
POST MASTERING
PQ Encoding
Digital Mastering
Digital Editing
One off CD's
Call in to our Manchester offices for advice on all your mastering, manufacturing and design needs
PURE
http://www.nqn.org.uk/pure
includes guide to releasing records
0161 953 4230 /4231

CD Manufacturing 7 Days Turnaround !!! & Guaranteed Best Price In Town
S·F·H UK LTD
Tel: 0181 961 5144
Fax: 0181 961 8144
500 CD Singles £585 +VAT 500 CD Albums £650 +VAT
1000 CD Singles £800 +VAT 1000 CD Albums £890 +VAT
Including: Glass Mastering, PQ Encoding, Jewel Case, Black / Grey Tray. Four Page Booklet, Inlay Card And Up to Four Colour Onbody Printing
Free glass mastering for orders above 2000
STUDIO (Attended or Unattended)
* PQ encoding one set price no hidden extra charge. £85.00 on exbyte or CDR, choice is yours.
We also manufacture Cassettes and Vinyl
"Image IS Nothing, Sound Is Everything, Come To Professionals"

Make it with us . . .

Sound Recording TECHNOLOGY

MANUFACTURING

- Compact Discs
- Digitally Duplicated Cassettes
- Print And Reprographics

HIGH END MASTERING

- Six Studios
- Latest 32 Bit Technology
- Multiple Mastering Formats
- Super Bit Mapping
- Cedar - Sonic Solutions - No Noise
- 20 Hz Monitoring
- 20 Bit Recording
- 20 Bit Non Linear Editing
- Broadcast Standard Video Editing
- Multi-Media Suite

MARKET LEADERS

☎ 0181 446 3218 London
☎ 0141 550 4640 Glasgow
☎ 01480 461880 Cambridge
☎ 0161 876 7633 Manchester

☎ 0800 00044.1 FREEPHONE CD

DUPLICATION

APRS member — The Digital Audio Co

CD & Cassette Mastering & Manufacture

10 years experience Expert staff
Total commitment to quality
Competetive prices

Call Us On 01756 797100

SPD
Squealing Pig Discs

Digital editing 24 bit
Sound Restoration
Digital Enhancement
DE- Noise/Hiss
PQ Encoding

CD duplication with 'On Disc Print'

10 Cds = £ 45
25 Cds = £ 80
50 Cds = £110
100 Cds = £195
200 Cds = £375
300 Cds = £500

High quality discs in silver or gold available

All Artistic options available, inlays tray liners and booklets... Silk screen printing etc

Tel 01664 568842
E-Mail simspd@aol.com

SMALL RUNS
CD's and Cassettes (50-500)

We Accept MINI DISC, DCC, DAT, CDR & REEL MASTERS

BLANKS WOUND TO LENGH, PRINTING & PACKAGING, NATIONWIDE DELIVERY

PHONE FOR BROCHURE

DUPLITAPE
Tel/Fax: 0161 442 6910
www.nwnet.co.uk/duplitape

MUSIC MEDIA MANUFACTURERS Ltd

Experts in COMPACT DISCS, CASSETTES, VINYL, PRINTING, TYPESETTING, GRAPHICS, ADVICE ON ARTWORK.

500 CD Singles Complete Package £599 plus VAT = £703.83, 1000 CD Singles Complete Package £899 plus VAT = £1056.33
500 CD Albums Complete Package £725 plus VAT = £851.88, 1000 CD Albums Complete Package £1075 plus VAT = £1263.13

Don't Be Misled By The Others... Sometimes Their Prices Are Incomplete
Our Prices For The Above Packages Are COMPLETE Including FREE Mastering From DAT, Print Origination from camera ready artwork, Films CD's, Jewel Boxes or Slimline Cases, 4 Page Full Colour Booklet (4/1) and Tray Card or "J" Card. (4/0)

104 HARMOOD STREET, LONDON NW1 8DS
TEL: 0171 916 4450 FAX: 0171 916 4456

SIMPLY THE BEST DEAL IN TOWN!

CD Manufacturers for *SOUND ON SOUND* Magazine

VOYAGER MEDIA
London & Scotland

CDs & Cassettes (250 min.)
In-house design dept.
Post Production Mastering
Printing & Packaging
Price match guarantee

Free Information pack hotline - **0800 056 8886**
Email: voyager@sol.co.uk http://www.taynet.co.uk/users/voyager/ Tel: 01382 52 72 52

DIGITAL MASTERING

CD MASTERING

32-bit Editing & PQ Encoding
Noise Removal, QSound,
Waves and dbx120 processing
CD copies from £2.50 + VAT
MAJOR LABEL CLIENTS

TEL/FAX - BPM - 0181 892 8856
www.burning-petals.com/sd.html

DIGITAL EDITING

Singles, albums, compilations and reference CD's.

Pro Tools Editing

Mike Collins - 0181 888 5318
MikeCollins3@compuserve.com

CD Mastering ~ Digital Editing
Digital Recording
Demos / Masters / Jingles
Logic Audio & Pro Tools demos by appointment
Tel/Fax: 0181-471 3636 Mobile: 0956-482296

Pro Tools Sonic Solutions
Editing & Mastering
Tel: Chris 0171 483 3506

TripleDAT PC based hard disk editing
PQ encoded CD-Rs from £12.00
Album and song compilation
Digital or valve EQ
Real time cassette copies

ideal mastering services

CALL NOW FOR A QUOTE AND FREE PRICE LIST!!

0171 251 6630

FLIGHT CASES

CUSTOM MADE CASES
HIGHEST QUALITY
AT LOWEST PRICES
Ring or Fax us First
R & J Flytes
Tel/Fax: 01933 651706

SUPER-TOUGH POLYMER FLIGHT-CASES

Around half the price of a traditional flight case!
And much less weight!
Custom-built for long life!
Rack-cases as well! Ring now...

S.Ashby & Co, 1st Floor, 59 Sibson Rd, Birstall, Leicester LE4 4DX 0116-267-1122

"FAST FLIGHTS"
BY REFLECTIONS

Highest Quality Flight Cases
Made to order or from stock

Phone 01993 775677 or
Fax your spec through on 01993 706243

KH CASES
PROTECT YOUR INVESTMENT!

KH Cases manufacture a full range of cases for guitars, amplifiers, lighting, computers and industrial equipment, custon built to your specification.

The Old Plumbers Shop, Medway Depot, St James Road, Tunbridge Wells, Kent TN1 2HD

Tel: 01892 527200
Fax: 01892 527201

SOFT CASES & COVERS

QUALITY COVERS & SOFT PADDED CASES
ANY MANUFACTURER ANY MODEL

AKAI, AMPEG, CARLSBRO, E.V., ENSONIQ, FENDER, J.B.L., KAWAI, KORG, KURZWEIL, LANEY, MARSHALL, MESA BOOGIE, PEAVEY, RIVERA, ROLAND, TECHNICS, TRACE ELLIOT, VOX, YAMAHA.

Sample and Brochure from:
CAPITAL MAMBA
PO Box 158, Torquay,
Devon TQ2 5XT
Tel: 01803 - 299493

LOOK HEAR !

19" Rack & Flight Cases
• to tour the world
• lightweight expandable EMS, for home and studio.

Standard sizes, off-the-shelf.
* 19" Microphone & Storage Draws
* 19" Keyboard & Lap Top Trays
* 19" Conversion Mounts
* Tour Briefcases

Call: CP Cases
Tel: 0181-568 1881 Fax: 0181-568 1141
Tel: 0161-873 8181 Fax: 0161-876 6599

SERVICES

ELECTROFIX

Why pay London rates for your repairs?
(Especially if you LIVE IN LONDON!)
Free collection from anywhere in the UK!
We are the LARGEST Independent Service Centre in the South West!

AKAI Authorised Service Centre · TEAC-TASCAM Authorised Service Centre · Recommended by: YAMAHA · Roland · Studiomaster

TEL: 0117 923 9119 FAX: 0117 946 6343
E-mail: electro.fix@virgin.net
We also buy & sell gear. See the FREE classifieds on our web site
http://freespace.virgin.net/electro.fix
Servicing the Music Industry since 1985

in-sync

in-sync service limited
Unit 6, 43 Carol Street, Camden Town,
London NW1 OHT
Specialists in servicing Tape Machines & Mixers,
Fostex, Tascam, Revox, Soundcraft,
Allen & Heath, Studiomaster etc.
0171 485 3447

ADVANCED SOUNDS LTD
(Service & Repairs)
SERVICE FOR
★ Most tape Machines ★ Most keyborads ★ Hire & Sales division
LOW RATES / GOOD SERVICE
0181 462 6261 or 8621

Audio, Video & Midi Studio Installations.
Custom made looms & patchbays for
analogue & digital systems.
Apple mac support.
STUDIO CRAFT
tel: 0171 380 1309

PANIC

Panic Music Services

AUTHORISED HI-TECH SERVICE CENTRE
FOR: Repairs to all makes of
Keyboards - Synths Modules - Samplers
and Amplification.
Computers - Atari - Macintosh - PC'S
All work to BS5750 Quality Inspected

TEAC - TASCAM
DA88 Service Centre
AKAI Authorised Service Centre
YAMAHA
KORG
ART
SANSUI
Roland
E-MU
ensoniq

CALL US ON 01954 231348

The Vintage Keyboard Company

Service, Repairs, Modifications

Keyboards, Amplifiers,
Mixers, Effects

Ampeg - ARP - Crumer - Elka - Farfisa - Fender
Gem - Hammond - Jennings - Laney - Leslie
Marshall - Mellotron - Mesa Boogie - Moog
Selmer - Vox - Watkins - Wurlitzer
(plus many others - please call!)

Making classic gear sound

Valve amps a speciality
Rates from £25.00/hour
25 River Street, Islington, London EC1R 1XN
0171 837 2070

FOR HIRE

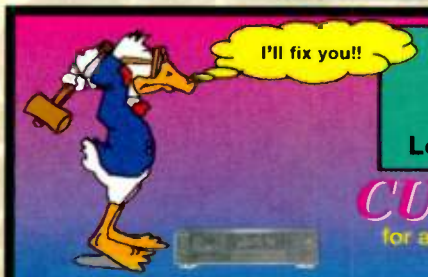
VAN / CREW BUS

3.5 tonne VW / Mercedes plus Driver / Sound
Engineer plus full PA Hire available for small Band
Tours, Shows, Conferences, etc.
Reliable, experienced, professional.
SPM Mobile
Tel/Fax 0181 657 8363

ADVANCED SOUNDS LTD
(Hire & Sales)

- Musical & Studio Equipment Hire
- Home Recording Packages Hire
- New & Used Equipment Sales - Part/Ex
- Delivery/Collection – Nationwide

LOW RATES / GOOD SERVICE
0181 462 6261 (or 8621)



DAT Machine Glitching ?
Mixing desk noisy ?
Blown Amplifier ?
Need 24 Hours Emergency Service ?
Let the Cue Team deal with it!!!

CUE Pro Audio Services
for all your repairs and maintenance needs!
Call 0171 336 6050
Cue is an Authorised Service Centre for: Denon-Pro; Sony; Panasonic; Technics; Crest; Furman; Apogee Sound

ATLANTIC HIRE

Best Prices / Recording Equipment
TEL: 0181-209-1384/0025
(24 Hours)

SYNTHESISER
SERVICE
CENTRE

From A-Z

Phone:
0171 586 0357
UNIT 3, 6 ERSKINE ROAD
LONDON NW3 3AJ
Priority service available
8.30am-6.30pm – Mon-Fri

SERVICING WITH A WEALTH OF EXPERIENCE
SYNTHESISERS : SAMPLERS : FX UNITS : VINTAGE KEYBOARDS
We're here when you need us!
Approved warranty service by major manufacturers

Audiohire

Hire of virtually any recording and backline equipment
Telephone:
0181-960 4466

ADAT & DA88

Specialist Service Centre

Expert Repair and Servicing for ADAT & DA88
Call Aspen Media Service for details:

01442 399 949

ASPEN MEDIA LIMITED 222 Maylands Avenue, Hemel Hempstead, Herts HP2 7TD

New PA Hire Service

400W to 2K with Foldback
Hughes & Kettner Pro Cabs
Soundcraft, Mackie, H&K desks
Rates from £50 to £250 pd
Dry Hire to Full Production
Call for free info pack!
We offer Pro PA systems for
Gigs, Functions and Parties.

tickle 0181 964 3399
The best in Pro-Audio Hire and Sales

MIDI & RECORDING SOLUTIONS 2136

On site problem solving & one to one tuition of studio equipment, studio set-ups and related subjects
- *Sequencing, sampling, synthesis, drum programming*
- *Mixing desks, effects, multitrack recording, engineering*
- *Synchronization, mastering*

Call outs in the London/South East area

Telephone: 0961-333750

THE RECORDING WORKSHOP

Provides one of the most affordable comprehensive range of exclusive 2-8 months part time day/evening **practical** courses on all aspects of Sound Recording including Multi-tracking, Cubase and Sampling.

Beginners welcome, concessionary rates available.

Established since 1989, West London 16 TRACK STUDIO AVAILABLE FOR HIRE FROM £15/HR INC. ENGINEER. 2119

FOR PROSPECTUS : 0800-980-7452

HURRICANE

CITY AND GUILDS COURSES

Our 24-track digital, analogue and MIDI facilities (6 studios) are the UK centre for City and Guilds qualifications 2337 and 2338. Sound Engineering and Music Technology courses start at regular intervals throughout the year.

The certificated course formats are:

1 year on day release
7 week condensed intensive
1 year evening classes (twice weekly)

Phone now for details and a free prospectus

Tel: 0181-691 1900

NVQ Awards & Courses now available

- BTEC National Certificate in DJ Technology
- BTEC National Diplomas in:
- Music Technology
- Popular Music
- Commercial Music Production & Management

Make your own kind of music

If you have an interest in writing, producing or recording music and you want to gain a formal qualification, Leeds College of Music could be the place for you.

For further information contact:
Leeds College of Music,
3 Quarry Hill, Leeds LS2 7PD
Tel: 0113 222 3400
Fax: 0113 243 8798
E-mail enquiries@leedscolmusic.ac.uk

Leeds College of Music

MEDIA

MEDIA PRODUCTION FACILITIES

Bon Marche Building, Ferndale Road, London SW9 8EJ Tel: 0171 737 7152
www.media-production.demon.co.uk Email: mpf@media-production.demon.co.uk

RECORDING AND PRODUCTION TRAINING

Constantly updated full-time courses operated in association with the pro-audio industry providing unique access to the latest analogue & digital systems in our 24-track automated studio and digital programming suite:

One year full-time Diploma Course
ADVANCED SOUND RECORDING & PRODUCTION TECHNIQUES
Practically based tuition in small groups with theory from internationally recognised specialists supplemented with new technology from leading manufacturers.

Three months full-time Certificate courses
ANALOGUE SOUND RECORDING & PRODUCTION
DIGITAL SOUND RECORDING & PRODUCTION

One week full-time course
INTRODUCTION TO SOUND RECORDING & MIXING
An entirely practical foundation course
(14th/21st September '98)

Short courses
AUDIO FOR TV/FILM -
Sadie for Radio: Sampling, Sequencing, Editing: Music Promo.

These comprehensive courses give the necessary skills & experience to gain employment in the audio-visual industries.

COURSES COMMENCE ON 28th September 1998

Extensive range of TV/video & Computer Graphics/Animation courses also available 2252

The American College in London

BA in Media Production

sampling - midi-sequencing - composing for film - music history
audio engineering - cd mastering - digital multitracking - hard disk recording and editing
foleying - tracklaying - field recording for film and video

This four year degree teaches all the neccesary technical skills and concepts to prepare for a degree in Media Production, with the option to specialize in Audio Production. Our 24-track recording studio and electronic music suite support an integrated program of hands-on, project-based training.

Courses are modular and most run several terms during the year. They fully complement other strands of the Media Production degree program, including TV and Video Production, Avid editing, and computer animation/graphic design.

Contact our admissions department on 0171 - 486 1772, or write to the American College, 110 Marylebone High Street, London W1M 3DB. 2261

AUDIOEXCELLENCE
DIPLOMA COURSES

in SSL G+24track engineering and MIDI programming

FOR FREE BROCHURE PHONE

0171 608 0231

BIG CONCESSIONS FOR UNWAGED

RSA EXAMINATIONS BOARD

THE STUDIO WIZARD ORGANISATION

Mediterranean Recording Summer School 1998

7 Days custom courses at an SWO designed studios on a private bay in Malta. Covers all aspects of studio recording. Small groups. Highly qualified staff. Courses run in August. Prices from £950.00 incl flights, accom, etc. Custom travel arrangements available. Call to discuss dates and your interests!

info@studiowizard.com 0860 666532 www.studiowizard.com

JEWEL & ESK VALLEY
The Edinburgh & Lothians College

Grant-assisted courses in one of Britain's best-equipped colleges.

HNC/D MODERN MUSICIANSHIP

Hands-on tuition in Guitar, Bass, Keyboards, Drums, Voice, Groupwork, Midi, Recording, Business Skills; 1-2 yrs full time.

ADVANCED DIPLOMA FILM AND TELEVISION MUSIC

Composition and technology for music-to-picture at post HND level; 1 yr full time.

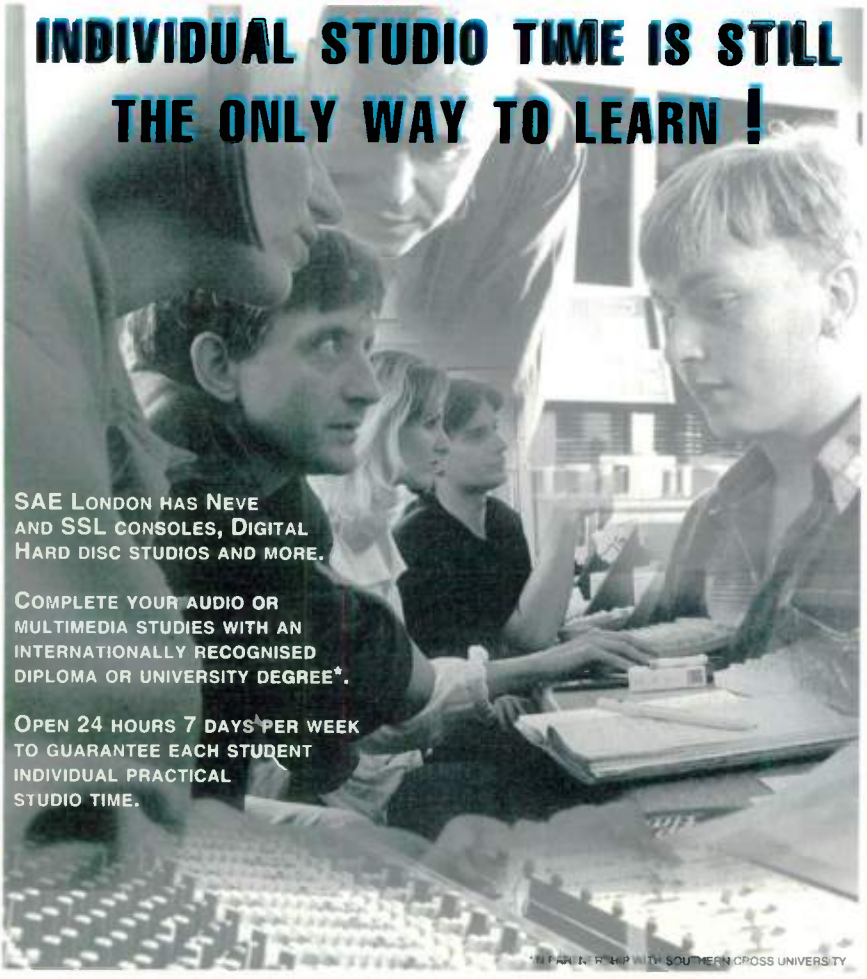
HNC/D INTERACTIVE MULTIMEDIA DESIGN AND PRODUCTION

Innovative course in latest computer, CD Rom and communications applications; 1-2 yrs full time.

Jewel and Esk Valley is a Steinberg Approved Training Centre.

Tel: 0131 660 1010

Milton Road Centre, 24 Milton Road East, Edinburgh EH15 2PP



AUDIO ENGINEER
MUSIC PRODUCER
MULTIMEDIA PRODUCER*
STUDIO ASSISTANT

SAE TECHNOLOGY COLLEGE

FOR A FREE COLOUR BROCHURE,CALL:
LONDON: United House, North Road, Islington, N7 9DP
Telephone: 0171 - 609 2653

Amsterdam (020) 622 8790
Auckland (09) 373 4712
Berlin (030) 456 5137
Cologne (0221) 954 1220
Frankfurt (49-69) 543 262
Glasgow (0141) 221 3441
Hamburg (040) 23 36 76
Melbourne (03) 9534 4403
Milano (02) 8912 0540
Munich (089) 67 51 67
Paris (01) 4811 9696
Singapore (65) 741 1257
Stockholm (08) 730 5100
Sydney (02) 9211 33711
Vienna (01) 330 4133
Zurich (01) 445 2040

For a full college listing, contact any of the above !

Internet: http://www.sae.edu

Established 1976

RIGHT TRACK STUDIOS

Engineering midi and arranging courses in Malvern, beginners to advanced.

Contact David Etheridge on
01684 576896
for details

LAE LIVE AUDIO ENGINEERING
Live Audio Courses

This is the only course to offer real working experience on a daily basis, with particular emphasis on Gain structure & EQ. You will learn all aspects of mixing & balancing both Front of House & Monitors. LAE also provides a job placement scheme for all our graduates.

For a prospectus call: 0171 700 3271 or Fax: 0171 736 0090

PROGRAMMING

Keyboards / Programming and Vocals

Gear List and Studio Setup: Cubase Score VST, fully expanded Roland S770 Sampler, Roland JV1080, Korg Wavestation, Korg 01WFD Synth, Roland D50 and various other synths with loads of outboard gear and Post Prod/Hard Disk Recording software.

Clients: Fast Bell Ltd., Japan, Parachute Music International Ltd., AVA AURA Ltd., Sony Japan, Jaguar.

Young experienced reputable Session Studio Programmer/Musician available also seeking tour work.

Jason Fillingham 01922 493175

Programmer ~ Keyboards

Cubase Score VST Logic Audio, Sound Forge 4, Wavelab, Q Tools, Digital Editing & Pre-Production.

Clients

Channel 4, Sarah Brightman, BBC1, Michael Bolton, Arista, Swanyard, Johny Logan, Movers ~ A&M, Smirnoff, MCA, BMG, Island Records, Expansions, Wired M&G.

Multimedia

British Airways, Saudia Air, BBC1, TFI, ITV, DKNY-Kuwait, Nescafe, Walkers, TNT.

Gear List

Pinnacle S/card, S1000 ~ 9 gig library, Roland A33, JV1080, Kurtzweil Synth Dart, VOX Box, Korg N364, Fostex Mixer, Akai MPC2000.

CARLTON SMITH - 0181 673 6153 or 0956 281084
Email: CasMusik@aol.com

TUITION / PROGRAMMING

On-site support & One-to-One Tuition

(Digital) *Performer* • (Studio) *Vision*

Mike Collins - 0181 888 5318
MikeCollins3@compuserve.com

Logic™ & Logic™ AUDIO
Training & Installation
NINE Training YARDS
Mac - Atari - PC
Dave Gale
Lecturer in Music Technology
Guildhall School of Music & Drama
Approved by Sound Technology plc
Tel : 01252 726463 (24Hrs)
e-mail : training@nine-yards.demon.co.uk

Logic™ (audio)
One-to-One Tuition
MAC • ATARI • PC
Peter Dudley
Tel/Fax: 0181-923 8989 or Mobile 0958 280054
email: logic.tuition@dial.pipex.com

STUDIO ACOUSTICS

THE STUDIO WIZARD

Will Design, Supply, Build, Train, Install, Debug and save you money! So if you want a studio that works like magic call me!

0860 666532

FROM A LITTLE ADVICE – TO A COMPLETE CONSTRUCTION PROJECT – AT THE RIGHT PRICE!

Email: Info@studiowizard.com
Web: www.studiowizard.com

1892

ELECTROACOUSTIC SYSTEM SPECIALISTS 40 Clarendon Rd West, Chorlton, Manchester, M21 0RL

Control Rooms: The Next Generation...

At last, you can have a control room where you hear the same mix everywhere, and can vary the equipment in it without compromising the accuracy of the monitoring.

The Early Sound Scattering room out-performs most LEDE and RFZ rooms like nothing you've ever heard before.

If you're serious about your new control room, you should be talking to **Andrew J Parry on 0161 861 0857**

1779

ARTISTS WANTED

Why Waste Time Chasing Record Companies?

PRESS 500 CD'S, RECORDS OR TAPES YOURSELF, CREATE *"A BUZZ"* ON YOUR MATERIAL, THEN WATCH THOSE COMPANIES *CHASE YOU!!!*

CALL DAT-2-DISC FOR *FREE* INFORMATION PACK ABOUT OUR QUALITY MUSIC MANUFACTURING AT... *"DIRT CHEAP"* PRICES 0181-536 0700

Find Yourself a RECORD DEAL

in the

Bandit

A & R NEWSLETTER

TRY IT - FREE

This valuable Newsletter Profiles 20 Labels, Publishers, Managements etc which are looking for new acts/material every month

Send SAE to Bandit for a FREE SAMPLE EDITION

BANDIT (SOS), PO BOX 22, Newport Isle of Wight, PO30 1LZ

Sample the information supplied by Bandit by calling:

0930 566 567

Operated in conjunction with the I.S.A. Calls 50p/min at all times

Sample Feature & info also on www.wightweb.demon.co.uk/bandit/

2197

A & R LIST

1890

OVER 1000 CONTACTS FOR ONLY £6.00

Including

- Contact Name
- Address
- Phone number and Fax
- Style of Music

Also available

- Gig Guide 900 entries, £6.00 covers Venues, Studios & Rehearsal rooms
- Fanzine lists 500 entries, £4.00
- European A&R list 500 entries, £6.00
- Musical Services List, 900 entries, £6.00
- The List, 800 entries, a budget priced compilation from all the TMR Lists, £4.50
- The Demo Guide, everything you'll need to know from making to packaging, targeting and follow up, £6.00

Many other services available inc:-

- DAT Duplication / Compilation
- Cassette / Video Duplication
- Demo Targeting
- Recording Studio Fostex G16 S

Please write or fax for details

All lists updated regularly

Payable to Mr. M. Bell
TMR c/o Mr. M. Bell, PO Box 3775, London SE18 3QR
Tel/Fax: 0181-316-4690

REHEARSAL STUDIOS

Studio Design .... & Build

A complete in-house professional service
- Acoustics design and build
- Air-conditioning
- Installations
- Equipment supply and install

For the best rounds and a competitive price package contact us now...

0385 586079

Best wishes to our recent clients:
Chris & Simon @ Serious Artists,
Pete, Horace, Colin Etc @ Music Works,
Tony & Kingsley @ Acoustic Arts,

absolute audio

Website info on
http://www.netlink.co.uk/users/absolute/
New page ac1.html on fixed price, no suprises air conditioning packages.
Coming soon perforated panel material.

OR PHONE 01295 660166 FOR FULLEST DETAILS

2029

CLUBS

Club Cubase UK

The official UK Steinberg club

Established in 1993 CCUK offers a bi-monthly magazine containing unique information on MIDI sequencing, Hard Disk recording, hints & tips, and reviews. From beginner to power user guides, from Atari Cubase 3 to Mac/PC VST, if you are a Cubase user then get the most from your program by joining us. Members can purchase at discount all Steinberg upgrades and other related products. Join today and we'll enter you in a free draw to win a Cubase VST plug-in. Membership costs just £18.00 (UK postcode) £25.00 (Sterling) overseas per annum.

For further information and an application form phone / fax: 01667 451115 – or write to:

CCUK, PO Box 6053, Nairn, Scotland, IV12 4YA
Email: m2m@dircon.co.uk
Web: http://compulink.co.uk/~ga/

ROC ROLAND OWNERS CLUB

The Only National Exclusive Roland & Boss Enthusiast Club

2014

- Own a Roland, Boss or Rhodes product?
- Need technical help with your MIDI setup or gear?
- Like to chat to other users for swaps, help etc?
- Need discounts on accessories like keyboard stands, footpedals to MIDI leads?
- Need low cost sounds, samples, expansion boards, manuals etc?
- Need to buy or sell second hand gear?
- Need a discount on fixing or servicing your gear?
- Like to dip into the Roland Sample Archives?
- Like to attend a one-day workshop to get more from your gear?

THEN YOU NEED ROC!

At only £15 annual subscription you can enjoy all the benefits of an exclusive enthusiast club dedicated to you, the Roland owner and receive quarterly News letters packed with info on past & present equipment as well as tutorials, hints and tips.

For information & application form just phone/fax on 01733 233136

or write to: ROC, 130 Wingfield, Orton Goldhay, Peterborough PE2 5TJ
E-mail rolandclub@aol.com

ROC are registered with the Data Protection Register 1984

RECORDING STUDIOS

The Cutting Rooms Manchester

The Cutting Rooms

Recording Studios

City College Manchester

Studio 1: 24 track 2" tape & Dolby S.R. large live room
Studio 2: 16 track Akai DD1500 & Yamaha 02R desk
Studio 3: 8 track Tascam DA38 & Eurodesk

Professional staff, special rates available for students & unemployed, please call for more information and a brochure, or for informal advice on +44 (0)161 740 9438

2147

SPM STUDIOS & MOBILE

16/24-Track Digital Recording
+ Mobile Sound / PA Hire & Sales

3 Live rooms, including Piano and Guitar room. Full MIDI. Digital Editing and Mastering / Re-Mixing. CDR and full CD Production, including Artwork. Cassette Duplication. Bands, Song Demos, Backing Tracks, Video Music, etc.

From £18 per hour, including Engineer/Producer

Tel/Fax 0181 657 8363

2214

Wolf *24/48tr Studios*

48tr ADAT, 24tr 2" Studer, Amek desk automated, sync to video Lexicon, AMS, Focusrite, Tubetech, TC, Urei, Eventide effects AKG C12, Neumann M149, Groove Tube valve microphones ProTools digital editing and mastering. Cubase Audio, Mac & Atari Akai S3200/S3000, JV1080, Prophet 5, Kurzweil K2000, Nord Lead PPG Wave, Vintage Keys, Korg M1, DX7, Waldorf, Vocalist, Vocoder

The most comprehensive facility for ADAT recording and mixing.
Prices from £25 p/h + Vat including an engineer/programmer
For more information or to view the studio.
call: 0171-733 8088

2095

NEW AGE STUDIOS

Akai X 3, Roland and SampleCell samplers with huge sound libraries. Synthesizers include analogues - 202, 303, 808, 106, Bass Station, Minimoog, Oberheim & Sequential - and digitals - Prophecy, Trinity, Orbit, JV1080, 990, M1, 01w DX7, MC303 & ASR/X groove boxes. Atari and Apple Mac computers running Cubase, Logic Audio, Timebandit, ReCycle, Notator and Sound Designer 2 for DAT compilation. Fostex 16 Track tape machine. Soundcraft console and Rode valve microphone. FX rack. Tuition available

Call Alan on
0181 446 3098

2235

DR. LAO'S SOLUTIONS

Classic 24 Track 2" Analogue studio with Hard Disc digital Editing.
The studio has 3 live rooms 1(400sqft)2 (80sqft) 3(40sqft).
Control room is large (240sqft) and was designed by Steve Marr (S.A.E.) what you hear is what you get.
In house Producer + Engineer can record live, remix, write music to produce a finished product. You can use your own Producer + Engineer.
Equipment lists can be sent to you if you phone. To much to list.
There is also disabled access.

East London

Tel/Fax: 0181-533-5464 Ask for Luke

Rates 25ph (negotiable)

1921

SITUATION VACANT

STAFF VACANCIES AT TURNKEY

Services Engineer & Manager
Expansion of service department requires engineer and manager, B-Tech or equivalent, a distinct apitude for electronics and a willingness to learn. Repair and service of musical instruments and related equipment.

Experienced Telesales People
require for rapidly expanding Mail Order Department of UK's leading hi-tech store - ideally with hi-tech music retailing experience. Telesales experience essential. Excellent performance related pay.

Accessories Assistant
Mature person (not necessarily in age!) responsible for maintaining and developing the existing business, stocking, ordering, selling etc... A wide knowledge of recording and MIDI is essential.

Sales Persons / Demonstrators
We require successful applicants to demonstrate a good working knowledge of the current market-place and a full understanding of equipment owned or used. We are particularly looking for knowledge of MIDI keyboard market.

PC Music Specialists
Sales and demonstration on of PC compatible MIDI and digital audio products, phone and shop floor, tech support and staff training. Min 6 months experience with Windows. Good familiarity with at least 1 windows sequencer.

Send your application in writing to 114 Charring Cross Road, London WC2H 0DT, by fax to 0171 379 0093, or e-mail to jobs@turnkey.demon.co.uk. Include phone no & 2 references

As part of Arbiter Group plc, and as the UK's largest outlet for MIDI and Multi-track, we offer first class training, unrivalled salary, good prospects and real job security. We are an equal opportunities employer.

1532

LIPA

The Liverpool Institute for Performing Arts (LIPA) is one of the world's foremost centres for preparing students for careers in the arts and entertainment industries. Based in the former Liverpool Institute for Boys, Sir Paul McCartney's - our lead patron's - old school we currently wish to appoint the following staff to support our continuing growth:

Lecturer in Sound Technology
Full-time, £16961 - £23123 pa

You will play a key role in the continuing development of Sound Recording, Music Technology and Music Production at LIPA, having substantial experience of working in the audio industry. You will have a broad knowledge of Sound Recording and Production techniques in a range of applications and media, and experience in teaching or training, preferably at an HE level. The ideal applicant would also have significant expertise in hard disc recording systems and advanced MIDI applications.

Closing date: 4.00pm on Friday 5th June 1998

For an application form and further details phone 0151 330 3013 (24 hr ansaphone) or write to **LIPA, Mount Street, Liverpool, L1 9HF** or **Email recruit@lipa.ac.uk**

LIPA - a registered charity No. 1001565 aiming to be an equal opportunity employer providing education and training in the performing Arts. LIPA is supported by Grundig.

2259

SALES STAFF WANTED

1889

Andertons Music Company, Guilford, are constantly on the look out for high calibre people to join their ever-expanding team of sales and sales support staff. If you have an interest in guitars, keyboards, hitech gear or drums and you think that you fit the bill, then write, including a CV, to The Personnel Manager, Andertons Music Co., 58-59 Woodbridge Road, Guildford GU1 4RF

Digital Village Require

Computer Sales and Support staff within the London area. A good knowledge of PC and/or Mac hardware/software is essential. Previous hi-tech retail experience would be an advantage.

All applicants will be dealt with in the strictest confidence.

Please send CV to Mr. Paul Dennis, Music Village, Eurotec House, 31-35 High Road, Chadwell Heath, Romford, Essex, RM6 6QW

2265

COMPOSITION

Composers' DesktopProject

Specialists in Sound Transformation

* PC 386+ / SGI Indigo or Indy / Atari Falcon 030 / TT030
* Direct-to-disk recording enables use of various sound sources
* 150+ sound processing programs offer leading-edge facilities
* Analysis/re-synthesis, with 50+ programs to sculpt & mix sounds (as analysis data) in extraordinary ways
* PC peripherals provide links to film, studio & multi-media work

Brochure from: Composers' Desktop Project
c/o 12 Goodward Way, Cepen Park South
Chippenham, Wiltshire SN14 0SY
Tel: (01249) 461361

2157

A real musician talks about Reality™

Anthony Lanford
Reality User
Hobbyist Student NASA Intern
Toolbox
Reality Pentium® 200 MMX PC
Cakewalk Kurzweil™ K2000

Works with most soundcards

Seer Systems
The Future Of Music Synthesis

"I first heard about Reality on line from Harmony Central. It looked like it had a lot of potential. The price was good, considering what it could do and I did not want to spend £600.00 on a new keyboard."

Anthony creates entire pieces using just Reality and Cakewalk™. "Reality and Cakewalk work great together. Very straightforward-Reality shows up in Cakewalk as an instrument. The ability to make a song from start to finish, then burn it on a CD is a real good thing. Gets the whole job done."

"The sounds are very important. I spend a lot of time searching for the right sound, and if I don't already, Reality has the tools to make one."

"I am interested in physical modeling and the different types of synthesis. The FM synthesis is really good. Reality doesn't just one thing. It's an all-around synthesiser".

"Reality's real-time playing is very important, especially for solos. Also if you are playing out, it must be real time. I haven't detected any lag at all in terms of hitting the key and getting the sound."

"I don't think there is any synthesiser product to compare to Reality for the price performance."

Reality-the PC-based synthesiser from Seer Systems. Reality puts sample playback, FM synthesis, physical modelling, and analogue synthesis at your fingertips for sequencing, live performance, or programming, and comes with its own library of sounds.

For more information about Seer Systems or Anthony, visit the website at www.seersystems.com or call us at 0181-904-4141

RRP £299.99

RRP £99.99

* 2 MIDI In's & 4 MIDI Out's
* All formats of SMPTE Read & Write
* Microsoft™ Win95 & NT4.0 Drivers supplied
* Up to 8 unit support, 8 In's & 192 ChannelMIDI
* Perfect harmony with Logic Audio™ Cubase Audio™ Cool edit, Cakewalk Pro Audio etc etc

RRP £399.99

4 Channel PCI Digital Audio
same spec as Wa-Mi Rack audio side

8 Channel PCI Digital Audio
With 64 Channel MIDI

* High Quality 20bit A/D D/A - 99dB Dynamic Range
* 2xBCh Analogue In's & Out's: +4dBu 1/4" Jacks
* S/PDIF Digital In & Out: Coax and Optical
* Microsoft™ Directsound Support
* Microsoft™ Win95 & NT4.0 Drivers supplied
* WDM drivers for Win98 and NT5.0
* Up to 2 card & unit support, 16 Channel audio & 128 ChannelMIDI
* 4 MIDI In's & Out's
* All formats of SMPTE Read & Write
* Perfect harmony with Logic Audio™ Cubase Audio™ Cool edit, Cakewalk Pro Audio etc etc

RRP £699.99

For more Spec's and details of your nearest stockist call

CIMPLE SOLUTIONS
Professional Ltd

Tel • +44 (0)181 904 4141
Fax • +44 (0)181 904 1200

Unit 2-17 Wembley Commercial Centre
80 East Lane • North Wembley
Middlesex • HA9 7UR

www.cimplesolutions.demon.co.uk
sales@cimplesolutions.demon.co.uk

17th-21st June98
London Arena
See us on Stand A12a

SOUND DIVISION

EUROPE'S LEADING DANCE

SPECIALISTS IN DANCE MUSIC

UNRIVALLED AS THE INDUSTRY'S EXPERTS

Roland MC505 GROOVEBOX

714 on board patterns, 512 built in sounds, 3 independent effects, 25 Dance drum kits, full midi implementation, 95,000 note sequencer, arpeggiator, the amazing Megamix and D-Beam controller this is easily the most powerful piece of equipment to ever hit the Dance market. Roland have once again set the pace and the rest are left to follow, for Dance Producers everywhere, there is no alternative, the MC505 is the only choice!

THE DANCE TOOL FOR '98

ONLY £949.00

Roland SP808 GROOVE SAMPLER

Roland are back on the sampler market and look set to take it by storm, the SP808 features 64 sample banks, 46 minutes sample time at 44.1khz, 3 band para EQ and on board effects with over 1024 patches. All this can be saved on to the built in Zip drive making this the perfect all-in-one sampling work station.

NEW SAMPLING WORKSTATION

ONLY £1099.00

GROOVE APPROVED

YAMAHA CSIX DANCE SYNTH

This great looking keyboard houses some of the best dance sounds available on the market today and at this unbelievable price nothing else comes close. Front panel knobs get you instant and realtime access to the editing parameters.

· NEW MEGA LOW PRICE ·

ONLY £479.00

Roland VS-1680 DIGITAL STUDIO WORKSTATION

The VS-1680 Digital Studio represents a new definition in recording power, this table-top workstation is a 16 track, 24-bit audio recording, editing and mixing system with on board effects processing. Following on from the ground breaking VS880 Roland have once again set the standard, this powerhouse offers far more functions and facilities than most of today's digital 16 track machines and at a much lower price.The VS-1680 is a bold step forward in professional digital audio recording.

DEPOSITS NOW BEING TAKEN!

ONLY £2099.00

YAMAHA PRO MIX 01 DIGITAL MIXER

The Yamaha Pro Mix 01 was the worlds first affordable digital mixer and is still the most popular on the market today, spend some time on it and you'll instantly know why. This is a 16 channel desk with an onboard SPX 990 effects processor built in, utilizing two simultaneous effects. Add to this motorized faders, midi, onboard compression, eight balanced inputs, digital outs and you've got yourself one powerhouse of a mixer, when you understand that all of this is in the digital domain and easily controllable you'll understand how good a deal this is. Order one now as stocks are limited!

INCLUDES FREE DELIVERY!

RRP £1099 £CALL

THE BEST DANCE DEALS

YAMAHA EX5 POWER STATION SYNTH

This is the workstation everybody has been talking about since late last year and now it's finally arrived. In one box, you get sampling, AWM, VL, AN and Yamaha's brand new FDSP synthesis. No other module at this price can even come close to this kind of sonic processing power. Different forms of synthesis can be layered to produce huge bottom end bass, beautiful floating pads and screaming lead lines, all this can be recorded internally using the 16 track on board sequencer, this is a great deal. We recommend you buy one Now!

· ALL EX SYNTHS IN STOCK ·

NEW

ONLY £1899.00

E-MU AUDITY 2000 DANCE SYNTH

From the same people that gave us the incredible Emulator samplers, Planet Phatt and Orbit modules, comes one of the most powerful Dance synthesizers ever. This monster houses 16 independent arpeggiators, 640 presets with 4 layers per preset, 12th order filters and 24 bit dual stereo effects processors. On the outside you have 4 real-time control knobs, 6 audio and stereo digital outputs and all this is expandable. If your want to keep ahead this instrument is a must.

INCREDIBLE NEW PRODUCT ·

NEW

ONLY £1299.00

E-MU E6400 inc.16MEG

Everybody wants an E6400 but not everybody can afford one, we at **Sound Division** have once again made sure that our customers get what they want. This is the ultimate sampler and we even include 16 meg of Ram to get you started, if you need more sounds, then we'll let you copy our Emu sample library. For the best price and unbeatable customer service contact us now, you won't be disappointed.

· FREE EMU LIBRARY ACCESS

ONLY £1799.00

AKAI DSP12

Twelve tracks of pure digital multi-tracking with 8 individual inputs, this is a must for any home or project studio. All songs are saved onto JAZ discs via the on-board JAZ drive, if you do need more memory, just use more discs. No other digital multi-tracker offers as much for the same price and in terms of quality it's everything we've come to expect from Akai, simple to use, great build quality and amazing value for money.

HOME STUDIO ESSENTIAL

ONLY £1299.00

HHB CDR800 COMPACT DISC RECORDER

HHB's CDR800 is *the* CD recorder choice when it comes to professional mastering. Used in professional studios and production houses, this recorder turns out thousands of CD's time and time again. It is solidly built and incredibly reliable. *10 free* CD's will be supplied with the unit, each offering 680 MB/74 minute's of recording time. This a far better option than most of today's DAT machines.

NEW

· 10 CDs FREE LIMITED PERIOD ONLY ·

£CALL FOR PRICE

All prices are inclusive of VAT. E&OE. All offers subject to availability. We reserve the right to price amendments without notice when necessary. *All finance agreements subject to statu

ADELAIDE HOUSE,
383-385 LIVERPOOL RD,
ISLINGTON, LONDON N1 1NP
E-Mail: studio@soundivision.co.uk

SALES 0171-700-4242
FINANCE 0171-700-4442
FAX 0171-609-1310

SHOWROOM OPENING TIMES
MONDAY - SATURDAY
10.00am - 6.00pm
FREE CUSTOMER CAR PARK

ALL MAJOR CREDIT/DEBIT CARDS WELCOME

TECHNOLOGY CENTRE

PRODUCTION EQUIPMENT IN DANCE MUSIC PRODUCTS!!

Mutator

The ultimate analogue filter and all midi controllable. Crunch up your digital synth, we guarantee once you start using it you wont stop. This unit must be heard to be believed.

· IN STOCK & ON DEMO NOW ·

ONLY £699.00

novation SUPERNOVA

Finally a synthesizer designed and built in the UK that can more than stand up to it's international competitors, analogue has never been so much fun or sounded quite so good. Packed to the ceiling with features like 16 note polyphony across 8 channels with all the knobs transmitting midi data, include independent effects on all 8 parts and you have got one killer of a synth, you've got a Supernova, get one!
(Drum & Bass Stations still available).

ANALOGUE HEAVEN

NEW ONLY £1199.00

Soundcraft

NOTEPAD

10 inputs, EQ, phantom power, separate mix and monitor outputs, at this price what more can we say, buy one.
All other folios always in stock.

PREMIER UK PRICE — £CALL FOR BEST PRICE

R3D

Probably the most innovative product to be released this decade.
Voyager 1 is a sophisticated audio BPM detector/ MIDI Clock generator which synchronises tempo's of dance tracks and MIDI sequencers to produce integrated performances.

PREMIER UK DEALER — MATT FINISH ONLY £249.00 — CHROME FINISH £299.00

DIGITECH TALKER

• Classic vocoder • 6 user presets
• Vocal synthesis • Talk box • Wah FX
Make any instrument talk.
"The most exciting effect for years"

IN STOCK NOW! — £CALL FOR BEST PRICE

YAMAHA QY70

PORTABLE WORK STATION

• 64 Note Polyphony • 20 Songs
• 768 Preset Patterns • Realtime Recording
Take it anywhere!

IN STOCK NOW! — £CALL FOR BEST PRICE

0% FINANCE!
0171-700-4442

12, 18 & 36 MONTHS AVAILABLE, CALL OUR FINANCE DEPARTMENT NOW!

DON'T FORGET DANCE TECH '98 ON SUN JULY 5TH AT COMPLEX, ISLINGTON
SEE JULY ISSUE OF SOUND ON SOUND ADVERT FOR DETAILS

SALES 0171-700-4242
FINANCE 0171-700-4442
FAX 0171-609-1310

FREE CAR PARK

The Advertisers Index

Academy of Sound / Carlsbro Retail	☎ 0345 697037	161-162, 163-164
Akai UK	☎ 0181 897 6388	101, 115
Alchemea School of Recording	☎ 0171 359 3986	273
Andertons Music Company	☎ 01483 456777	105
Apple Computing UK	☎ 0181 218 1050	39
Arbiter PLC	☎ 0181 202 1199	12, 113, 147, 159, 191, 217, 227, 241
Audio-Technica	☎ 0113 277 1441	31
BCK Products	☎ 01992 524442	83
Behringer GmbH	☎ 00 49 2154 920 666	231
Beyerdynamic GB	☎ 01444 258258	55, 97
Blue Systems	☎ 01799 584095	33
Brandoni Music	☎ 0181 908 2323	171
British Music Fairs	☎ 01483 223326	271, Loose Insertion
Brixton Exchange Mart (BEM)	☎ 0171 733 6821	75
Computer Audio Warehouse	☎ 0181 400 1234	1
Concert Systems	☎ 0161 927 7700	109, 201
Dawsons Music	☎ 01925 632591	183, 184-185
Digital Village	☎ 0181 440 3440	118-119, 120-121
Drawmer Distribution	☎ 01924 378669	257
E-MU Systems Incorporated	☎ 001 408 438 1921	111, 166-167
Eddie Moors Music	☎ 01202 395135	274-275, 276-277
Emis	☎ 0117 956 1855	251
Exclusive Distribution	☎ 01462 481148	45, 181
Gateway School of Recording	☎ 0181 549 0014	75
Gig Sounds	☎ 0181 769 6496	117
HHB Communications	☎ 0181 962 5000	84-85, 150-151, 205, 207, 209
HW International (Phonic)	☎ 0181 808 2222	247
HW International (Shure)	☎ 0181 808 2222	177
Isotrack	☎ 01202 247000	35
Kenton Electronics	☎ 0181 337 0333	87
Key Audio Systems	☎ 01245 344001	7, 73, 139, 173, 223
Korg UK	☎ 01908 857100	OBC
M Corporation	☎ 01425 480569	92-93, 94-95
MacMusic	☎ 01324 826647	117, 157
Midiman UK	☎ 01205 290680	235
Millennium Music Software	☎ 0115 955 2200	Loose Insertion
Music Connections	☎ 01245 354777	59, 60-61, 62-63, 64-65, 66-67, 68-69, 70
Music Lab	☎ 0171 388 5392	Loose Insertion
Music Village	☎ 0181 598 9506	122-123, 124-125, 126-127, 128-129, 130-131
Musictrack	☎ 01462 812010	IFC
Natural Audio	☎ 01462 743300	140-141
Peavey Electronics Corp UK	☎ 01536 461234	137
Phil Rees Modern Music Technology	☎ 01608 811215	259
Project Audio	☎ 0171 428 9730	210-211
Project Music	☎ 0181 570 4444	237
Raper & Wayman	☎ 0181 800 8288	145
Red Submarine	☎ 01904 624266	282-283
Roland UK	☎ 01792 515020	218-219, 239, 266-267
SAE Technology College	☎ 0171 609 2653	255
SCV London	☎ 0171 923 1892	IBC, 51, 81, 87, 103, 107, 149, 202-203
SFIDA (Creative Learning)	☎ 0181 749 2828	169
Smart Sound Direct	☎ 01883 346647	189
Sound Business Studio Sales	☎ 0181 559 0373	175
Sound Control	☎ 0800 525260	212-213
Sound Division	☎ 0171 609 3939	57, 302-303
Sound Solutions	☎ 01403 732606	75
Sound Technology plc	☎ 01462 480000	5, 199
Sounds Live	☎ 0191 230 3422	157, 253
Sound Valley Distribution	☎ 01494 434738	53
Spirit by Soundcraft	☎ 01707 665000	10-11
SRTL	☎ 01243 379834	232-233
Stirling Audio Systems	☎ 0171 624 6000	89
Studiomaster	☎ 01582 570370	261
Studiospares	☎ 0171 482 1692	91
Sutekina Music	☎ 0171 836 0127	242-243
Syco Systems	☎ 0171 625 6070	194-195
TEAC UK	☎ 01923 819630	155
Terratec	☎ 01600 716911	193
The Academy of Contemporary Music	☎ 01483 456788	99
The Guitar, Amp & Keyboard Centre	☎ 01273 676835	262-263
The UK Office	☎ 01442 870103	49
The Way Out West Music Company	☎ 0181 744 1040	43, 269
Thomann Musikhaus	☎ 00 49 9546 92230	225
Time & Space Distribution	☎ 01837 841100	248-249
Tony Larking Audio	☎ 01462 490600	229
Turnkey	☎ 0171 379 5148	18-19, 20-21, 22-23, 24-25, 26-27, 28-29, 79, 179, 221, 265
Yamaha - Kemble Music	☎ 01908 366700	13, 187

sounding Off

One day we all might drive a compact hatchback. Until then, Mac musicians should rally support for their beloved computer. KENNY CAMPBELL sounds the call...

You've got a 266MHz Mac G3? What a sorry sight you are. I bet you've got a Betamax, haven't you? Couldn't buy that Clavia Nord Modular, eh? Didn't have any use for that Yamaha DSP 2416? That's the millenium coming up, that is. EVERYONE else has a Pentium PC. They are so much better, aren't they? No, nobody actually cares; you're a dinosaur. If you actually want to make music, 21st Century boy, you'd better get with the program. Those manufacturers like things nice and tidy, they do.

The funny thing is, you're probably still in the majority within your particular field. Among your friends and fellow musicians, PC users are a bit thin on the ground. You've been keeping an eye on hard disk recording and the idea of an 02R and 24-bit conversion on a little card really looks like it could be the way to go in the not-too-distant future. You'd actually go out and buy a Nord Modular tomorrow... it's just a pity that you're not really demographically quite the sort of customer that they want. Yes, I know you're a professional musician. I know you're a bit of a whizz-bang synth programmer. I know you've got gear stashed everywhere in your house. It's just that the accountant next door has a BMW and a bigger bank balance. Last Christmas, his wife bought him one of those keyboard things. It looked ever so complicated but really it does the most amazing things. Here, if you push this button marked 'Demo' it sounds fantastic...

What's that? The music was written by a clever man with a Macintosh and the samples were edited the same way? What's a sample? Oh, you mean a WAV.

Alright, joking aside. A lot of you might recognise yourselves. I know you're out there, because I work with you and I work with other people who work with you. We all use Macs. You've put in a lot of time and effort to become Mac literate. You like being Mac literate. Apple seem to have weathered the worst of the storms and have some great computers to hit back with. It's an exciting time to be a Mac owner. They have the fastest notebook computer in the world and the Gossamer II board is rapidly sobering them up over at Intel. Quicktime v3 is set to become a world standard. So why has this Pentium PC thing started to take precedence in one of the few fields where the Mac still dominates?

If the number of Windows-using musicians has increased to the point where they make up around, say, 25% of the music market, then the arithmetic is against the Mac. It doesn't matter if we constitute the majority of music technology customers. All it takes is for 1% of the overall computer market to start buying computer-related music products and it means that we are a minority in the overall market for these products. Scary, isn't it? It then means that the target market for complex computer-based music products is driven by people with no real clue how to use them. When the gear becomes so cheap that you can buy a pro synth card as a Christmas present for the kids, why not?

What's the difference between a PCI card with a software front end and a MIDI module? No more painting the hallway through the letterbox (good phrase that — it originated in *SOS* in a Yamaha TG500 review, if my memory serves me). If you can have a flat panel display for your computer (and they are the next big thing); if you can keep all the cabling for your audio in a single loom at the back of your computer (or not, if you want to mix on your computer); if you can have digital hard disk recorder and DSP; have software synths that sound as good as Rebirth and have the potential of the Nord Modular; if it takes up no more desk space than your present computer and is portable, thanks to your great new flat screen; if you can have all this and save money as well, what are you going to do? It doesn't take a genius to see the way things are heading.

You're a manufacturer. It used to be that all you had to worry about was MIDI compatibility. Now you have to worry about whether to produce two sets of software to drive the same product, when it would be much cheaper and more sensible to make one. So you choose. The rest of the world has already succumbed to the might of Microsoft, and you need to bet on the winning horse.

In this case it's a unique situation. The majority of people who really want your product and who have supported the growth of your company do not really count, because you know that as you make cheaper and more sophisticated products a larger percentage of the overall population will decide to buy them. That means businessmen who have Windows at their office and are comfortable with it. That means kids who have grown up knowing that all the best games are for Windows and have never been introduced to the joys of the Mac.

Effectively, you are going to be coerced into using Windows without even having the chance to vote with your cash. If you can't buy what you want, because it's not compatible with your Mac, what can you do? If you desert the Mac, then they were right. SoftWindows might work. A PCI card that pretends to be a Pentium PC will, but if you end up running two operating systems in parallel, experience tells you where that slippery slope will end — with just one OS (and it won't be the one Mac users like).

Now is the time to shout about it, because in another year it might be a done deal. Happy? No? Then tell them. SOS

If you'd like to air your views in this column, please send your ideas to: Sounding Off, Sound On Sound, Media House, Trafalgar Way, Bar Hill, Cambs CB3 8SQ. Any comments on the contents of previous columns are also welcome, and should be sent to the Editor at the same address. Email: sos.feedback@sospubs.co.uk

FOSTEX

8 tracks of non-compressed CD-quality audio & now SCSI* back-up

V2
WITH ENHANCED SOFTWARE + 1.6Gb DRIVE!

Mix Bounce
Allows all 8 recorded tracks to be simultaneously mixed-down to a stereo pair on the same digital hard disk! This means that 2-track digital masters can now be made without using any external recorder!

Increased Virtual Reels
9 virtual reels (up from 5) available without the need to fit the 8339 SCSI board.

New Preview Function
Repeatedly preview data 1 second before and after all the locate points.

1.6Gb Hard Drive Fitted as Standard
1.6Gb Hard Drive as standard giving almost 40 minutes of 8-track recording!

FEATURES

- 8 tracks of 16-bit 44.1kHz recording direct to supplied 1.6Gb hard disk
- Cut, Copy, Paste editing with Undo
- Easy recording time expansion - up to 2 hours with 5Gb drive!
- Full- function 8 channel mixer. 2-band EQ and 2 Aux sends per channel. 20 inputs in remix.
- MIDI and MTC sync - no track loss
- Side mounted 3.5" expansion bay for 8339 SCSI interface option

DMT-8VL
Digital Multitracker

Talk about having your cake and eating it.

You already know that the DMT-8VL represents the best value digital recording / mixing package around. - It really couldn't be anything but with 8 tracks of non-compressed digital recording direct to hard disk coupled with a great mixer and excellent sync facilities.

But now it's even more attractive because the DMT-8VL is available with the new 8339 SCSI option. This allows for ultra-fast back-up and restore of your recording sessions to virtually any removable or external SCSI device complete with auto-archive over up to 9 disks (Zip, Jaz, SyQuest, MO, etc).

So while the competition expects you to join the 'digital recording revolution' with less than 8 tracks and compromise the integrity of your audio with cost-cutting compression techniques;

You know better.

Quality, easy expansion, instant integration and a great sound. It's everything you need.

SCV LONDON

Exclusively distributed in the UK by SCV London. 6-24 Southgate Road London N1 3JJ. Tel: 0171 923 1892. Fax: 0171 241 3644
email: fostex@scvlondon.co.uk Web: http://www.scvlondon.co.uk

*All trademarks acknowledged. E&OE.

Z1 The Definitive Synthesizer

The Definitive Synthesizer

Why is it that renowned session players all over the world, through to musicians at the cutting edge of Dance Music are discovering that Z1 goes to places that most other synths can only dream of?

Yes, the Z1 analog synthesis model is the most powerful available. Yes, it abounds with massive sawtooth pads, thundering resonant basses and the hardest sync'd oscillator leads.

But that's just for starters. The fact is, KORG Z1 delivers levels of polyphony, multi-timbrality and expression previously unavailable in any other physical modelling keyboard.

It has 13 different types of synthesis for the widest range of sounds and it's the first physical modelling synth giving access to 6 different synthesis types and sounds at once. With revolutionary features such as the XY pad, real-time control possibilities are endless.

Put simply, the KORG Z1 means limitless creativity.

KORG

Brochure Line
01908 857150