

BRITAIN'S MUSIC PRODUCTION MAGAZINE

THE MIX

The Cure
in session on
'Wild Mood Swings'

On the buses
Mixer routing explained



Beatbox deluxe!

Novation DrumStation: perfect 808 and 909 beats?



PLUS

- Cubase v3 roundup
- Panasonic SV3800-DAT
- Allen & Heath GL3000 mixer
- Akai Remix 16 sampler
- Sherman Filterbank
- E-mu Orbit dance module

WIN!
a Focusrite Green processor



Volume 3 Issue 1 £3.95
July 1996 (Happy birthday)
Not for sale in the USA

MUSIC MAKER PUBLICATIONS



VLZ MICROSERIES: SMALL MIXERS WITH WHAT IT TAKES TO HANDLE SERIOUS PROJECTS.

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Front of House

Front of House

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Welcome to



Happy birthday to The Mix, happy birthday to The Mix...yes, it's been two years since the launch of The Mix. Hard to believe? Not really – I've lost sleep, weight and (most worrying) hair in putting this magazine together over the last 18 months, and I'm convinced that time has travelled ten times faster since July 94 (it must be that DeLorean I've been driving). Still (Warning: cliché ahead) it's all been worthwhile. We launched The Mix as the magazine that could reflect the changing face of music production in the 90's, and I believe we achieved that, and are now doing that it than ever. The emphasis may change subtly over time, but we still hold true to the original concept of The Mix – that is, a magazine for music producers, however they produce music. It may be in a pro studio, or at home on a computer; it could be live music production, or multi-media music production, it really doesn't matter. In most cases, the equipment is the same or very similar, and many of the production techniques are used across the board.

We originally chose the name 'The Mix' because it could accommodate the inevitable changes that would occur in music production over the next few years. And how it has changed! In the last two years we've seen the transformation of hard disk recording from a high cost, high hassle, recording medium, into the system of choice for many musicians – professional and hobbyist alike. With a choice of d-t-d systems ranging from portastudio-type packages, to computer-based systems, to high-end hardware to replace the 24-track tape machine, hard disk recording really has come of age. Concurrently, the lifespan of tape-based systems such as ADAT and DA88 seems to be coming to an end (though I would expect to see a continued, if reduced, demand for quite some time) and we have witnessed the arrival of the all-new MiniDisc format for multi-track use – handy for those who really don't want to use hard disks, and the ideal replacement for cassette-based multitrackers. Yes, things have certainly changed.

What happens in the next two years is anyone's guess, but whatever happens we'll be here to bring you news of the latest developments, and unbiased reviews of the newest gear. Not to mention interviews with the most innovative artists, the best in tutorials, etc, etc (time to wrap it up, I think). Here's to the next two years...

Chris Kempster, Editor

Gear Reviews



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808/909 drum sounds in a module

Allen & Heath GL3000 26
Big-time live mixer

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Dance sound module

Steinberg Cubase V3 40
Roundup of all the versions

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Sophisticated filter section

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Pocket guitar FX

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Neville Wake continues his guide to live sound with effects and signal processors

Studio Basics 133
Tips for the studio beginner and expert alike from Nigel Lord

On The Beat 138
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Tips From The Top #1 139
Tricks of the trade from record industry professionals



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Carl Craig 90

Tim Barr catches the innovative Detroit techno-ist on a recent trip to London

Junior Dangerous 98

Rob Green finds out how to mix ragga and hip-hop without getting hurt

The Cure 102

Rob Green meets Rob Smith and the band during the recording of their latest album

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Phil Strongman enrolls in the Bill Grundy school of journalism to question the former-Sex Pistol



Carl Craig...page 90

WIN! a Focusrite Green range signal processor on page 111



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The Mix's corner shop – books, videos and merchandise...

BRITAIN'S MUSIC PRODUCTION MAGAZINE
THE MIX

"The UK's best up and coming Pro Audio & Hi-Tech dealer..."

WAY OUT WEST

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Akal S900 sampler	£499
Audio Logic PA 88A exciter	£199
Alesis Microverb III	£165
Akal XE8 drum expander with cards	£275
JBL 4208 monitors (boxed, A1)	£299
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Deep Bass 9	£350
Tascam 424 Portastudio (boxed)	£299
Fostex E16, excellent	£1999
Roland KR650 intelligent piano	£1299
Peavey Decca 528 power amp	£299
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Alesis MIDverb XT	£165
Tascam 38 with 8-track DBX noise reduction	£899
Alesis Microverb II	£125
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Yamaha EMP700	£375
ARP Axse synth	£299
Fostex G24S with S330 sync board (boxed, A1)	£699
Beyer DT190 headphones	£140
Replay 16	£90
E-mu ES132 sampler (boxed, A1)	£899
Casio FZ10M sampler with library	£499
Studio Research 12:2 mixing desk	£199
Teac X3 open reel mastering machine	£275
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Drawer DL321 compressor	£275
Aphex Aural Exciter type B	£175
Yamaha OY10 portable sequencer	£199
Studiomaster Proline 16:8 16:2 mixing desk	£799
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Yamaha MEP4 MIDI patchbay	£150
Roland P330 piano module	£350
Steinberg Pro 24 MKII for Atari	£99
Yamaha RX17 drum machine	£125
Allen & Heath mod 3 12:8 16:2 mixing desk	£699
Soundtracs Topaz Mini 112:2 (boxed, A1)	£275
Soundtracs Topaz Macro 14:2 (boxed, A1)	£325
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Nomad Axeman	£150
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Yamaha GEP50 guitar processor	£250
BBE Sonic Maximiser	£175
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Yamaha TXP1 expander	£199
Kurzweil PC88	£1295
Roland Pad 80 Octopad II	£375
DBX SNR1	£145
Kawai K1 + cards	£350
Korg M3R	£395
Yamaha TG55 (boxed)	£350
Kawai K1R	£225
Casio VZ8, 1 RAM card	£199

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WOW

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BEHRINGER	✓
FOSTEX	✓
SAMSON	✓
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SOUNDTRACS	✓
STUDIOMASTER	✓
TASCAM	✓
YAMAHA	✓



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WOW

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RE:MIX

mixed-mode CD tracklist

Software section

MAC SECTION

RAMP Directory
The ever-growing Rapid Access Music Product directory providing up to the minute info on products, dealers and prices – and it's completely free!
Loading instructions: Click on the RAMP CD icon on the desk, Run the Projector and you're away!

Applications

Steinberg Cubase Score VST Demo
Working Demo of this highly acclaimed package.

CyberMozart & Push Button Bach
Composer applications with full notation.

Buscalnvisibles

Find out what's lurking on your hard disk...

Acoustics Glossary

Acoustics jargon-busting.

AutoCat

Floppy disk management system.

Big Bang

Slightly temperamental Mac drum machine.

Boris Effects

Special effects generator for Adobe Premier and Media 100.

SoundView

Real time graphic display program for inputted sounds.

MIDI Files

The On The Beat series MIDI files for use with the samples and tutorial (p138)

Samples

World class producer *Steve Levine* continues his Pro series Sample CDs selection, this month it's the turn of the Taylor acoustic guitar. Ethnic percussion guru *Peter Lockett* provides Udu drumming from Nigeria this time round, and there's another great selection of 'The MIX' samples, courtesy of *Danny McAleer*. AIFF samples can be found in the MAC section and WAV samples are in the PC section.

PC SECTION

RAMP Directory

The ever-growing Rapid Access Music Product directory providing up to the minute info on products, dealers and prices – and it's completely free!
RAMP loading instructions: For Windows 3.X: Click on File – choose Run from the Programme Manager, type in the letter of your CD-ROM drive, followed by RAMP.EXE (e.g. D:\RAMP.EXE). For Windows '95: Click on START, choose RUN, type in the letter of your CD-ROM drive, followed by RAMP.EXE then click on OK.

Programs

UNIVOX BD
(See Toolbox PC for details)

KPR77

(see Toolbox)

R_ ACE

(See Toolbox)

Samples

See the Mac section for full details.

MIDI Files

See the Mac section for full details.

ATARI SECTION

MIDI Files

The On The Beat series MIDI files for use with the samples and tutorial (page 138).

Samples

Another groovy batch of AVR samples.

Software

Zero-X v 1.51 Demo

Sample editor and MIDI sample dump program. Suitable for all Ataris.

MIDI Kbd

A virtual keyboard for playing sound modules. Works on all Ataris.

MROS Updates

Driver software for Cubase and a modem port MIDI Interface.

Yamaha Patches and Sqyrrl

Various sounds in different formats for Yamaha modules, plus Sqyrrl; a QY20 editor.

Toolbox On CD

Files of news, a feature on boot disks and how to build a modem port MIDI interface.

About RE:MIX

RE:MIX combines normal CD audio with software readable by a computer's or sampler's CD-ROM drive. The software will not harm your CD player, but it may make an unpleasant sound. So if you value your speakers, don't play track 1! Most modern CD-ROM drives can also play audio CDs, so computer users get the best of both worlds. And don't worry about compatibility. Your CD-ROM drive – Mac, PC or Atari will simply recognise compatible files and allow you to open only those files.

RE : MIX

mixed-mode CD tracklist

Audio section

► 2 Intro and track rundown

A taster of the 'Sample Material - International Free Zone' Sample CD (*Control Room*, page 81, and more on track 20 of *RE:MIX*) with track rundown courtesy of our Kath.

SIGNED ACTS

■ Carl Craig 'Butterfly'

Exclusive to *The Mix*, this is an unreleased track from Carl's archives (*In Session*, page 90)

■ Junior Dangerous 'Comin' Out To Play' (Bollinger's Dialect Mix)

A collision of rap and ragga on Junior's collaboration with partner Lucas (*In Session*, page 98)

READER'S DEMOS

■ Futurist 'Change Of Consciousness'

Drum 'n' bass, techno, ambience, you name it... (*Rough Mix*, page 142)

■ Trench 'Get On Up'

Swirling electronic wizardry melds with manic guitars and gruff vocals to form an industrial-esque masterpiece (*Rough Mix*, page 142)

SAMPLES

7 A-Z of Analogue: Roland SH1000

Various classic analogue goodies, on F and C notes (*Total Recall*, page 146)

8 A-Z of Analogue: Roland SH2000

More analogue sounds, again on F and C notes (*Total Recall*, page 146)

9 World Percussion

Peter Lockett is back with another instalment of fantastic ethnic drums. This month the Nigerian Udu takes centre stage, and the samples are also in WAV and AIFF format in the CD-ROM section.

10 Steve Levine sample library: Taylor acoustic guitar

More guitars this month. This time it's the turn of the Taylor acoustic. Notes and chords are provided. The samples are taken from Steve's Pro-Series sample CDs and are exclusive to *The Mix*. The samples are also in WAV and AIFF format in the CD-ROM section.



GEAR DEMOS

14 Sherman Filter Bank

Some straightforward Alesis HR16 patterns put through the filter, filter knobs tweaked a little, and the result put through an SPX90 delay (*Control Room*, page 52)

15 Big Briar Etherwave

Swirling Theremin machine from Bob Moog's company - and not Bib Briar as billed on the CD inlay! (*Control Room*, page 70)

16 Korg Pandora

Top axe man Steve Fairclough demos this diminutive guitar FX box (*Control Room*, page 74)

17 E-mu Orbit

The latest dance sound module from the creators of Proteus. Does this shake your cage? (*Control Room*, page 30)

18 Novation Drum Station

The drum module that puts 808 and 909

sounds in your reach? Judge for yourselves (*Control Room*, page 22)

TUTORIALS

11 Tips from the top #1

We demonstrate a tip from top engineer Sephan Galfas on mixing guitar and keyboards (*Sound Advice*, page 139)

12 & 13 On The Beat, Kits 1 & 2

More rhythm samples from Nigel Lord, to go with the patterns on page 138. The samples are also provided as WAV's and AIFF's in the CD-ROM section, and the MIDI files are also on CD-ROM.

Sample CDs

19 'That Jungle Flavour' (Zero-G/Time & Space)

A few precious excerpts from the latest drum'n'bass sound source (*Control Room*, page 81)

20 'Sample Material' - International Free Zone Sample CD (Sounds Good/Time & Space)

Some examples of the diverse goodies on this top-notch sample CD culled from the sound libraries of legendary producer Bill Laswell (*Control Room*, page 81)

»»» EAST FORWARD

What's new in the world of music production

New Improved Tascams

With its high audio quality and intelligent features set, the 8-bus Tascam M-2600 has proven a hard design to beat, but the manufacturer has tried it with the new M-2600MKII. The result is a desk that is ready to use with any digital or analogue multitrack, and is available with 16, 24, or 32 channels. The M-2600MKII retains the balanced mic inputs of the original but adds switchable +4db/-10db TRS balanced multitrack I/O, in order to provide optimum audio interfacing with tape and hard disk systems. New channel inserts make the desk automation-ready, while the group/direct switching allows the console to feed 16, 24 or 32 track systems without unwieldy re-patching. Also new is a choice of three optional meter units with high-intensity bargraphs for faster and more accurate level reading. All input channels are fitted with Tascam's high definition split EQ section, which allows the HF and LF controls to be assigned separately from the two sweep mids. The dual-path design also gives 32 inputs for every 16 channels on mixdown. Plus, the M-2600MKII is equipped with a flip control, so that either path is controlled by the channel's long-throw 100mm fader. Knowing you can never have too many aux sends, Tascam has equipped the desk with two stereo and four aux mixes for monitor and effects. There are also six stereo returns and two independent stereo cue mixes, giving complete aux control during track laying and mixdown.

Several other new products were unveiled by Tascam at the recent AES Convention in Copenhagen, including two eagerly awaited MiniDisc recorders. The MD-801R and MD-801P are, respectively, a 2-track MiniDisc recorder/editor and player/editor, featuring Tascam's new MiniDisc transport system, offering five times the track search and four times the track start and access speed of normal MiniDisc players. The DA-38 is a more affordable variant of Tascam's successful DA-88 eight track Modular Digital Multitrack format. New features include a digital track copy function and internal digital patchbay. All functions are readily accessed from the front panel controls, including Track Advance and Delay, Shuttle Control and Offset capability. The machine can also be readily integrated within the MIDI environment, and up to 16 DA-38's can be cascaded together to provide up to 128 tracks. The DA-38 is fully compatible with the DA-88, IF-88AE and IF-88SD digital format interfaces and can be operated with RC-808 / 848 Remote Controllers. Tascam has also released the 424MKII Portastudio, which enhances the original four track package with sweep mid range EQ, balanced XLR mic inputs and auto punch in/out facility. Also updated is the auxiliary

effects, metering and synchronisation capabilities. The 424MKII's four balanced inputs mean that it is now possible to connect professional quality, low impedance microphones, while the sweep mid on the three band equalisation gives greater control over the sound of each channel. Using the auto punch in/out facility with its rehearsal function, it is possible to practice and execute seamless drop-ins on the 424MKII without touching the play, rewind or record functions manually. There are now two dedicated aux sends, meaning control over two external effects during mixdown, plus separate mixes for effects and tape cue during track laying. An additional



mixer and control room monitoring can also be connected when required, without needing to pull plugs on the Tascam 424MKII. The sync loop for FSK codes has been redesigned to make it easier to use the model in conjunction with external drum machines or sequencers. With the new technology comes new styling, which makes the 424MKII look more like a controller for an up-market workstation. This is accompanied by the practical inclusion of a 60mm fader for the main bus and a new FL display, showing transport status and tape position, plus track and bus levels.

More from: Teac UK Ltd Tel: 01923 819630.

Status For Stephenson

Producer Gary Stephenson has become the first UK recipient of the new Otari Status console. The new desk features total recall of all functions and automation on all faders. Stephenson, who has worked with the likes of Go West, Rick Astley and Tony Hadley of Spandau Ballet, purchased the 40 channel desk from Stirling Audio and has installed it at his home studio in Banbury, Oxfordshire.

More from: Stirling Audio Tel: 0171 624 6000.



Minidisc 4-track

from

Yamaha



The new Yamaha MD4 is the first available multitrack recorder based on the optical MiniDisc format. In addition to the four track recorder, the MD4 includes a

mixer section and editor section, all at a very affordable £899 incl VAT. Because the MiniDisc format is digital, there is virtually no degradation in the audio quality, no matter how many times the tracks are bounced together. Additionally, Yamaha has given the MD4 the ability to play all four tracks while recording back onto one of the tracks. As well as simultaneous record and playback capability, with all four tracks full, the MiniDisc allows as much as 37 minutes of continuous music. The integral mixer section of the MD4 is analogue and offers gain, three band equalisation, aux send for effects, pan and fader. On the output side, it has four groups, stereo out, monitor out and direct outs. The aux return is stereo, and the MD4 is also equipped with MTC output for synchronising external MIDI sequencers.

More from: Yamaha-Kemble Tel: 01908 369269.

Monster CD jukebox

The new Denon DN-2500F professional CD player is the latest addition to the world famous range of double CD players for DJ and Club use. By extracting all the best features from the DN-2000F MKII and the DN-2700F, Denon now bring us a sophisticated and technically advanced twin CD player. Several new features are featured including a Custom Setting Memory, allowing the DJ to custom set their required cue-point, pitch % and A-B loop points for up to 200 individual tracks and the ability to store this information in the DN-2500F memory. It is a convenient way of Cueing up to a regular start point each time you play that track. The Key Adjust Mode preserves the original key even when the pitch (speed) is changed. Key Control Mode allows the key to be adjusted (+/- 16%), without effecting the pitch.

The voice reduce feature allows the vocal portion of a song to be reduced to near inaudibility. The DN-2500F retails at £1200 + VAT.

Also new from Denon is a CD-Autochanger/ Jukebox package: the DN-1400F and Rolec RC RC1214 200 disc CD-changer automation system. The unit boasts Infra-Red remote control and comes with VCA volume/ Standard Qwerty keyboard option for data entry and time schedule programming, RS232 serial port for PC interface, all housed in 1u size modules. More from: Denon Tel: 01753 888447.



Orbital Over The Moon with Prophecy

Techno wizards Paul and Phil Hartnoll, aka Orbital, have recently been in the studio recording tracks for their latest album and single. Whilst in the studio, the brothers took delivery of a Korg Prophecy. They have been busy discovering the many talents of the Prophecy and have utilised some of the keyboard's innovative technology for the album *In Sides*, released at the end of April. Following the release of the highly acclaimed *Chime* in 1990, Orbital have built up a substantial following both in the UK and the USA. With now famous appearances at Glastonbury Festival and Woodstock Festival in the States, plus a sell-out UK tour to their credit, Orbital have gone on to pick up many awards for their particular style of music.

More from: Korg
Tel: 01908 857100.



Mike Rutherford, of Mike and the Mechanics fame recently acquired a battery powered Studiomaster Diamond compact mixer. Snugly fitting into his briefcase, the four mic/ line input desk allows Rutherford to use DAT backing tracks and add new melodies and lyrics while working on new material when on tour. Studiomaster are now on the internet with a web site offering details of their full product range, complete with regularly updated news, and everything else those fun chaps in Luton think you might like to know. More from: Studiomaster Tel: 01582 570370 Fax: 01582 494343 Internet: <http://www.studiomaster.com>

Syco has made the largest sale of Digidesign ProTools to BBC Radio Resources. A total of nine ProTools 3 Series hard disk recording systems and nine Power Computing machines have been purchased by the Beeb. These will add to their six existing ProTools systems at Portland Place, London. Meanwhile, film and TV composer Steve Schwabe whose credits include the music for the TV series Bugs, has purchased a 16 track ProTools 3 Series System from Syco for his home studio in south-west London. More from: Syco Systems Tel: 0171 625 6070.

Riptide Broadcasting, a newly formed radio company, will be delivering the first of what is billed as a new genre of radio station, Swell FM, during July and August to Brighton and surrounding areas. Swell FM intend to combine an eclectic range of musical styles from Indie to World music combined with magazine shows, live band broadcasts, comedy and drama shorts, and opportunities for unsigned acts to have their material aired. Swell FM aims to deliver an advert-free radio service supported by sponsorship. The station's goal is to prove that good, alternative, locally-based and reflective radio without advertising breaks can be achieved, and to mirror the diverse and vibrant nature of the town of Brighton. During its air period (15th July - 11th August) Swell FM will also be covering a host of local events. And here's the best bit: Swell FM are on the look-out for people wishing to be involved including DJs and local bands. Letters, tapes etc. should be sent to: Swell FM, PO Box 2724, Brighton BN1 6FZ.

Synchro Arts have released the latest version of their successful VocAlign software - version 1.31. for use with Digidesign's ProTools. As an established dialogue replacement tool, the VocAlign system provides automatic alignment and non-linear editing of two audio signals. With the addition of TimeMod, emphasis is placed on instances where only linear time changes are required to make a region of audio longer or shorter without any change in pitch. Seamlessly integrating with ProTools and handling both mono and stereo signals, the software makes the editor's job easier as well as less time consuming. VocAlign can also be utilised for

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- ▶ tightening double tracked vocals and instruments, synchronising foreign language dialogues and aligning the timing of electronic instrument tracks to man-made tempos. More from: Synchro Arts Ltd Tel: 01372 811934.

A long awaited A&R service has recently been launched by Dangerous Management. The Talent Scout, produced quarterly, is a boxed set of compilation tapes featuring unsigned artists and an accompanying booklet listing a contact telephone number and relevant information relating to each artist featured. Associated with over 2000 people nationwide, A&R departments throughout the music industry pay an annual fee to receive The Talent Scout, which not only makes their job easier but ensures that they hear the very best of available talent from every region of the country. To top it all the service is completely free! If you would like further information or would like to submit a demo tape, an S.A.E. is required. More from: The Talent Scout Tel: 0171 209 2585 or write to: The Talent Scout, PO Box 10349, London NW1 9WJ.

Audio Technica will be exclusively providing close to eight-hundred microphones for dramatic stereo for every televised event of the 1996 Summer Olympic Games, in Atlanta, Georgia, later this month. Atlanta Olympic Broadcasting (AOB) plans to use AT4071 and AT4073 shotgun microphones as its staple camera mics, along with numerous AT825 stereo, UniPlate, UniPoint and custom-designed microphones. In preparation for the games, AOB is currently using Audio Technica mics to train around two hundred new audio engineering assistants. In support of the AOB, Audio Technica has been working in close partnership with Panasonic Video Systems, official broadcast equipment and system supplier for the 1996 Olympics. Additionally, Audio Technica have recently become proud suppliers to the Rock and Roll Hall of Fame in Cleveland, Ohio, who are relying entirely on Audio Technica microphones for their facility which provides dynamic interactive exhibits, performance spaces, special programmes and displays from the museum's permanent collection. Six Audio Technica ATM 63HE microphones are available for handheld and stand use in the theatre, and have been used by a variety of musicians since the facility opened in September 1995. More from: Audio Technica Ltd. Tel: 0113 277 1441.

Once again the Yamaha Public Domain software library expands with the release of "Visual Editor" for the VL series of Virtual Acoustic instruments. To fully harness the power of the Yamaha VL instruments can be difficult as there are simply so many editing parameters. To resolve this Yamaha have produced a graphical editing program for the Macintosh computer which allows comprehensive but friendly voice editing. An on-line message box gradually fills with text explaining what parameters have been edited ▶

TL Audio on the Road

TL Audio's presence in the live sound market is growing rapidly, as demonstrated by Lynyrd Skynyrd's decision to employ a TL Audio C1 Compressor as part of their live rig. Ed Hopson – FOH engineer and production manager with the band commented: "For our primary vocal I replaced our existing tube compressor with the TL Audio C1 and the increase in intelligibility and signal quality was immediately noticed by all. So much so that our principal background singer, Dale Rossington, requested the other channel for her vocals. Anyone who has heard Lynyrd Skynyrd live for the past year has heard the C1 in action on the principal vocals." The unit is also being utilised in the studio by Hopson – "With the C1 I can get the warmth I want and get as clean a signal path as any big studio in the world. I use the C1 on vocals, guitars, drums – you name it. For recording and live sound it jams!" More from: TL Audio Tel: 01462 490600.



Fitting the working act to a T

Aimed squarely at working musicians, DJs and smaller venues, Electro-Voice's new T-series range of small stage speakers fills the gap between their hugely successful System 200 and concert sound DeltaMax. EV's UK distributor, Shuttlesound have recently launched 5 T-series products, headed by the new MT-1 system. Taking care of the top end is the 2-way MTH-1. Suiting the musician more interested in playing than roading, it weighs in at 43kg yet still produces 350 Watts of power handling. Partnering the MTH-1 is the MTL-1; a 2 x 18" speaker pushing out thumping bass at 800 Watts. Prices are £1275 ex VAT for the MTH-1 and £1220 ex VAT for the MTL-1. The T251, 2-way with a 15" driver handles 400 Watts and is an ideal trade up for existing Sx200 users, and retails at £849 ex VAT. At £1100 ex VAT, the TS252 offers two 15" drivers plus the same horn chucking out a huge 800 Watts. Rounding it up, bottom end is handled by the T18, an 18" bass bin weighing in at £765 ex VAT. More From: Shuttlesound Tel: 0181 646 7114.



Korg Release New Prophecy Sound Cards

Korg UK has introduced two new banks of sounds for the Prophecy solo Synthesizer. The collection of new sounds is called "Analogue and Vintage Synth" and "Modern Models" and is a tribute to the Prophecy's extensive abilities.

Both these new banks make full use of the five different synthesis methods available to you in Prophecy, and further highlights the fact that the Prophecy is not a sample based instrument, but a true synth of enormous potential. Consequently, these new sounds are equally as impressive as the factory data supplied when you buy the Prophecy, and will become essential sounds to the modern producer.

More from: Korg
Tel: 01908 857100 Fax: 01908 857199



Uncool



Uncomfortable



Warmish



Cool



Really Cool

-273.15°C

Absolute Zero

 **SPIRIT**
Absolute Zero

Spirit Absolute 2 shattered the complacent world of nearfield monitoring, rapidly becoming the preferred choice of professional studios around the world. Now you can get the Absolute sound in a smaller 95W per side package.

Absolute Zero delivers crisp, full-bodied audio in a surprisingly small-footprint, low cost, speaker. The sturdy, no-compromise design produces the consistent, high quality results you'd expect from Spirit – and at the ridiculous price point of around £200 including VAT.

Whatever the use, studio monitoring, installed sound systems or even with a hi-fi, play it cool with Absolute Zero.



Cool me down with more information on Absolute Zero.

Name:

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Which magazines do you read regularly?

I will use my Absolute Zeros for:


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EN6 3JN, England. Tel: +44 (0)1707 665000.
Fax: +44 (0)1707 665461.

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► and how the voice is constructed dependant upon the user edits. The software offers support for the VL1, VL7 and VL1-m installed with version 2 operating systems, and is Public Domain and therefore can be copied freely. More from: Yamaha-Kemble Tel: 01908 369269.

Recent orders from the BBC indicate a growing demand for the Akai DD1500 Digital Audio Workstation and the wide approval it is gaining from the most demanding of users. BBC Worldwide have taken delivery of two systems for their high profile foreign language dubbing theatres. Both the Arabic Channel and the Japanese Channel chose the DD1500 over some very stiff competition. Meanwhile, BBC Post-Production have taken delivery of their second system for fitting and syncing operations to cope with the speed of job turn around has meant that the success of this new operation at BBC necessitated the purchase of a second system. More from: Akai Tel: 0181 897 6388.

Newham College of Further Education opened their doors to the public on May 29th for an action packed Music Technology open day presented by students and staff. The event featured hands on activities, recording, multimedia and video at their Stratford campus. The centre's extensive range of hi-tech recording gear was on display as well as samplers, digital and analogue synths, video editors and a wide range of Macintosh software for music, sound and multimedia. More from: Newham College of Further Education Tel: 0181 471 6688.

Quested Monitoring Systems made its first ever independent appearance at an AES exhibition, and marked the occasion with the launch of three new monitor speakers. These are the first developments to be unveiled since the company returned to private ownership under the management of Steve Revill and technical director Roger Quested. The VS2205 is an active nearfield monitor with an integrated amplifier, designed for engineers and producers needing an accurate and portable reference monitor. The VS2108 is an active full-range monitor, suited to near and mid-field applications in larger rooms. Finally, the VS1110 is a compact 10" sub-bass, designed to complement either the VS2205 or VS2108 when additional bass reinforcement is needed. More from: Quested Tel: 0181 566 8136.

Time & Space's latest addition to their ever increasing range of multimedia CDs is The Sound Cube, a 10 CD set, which can be bought as a set at £89.95 or as single CDs at £12.95 a piece. All of the CD-Roms are mixed mode Wav and Aiff formats. The set would probably be most useful for multimedia developers but is of course also practical for desktop musicians, especially those on a tight budget. The set comprises of Dance Instruments, Orchestra and Classic, Voice Spectral, World ►



Soundfield Surround

The French based company LTRT who specialise in providing mobile facilities for the live coverage of events to be broadcast in Dolby Surround Sound chose the SoundField Mark V Microphone System to record the Bercy Open International Tennis Tournament. After the SoundField Mark V Microphone was suspended 20 metres above the tennis court, all parameters were adjusted remotely from the control unit. The result was one of optimum realism for viewers receiving the transmission in Stereo or full Dolby Surround Sound. Other Broadcast companies who have recently invested in SoundField Microphone Systems include Belgium's BRTN, Danish Radio and Beijing TV in China.

More from: SoundField Tel: 01924 201089.

ASC Talking Back

The ASC Talking Brick is not simply an old speaker model sprayed a new colour to match your computer – it was developed specifically to be attached to the display monitors of Digital Audio Workstations. Fully shielded, the Talking Brick is an extremely lightweight unit which can be attached directly to the VDU with 'industrial strength' nylon loop strips, saving desktop space. Input connector is either 1/4" jack or XLR and, as well as its own speaker, output can be via headphones, the connector and level control being mounted on the front of the unit. Most modern PCs supply mains power to the VDU by looping through from the system unit (desktop or mini-tower). Mains power to the Talking Brick is supplied by utilising this supply to the VDU. A loop through IEC male and female connector avoids the need for yet another mains output socket. The Talking Brick retails at £139 plus VAT.

More from: Audio Systems Components Ltd Tel: 01734 819813.

Oram Velvet

Whilst on his last trip to the UK, John Cale, former member of the Velvet Underground, hired John Oram's rackmount units, the MWS (mic pre-amp EQ) and the HD-EQ2 (high definition Equaliser) to record the group 'Goya Dress'. He was so impressed that he bought them and had them mounted in a 'Shock Rack' case for travelling. On returning home to Greenwich village, New York, Mr Cale ordered an Oram BEQ console for his own studio. He said "The 'High Definition EQ' really came into its own on live recording situations in Europe and the US. I recently used it for recording a performance with the Hudson Valley Philharmonic." John Cale is currently working with his Oram BEQ desk on his new album. More from: Oram Professional Audio Tel: 01474 535888.



WE'VE DISCOVERED THE MISSING LINK IN THE SEARCH FOR NATURAL-SOUNDING COMPRESSION.

The New AUTOCOM MDX 1200 with Dynamic Enhancement



Compression, particularly when applied heavily, can "dull" the sound of your signal. That's because the lower end of the frequency spectrum dominates the action of any broadband compressor, causing high frequencies to "disappear."

The new AUTOCOM MDX 1200 stereo Compressor/Limiter/Expander/Enhancer has been designed to solve this problem. Our exclusive new dynamic enhancer circuitry restores the *perceived* loss of higher frequencies that occurs during compression, ensuring your mix always retains its original brightness and energy.

Exceptionally versatile by design, the new AUTOCOM now also features a unique IRC*-Downward Expander/Gate which reacts intuitively to the program material to produce an extraordinary natural sound.

Built-in Auto *and* Manual Compression modes give you more options - from "set and forget" to a wide range of fully adjustable Attack and Release times for creative effects. Our unique Wave Adaptive compression circuitry delivers "inaudible" compression every time you use it.

The new AUTOCOM MDX 1200 from Behringer – the dynamic new way to put life back into your music.



Welcome to the Interactive World of
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Your Ear Is Our Judge

* (Interactive Ratio Control)

For more information about the new AUTOCOM MDX 1200 and the Interactive World of Behringer, please ask your local dealer or contact:
BEHRINGER U.K., St.Vincent House, 59 Woodbridge Road, GU1 4RF Guildford, Surrey, tel. +44 (0)1483 458877, fax 458822
BEHRINGER Specialized Studioequipment GmbH, Otto-Brenner-Str.4, D-47877 Willich, tel. +49 (0)2154-92060, fax - 428523

East Forward

► FX (Vols 4, 5 & 6), Crash Boom Zap, Soundtracks, Ethnic Journey, and finally Rave X. **More from:** Time & Space **Tel:** 01442 870681.

Drumtech, Basstech and Guitar Institute at The Power House, Europe's largest purpose-built contemporary music teaching complex, are expanding to cater for vocalists and keyboard players. Keyboard Tech and Vocal Tech are offering the same high standards of tuition and facilities as their sister schools Drumtech, Basstech and the Guitar Institute. Keyboard Tech and Vocal Tech have recruited students for places on a full-time one-year Diploma course, and are recruiting for the two-year grant-funded Dip.HE course which is to be run from October in association with Thames Valley University. Part-time and private tuition – to suit all abilities – is also available. The launch coincides with the relocation of all the schools to a brand new, purpose-built 7,000 sq. ft multi-storey complex in west London. The Power House, in London W3 offers students a unique environment in which to learn, practice and meet other musicians. According to the schools' director Rob Burns: "This is a great opportunity for keyboard players and vocalists of all abilities to improve their skills in the company of some of the best players/instructors and mix with other musicians. This is a very exciting new project." **More from:** Keyboard Tech/ Vocal Tech **Tel:** 0181 740 1031.

Heavenly Music UK have announced the immediate availability of their entire range of building block software products via their exclusive distribution deal with the long established **TRAN TRACKS US**. Tran introduced the product line at the recent NAMM exhibition. Having pioneered the market in the UK and Europe in 1992, Heavenly are now seeing the US as ripe territory for musically overactive ceraphins. **More from:** Heavenly Music **Tel:** 01255 821039.

Sounds OK Interactive have released a new sound cards for the Roland JV1080. Vol 1..Dance culture is programmed by acclaimed mix artist Gary Mason, and includes Euro style basses, Growling basses, Rave organs, Overdriven guitar, String and Synth pads, Synth tones, Trance sounds, Dance pianos, and TB303 sounds. Most patches utilise touch sensitivity, modulation wheel or after touch to add user feel and expression. Vol.2 Analog Digital Culture is programmed by Paul Osborn, and features a collection of sounds with elements of analog and digital tones. D-50 Brass and Moog bass emulations are included along with analog pads and synth leads. Each volume retails at £55 for ROM versions and £65 for RAM versions. Both volumes are also available on XP50/80 format disc at £29 per title or £49 for volumes 1 and 2. **More from:** Sounds OK Interactive **Tel:** 01276 229946.

APRS Audio '96

London's National Hall at Olympia once again plays host to the annual exhibition staged by the Association of Professional Recording Services (APRS) from the 19th to the 21st of June. Billed as providing a topical forum for debate across the spectrum of professional audio applications, the main focus areas are broadcasting, post-production, recording, project studio applications and new media. Running parallel with the exhibition will be a range of Briefings and Workshops encompassing hands-on sessions and presentations of up-to-the-minute new technologies and operational trends. Forums comprising of representatives from leading industry associations will be held concentrating on a number of issues. Included are the Broadcast Forum, hosted by the institute of Broadcast Sound, an Audio Media led "Hot Issues" lunch-time slot, and a PLASA-hosted Live Sound Forum. The preliminary programme includes: "Pulling the Cobwebs from Speaker Design" by acclaimed industry authority John Watkinson; "The Format Jungle" looking at issues of compatibility surrounding multitrack and 2 track recording which is hosted by digital specialist Bill Foster; and "Sound for Multimedia: Formats, Standards and Techniques" presented by Paul Gilby of multimedia experts Co-Active and Gateway's Mike Pratt and Dave Ward. Presentations are sponsored by Studio Sound, Pro Sound News Europe and One to One.

APRS have also scheduled a high level seminar focusing on Intellectual Property and how to protect it. Entitled "Name, Rank and Serial Number – How Identifiers could change the face of the Music Business" this one day seminar will take place at Le Meridien Piccadilly Hotel in London on the June 18th. Concerned primarily with copyright management, a range of topics will be covered from the purely technical to commercial and legal considerations. The DTI are supporting the seminar which will host a esteemed range of panel members and speakers culled from associations such as IFPI, IMPRIMATUR, MCPS, PRS, PPL, Re – Pro and the non-acronymed National Discography.

Entry to the exhibition is free, with a ticket information hotline offering further information.

Audio-Technica will be exhibiting several new products during Audio 96, along with re-engineered versions of existing units. The highly acclaimed AT4000 studio microphone series will see the introduction of the phantom powered, transformerless fixed cardioid AT4041, which offers smooth frequency response and high SPL capabilities. The very affordable Studio Six-Pack (as featured in The Mix's competition last month) will be on show, fulfilling the microphone needs for the project studio. The Engineered Sound Series of products offer a number of goose-neck and suspension microphones with a variety of polar pattern options, and an extended range of boundary microphones to provide a comprehensive solution in presentation and conference applications. You can visit Audio-Technica on stand 101.

Taking pride of place on Raper & Wayman's stand will be the new **TC Electronic M2000**, also known as the Wizard. Billed as the optimal studio signal processor, the unit offers a host of effects, including a completely new way of working with them, known as Dynamic Morphing. Added to this are TC's renowned sound quality, dithering for superior digital compatibility, and the ultimate user interface. Also making their debut with R&W are the complete ranges of products from **Manley and Langevin**. David Manley's range of valve-based professional studio equipment includes microphones, microphone pre-amplifiers, mixers, equalisers, effects units, compressor/ limiters and other mastering devices. The distinctive Langevin range covers the same basic areas of product but features all-discrete processing to offer affordable, yet extremely high quality equipment.

Penny & Giles will debut their new multi-channel 24-bit Audio Multiprocessor, together with its associated range of Pythagoras Audio Software. The system incorporates fast 32-bit floating point architecture and offers one stop simultaneous processing of up to 16 digital audio channels, with further expansion possibilities. **More from:** APRS **Tel:** 01734 312211.

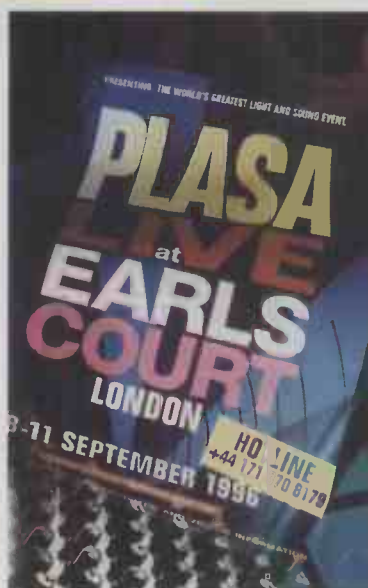
The Key To ART

Distribution of the acclaimed ART products has been taken over by Key Audio Systems Ltd. in the UK. As well as existing models being restyled and upgraded, further products have been added to the range including the Pro MPA mic preamp and acoustic pedal.

More from: Key Audio
Tel: 01245 344001 **Fax:** 01245344002

Plasa On The Move

PLASA, the Professional Lighting and Sound Association have announced that the 1996 show, scheduled to take place between the 8th and 11th of September, will be moving from its current home in Earls Court 2 to the largest exhibition centre in London, Earls Court 1. The relocation will offer greater flexibility for exhibitors, as the amount of floor space will be increased from 17,000 square metres to 23,000 square metres. The 1996 show will continue the existing theme of having dedicated areas for differing levels of sound, but will also include dealer demonstration rooms, more feature areas and an increased number of hospitality suites. 1996 will also see the start of a new five year partnership between PLASA and P&O Events. The two organisations joined forces in 1990 to develop the PLASA show which has grown from 158 exhibitors to over 264 exhibitors. In a further development planned for the 1996 show, the British Music Fair will be moving from its current venue and date to coincide with PLASA 1996. The BMF will run alongside PLASA in a separate hall within the Earls Court complex, and add further presence to the sound side of the PLASA show. **More from: P&O Events Tel: 0171 370 8229.**



Hirota And Lockett

Following last year's sell-out concert at the south bank, Hirota and Lockett return with their unique fashion of musical traditions from around the world, blending influences from India, Japan, The Balkans, Latin America, The Middle East, North Africa and Europe.

Multi-percussionists Hirota and Lockett combine ancient and modern influences to create a powerful and compelling sound scape. In contrast, there are sections featuring Shakuhachi (Japanese Flute) and Tabla. The concert is brought to its climax with a piece featuring a group of Japanese drummers, drum kit, Djembe and the North Indian Dhol. The gig starts at 7.30 on July 16th in the South Bank's Purcell Room.

Dance-Tech '96

Soundivision's Dance Tech '96 show will be specifically aimed at DJs, remixers and producers who are single minded in their interest to see, hear and buy the latest dance music-oriented products that will enable them to mix, sample and ultimately create their own tracks.

Dance Tech '96 is a natural development to follow on from the success of the DJ Technology Enclosure which was organised and promoted in a joint venture between Soundivision and Music Maker at the London Music Show in December 1995.

Dance Tech '96 will take place on Sunday 7th July 1996 at The Complex Club, Islington, London N1, which is conveniently located near The Angel tube station, just off the Liverpool Road.

More from: Soundivision Naturally, THE MIX will be at the show, so come along to the stand for a chat.

Tel: 0171 6096639 or 0171 6093939
Fax: 0171 6091310



Real stars aren't always on stage

Music Industry Skills training programmes at Clarendon College Nottingham are great ways to learn the essential technical and business skills for a career in the music industry. Over 150 students have successfully completed their first course and are moving on to further training. You can enrol for September, January and April start.

You'll get hands-on experience in recording, production and music technology, and develop a real head for the business. The course has already launched its own record label, CD sampler and a brand new single release.

Get real skills direct from professionals in the industry in a professional recording studio environment and a full grounding in how the music industry works. Keen beginners and those with previous practical knowledge are welcome.

For fast full details and application form call **Clarendon College Student Services, Tel: (0115) 960 7201** or write to: **Clarendon College Nottingham, Mansfield Road Centre, Nottingham NG5 1AL**

In association with the **Nottingham School for the Music Industry**

Grade 1 Team at Grade 1 College (FEFC Inspection Report)



<http://www.musicians-net.co.uk>

MNN

Musicians-Net News

The Musicians-Net, your one stop shop for everything musical

Musicians-Net surfers have shown they have no qualms about online shopping at all. The Musicians-Net Netscape Commerce Server has been taking secure credit card subscription orders for two months now from locations as far flung as South America and Finland. In the all-new Virtual Music Shop you can choose from a range of products from several retailers and buy securely online. Choose your instrument from Axemail and Guitar Village, and tuition books and videos from Music Exchange and Total Accuracy.

The Musicians-Net team are currently busy putting a catalogue of over 30,000

music books online for direct purchase using their specially enhanced secure system. These enhancements allow you to simply click on products from anywhere within the Musicians-Net and add them to a virtual shopping basket as you surf the pages of the Musicians-Net. The team have also added extra levels of security to the Netscape Commerce Server making it the most secure online shopping system available. Not only that but their enhancements enable the Musicians-Net to take orders for third parties and pass the orders directly on to the retailer or wholesaler in complete security.

UK MUSIC INDUSTRY GOES INTERNET CRAZY

Industry Companies Choose Musicians-Net for Internet Connection

The March issue of MNN announced the Musicians-Net site had received over 750,000 hits by Internet users. This hit rate has now increased to a staggering ONE MILLION, confirming the Musicians-Net as the number one Internet site for all music loving surfers.

Sales and Marketing Director Colin McKee said, "the announcement of the Musicians-Net Web site design and set-up packages, has resulted in an emphatic response from music industry companies, all eager to take advantage of the exponential growth of the Internet." With over 40 million users connected world-wide and over 3 million in the UK alone, the Internet has become a powerful and cost effective marketing tool, attracting thousands of new businesses every single day.

RAMP ARRIVES ON THE MUSICIANS-NET

This month sees the arrival of RAMP (Rapid Access Music Product Directory) on the Musicians-Net.

An interactive utility previously only available on the cover mounted CD-ROM's of THE MIX, Guitarist and Guitar Techniques. RAMP is a comprehensive listing of every music product imaginable, from amps to xylophones with spec sheets on individual items. Once you've found the product of your dreams RAMP will guide you to a retailer in your area.

RAMP has been enormously successful as an interactive CD-ROM directory and the team of developers are keen to unlock the enormous potential of the online version and facilitate direct purchasing of products from the RAMP database. Already the online version is attracting huge interest with over 5,000 hits per day.



INDUSTRY BIG GUNS SIGN UP WITH MUSICIANS-NET

Laney and Peavey UK have both agreed connection packages with the Musicians-Net. These sites should be on line soon.

Peavey USA already have their own Internet site. Visit them at <http://www.peavey.com>

GIVE US SOME CREDIT!

Credit card transactions on the Internet are considered by banks to be safer than those conducted by telephone, according to Eamonn Wilmott, director of Internet Publishing. Speaking at a seminar of the UK Newsletter Association, he said that technology now ensured infallible encryption before credit card details reached the Internet, and real-time verification of card details.

The Musicians-Net Commerce Server allows consumers to buy goods from your site directly over the Internet. The Commerce Server is an ingenious piece of software that securely encrypts all credit card transactions. Consumers are safe in the knowledge that only authorised users can access their credit card details.

Music Maker Publications are currently selling magazine subscriptions and back issues as well as their full range of merchandise including t-shirts, cd's, records and videos directly over the Internet.

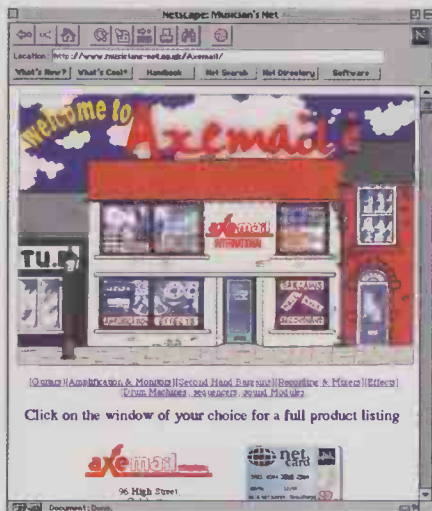
musicians-net

Axemail International... were one of the first music retailers in the UK to join the Musicians-Net back in July 1995. Axemail promote their entire range of products within their Internet site. They will shortly be offering visitors to their site the opportunity to purchase products directly via the Internet using the The Musicians-Net Secure Commerce Server. You can contact Axemail by e-mail at:

axe.music@dial.pipex.com'

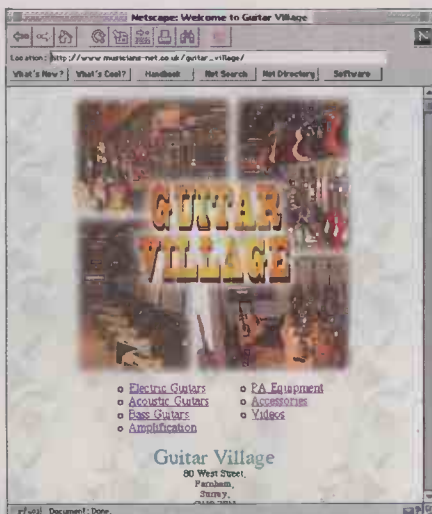
Their Web site address is:

<http://www.musicians-net.co.uk/Axemail/>



Guitar Village... have an extensive range of guitars and guitar related products. They have used colour pictures of the inside of their shop within their Internet site. Future plans for their site include incorporating a vintage and rare guitar section. By using full colour pictures and providing detailed specification for each guitar, visitors to their site, from anywhere in the world, can see exactly what Guitar Village are offering in this department. Check out their site at:

http://www.musicians-net.co.uk/guitar_village/



AMG Soundcheck... use the Musicians-Net Secure Commerce Server to sell their entire range of sample CD's directly over the Internet. Visitors to AMG's site can view their entire catalogue of products before proceeding to the virtual checkout to make desired purchases. Credit card users then type in requested details, which are encrypted then transferred securely through to AMG direct.

<http://www.musicians-net.co.uk/AMG/>

Total Accuracy... promote their entire range of guitar tuition packages on their Internet site. They plan to sell all their products directly using the Musicians-Net Commerce Server very shortly. Real time audio is another feature that the Total Accuracy team are looking at incorporating into their site.

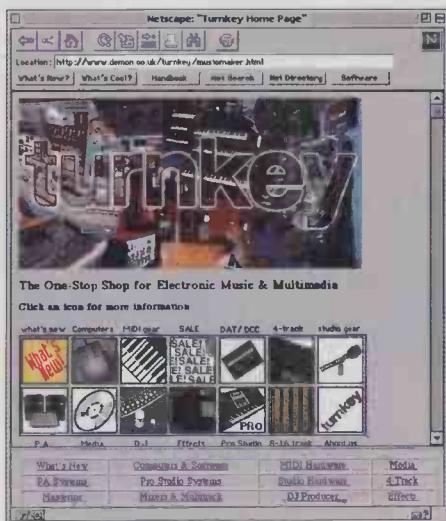
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Music Exchange... sell directly over the Internet from their Web site a variety of products including guitar, bass and keyboard tuition packages, books and videos. They use the Musicians-Net Secure Commerce Server and all users that purchase directly from Music Exchange know that they are ordering securely and confidently.

http://www.musicians-net.co.uk/music_exchange/

Turnkey... were the first music retailer in the UK to have a presence on the Internet. Turnkey site offers visitors information on all of its current range of goods and have within the last two weeks started using the Musicians-Net Secure Commerce Server to sell products directly worldwide.

<http://www.musicians-net.co.uk/turnkey/>



Paragon... sales, service and repairs for Apple Macintosh computers. Yes musicians do own computers, lots of them.

<http://www.musicians-net.co.uk/paragon/>

BSS Audio... have set up a site offering new and existing product information and a free interactive product directory available on disc. The site also includes a complete company profile.

<http://www.musicians-net.co.uk/bss/>

Time And Space... sample CD's are available to visitors at their site. They will shortly be able to offer all their products for sale directly over the Internet with The Musicians-Net Secure Commerce Server.

<http://www.timespace.com/>

The Academy Of Contemporary Music... will be offering guitar, bass and keyboard correspondence courses directly over the Internet. Phil Brookes director of A.C.M said, "Students can now enjoy studying and being involved with one of the UK's leading music schools from the comfort of their own home." Future developments will include real time audio and video tuition.

<http://www.musicians-net.co.uk/acm/>

Newtronic... MIDI songfiles, sample CD's and CD-ROM's as well as synth sounds and editor software. Serious samples and software now available from Newtronic's ftp site.

<http://www.musicians-net.co.uk/Newtronic/>



Technote... are the world-wide distributors for Technics musical instrument software. Visitors to the Technote site can purchase their entire range of products directly over the Internet using the Musicians-Net Commerce Server.

<http://www.technote.co.uk/technote/>

Landmark Distribution Ltd... distribute a number of products including Wersi, Tran Tracks, Charlie Lab, Solton and EMC. Each of their individual products has a complete specification sheet with a full colour picture.

<http://www.musicians-net.co.uk/landmark/>

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The real

The **Novation DrumStation** promises the sounds of the classic Roland TR-808 and TR-909 beatboxes for a fraction of the price. But rather than using analogue circuitry, Novation have opted for the latest in virtual synthesis. Roger Brown investigates...

When Mark Thompson from Novation first revealed the nature of the 808/909 replica they were planning to follow the undoubted success of the BassStation with, I was more than a little surprised. It seemed as natural as four beats to the bar that such a machine would sport lots of analogue circuitry and perhaps a few samples as per the 909. I didn't expect Mark to tell me they were planning to produce a machine based entirely on computer technology, using the latest generation of sound synthesis tools, the cunning algorithms of virtual synthesis.

The more I thought about it though, the more natural it seemed. By the very simplicity of their nature, drum sounds lend themselves readily to physical modelling. In fact, the digital quality my ears were beginning to detect in the sound of the virtual synths which followed in the VL1's wake would be a positive advantage when it came to capturing the snappiness of snare and hi hat sounds. Indeed the 909 used samples for those drum sounds, it's designers felt analogue circuitry just couldn't match the metallic timbres of snare and hi hat sounds.

When I finally got to study the architecture of the DrumStation I became even more convinced that Novation were onto something. As the diagram of the composition of the sounds shows, Novation have used a blend of: samples; virtual models of analogue circuitry and computer models of analogue filters, in varying combinations to recreate the classic thump of the 909

and the tinny rattle of the 808 snare among many others.

The real deal?

Having finally got my greedy mitts on a DrumStation, I can report that Novation have indeed succeeded in recreating sonic replicas of those classic machines of ever-escalating resale prices. The 909 kick thumps out like a good 'un, while the 808 boom kick is a reevaluation (no longer tied to unreliable analogue circuitry which usually only

produces one really booming kick in four, the DrumStation's version hits the spot every time thanks to the tightness of virtual LFO's).

That's a lie actually, there are no virtual LFO's in Novation's version of virtual synthesis, called ASM for Analogue Sound Modelling. Drum sounds have very complex structures but are actually composed of very simple waveforms. Their complexity lies in the fact that

	TR808	TR909	ASM	SAMPLE
BASS DRUM – BD	●	●	✓	
SNARE DRUM – SD	●	●	✓	
RIM SHOT – RS	●	●		✓
HANDCLAP – HC	●	●		✓
CLOSED HI HAT – CH	● **	● +	✓	✓
OPEN HI HAT – OH	● **	● +	✓	✓
RIDE CYMBAL – RC		●		✓
CRASH CYMBAL – RC	● **	● +	✓	✓
LOW TOM – LT	●	●	✓	
MID TOM – MT	●	●	✓	
HI TOM – HT	●	●	✓	
COWBELL – CB	●			✓
LOW CONGA – LC	●		✓	
MID CONGA – MC	●		✓	
HI CONGA – HC	●		✓	
MARACAS – MA	●			✓
CLAVES – CL	●			✓

The DrumStation uses varying combinations of ASM & samples, the above table shows what's what.

** re-created by ASM on TR808 kit only
+ sample with ASM envelopes, tone etc.

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Track 18

deal

- Hearing really is believing, so have a listen to Novation's own demos of the DrumStation:
1. DrumStation internal demo
 2. DrumStation TR909 Bass drum, with MIDI controllers altering Tune-Attack-Decay.
 3. DrumStation TR909 Snare drum, with MIDI controllers altering Tune-Tone-Snappy

several of these waveforms are occurring at the same time. Using computer modelling it is possible to break the drum sounds down into these simpler waveforms. These are digitally modelled and then recombined by the computer to recreate the original sound and that is exactly what ASM does.

There's a parallel with the architecture of the original 808 and 909 here of course. In those machines the drum

these sounds in real time from the front panel and record the edits in a sequencer to be replayed. The front panel is neatly divided up into sections for each drum sound, with the edit functions clearly labelled, making the whole operation simplicity itself. A glance at the front panel is all that is necessary and you're away. This open-ended approach to sound synthesis is the reason so many prefer to use

they were on the BassStation, they are spaced far enough apart for some serious drum morphing. As each one is actually using a dedicated MIDI controller to receive and transmit its parameters you can not only record your edits but also very easily map the controller wheel on your master keyboard to one of these controllers and achieve even more wild abandon.

I can report that Novation have indeed succeeded in recreating sonic replicas of those classic machines

sounds were broken down into coarser elements: the pitched sound produced by skins; the struck metal sound of hi hats and combination sounds like snares and rimshots. This enabled the designers to produce dedicated analogue circuits with a limited range of control over settings such as level, pitch and decay. Any further range would move the sounds outside the normal description of drum sounds.

analogue machines and the realism of the DrumStation's sounds, coupled with its ability to transmit and receive real time edits makes this machine a winner in my book.

Pan-tastic
There are also a couple of added controllers which don't have control knobs, but are only accessible from the front control panel a couple of buttons pushed down.

While the knobs are a little on the twiddly side, as

Twiddleability factor

In keeping with the realtime control over sounds which made the BassStation such a success, the DrumStation also features knobs on the front where you can alter the various parameters available on the originals after which they are modelled. Accordingly, you get control over the pitch of each sound and it's level. The bass kick also has control over it's Attack portion if using the 909 model, or it's Tone if it's an 808 one – just as on the originals. Similarly the snares feature Tone and Snappy controls. Finally the Toms, Hi Hats and cymbals offer control over the decay element of the sound.

Novation haven't stuck entirely to the TR families original specifications, instead opting to provide controls over all sounds which means that you get Tone and Decay control over 808 and 909 sounds which never originally had it. So you get Tone control on the 808 Bass Drum or Decay on the 909 Rimshot and Hi hats for instance. See the table opposite for a full list of controls with the new additions highlighted.

The really great thing, of course, is that you can edit

Spec check

Drum kits

TR909: Bass Drum, Snare, Rimshot, Handclap, Closed Hi Hat, Open Hi Hat, Crash Cymbal, Low Tom, High Tom, Ride Cymbal

TR808: Bass Drum, Snare, Rimshot, Handclap, Closed Hi Hat, Open Hi Hat, Crash Cymbal, Low Tom, Mid Tom, High Tom, Cowbell, Low conga, Mid conga, Hi Conga, Maracas, Claves.

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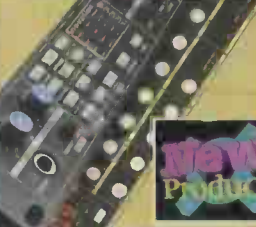
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Novation Bass Station



Novation Drum Station

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Fortunately they do have dedicated MIDI controllers so you can map them to your modulation wheel and control them in real time from there. The first of these, Pan is a revelation. For years the only way to pan drum sounds has been to route them individually to a desk and position them in the sound spectrum from there. The advent of MIDI didn't help as drum sounds are all grouped on one channel and panning the whole drum kit off to the left doesn't have quite the same effect as simply panning the open hi hat out there.

By assigning a dedicated MIDI controller to pan just about every sound in the DrumStation's arsenal, you now have the freedom to wildly pan the hi hats from side to side while everything else stays put. Or you could do it with the bass kick, or the snares and congas, the possibilities are inspiring. There's another delightful addition to the sound editing parameters of the original analogue models which the DrumStation looks set to supercede, Distortion. You can add varying amounts of this crucial sound dirt to just about every instrument in the DrumStation's kit, once again accessible via dedicated MIDI

808 KIT	BD	SD	RS	HC	CH	OH	CY	LT	MT	HT	CB	LC	MC	HC	MA	CLL
LEVEL	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
TUNE	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
TONE	●	●					●									
ATTACK																
DECAY	●				●	●	●	●	●	●						
SNAPPY		●														

● TR808
● + ● DrumStation

These tables demonstrate the front panel controllers with the extra controllers marked in yellow and red

909 KIT	BD	SD	RS	HC	CH	OH	CY	LT	MT	HT	RC
LEVEL	●	●	●	●	●	●	●	●	●	●	●
TUNE	●	●	●	●	●	●		●	●	●	●
TONE		●									
ATTACK	●										
DECAY	●				●	●	●	●	●	●	●
SNAPPY		●									

● TR808
● + ● DrumStation



controllers, thus enabling you to raise and lower levels of this flavouring at different times in the mix.

Fortunately Novation haven't strayed from the originals when it comes to outputs. The DrumStation boasts eight – a stereo pair and six mono outputs. Any sound can be freely assigned to either a position within the stereo pair or to one of the individual outputs. You lose the value of panning the sound in this case, but gain the advantage of being able to EQ and effect a sound separately. This is a feature sadly missing from most modern synths. What's the use of 64 note polyphony and 32 MIDI channels if you only have one pair of stereo outs? Novation are to be applauded for not skimping in this area.

You can save sets of edited sounds into one of a rather meagre 15 user memories. There are 25 presets

however and the ability to dump sound sets using SysEx so all is not lost. In truth there are limits to the variations on the 808 and 909 drum sounds so perhaps Novation haven't served us too badly here after all. A final touch is the addition of a DIN Sync output on the rear panel. This takes incoming MIDI clocks and outputs Roland's old 24 DIN Sync signal so you can hook up that priceless 303 to this and run its sequencer via MIDI thus coupling a virtual reality machine to the acid machine.

Verdict

I am staggered by Novation's achievement in taking a relatively new form of synthesis – certainly not one which they as a company had any previous commercial experience of – and producing such astounding results.

My first acquaintance with virtual synthesis was with the various computer models, then the Yamaha VL 1. In both of these I heard a recreation of analogue sounds under full MIDI control and was convinced. Later followers have failed to convince my ears, however, and while their algorithms might behave like analogue sounds, their timbres are undisputedly digital.

With the DrumStation, Novation have succeeded in taking a new technology and have not only recreated the fullness of analogue sounds, but actually improved on the editing and control facilities of the originals. Now that's what I call virtual techno! ●

Yes! Yes! Yes! Eight audio outputs grace the back panel.



Class act



A live mixer that'll suit the band and hire company alike? That's what the Allen & Heath GL3000 promises, and our man on the road Neville Wake isn't about to disagree...

It's big, and judging by the weight of this 32-channel Allen & Heath GL3000 desk, the Charles Atlas Corporation had a hand in its design. Good vibes to start with, though, because I immediately spotted the fact that the input channels bear a remarkable resemblance to those on their GL2 rack-mount mixer, a desk I've had a soft spot for since its introduction three or four years ago, mainly for its neatness of layout, and its low-swept mid EQ, which is a bloody great boon when you're mixing vocals.

The A&H GL3000 is available in a variety of formats: a 16-channel all mono input version, 24-, 32-, and 40-channel, each with four stereo channels, and there's a choice of 8-channel expanders – one all mono, and one with 4 mono and 4 stereo channels. Meter bridges with VU meters are available for the 24- to 40-channel versions. It is primarily designed as a front-of-house or monitor desk, or as a combination of both, but will also be of interest to theatres and other similar applications.

The essentials

Price inc VAT: GL3000 16-channel £2,584, GL3000 24-channel £3,524, GL3000 32-channel £4,699, GL3000 40-channel £5,874

OPTIONS: GL3000 Channel Expander Mono £1,174, GL3000 Channel Expander Stereo £1,291, GL3000 Meter Bridge - 24 channel £528, GL3000 Meter Bridge - 32 channel £586, GL3000 Meter Bridge - 40 channel £645

More from: Harman Audio, Unit 2, Borehamwood Industrial Park, Borehamwood, WD6 5PZ

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The colour scheme is highly practical, and I had no trouble finding my way round, even in a low-light, high-beer state

What's it got?

The mono input channels are great – not only do they offer four-band EQ with swept high and low mid, but there are other nice touches for the live sound engineer, such as a low-cut 100Hz filter, a phase reversal switch, a mic/line switch that does double duty as a 20dB pad on XLR'd mics, individually switched +48V phantom power, input gain control, and two groups of four aux sends, each switchable pre-/post-fader. Other controls include a mute switch, pan, L-R and group assignment switches, PFL, and a useful peak, 0dB and signal-present LED ladder next to the 100mm fader. This last item is a bit light in operation – good for slow fades, but easily knockable.

The stereo input channel is nicely identified by its blue fader knob (I wish all mixer manufacturers would distinguish stereo channels in this way). It differs from the mono channel in that the EQ is four-band fixed, but other features are similar. Twin XLR inputs, which accept line-level signals, are useful for keyboard submix feeds, stereo effects returns and DI's – Allen & Heath also make rather a lot of their usefulness for stereo pairs of microphones, but, in my experience, not a lot of stereo miking is done at live gigs... The left and right input channels can be selected individually – for example, if you only connect to the left input, it can be routed as a mono signal; if you select both inputs, they are both routed as a mono signal.

The two groups of four aux sends are more flexible than on some other live desks, but, when you're hosting a six, or seven-plus piece band, you might find yourself wishing

that the pre-and post-fader switching was in blocks of four, two and two. On the master section front, I was impressed by the spaciousness and lay out. You've got your eight red sub-group faders, with mini-meters, AFL and pan controls; there are two yellow master level faders and master LEDs;

manufacturers who don't regard this as important for live mixing. And you only get four stereo channels on even the biggest version of the GL3000. Personally, I'd like to see more stereo channels on the bigger desks, and any at all would be helpful on the 16-channel model.

Other features of the master section include a BNC socket for a lamp, talkback mic XLR with level control and assignment buttons, and 2-track send and return level controls. Adding the optional meter bridge gives you a VU for each group, plus Left and Right, and PFL/AFL – very useful when you're doing live work using compressors, but decidedly dodgy if you're also taping. I know 'retro' is the in thing at the moment but some thought should also be

Spec check

Frame sizes:	16, 24, 32 and 40 channels
Subgroups:	8
Aux sends:	8 (2 stereo returns)
EQ:	4-band, swept mids, plus switchable lo-cut filter
Frequency response:	20Hz-50kHz
Distortion:	0.006%
Crosstalk:	<-100dB (adjacent channel) <-90dB (fader closed)
Noise:	-93dBu (line pre-amp, 0dB gain) -86dBu (L-R mix noise, 16 channels routed)
Connections:	XLR on mic inputs, L-R outputs, group outputs 5-8, aux outputs 1-4. 1/4inch jacks on line inputs, inserts, 2-track send/return, aux outputs 5-8, matrix outputs, stereo return.

two 60mm blue faders for stereo returns; two similarly sized yellow faders for the dual matrix facility for delay stacks or side fill monitors; and aux send master controls. On the minus side, the stereo returns can't be popped into the monitor sends, so you have to tie up precious stereo channels if your band wants to hear effected music in their monitors – Allen & Heath certainly aren't the only

given to modern digital media – perhaps A&H will add an LED meter bridge option to the range at a later date.

How does it feel?

Most sound engineers like plenty of room to get their fingers round their knobs (*that's it – no more knob gags, ever! –Ed*), and the GL3000 provides a reasonable amount

LIVE MIXING — today and tomorrow

Let's face it: punters all too often leave concerts complaining that the music was great but the sound was crap. There can of course be many reasons for this, but at least some of the problems can usually be traced back to the mixing.

Creating and then managing a good-sounding mix depends on the engineer as well as the desk itself, but the two have to work together effectively if the job is going to be done well. And the job, in many cases, is changing. Faster set-ups, shorter soundchecks, and, at many venues, greater variety in the kinds of acts the audio needs to handle. It all adds pressure. Which, again, is where the mixer can either help or hinder.

Right now, we're in the early stages of the ultimately inevitable changeover from totally 'hands-on' mixing to computer-aided working. Digital audio performance isn't really an issue any more, and neither is price – Yamaha's Promix 01 changed all that. In fact, there are really only two points in the traditional versus new-fangled debate: how easy/tricky/downright infuriating the new systems are to use, and how willing engineers are to climb the learning curve involved.

Digital mixing is currently somewhere in the transition zone between gimmick and general acceptance, and what really matters are the attitudes of the people who choose and use mixers. As in most areas, these fall into three groups: a small percentage of users who can't get their hands on new technology fast enough, a slightly larger proportion who would like to run a mile, and the great majority, who will climb on the bandwagon, but not until they're convinced that it's actually going somewhere.

The practical aspect of this is a little number I mentioned earlier: the learning curve. Digital mixers are very different beasts to actually drive, especially if you want to get the most from their potential, and even more so if you don't have much experience with digital systems in general. What matters here is that a live show is far from the ideal situation for getting to grips with something that can totally

mess up the sound with the press of a single button – it's just not the kind of chaos that either paying punters or paid performers tend to appreciate.

But getting the experience isn't necessarily easy – for sure, you can practise using multitrack tapes, and even have dry runs with local semi-pro bands, but these only really become viable once you've actually got the desk in your venue, and not every dealer is likely to lend you one on a sale-or-return basis. Still, there are now enough digital mixers in use for word of their potential to be spreading. And the word is that digital, used properly, not only makes many jobs easier, but greatly extends what can be done (just one example: a total-mix change can be as quick and simple as pushing a couple of buttons).

Down on the bottom line, the change to digital is not a matter of if, but when, and it's coming fast (even schools are installing Promix 01s these days), so it won't be long before there are plenty of engineers who have no problems with the technology. One way or another, it looks like a pretty safe bet that most pro-spec mixers will be digitally-driven within ten years or less, and engineers who want to stay in the game won't have much choice but to get up to speed on them.

Another angle on the subject is how British mixer manufacturers will fare in this brave new world. By and large, their first reaction was to rubbish early digital desks (mostly for audio nasties like noise), but their current position is more likely to be 'watch this space'. Well, we are watching, but the 'space' isn't yet being filled with much in the way of mid-market product. The Brits are at something of a disadvantage here, because they mostly don't have the R&D budgets to cook up their own leading-edge chips, and the people who do have the chips aren't currently making it easy for others to use their efforts. OK, so it's early days yet, but the Britmix pack may not have long to get its act together, or 'Made in Britain' stickers could end up being as rare on mixers as they are on multitracks...

John Robert Peel

► of this on its input channels, while the master section in particular is ideally laid out for live grabbing. The colour scheme is highly practical, and I had no trouble finding my way round, even in a low-light, high-beer state. Wide write-on strips are provided, which is good news for live work, and, in an ideal world, I would like to see strips provided for the aux send masters as well.

Soundwise, the GL3000 lives up to expectations, and is on a par with the best of the competition. It's reasonably quiet, and it doesn't mess the music up. The EQ is especially good, and a fine example of the well-respected 'British sound'. As far as really destructive testing went, the desk looked so expensive, and my

insurance policy so inadequate, that I didn't try the accepted pro-user test of a pint of real ale, the remains of one of those 'special' cigarettes in its innards, and a grant-assisted trip down a flight of concrete steps. I'll just have to presume that it would have kept on going without a hiccup, which is more than most people say about me...

There's no MIDI muting on the GL3000, and while there are many times when you don't need it, I wonder if Allen & Heath appreciate just how much MIDI can be used in live applications these days, and has been for many years... The back panel connectors all seem substantial enough to handle many years of in and out

(unlike a certain reviewer I know – Ed), and the desk is ruggedly built, and so should stand up well to live work. The power supply is a separate, rack-mounting unit, and a dual supply monitor is available which connects two PSU's to one console and monitors voltage levels and tolerance, with auto switch-over under fault conditions.

A number of link options can be carried out by a competent electronics engineer to provide alternative settings for applications that may require them.

Verdict

The Allen & Heath GL3000 is a fine example of a 'traditional' live desk, and should fit the bill in many applications. The rental companies have already warmed to this desk, citing its excellent noise performance and nice EQ as features that make it stand out from the crowd. The GL3000 isn't particularly cheap, but the healthy number of orders it has already taken indicates that it offers the right balance of features for its price. The GL3000 is a desk that must be considered by anyone in the market for a serious live desk. ●

UP CLOSE



Eight sub-groups are a major selling point of the GL3000



Backpanel of the GL3000, showing the four stereo inputs

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Space, man



It seems like a new 'dance' sound module is launched every month, and now there's one more in the shape of the E-mu Orbit. Nick Serre checks whether it's out of this world, or a hideous extra-terrestrial...

Not content with their comprehensive range of sound modules catering for musicians' specific sound requirements, E-mu have added the Orbit Dance Planet unit to their roster of high-spec, sample-based machines. The acclaimed Proteus series set the tone for E-mu's sound modules over the last few years, with the original units offering Pop/Rock, Orchestral, and World sounds respectively. Then of course there was the UltraProteus, the Morpheus, the Clássic Keys, and the Vintage Keys. And the list goes on. While hating to use the phrase 'Industry Standard' (*don't use it then - Ed*), it is no mean feat to find a decent recording studio that does not possess at least one of these gems.

Out of this world

On the face of it, the Orbit is squarely aimed at dance composers and producers but there are, in fact, a diverse range of sounds here that could find a niche in a variety of musical styles. Orbit offers 32 voice polyphony, 16 part multi timbrality, and a staggering 512 presets (256 each of ROM and RAM).

Elegantly yet simply laid out, the gold (yes gold, a very satisfying change from 'studio black') front panel features a pretty bog-standard array of knobs and buttons, plus a headphones socket. The two-line backlit display tells you what you're doing, while Master, Edit, Enter and Cursor keys, along with the Data wheel allow you to do it. The Master Menu contains parameters that affect the entire machine, rather than individual presets, and an illuminated LED indicates that Master Menu is selected. The Edit Menu is used when changing the parameters of a preset, and is again adorned by an LED

to show that you're in that mode. The Home/Enter button is used to initiate particular operations with yet another flashing LED letting you know that Orbit awaits your response. The cursor controls control the... cursor (*no shit - Ed*), and a sturdy front panel power switch is also provided which earns the unit a couple of extra brownie points.

Round the back we find the IEC power socket, MIDI In, Out and Thru, and six audio outputs. These can be configured as 3 sets of stereo outputs, or 6 polyphonic submixes, complete with fully-programmable dynamic panning. Or, of course, you can plump for the stereo mix. It's good to see that in these days of highly multi-timbral sound modules with a lone pair of stereo outputs, that E-mu recognise that this set up (in many cases) simply does not suffice. Additionally, the Sub 1 and Sub 2 jacks can serve as effects sends and returns in order to further process selected instruments and then return them to the main mix.

Sounds

As I mentioned earlier, the Orbit very generously offers some 256 preset sounds in ROM (including drum kits) with a further 256 RAM memories locations (which duplicate the ROM presets) which can be utilised for user sounds. Selecting presets couldn't be simpler; just locate the cursor under the program number at the bottom of the display, use the data entry control to select the required preset and you're off - making sure, of course, that your MIDI channel corresponds to your keyboard/sequencer, which is also set on the same page. And the sounds themselves? Well no prizes for guessing that a host of commercial-sounding club-

music based timbres form the bedrock of the unit's capabilities. As the presets are sampled, the sound quality is squeaky clean. A fairly diverse range is offered, including basses, organs, synths, pads and sound effects.

However, there seems to be an inordinate amount of Techno-type stabs, which illustrates my main concern about the longevity of this unit. With such quickly passing trends in sounds used in 'dance' music (and I use that term very loosely), I wonder how long it will be before these sounds become over-used to the extent of winding up in Clichéville. That said, the sounds are highly editable, and it is certainly possible to come up with some pretty original edits of the existing sounds. And highly editable parameters there are; comprehensive control over instrument layers, key ranges, tuning, envelopes and filters, along with more utilitarian parameters like volume and pan are all supplied.

Particularly impressive are the filter controls; Orbit provides no less than 17 Z-plane filters, including a wide variety of Low- and High-pass filters, Swept EQ, as well as phasers and flangers. Keyboard and velocity modulation of parameters are included, utilising two multi-wave Low

On the
RE:MIX CD

Track
17

Hear E-mu's own demo of the Orbit on this month's CD. Do you like cheese? Do you like peas? Do you like cheesy peas? E-mu do...



Spec check

Polyphony:	32
Audio Outputs:	6 (2 main, 4 submix)
Submix Inputs:	4
MIDI:	In, Out, Thru
Data Encoding:	16 bit Linear
Sample Playback Rate:	39 kHz
Signal to Noise:	>90 dB
Dynamic Range:	>90 dB
Frequency Response:	20 Hz - 15 kHz
Dimensions:	H: 1.75" W: 19" L: 8.5"
Weight:	6 LB, 14 oz (3.1 Kg)

A welcome sight is the six audio outputs lurking at the back...

Frequency Oscillators, two envelope generators, and the ability to respond to multiple MIDI controllers. In addition to these, Orbit has multiple realtime modulation sources, enabling parameters to be continuously varied over time. With up to eight modulation routings being programmable for each preset, this is a well implemented and powerful feature which provides a host of sound creating possibilities.

The manual competently guides the user through the technicalities of programming the various parameters available in the 'Programming Basics' section, and although starting from a fairly basic standpoint, proves to be an articulate introduction to the whole area of sound design. Then there's yer drums...

On the beat

As well as a healthy number of kits, complete with all the necessary sub-bass kick drums, stabs and scratches (Oh, and the odd snare and hi hat) to pen your own club anthem, Orbit also offers a range of 60 pre-programmed beats. Before you yell 'Casio Home Keyboard' – don't. Most of the patterns here are eminently usable, and certainly serve as admirable demonstrations of the possibilities of the machine. As expected, the tempos can be set from 5 bpm to 240 bpm, or set to external control. Plus the Orbit has a feature allowing you to transpose the patterns. This doesn't mean it transposes the pitch of the sounds, rather, it moves the whole

pattern up the keyboard, having the effect of changing the sounds used for the sequences.

Of course, you can choose the sound set yourself, so when using an actual instrument, as opposed to a drum set, the transpose option will affect the pitch. This gives the possibility of creating literally thousands of variations of the sequences. And this is where the frustration occurs; having come up with a great groove, there was one solitary cowbell hit which I wanted to eliminate, but there is no facility to do this – Orbit does not send out the individual note data of the sequences. However, I am informed that plans are afoot at E-mu to bring out a disk with the sequences provided as MIDI files, which would give much more flexibility.

Verdict

This is a well thought out machine, with a host of great (if some slightly novel) features. It's a pity the MIDI files weren't available at the time of review, since this would give vastly more flexibility for using the preset drum sequences. With the realtime control, I can envisage the unit being a powerful tool for live work, as well as a useful addition to any studio producing dance music. ●

**UP
CLOSE**



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Roland



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Roland



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JV1080

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16 Input: List £2499

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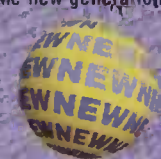
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TASCAM

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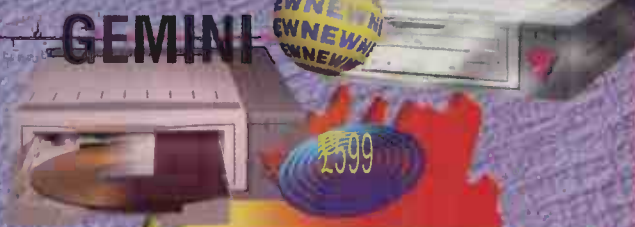


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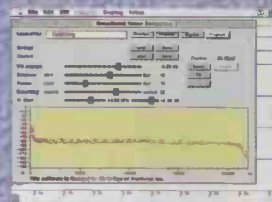
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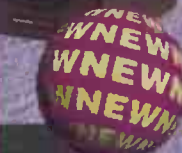
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Cubase V3 roundup

Steinberg have attempted to standardise the Cubase range with the release of their Version 3 software, but there are still differences due to varying hardware specifications. Ian Waugh explains what you can and can't do with the latest versions...



Cubase 3 on a "normal" Mac highlighting the digital audio features.

Steinberg's Cubase is one of the music software industry's success stories. From its launch on the Atari ST in 1989 it has become what is probably the most popular sequencer in the world and available for Atari, PC and Mac computers.

As new features were added, versions on some platforms moved ahead of those on other platforms and it began to be quite difficult to know exactly which version of which program on which platform had which features. To simplify matters – sort of – Steinberg has consolidated all versions of Cubase for the Mac and PC. Everything is now version 3.0, although not all versions of the program on the two platforms have *exactly* the

yet hoping to provide an unbiased account of the situation – the Atari ST market is certainly in a fast and steep decline. The Falcon continues to thrive in a small niche market, but it is not the mainstream music machine it once aspired to be, despite being the most bottom-line, cheapest way into direct-to-disk recording. Cubase Audio was one of the first programs on any platform to combine MIDI sequencing with digital audio and Steinberg has not forgotten those roots. However, the company's approach to development on all platforms is lead by demand, as it must be if R&D costs are to be recovered.

Consequently, the Atari versions of Cubase have not shared the general upgrade



Cubase VST running on a PowerMac has bags of digital audio facilities.

same features, mainly due to architectural differences between the two machines. More of this in a moment.

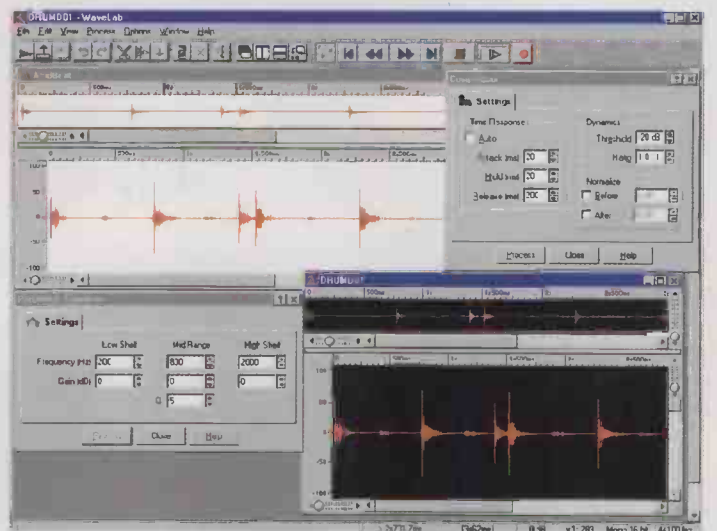
But what of the Atari ST and the Falcon? Well, without wishing to become part of the doom and gloom brigade – but

to version 3 and it's extremely unlikely that any more development will take place on the ST, although minor tweaks may still be made. If there is a demand for updated versions of Cubase on the Falcon then Steinberg will respond but, as more and more users are turning to the PC and Mac, it seems more likely to me that Steinberg will channel its efforts into these two platforms. Existing Atari users will still receive full support, of course.

Cubase basics

The purpose of this article is to look at the features in the new versions of Cubase 3. It's not a review as such. In its

WaveLab Lite is bundled with the PC versions of Cubase 3 and has a fair number of processing functions.



The essentials

Price inc VAT: Cubase 3.0: £329, Cubase Score 3.0: £499, Cubase Audio XT 3.0: £699, Upgrade from a previous version of Cubase to the current version: £119

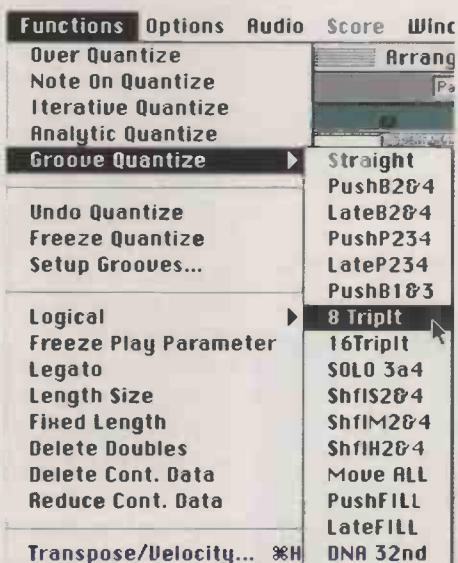
More from: Harman Audio, Unit 2, Borehamwood Industrial Park, Rowley Lane, Borehamwood, Hertfordshire, WD6 5PZ

Tel: 0181 2075050 **Fax:** 0181 2074572

various incarnations, Cubase has appeared many times in these pages, so if you want to fill in a few details, it's time for some back issue reading. However, for newcomers and those who are a little rusty (as Florence once remarked), here's a quick precis of the salient points.

We'll start with the basic Cubase program. This lets you record music patterns on an unlimited number of tracks in the ubiquitous Arrange page. It has Edit (piano roll), List (event), Score and Drum editors for editing the data every which way. There is also a Logical editor which lets you transform MIDI data in various nefarious ways and which is rather easier to get to grips with than it may at first appear.

There is a MIDI Mixer with a dedicated GM/GS/XG mixer/editor and support for Mixer Maps. These are small program modules which you can load – and create if you fancy a spot of graphic programming – to control MIDI



Cubase's Groove Quantise lets you apply rhythmic grooves to patterns.

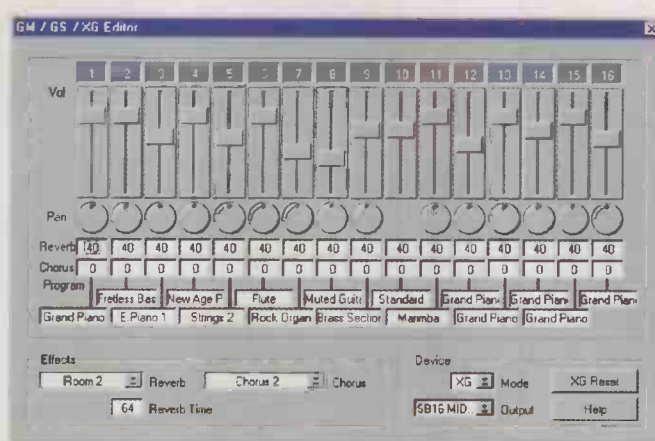
devices. The program includes lots of Maps for various instruments and hardware mixers, and other Maps are available from third parties.

The IPS or Interactive Phrase Synthesizer is probably one of the least-visited areas of Cubase. It's a sort of algorithmic music modifier which converts and transforms musical phrases. You can re-harmonise a piece of music, for example, by forcing the notes onto an alternative scale. You can transform and modulate pitch and rhythm and generally process your music in a large number of ways. It's certainly worth spending an afternoon getting to know it.

One of Cubase's major features is Groove Quantise which lets you apply a specific rhythmic feel to a part. There are lots of Grooves to get you started and you can create your own.

What's the score?

Cubase supports score editing and printing which many users will find quite adequate. Cubase Score has all of Cubase's features but includes a much more comprehensive score editor. Cubase Score was reviewed in February so check that for the nitty gritty details. It's interesting to note(!) that most users seem to plumb for



The GM/GS/XG editor lets you adjust and select sounds from a central window.

Cubase Score rather than Cubase. Just thought I'd mention that.

Cubase on the PC has a Modules menu. These are effectively Plug Ins and let you access additional functions if you require them or conserve RAM if you don't. There are currently five Modules – AVI Monitor for running Video for Windows movies, MIDI Processor which can produce MIDI echoes, SMPTE Display which puts a large timer on the screen, Styletrax which creates automatic accompaniments and Studio which keeps track of the MIDI devices in your system.

The Mac versions have equivalent functions to all these built-in, with the exception of the Studio Module. This essentially works in a similar way to Opcode's OMS and with the imminent release of OMS 2 it's likely that users who require such features will be pointed in that direction.

Audio for all

With version 3, Steinberg has given all versions of Cubase direct-to-disk recording facilities. Yes, even the bog standard version! However, this is where the variations between the two computer platforms – three if you include the PowerMac – start to show.

On the Mac, the audio facilities in Cubase and Cubase Score are only available if you have a PowerMac. The box includes a "normal" version of the program for non-PowerMacs and also a Native version with digital audio facilities courtesy of VST – Virtual Studio Technology. This was our cover feature last month, so check it for details.

If you don't have a PowerMac, you need a digital audio card such as Digidesign's AudioMedia II and to run this you need the next Cubase up the ladder, Cubase Audio XT. It's important to realise, however, that functionally this is virtually identical to Cubase and Cubase Score and the extra you pay is for the ability to access external hardware.

On the PC, the audio functions require a sound card. Facilities

such as the ability to record and playback simultaneously are dependent on the sound card and its drivers. Using a quality sound card with a hi spec DAC you can achieve superb results. If you want to use dedicated hardware such as Yamaha's CBX-D5/D3 or AudioMedia III then, again, you need Cubase Audio XT.

In all versions, audio patterns appear in the Arrange page like MIDI patterns and you can do much the same sort of cut, paste and edit jobs on them as you do on MIDI patterns. If you are working with both MIDI and

audio tracks, it's an excellent system as you can see exactly where each type of pattern sits in relation to the other.

Vive la difference

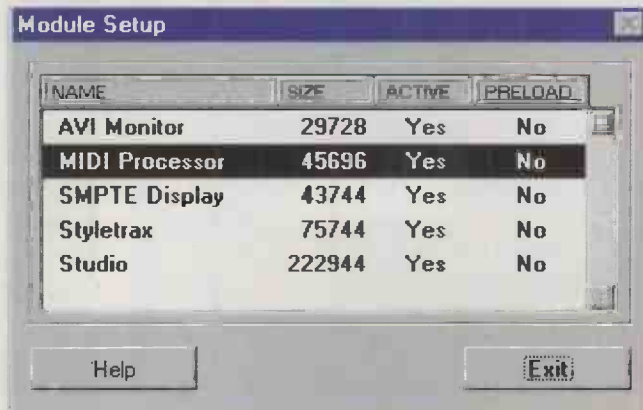
If we look at the Mac and PC systems more closely we can see what features they have and where they differ. Both versions store audio patterns in a Pool and you can drag them from here to the Arrange window. They both

It's extremely unlikely that any more development will take place on the ST, although minor tweaks may still be made

have a range of audio processing functions although they don't appear in the same place on both systems. This shouldn't cause any problems although it can be a bit confusing initially if you move from one platform to the other.

All PC versions include the WaveLab Lite waveform editor, a cut-down version of WaveLab which we reviewed last month. It launches automatically when you edit an

The Modules menu in the PC version of Cubase lets you add additional facilities to the main program. Most of these are built into the Mac version.



Shift and stretch

TimeBandit is bundled with the Mac version of Cubase Audio XT and includes superior Time-stretch and Pitch Shift functions.



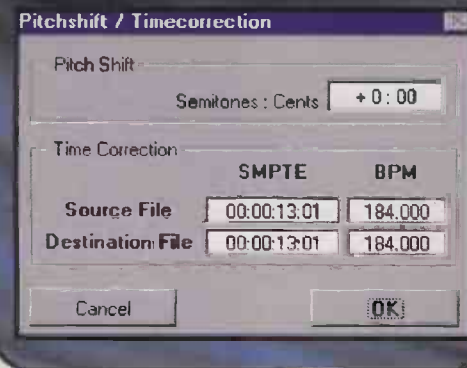
The Pitch Shift function in the standard Mac version of Cubase Audio XT is not as sophisticated as the one in TimeBandit...



...neither is the Time-stretch function but they still both do a creditable job.



The PC version of Cubase combines Pitch Shifting and Time-stretching in one window.



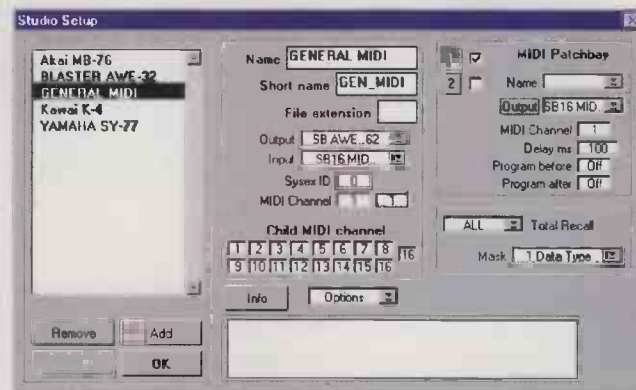
audio file although you can configure Cubase to launch an editor of your choice.

It includes Normalise, Change Gain, Invert Phase, Eliminate DC Offset, Fade In and Out, Crossfade, Reverse, EQ and Convert Sample Rate functions. It has a Dynamics window but this only functions as a Compressor. It lacks the Expander, Limiter and Noise Gate functions in WaveLab's Dynamics window and does not have the ability to create Presets which are used in Dynamics. It also lacks functions such as EQ and Crossfade. WaveLab has a Find Peak functions, a Harmoniser, Hi Fi Chorus and a Frequency Analysis (FFT) display.

Pitch Shifting, Time-stretching, Normalise, Reverse and Varispeed functions are available from within the Pool window and controlled by easy-to-use windows.

In the non-PowerMac version of Cubase Audio XT on the Mac, Pitch Shifting, Time-stretching, Fades, Normalise, Invert Phase, Reverse, Silence, Quieten and Silence commands are available from the built-in Wave editor.

The Studio Module in the PC version of Cubase lets you configure your MIDI system.



The XT pack also includes TimeBandit 2.0 which has more sophisticated Time-stretch and Pitch Shifting functions. If these are accessed from the Audio menu, TimeBandit launches automatically. It's a nice extra to put in the box as it still retails on its own for £329.

The EQ window is also accessed from the Audio menu. It's roughly on a par with the one in WaveLab Lite but it's nowhere near as impressive as the one in Cubase VST. And speaking of which, Cubase VST has a host of processing functions (see last month) including Reverb and Echo which the other versions lack. This

is principally because the effects are produced by the PowerMac's DSP chip which, of course, the other computers lack. Still, this doesn't prevent other digital audio programs from incorporating them. Lack of reverb and echo is probably the other Cubase's greatest limitation. Perhaps they will be added in an update.

One final feature worth mentioning is the ability to match an audio track to a tempo and vice versa. It's best if you can create your tempo map before recording but it's reassuring to know that you can tweak either way if necessary. Oh, and the colour. All versions now have a colour interface and very smart it looks, too.

Make your mind up time

So that's the current state of Cubase. Although most of the functionality is the same in both Mac and PC versions, it's obvious that differences in hardware has meant that various features and functions have had to be implemented in different ways. Quite possibly we will see a greater divergence as Steinberg takes advantage of the individual computer's strengths.

If you're looking to buy a version of Cubase, which do you go for? Without a doubt, the most impressive is

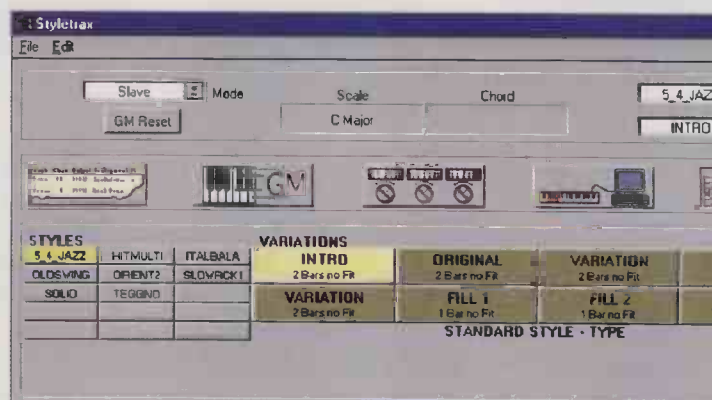
Cubase VST, but you need a fair number of horses under the hood of a PowerMac to get the most out of it.

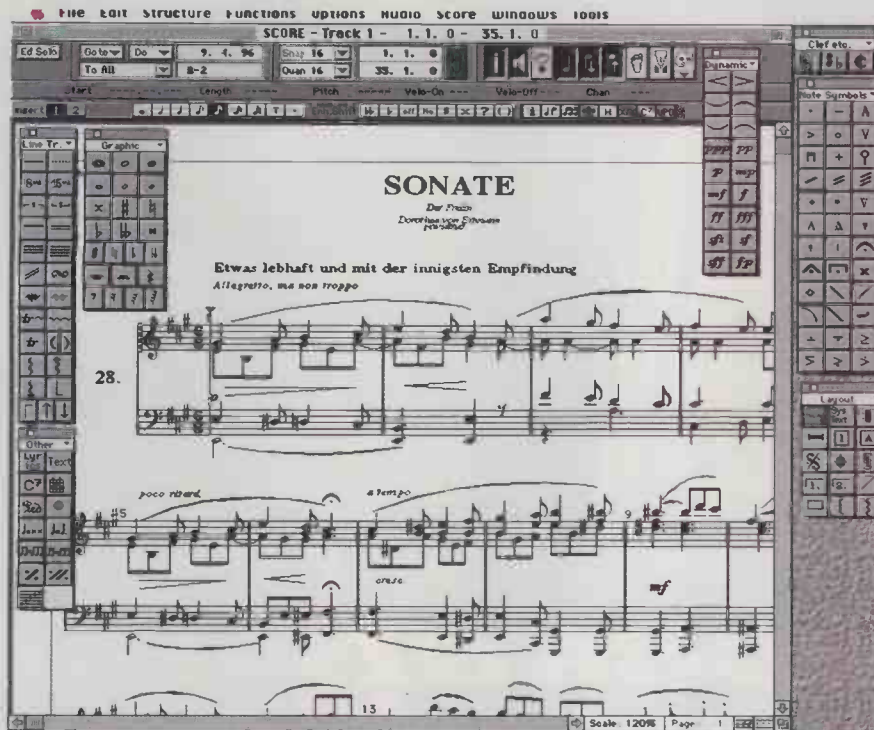
However, if you have one of the less-powerful machines it's still worth investigating to see if the performance you can expect will suit your needs. If you have a Mac and a digital audio card and want digital audio features, you need Cubase Audio XT and get TimeBandit to boot. If you don't have a PowerMac or a digital audio card and want

digital audio facilities you'll have to buy a digital audio card or a PowerMac. A digital audio card will be cheaper in the short term but you may be better off selling your current Mac, putting it with the cost of the card and going for a PowerMac. You can then use the cheaper version of Cubase VST and get more program for your money, too.

Dedicated digital audio hardware for the Mac is still

Styletrax offer a quick and easy way to create accompaniments.





Cubase Score contains a superior set of scoring tools and functions for producing professional scores.

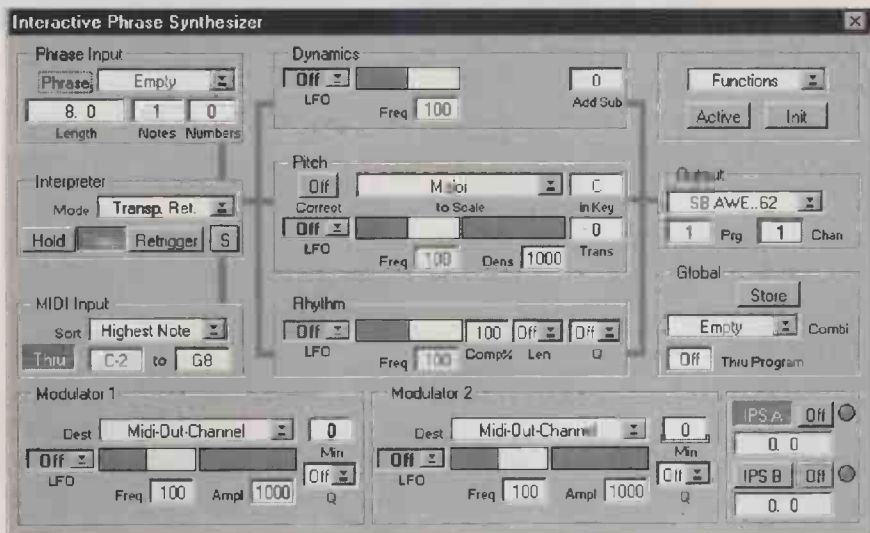
expensive, some would say overpriced, particularly when compared to PC sound cards. If you want the best sound quality then go for it, but the output from the PowerMac is as near as dammit and, again, Cubase VST gives you lots more features.

On the downside, in spite of Apple's six-monthly price reductions, PowerMac's are not the bargain the company would have us believe. Still, there's never a

analogue converters and you'll get excellent output. If you demand something more professional, Cubase Audio XT works with stand alone hardware units.

It's remarkable to see how far Cubase has come in the past few years. On a price list dated May 1990, Cubase was £550. Not only is it now much cheaper and with many more MIDI facilities but it also includes digital recording and audio processing

The Interactive Phrase Synthesizer transforms musical phrases in many ways and is a good source of inspiration.



good time to buy a Mac and this is as bad – or good – a time as any. If you don't want digital audio, the standard Cubase pack will do you fine but go for Cubase Score if you like working with the dots.

PC users are excluded from the pleasures of VST, but even the basic Cubase offers d-t-d facilities if you have a sound card. Get a card with quality digital-to-

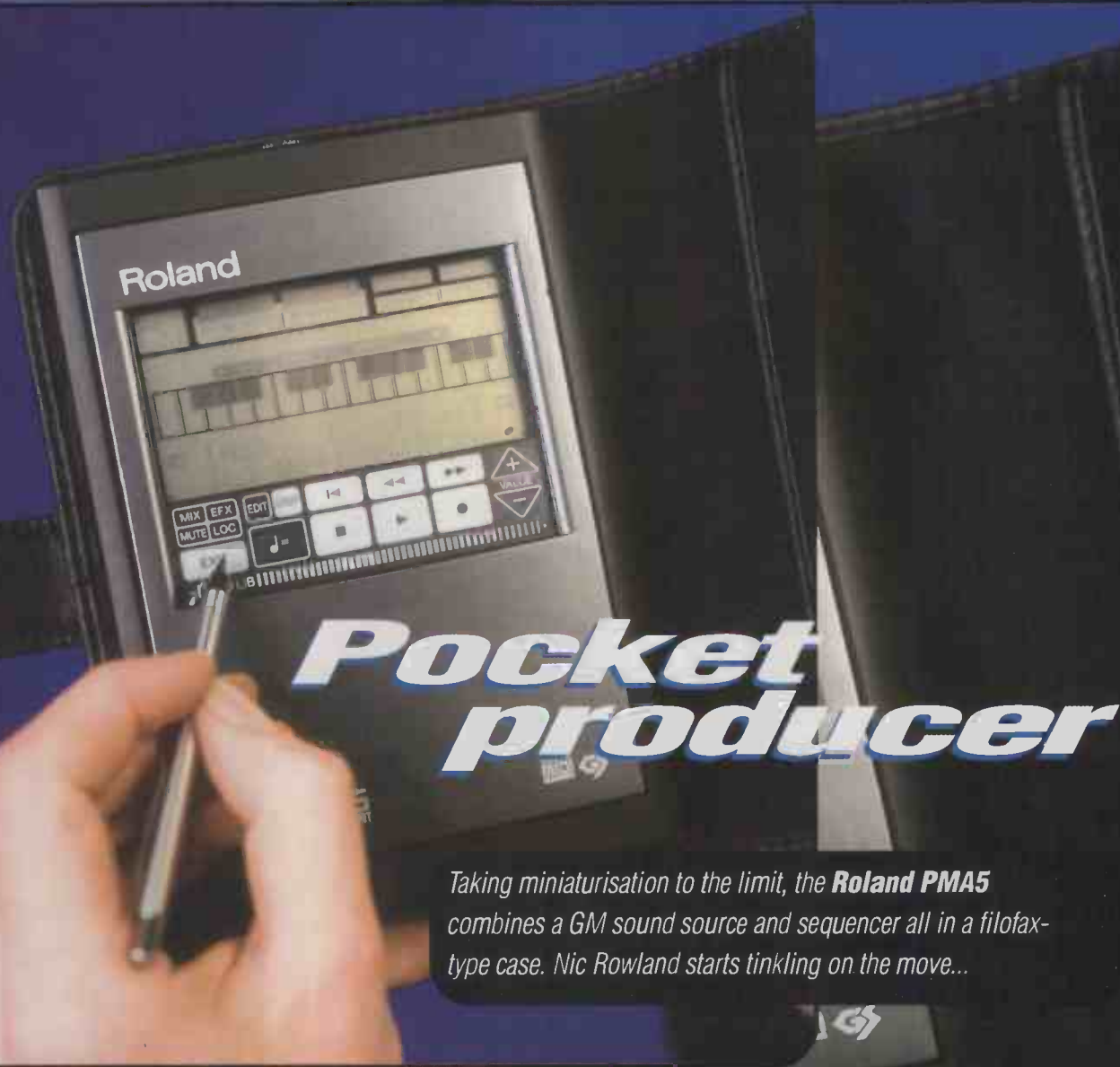
functions. Perhaps the sequencer war is hotting up. Perhaps technology, at last, is doing what it should be doing – giving us greater control over our music and more features for our money. Or perhaps it's a bit of both. Where can sequencing go from here? Watch this space! ●

THIS IS A USER LIST FOR A RANGE OF MICROPHONES:

- Black Crowes
- Bon Jovi
- Bonnie Raitt
- Bruce Springsteen
- Crosby Stills & Nash
- Doobie Brothers
- Elastica
- Hall & Oates
- Hole
- Jesus and Mary Chain
- John Mellencamp Tour
- Lenny Kravitz
- Lindsey Buckingham
- Natalie Merchant
- Offspring
- Pearl Jam
- Pulp
- Queensryche
- Radio Head
- Red Hot Chili Peppers
- Roxette
- Smashing Pumpkins
- Sonic Youth
- Soundgarden
- Stone Temple Pilots
- Suede
- The Beach Boys
- Yngwie Malmsteen
- 1996 MTV Video Awards

BUT WHICH ONE?

The above list indicates that the artist and/or the artist's band and/or the artist's tour have used an Audio DM series microphone. It does not necessarily represent an official endorsement of the product or allegiance to the brand. £60E.



Taking miniaturisation to the limit, the **Roland PMA5** combines a GM sound source and sequencer all in a filofax-type case. Nic Rowland starts tinkling on the move...

When the editor started the telephone conversation with "You like getting to grips with unusual instruments, don't you", I knew that either I'd been chosen to review something slightly off the beaten track, or news of the impending court case (*you too - Ed*) had spread faster than I had anticipated. Preparing to explain that the jar of peanut butter had found its way into the wardrobe purely by accident, I was mercifully cut short with a garbled description of some 'portable sound module' peppered with phrases such as 'musical Filofax', 'handheld computer', 'Stylophone for the 90s' and 'I'm sure you'll have fun with it.' One overnight courier later, I found myself eyeball-to-eyeball with Roland's PMA5. The mist began to clear.

What is it?

From the outside, the PMA5, or Personal Music Assistant to give it its full title, does indeed look like a Filofax (all trademarks acknowledged, by the way). Open it up, though, and you'll find a MIDI equipped, battery operated GM/GS sound module designed for the making of music, any time, any place, anywhere. Based (I suspect) on Roland's excellent range of Sound Canvas modules, it

boasts a collection of 306 sounds plus 16 drum kits and onboard FX. There are 100 auto-accompaniment patterns (with six variations per pattern) covering a wide range of musical styles, plus room enough for up to 200 user styles. On top of these you can record up to four further tracks using the PMA5's internal sequencer. Aside from the MIDI In and Out socket (which allows you to access the voices from an external keyboard or sequencer) the PMA5 also functions as a more conventional GM/GS sound module, with an 8-pin DIN socket offering direct connection to a PC or Mac (providing you have the optional cable and driver software).

Comparisons to the long-redundant Stylophone stem from the fact that all these glories are accessed not by knobs, buttons or sliders, but by a touch sensitive screen, similar to hand-held computers like the Amstrad Penpal or Apple Newton. This screen, roughly 2" by 3", takes up half the front panel and is your window on the world of the PMA5's functions. A metal stylus with a plastic tip – the tool necessary to open that window – is clipped neatly in a recess down the side of the box. Lose this implement at your peril, as the only other human accessible interface on the PMA5 is the volume knob!

And don't be tempted to substitute an old pencil or half chewed Bic, as you'll only go and scratch the screen to buggery.

The graphic elsewhere on the page gives you an idea of what confronts you when you turn the module on. In the centre is a two-octave virtual keyboard which allows you to input notes (monophically), as well as selecting chords when using the auto-accompaniment mode. The keyboard can be transposed up or down up to three octaves and there are functions for editing velocity, adding modulation and pitch bend, and turning on and off the glissando and key hold effects. Obviously, it's no virtual Steinway, but I was impressed at how responsive it was, providing you're not trying to play staccato notes at the speed of light.

For more florid effects, you can also enter notes using

The essentials

Price inc VAT: £445

More from: Roland UK Ltd, Atlantic Close, Swansea Enterprise Park, Swansea, SA7 9FJ

Tel: 01792 702701 Fax: 01792 702702

Spec check

Keyboard:	Two octave touch screen
Polyphony:	28 voices
Voices:	Piano (9 types), electric piano (12), clavichord (6), chromatic percussion (12), organ (22), guitar (35), bass (17), synth bass (14), orchestra (9), strings (13), brass (9), syn brass (13), reed (8), pipe (8), syn lead (20), syn pad (14), syn SFX (16), ethnic (10), percussive (13), guitar/bass fx (7), SFX (39), drumkits (16). Reverb (8 types), Chorus (8 types)
Effects:	
Multi-timbrality:	Normal mode - 4 style performance tracks plus 4 additional sequencer tracks; GM/GS module mode - 16 tracks
Styles:	100 with 6 variations per style, 200 max user styles
Sequencer:	Max 21,000 notes, max 20 songs (song length 1-999 measures)
Display:	Custom LCD touch panel
Connections:	Stereo headphones/line out (stereo mini jack), 9V DC input, MIDI (In, Out), remote start/stop (mini jack), switchable 8-pin DIN PC/Mac compatible computer interface
Size:	123mm (w) x 169mm (d) x 24mm (h)
Weight:	610g (including batteries and cover)

what Roland call the Ad Lib bar which is akin to running your hands up and down the keyboard. What's interesting about this function, though, is that the selection of notes on offer automatically changes to fit in with whatever chord you've dialled up on the auto-accompaniment style, so you can improvise away to your heart's content without ever hitting a bum note! Above the Ad Lib bar is a tape transport-style section for controlling the sequencer section, plus dedicated soft 'buttons' for accessing edit and step time modes, editing the effects section, muting and mixing tracks and changing tempo. There are also plus and minus keys for data entry – although, as you quickly discover, you can also scroll through the voices and alter data simply by pressing on the appropriate function or parameter then, while still holding the stylus down on the screen, dragging it up or down to change values.

The keys to other functions – voice, mode, style select and so on – along with their associated menus and functions – appear and disappear on screen as you navigate your way through the PMA5's operating system. One nice touch is that the Enter 'button' only appears at the appropriate point in the programming sequence, so you can't press it by accident. And even if you do, another prompt pops up to ask whether you really, really meant it. All told, it's a slick system which is easy to get to grips with, particularly if you've used a keyboard before. And for those that haven't, Roland give you a Quick Start guide along with the more detailed and thicker regular manual. (However, I'm still wondering why the concept of a basic song structure is illustrated by a cartoon of a small bear plunging his head in a river and emerging with a fish between his teeth).

The major criticism here is that the screen isn't backlit, no doubt because it would gobble up battery power faster than a termite in a woodshed. However, I

would have thought Roland could have at least considered adding an optional backlight which you could use when powering the PMA5 from optional 9V DC adapter. You also have to do a double take when flipping open the case for the first time and discovering the module is upside down. That's until some clever basket points out that because the Japanese read from right to left, it's more natural that it should open the 'wrong' way round. Ah so – that explains it. Incidentally, the unit will run for around five hours on its complement of six 1.5 V AA batteries and there's a function within the utility menu which keeps you informed of just how much juice you've got left at any particular time.

In use

Any thoughts that this might actually be a Stylophone for the 90's quickly evaporate as soon as you begin to run through the onboard sounds, all produced by Roland's tried and trusted GM/GS sound chip. I'm not going to dwell too long on the individual virtues of the PMA5's sounds. All you really need to know is that they are plenty of them and they are universally excellent. A number of the organs stood out (er... I think I'd better rephrase that) and there are also a number of special effects related to guitars and basses – slaps, slides and so on – which can be mixed in with the more conventional guitar and bass voices to create some wonderfully grungy patches.

The PMA5 also provides a healthy selection of more analogue-style synth sounds, particularly in the bass department, where you'll find a number of voices inspired by the company's own golden oldies, such as the TB-303 bass synth and SH-101 monosynth. Although there's no onboard editing, sounds can be modified to some extent by the onboard reverb and/or chorus/flange/delay.

THINK AGAIN!



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Separate sequencer and sound module? Not me – I just plug in and go...



► Styles

There are 100 different styles on board, running from rock to ragtime, jazz to jungle, Motown to mambo, and all other alliterative couplings in between. Each style offers six variations – namely Intro, Main A, Main B, Fill 1, Fill 2 and Ending – and consists of bass, drums and two 'accompaniments'. Like the sounds, the standard of programming is excellent, with most patterns capturing the essence of a particular type of music without stooping to complete cliché. The only shortcomings stem from the fact that because Roland have thrown in a little bit of everything, you're bound to feel that there's too much of what you don't want, and not enough of what you do! That's where the 200-strong user style memory comes in...

The icing on the cake is that it also functions as a fully-fledged 16-part multi-timbral GM/GS sound source

You can either program from scratch, or copy bits and pieces from the pre-programmed style to give you a kick start. Programming can be carried out in real or step time and all the necessary copy, past and delete functions are there to make it as painless as possible. Voice assignments, their volume, pan and FX mix settings, plus tempo information can all be saved as part of the style patch. Obviously, if you want to input chords using the screen keyboard, you have to make several passes and enter a note at a time, although there's a special function in the step time menu to make this easier. The other alternative is to use an external keyboard.

Songs

Putting together a backing track, whether using either factory or user styles, falls within the PMA5's Song functions and generally involves a two-pronged attack. First, you assemble the patterns/styles in the order you want using the Style Track menu, then you program in the necessary chord changes using the Chord Track

menu (which offers 26 different chord shapes in all). As the two systems have slightly different ways of presenting information, this can be a bit confusing at first. But it all falls into place eventually. Unfortunately, while you can use an external keyboard to play along to the accompaniments (and indeed record parts over the top of them using the PMA5's four-track linear sequencer), you can't use its keyboard to input chord changes in real time, nor for that matter can you use it in style play mode to change chords.

Also in Chord Track mode the unit really does suffer from the lack of backlighting as it's quite difficult to read the names written on the keyboard's black notes. The on-board sequencing edit functions are surprisingly detailed. You can alter levels to individual

pitch, duration and velocity values and even offset the MIDI timing. You can also record tempo changes as part of a song.

And there's more...

The PMA5 would be impressive enough as a stand-alone instrument, but the icing on the cake is that it also functions as a fully-fledged 16-part multi-timbral GM/GS sound source. Via its MIDI ports or via the special cable which plugs into either the serial port of an IBM-compatible PC or the modem port of a Macintosh, it becomes the ideal partner for a software sequencer. From the comprehensive MIDI spec sheet, it would appear that the PMA5 functions just like Roland's Sound Canvas range. As there are several sequencers that enable you to edit GM/GS voices quite extensively, as well as tweaking parameters such as the volume, pitch and pan of individual drum sounds, you'll be able to get even more out of the PMA5.

The PMA5's keyboard will also transmit over MIDI, making it a useful input device on a cluttered desktop.

What's a little disappointing is that in its GM/GS guise, you lose the ability to play the styles. However, I suppose it wouldn't be GM then! And in any case, you can get round this by recording the PMA5's styles into an external sequencer, then using that to play the PMA5 back while adding other parts on top.

Verdict

There's so much more I can tell you. But sadly the jar of peanut butter's almost empty and I need to nip down to the shops. So I'll leave you with some concluding thoughts...given that many instruments pitched at the enthusiastic amateur/semi-pro are much of a muchness these days, my interest is always aroused by any new instrument that offers some new perspective on music making – be it in terms of sounds or the methods of controlling them. The PMA5 is one such instrument, not just because of its unique touch screen editing system, but because its 'wash and go' portability doesn't come at the expense of the specification sheet.

The great thing about the PMA5 is that having got down your ideas out in the field (or down the pub, in the car or shopping in Tesco's), you can come home, plug it into your MIDI setup and have all the facilities to continue building and refining your ideas. Having done that, you can then take it back on the open road and continue to work on your ideas further. It's also so much more stylish and professional-looking than other 'Walkstations' I've encountered and certainly scores over them in terms of ease of programming.

Experiences with industrial devices using touch screen technology seem to indicate that they are fairly robust, so the PMA5 should be strong enough to cope as well as small enough to carry. Only the lack of backlighting really lets things down – a fairly important detail in this case as the screen is obviously crucial to the operation of the unit. Overall, I was impressed. Forget residual memories of Rolf Harris and the Stylophone. This personal assistant is no novelty act, but a thoroughly professional piece of work. ●

Near and far



Many studios rely on nearfield monitors as their main set of speakers, so getting the right one is important. Paul Mac meets a newcomer on the scene, the **FAR CR10**

No amount of bulls could match the oral outgoings of commentators and salesmen on the subject of loudspeakers and monitoring – that much is clear. The collected comments of self-declared audiophiles everywhere would make an amusing read. The fact is, you don't get a £5000 sound from a £5000 pair of monitors, unless you're prepared to spend double that on the room that you build around them. However, nearfield monitoring is an attempt to give speakers a fighting chance, by designing them to be placed within a meter or so of the listener, so that levels can be set to negate the effect of reflected sound, leaving the direct sound to the eye of the beholder. So, you use smaller cones to make sure that their peak operating levels fall inside the desired volume range, and that they'll balance on either end of your

mixer's meter bridge without falling off (acoustically not advised). These, plus the improved understanding of bass extension port (or tube, to be more precise) maths and manipulation, brings us the high quality, two-way, nearfield monitor. Da daaaa...

Given that monitors don't have the displays, switches and knob arrays found on other types of equipment, there is still a bewildering amount of variation. Unfortunately, your friends won't be impressed with the sight of this latest investment, because they've got ones just like them, on their Sanyo hi-fi. Take heart – they sound better, and are just as important as every other bit of gear you've got.

Background

FAR are a young company from Belgium that have just launched their entire range of monitors onto the world market. This review is dedicated to the smallest of their products, the CR10 (small FAR nearfields?). The review pair are finished with a blue coat, and an outstanding, spongy company logo (for optimum damping). Other colours are available to order – POA. A reassuring and solid weight, plus a quality construction job, helps these boxes to give a good first impression. The diameter of the extension port seems smaller, compared with the low/mid

driver size, than a lot of speakers, though in this case, the length counts more than the width (*no comment – Ed*).

One small surprise was finding a level control on the back. It's a large, recessed pot, labelled from 0dB to $-\infty$. The 0 to -6 dB range takes up about two thirds of the entire travel, which descends rapidly after this. Once in use, it was clear that this control is for the tweeter only. Initial thoughts were why, after taking so much trouble over frequency response, would you want to go and provide a means of ruining it? And does the extra attenuation network cause complications for the overall load (which, with the crossover and motor coils, is already frequency dependant)?

Well, the answer to the first question has to be one concerning choice. This has got to be a facility for tuning your speakers to the working environment. Someone working in a tin bath will be wanting a few less highs than someone working in a padded cell. A flat response inside an anechoic chamber doesn't help a great deal if you don't live in one – even with all those nearfield considerations.

The specifications list the high frequency control with a range of $-\infty$ to +4dB, even though the maximum mark is 0. Whether this means that the low/mid has been attenuated to allow

a relative gain, it is difficult to tell. The anechoically flat position should really be clearer. However, the question of whether or not what you're hearing, is the same as is going onto tape, is applicable to any speaker, in any room, so the provision of choice should be the issue – and that is provided. The arrival of an information sheet, hot off of the FAR press, confirms their intentions to provide room matching, though in true info sheet style, they prefer to call it 'power response compensation for the high frequency driver.'

The second question is just as important, as the control shouldn't change response. Having tried desperately to find a reason to criticise, we have to relent and declare the level control transparent with regard to unwanted artefacts. There was a lack of pretty graphs at the time of going to press, though there is one graph, with a single impedance response, but nothing to indicate the position of the level

The essentials

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FOLIO

SPIRIT



IT'S SAD that some mixer manufacturers resort to hype and long, technical sounding names to describe features that every self-respecting company has used for ages but doesn't shout about. This junk-food mentality only makes it harder for you to decide what's good and what isn't.

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* Including all Inserts, direct outs, groups, mono bus and anything we could think of.

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SX is a powerful, multipurpose mixer with DAT quality sound, housed in a freestanding frame with carry handle. It has 20 inputs (including 4 stereo channels) as standard - enough for most live and recording situations.

FACT: SX's 12 mono inputs have UltraMic™ preamps. 60dB of gain range and +22dBu of headroom, allows any mic or line device to be plugged in.

FACT: SX is a 4-bus mixer. In addition to the mix outs, two sub-buses allow you to record groups of instruments to multitrack, send them to additional speakers, or sub-group to mix. SX also has a dedicated Mono Out.

FACT: SX's 8 Direct Outs are switchable pre/post fader so they are equally useful when recording in the studio or at a gig.


FACT: 100mm faders throughout give you more resolution and finer control over your mix than the 60mm faders found on many more expensive mixers.

FACT: SX's 3-band EQ with swept mid is a real "British EQ". Custom-designed controls at carefully chosen frequencies produce a warm, natural sound. A steep 18dB/Octave High Pass Filter effectively reduces low end muddiness.

FACT: Of the 3 Auxiliary Sends, 2 can be pre- or post-fader. This makes SX equally suited to "monitor heavy" live performances or "effects heavy" mixes.

FACT: Unlike many small-mixer rotary controls, SX's have been custom-designed to give an even spread and consistent control around their sweeps.

FACT: By using the latest surface-mount technology, SX fits all these features into a rugged, compact frame which can be optionally rack-mounted into a 10U space in a matter of minutes.

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W/SX

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Nearfield

The nearfield monitor is one attempt to disassociate the 'direct field' from the 'reverberant field' of a listening environment. The direct field is sound which comes directly from the speaker to the ear without any interference from the room. The reverberant field is any sound generated which arrives at the ear, having first been subjected to reflection and absorption by walls, furniture, and so on. Obviously the direct field is the desirable portion in terms of accurate monitoring, whereas the reverberant field is like a mine shaft collapse – it ruins the whole effect.

In purpose-built facilities, you will see large, multi driver speaker cabinets form part of the walls. The high, accurate SPLs achievable in these instances are made possible with expensive, high quality monitors, and some imaginative architecture – from the foundations upwards.

If the monitoring in a typical home setup was set as far away from the listeners as this, then higher power would be needed to give good level, which would lead to an exaggerated and messy reverberant field. By bringing the speakers closer to the listener, you can set lower levels to give the same SPLs at the ear and thus reduce the effect of the reverberant field. Nearfield monitors are small by design, as this way they handle the lower levels with less physical inertia in mechanical parts, and thus greater sensitivity.

▶ control. This line shows relatively smooth progress, with peaks at around 2.3kHz and 80Hz – probably corresponding to the limits of the low/mid driver.

The crossover frequency sits at 2.5kHz, though audible movement starts at around 1kHz, with the bass port coming into its own at approximately 50Hz, and my, my, it really blows – no hair dryer needed. That friend to all who now design ported cabinets – Mr. Dick Small (yes, really) gets a mention on the info sheet, and if those designers at FAR have got the hang of those maths, we bow to that blow. The two drivers stick very much to their own jobs, which is undoubtedly down to crossover design. Just past crossover frequency, the low/mid driver says, "My work here is done," as the sweep input rides off into the tweeter. Cheapo' crossovers leave the Low/mid driver to fend off a full range signal – not helpful.

No limits

In general terms, the CR10s have an obvious input level range, inside which they become specialists. Levels outside this range are by no means outside their capability, though colouring and gradual disfigurement do find a way in. Of course, any speaker has a lower and upper cut off point where, outside this, they are not performing as well as they can; it's just that the CR10s seem to be more obvious in this respect. This points to an optimised nearfield, where designers have consciously considered volume levels needed, or expected, and honed the system for that portion.

They have judged it well. Some may be disappointed

Spec check

Frequency range (±3dB):	45Hz – 23kHz
Sensitivity (anechoic) @ 1W/1m:	89dB SPL
Sensitivity (Work conditions) @1W/1m:	92dB SPL
Power Handling:	60W
Peak Power Handling (pink noise,10ms):	110W
Nominal / minimum impedance:	8Ω
Woofer:	5" Neoflex
Tweeter:	1" soft dome
Crossover frequency:	2.5kHz
Dimensions:	300 x 190 x 195mm
Weight:	6.6kg

that you can't have both pristine quality, and ears meeting in the middle of the head – but it's for your own good. Very low levels emerge lacking a touch of pizzazz, as the low/mid driver's physical loading seems to cause a little laziness. Don't read too far into this; the range mentioned above is still pretty substantial, and will deal with most earthly dynamics. The same graph that shows the impedance response, also shows a pretty flat frequency response up in the 80dB SPL vicinity, stretching from around 50Hz right up to 20kHz – nice for exercising your ears and providing the program with a tiny bit of elbow grease. If anything, this is considered design.

Frequency-wise, the CR10s are strongest in the mid to high range, where they are clear and well defined. The sensitivity here seems to be just right, as they react favourably to transients, or sharp attacks. One track, with some well recorded acoustic finger picking, came through finger licking good, as did snappy snares and the rest of the dynamic but bright family. Bass, while not expected to be top class in such a small cabinet and on this budget does, at times, fall a little behind the standard which the higher frequencies set. It's not as tolerant of both higher and lower signal levels, and so that peak performance range is more or less defined by the low/mid driver.

The output becomes particularly sweet around the 1kHz mark, probably because, just before crossover, the low/mid is doing what it likes best, rather than pretending to be bigger than it actually is. The character around the crossover point depends very much on the position of the level control mentioned earlier – which, usefully, gives a good idea of where it should be set. If you can find that point between the flat or lifeless, and the nail biting sizzle which gives a good transition from low/mid to tweeter, then you're in for maximum clarity and minimum clutter.

Verdict

These monitors aren't the best in the universe, but they're not the most expensive either. They are professional quality nearfields, so don't dismiss them because you might get a better pair for one or two thousand pounds. In fact, the others in this range have probably got that covered. These speakers represent a good example of that area which is way past hi-fi trivia, but not up

The bass port comes into its own at approximately 50Hz, and my, my, it really blows!

to eye quivering, money burning brilliance.

On balance, the volume control is a saleable addition. Probably the best way to deal with this is to set the monitors up with program that you know inside out, and then leave it well alone. This way, the CR10s fit just a little better into your room, and onto the end of your system – which has got to be a selling point. It gives the potential buyer a choice over and above just drivers or boxes, plus a virtually unheard of ability to adapt – a bonus for anybody who would take them on travels.

It is rather pointless, at the end of a review full of opinion (for which you pay good money) to say, 'well, go and see what you think'...so I won't. These monitors are professional quality, relatively affordable, and any home studio or smaller project studio owner should be pleased to own them. Don't go to a shop and decide for yourself – go to a shop, tell them that *The Mix* sent you, and that you would like to weigh up your own ideas of what you'd want from a pair of monitors, against the opinions expressed in the magazine. ●

A unique feature is the 'power response compensation' control on the rear





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Sherman 'bank



*After our filter roundup two months ago, we've got another unit that promises the world of analogue synthesis without the price (or oscillators, or keyboard...) Peter Forrest plugs in the **Sherman Filterbank***

The search for the holy grail of unique sound has led a number of manufacturers to come up with stand-alone filter units, designed to make anything, even the most ordinary GM synth, sound different – and, most important, be tweakable.

Just about the time we were doing a survey of three of the most recent contenders (*The Mix*, May 1996), there was quite a buzz on the internet about another model, from, um, Belgium. Chocolates, beer, Euro things, the museum of underpants... and now the Sherman Filterbank.

It turns out that it's still a small-run product at the moment. But it's actually available, today, direct from the maker, and it's excellent, as well – just like having part of a well-designed modular synth in a 3U rackmount. Early buyers include Ken Ishii and Robert Leiner from R&S Records, Juan Atkins, and Steve Hillage, so there are plenty of people who agree with that.

Built like a tank?

It may be hand-made (and the back of the case on the review model – serial number 31 – is actually plastic gutter material – anyone remember the classic Great British Spring?) but it looks very good. The graphic design is modern, the controls are easy to get to, and although the knobs have some play in them, that's a product of the perfectly common and acceptable design system which locks the pots directly onto the board and not the front panel as well.

I sneaked a look inside the casing, and the circuit

board is easily chunky enough for this design – as is the 3mm thick aluminium front panel, as well. There's no sign, incidentally, of Curtis chips, which is good news from the point of view of getting unique sounds. It's also well put together – a neat internal design, well implemented.

The design is mono audio in, mono out, with two filters, either in series or parallel. Both have switchable low-pass, band-pass and high-pass sections, which you can combine in any way you want. Both have cut-off and resonance controls, and an ADSR control (the envelope itself is shared, but with independently switchable polarity). Filter 2 can be synced to filter 1 or left free-running; it also has a six-position octave switch, from 1' to 32', which is useful anyway, for instant changes of timbre, but also ensures that, when you sync filter 1 to 2 with high resonance, the harmonics stay related to each other, and thus musical. There's an AR envelope for the VCA, knobs for controlling FM and ring modulation, and a curious on-off switch right in the centre of the box, called Engage. I thought at first that it was going to be a by-pass type control, but it actually switched the whole unit on and off. Although it's nice (and not as common as it might be) to have a power switch on the front panel of a rackmount, by-pass mode would probably be a lot more use.

There's a sensitivity control for the audio, which doesn't just optimise signal-to-noise level: it has a big effect on the sound, by affecting the envelope trigger level and/or the overdrive. One of the most interesting things about this box is the overdrive that has

deliberately been designed in. It's always a bit dangerous to talk of a transistor design sounding like valve gear – if it was that easy, everyone would do it – but it's certainly possible to set the Sherman to produce a very nice warm distortion which does seem to get close. You can go from subtle effects to outrage – particularly when you bring the FM and Ring Modulation sections in.

There's more to this box yet, of course. Almost its strongest point is its patchability. There are jack sockets for another input (gate or audio) to trigger each of the envelopes; for CV or audio input to the FM and Ring sections; and even an ADSR output socket, which would be useful with other patchable gear. Best of all, these sockets are normalled, so that if you're not using them, they are internally connected to standard control voltages or triggers. If there's nothing plugged into, say, the ADSR trigger input, then the main audio signal acts as a gate; and if there's no separate input to trigger the VCA, it automatically uses the same source that's triggering the filter ADSR.

The essentials

Price inc VAT: 18150 Belgian francs (£400). Postage 1000 Belgian francs (£20). Visa / Mastercard accepted.

More from: Sherman Productions bvba, Stationswijk 73 B 3272 Testelt, Belgium.

Tel / fax from UK: 0032 13 782 774.

email: sherman@tornado.be

Spec check

Functions:	2xLP, 2xBP, 2xHP, Serial, Frequency sync, 2x envelope triggers, FM rate.
Controls:	15 continuously variable knobs, 1 click-stopped, 10 metal mini-toggle switches.
Connections:	Main input (jack), Main output (jack), 2x gate/audio inputs to envelopes, 2x CV/audio inputs to FM and ring modulation. ADSR output.
Power:	230V standard European voltage, with built-in power supply. Also available in 120 and 100V versions.
Dimensions:	3U rackmounting



It's possible to re-create just about any filter in the universe, simply by different combinations of switches

In use

In a few days, it's only possible to scratch the surface of any patchable system's possibilities, but I had good fun with a small Digisound and a Korg MS-20 put through the Sherman, with a few patch leads occasionally producing a disappointing mess, but often a powerful sound that I wouldn't know how to get any other way. A Roland SH-101 sounded great, as well, just going straight in and out, with no other patching at all. A word of warning, though: if you value your speaker cones, take care with levels. This unit is quite happy going down to sub-audio, as well as up to 30kHz, and if you're not careful, you can seriously damage monitor speakers with the sort of resonant peaks the Sherman can put out. I recommend taking the grilles off your speakers, just so that you're that little bit more likely to see if a massive 10Hz sub-audio earthquake is about to cause a hefty repair bill. The sheer blast of air from the vents in my Tannoys was pretty massive at times – but domestic hi-fi speakers would be even more vulnerable.

All the usual filter effects are easily accessible, including slow filter sweeps and liquid squelches that

are so real you need a towel at the end of the session. The best analogue trumpet sound I've ever heard came from this box, too. It's possible to re-create just about any filter in the universe, simply by different combinations of switches, and then tweak it with the knobs. For instance, for a standard Curtis 4-pole response, you just put both filters in series, sync 2 to 1, set it to 1', and put both switches to low-pass. Oberheim copying is even easier – there seem to be a lot of similarities between the Sherman and a typical vintage Oberheim filter.

One of the pleasures of the Sherman, though, is that there are a lot more than straightforward filter effects waiting to spill out of it. I imagine it's an unavoidable by-product of the design – any filter is going to do weird things to audio, and with two of them in one unit that must apply even more – but for whatever reason there's some good phasing; there's a great crunchy early reflection type of sound; and there are any numbers of degrees of distortion, from mild overdrive to total corruption. The difference between the Sherman and something like the Waldorf, of course, is that you can't just save a great filter set-up on the Sherman: as it stands, every good patch has to be painstakingly written down, or you just have to get so familiar with the controls that settings become second nature. Even then, there are so many variables that only the brave would play live and rely on one of these if exact re-creations were essential to the music. It's a different matter, of course, if the music can cope with chunks of total improvisation. The Sherman would be perfect as a dance effects unit.

You can end up with some pretty nasty noises, and need to be careful, for instance, not to switch into serial mode if none of the parts of filter 2 are switched in (result: instant silence). Stereo outputs (one from each filter) might have been even nicer, too – and, ideally, separate gain controls for the trigger inputs for each of the envelopes. But of course every extra refinement adds to production costs, and there's very little to criticise in a design which can give you such good sounds. One minor point is that the Release section of the VCA envelope doesn't seem to go very close to zero. That makes it virtually impossible to have no sound from the VCA, which is good – but maybe limits your ability to have a really vicious gated VCA if you want one.

STOP PRESS: MIDI

Just when you might think that this thing is not for you – too analogue, difficult, and impossible to re-create good sounds reliably – along comes designer Herman Gillis with news of the completion of a very thorough MIDI interface, which provides MIDI controllers for pretty well every important parameter on the filterbank, and even gives you a couple of MIDI out triggers from the ADSR and AR. It's obviously not been tried out for this review, but if it's half as well designed as the filterbank itself, it would seem like a really good buy. The price is going to be 45 pounds sterling, which is a bit of a bargain.

Verdict

With any ready-built synthesizer, the filter has been set up to complement the level of the VCO, and to provide an immediately useful range of settings – generally all on the safe side of the road, too. Once you start using an outboard filter, or indeed a modular system, things get less predictable. Finding standard settings is harder (though totally possible), and you can certainly end up with patches that don't work in any traditional musical way. That's the drawback.

On the other side of the argument, though, you can also end up with sounds which are just not possible with even the very best all-in-one synths – harsher, richer, more complex, more electric, more strangely human (including some great vocal effects), more other-worldly.... the stuff of high-end modular synths. The Sherman achieves that time and time again, and that makes it excellent value for money. ●

On the
RE:MIX CD

Track
14

On the CD: simple Alesis HR16 patterns (mainly crash and high-hat with occasional kick and snare), with one output fed into the audio in of the Sherman, and one to the AR envelope trigger.

Hail the chief



The **Panasonic SV3800** is the successor to the SV3700, the DAT machine of choice for many studio professionals. Paul Mac finds out if the 3800 lives up to the high standards of its illustrious forbear

When is a DAT machine a professional machine, and when is it a domestic machine? This is a question that has plagued the audio industry for several years. It wasn't so long ago that a certain manufacturer (*are you talking about Sony? - Ed*) was selling DAT machines through respected industry traders, and on to studios, but then claiming that when the DAT machines went wrong they should never have been used in a professional environment – thus the necessary hardware upgrades were chargeable. This was going on long after DAT had failed as a domestic format, and the only real users were studios and musicians.

The 'what is professional' debate probably falls outside the scope of a review, but it's fair to say that the audio industry often decides for itself whether a unit is

'professional' or not, and buys accordingly. This brings us onto the Panasonic SV3700, the forerunner of the SV3800. The only places these machines are rarely seen in, are the service departments of dealers. Well known for outstanding audio quality, plus reliable mechanisms and electronics, the SV3700 was, several times, given the rare accolade of demand having outstripped supply. But it didn't have timecode, it didn't have fancy multi-layer menus, and it didn't pretend to be all things to all men. It just did what it did well, and rarely broke down. As a result, it has gained quite a reputation. The big question is whether the SV3800 is a repeat performance, or just a band wagon bogey.

First Impressions

Just as a mechanic can get a good idea of car quality by opening the door and starting the engine, opening the

cassette tray of a DAT machine and having a quick 'shuttle' can be a telling moment. The Panasonic SV3800 is solid. This is indisputable. Possibly the most positive mechanism ever seen on a DAT machine, together with fast and decisive transport control, are the two things that will first strike whoever plays with it.

The ins and outs are comprehensive, to say the least. Balanced analogue inputs and outputs on tough XLRs, plus optical, coaxial, and balanced AES/EBU digital access. Incidentally, the digital standards implemented by this machine are also particularly comprehensive, and you can decide where each one comes out or goes in, via the system display mode.

Miniaturisation was obviously never an issue with Panasonic. The front panel has large, well marked buttons spread, without waste, around its ample surface area. This lightly coloured fascia shows all, without being monstrous, and the all important shuttle wheel is big, and completely accessible. The only thing lacking

Professional Digital Audio Tape Recorder



Spec check

Frequency response:	48kHz sample rate, 10Hz – 22kHz (±0.5dB) 44.1kHz sample rate, 10Hz – 20kHz (±0.5dB) 32kHz playback, 10Hz – 14.5kHz (±0.5dB)
Total harmonic distortion:	<0.03% (+4dBu, 1kHz)* <0.007% (+22dBu, 1kHz)*
Signal to noise ratio:	>92dB*
Dimensions:	430 x 122 x 315mm
Weight:	5.9kg

*DIN audio weighted (22.4Hz to 22.4kHz bandpass filter).

*Possibly the **most positive mechanism** ever seen on a DAT machine...*

is an obvious position mark on the three pots (Rec. Level left and right, headphones level). They are black, with indented lines for rough position, though these lines are also black, and almost invisible. It has always been a puzzle why machines with so much accuracy pasted around their insides, still rely on the approximation that comes with two analogue pots for left and right analogue input levels. There is metering, certainly, but every little helps.

Joining the Rec. Level controls, along the bottom of the unit are the digital/analogue input selector (LED on for digital), the fade in and out buttons, a Music Scan

and Skip Play Cancel buttons, a PNO/Start ID auto switch, and a sampling frequency selector (44.1 / 48kHz). The transport controls take up the right hand end, above this bottom line, along with the subcode function buttons, and the counter mode buttons. The display is large and utterly visible, with all important flags (such as sample rate) sporting red surrounds. Incidentally, 32kHz sample rate is supported for playback only.

Counting time

The counter display has five primary modes. These are Absolute Time – total time from start of tape; Program Time – time since last start ID; Remain time – total time remaining on tape; Tape Counter – rotational count of tape reel, used in conjunction with the Reset button; and Peak Margin – a display showing available headroom. The two notable modes are the remain time, which is invaluable on a long session where the tape is just left to run its course (absolute time must be pre-stripped), and Peak margin (remaining headroom): a now commonplace facility which is useful for minimising quantisation errors, by letting you adjust levels accurately.

The Counter mode and Reset buttons do more than this, though. If you press both simultaneously, and add the pause button, you find yourself in the realms of the

system display mode. This provides ten new options to arouse the new owner – some more useful than others. The details of digital i/o are set here, along with the nominal analogue output (+4 to –6dBu, or –10dBu). Another nice feature is the error rate display – a continuously varying number which gives the user an idea of how the unit and the tape are performing. Unfortunately there is little indication of what these numbers represent, or how high they have to go before drop outs or serious things like that start to occur. On other machines, three thousand in the display means that something should have dropped out by now.

Single play mode does just what it says, by stopping playback when a Start ID or a skip ID is detected. ID6 copy protection (SCMS) manipulation is also carried out in this mode, along with another interesting function – Head Cylinder rotation time display. Many manufacturers specify the workable life of a DAT head in 'head hours' as is done on most professional reel to reel machines. It makes sense, then, to have this information available to you, so you know when to go for a service. It's also a warning to start saving up – head cylinders are not usually very cheap.

The SV3800 has an adequate supply of subcode IDs stocked up in its toolbox. There has been a recent spate of machines which include every subcode ever specified – nice if you need them, obtrusive if you don't.

You can hear the same attention to audio supremacy that was the trademark of the SV3700

➤ Panasonic have done away with the character strings and stuck with the basics – Start IDs, Skip IDs, End marks, and program numbers (PNOs). Together with the inevitable table of contents and renumber function, these supply all the complimentary functions for efficient transport operation – but nothing else. Your personal preferences will be torn between the need to write rude words on the screen, and the quality of the basics.

PNOs/start IDs are recorded automatically after two seconds of silence (not three) – silence being defined by a selectable threshold – when the PNO/Start ID Auto button is activated, though any sub-codes can be added/erased on the fly, or by cueing to those points. Of course, for subcode IDs to be eminently useful, the cueing functions of a DAT must allow accurate placement of those IDs.

The shuttle wheel is the most obvious choice for cueing, and the wheel on the SV3800 has two ways of doing it. First, though, it is worth noting that this shuttle wheel has calibration marks on the front panel – not often seen. These are numbered one to four, both clockwise and anti-clockwise. While these do have meaning, in terms of tape speed, it is a little to much to ask an operator to calculate, in a split second, where it should be placed to reach the desired point at the right time. They do, however, give a meaning to shuttle wheel operations. Given a little while with the wheel, you will find yourself taking note of where you turn it to, and what effect that has. Once used to it, it takes the random element out of cueing.

In play mode, the shuttle wheel moves the tape at between three and fifteen times playback speed, and in pause mode – a half to three times playback speed. As well as this, the REW and FF buttons move the tape at three times speed in the relevant directions. This means that the only slow cueing available is the half speed position of the shuttle wheel. Though how accurate does the cueing need to be? This machine seems intent on stripping anything deemed unnecessary, and leaving you with essentials and easy operation. Whether you want this is down to your own working methods. Other

machines are starting to implement RAM scrub as a matter of course.

The transport functions on the SV3800 are pretty much standard, with the exception of Auto Rec. Mute (though variations on this theme are implemented on a number of other units). This lays down a four second section of silence while the machine is in record mode – plenty to satisfy the usual 'three second silence' auto functions. This silence can be implemented while in both record pause and full record mode (on the fly). If operated from stop mode, rewind and fast forward tape speeds zoom along at 250 times playback speed. Whoosh. All of the CD type functions are possible, such as music scan (fifteen seconds from each start ID), repeat play, direct search (enter a PNO and press play, and memory play (a sequence of PNOs).

Now the important bit – the sound. Awesome. Without looking at the specifications you can hear the same attention to audio supremacy that was the trade mark of the SV3700. Clean, flat, and clear – what more could you ask of a mastering machine?

Verdict.

No one can doubt that this is a thoroughly professional machine. Mechanically, everything about it is solid and positive, even down to the gliding, damped centre return of the scrub wheel. The Panasonic is sparse in the novelty fiddly bits department, but crowded with sensible display functions, comprehensive i/o choice, and useful auto subcode and transport options. The display is clear, and metering is a doddle to read. RAM start/scrub does not feature, nor does the character string subcode, though maybe these omissions keep the price at a sensible level.

DAT transports are sensitive beasts, and are noted for the apparent ease with which they go out of alignment. The Panasonic variety, though, seems to be a class above the rest, which is why the SV3700 was so popular, and why the SV3800 will undoubtedly follow in its footsteps. If high quality mastering and reliability are important, then the SV3800 is for you. If not, you probably aren't looking for a DAT machine. ●

UP CLOSE



Jog/shuttle wheel takes the guesswork out of cueing up



Fully-featured remote control is perfect for 'armchair' engineers



SV3800 has the full complement of in/out connections expected from a 'professional' machine

The essentials

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SWEAPABLE MIDRANGE. Wide, musical peaking EQ with 100Hz to 8kHz range. ±15dB range.

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MONO OUTPUT (bal./unbal.) has separate level control.

RCA TAPE inputs and outputs- (unbalanced).

Separate **CONTROL ROOM OUTPUT** (bal./unbal.).

DIRECT OUTPUTS (bal./unbal.) channels 1-8.

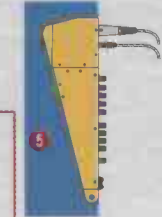
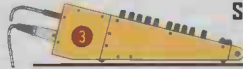
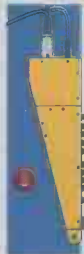
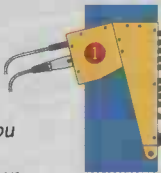
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Aux Return 4 **ASSIGN** to Control Rm/Phones.

CONTROL ROOM/PHONES level control.

TAPE INPUT LEVEL control and **TAPE TO MAIN MIX** switch.

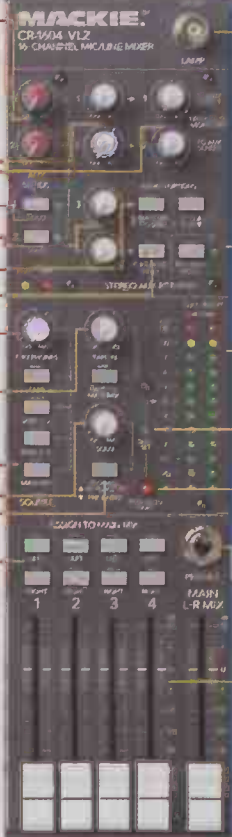
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Tape, Subs 1 & 2, Subs 3 & 4 or Main Mix to Control Room/Phones bus. Lets you create custom headphone or broadcast mixes, monitor 2-track output or route a cue/click track to phones, create a second stereo main output with its own level control & more (covered in the extensive manual).

Global **SOLO** level control.

Global **AFL/PFL SOLO** switch.

SUB ASSIGN to Left or Right Main Mix.



MAIN MIX FADER. BNC lamp socket. Global **AUX RETURN SOLO** with LED.

LED METERS with -30 to +28 range & **LEVEL SET LED.**

RUDE SOLO LED.

HEADPHONE output.

60mm **SUB-MASTER** log-taper faders.



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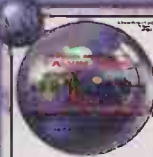
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O.D. Monte's sequel to his successful 'Freekee Jack Swing' CD. This CD follows a similar format, but concentrates on the split loops and adds a large selection of individual sounds on top of these. The loops are divided into three styles - Rap Street Loops, Future Funk Street Loops, and Caribbean Street-Loops. Each loop features four alternate versions, a standard drum loop, one with bass, another with vocal fx, and lastly with everything together. This sequel will not disappoint. Audio CD: £59.95

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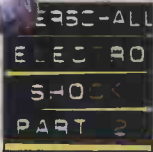
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DANCE

DANCE



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The sequel to a very successful techno dance library, this 2-disc set looks set to do equally well.

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Features: Reggae, Ragga, Swing, Jazz house, Euro house, Mad house, SLo jamz, Rap, Guitar licks, Bass lines, Garage, Disco.
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The ultimate beats collection for serious Hip Hop, Swing and R&B production.

Grooves with attitude and altitude to lift your music into a new dimension.
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Both audio CD volumes now combined into one CD-ROM (Over 500Mb / 1900 samples!) - all prog-rammed into killer patches ready to play. Fat with feel, this disc is guaranteed to serve up that of funk sound.

☆☆☆☆☆ Five Stars" (Sound on Sound). Loops, drums, horns, guitars, all you need. A best selling library Akai, Roland or SampleCell CD-ROMs: £149.00 (or buy the 2 volumes separately on audio CD: £59.95 each)



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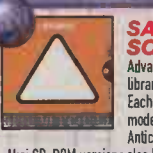
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Anticipated pricing: £19.95 each, with Akai CD-ROM versions also becoming available for £39.95 each. Titles include Drum Tools (Laidback, Brushed, & Popped), Country, Roots Reggae, On the Latin Trip, G-Soul, Trippy, House, and more! More news very soon!!



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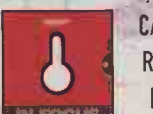
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ZERO-G ETHNIC 1 & 2

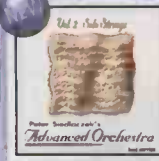
Another exotic set of samples, by the Paradise Organisation who roamed Africa, India and the far east for 2 years in pursuit of material for these two discs. All samples are recorded 'in the field', and it's a dynamite collection. An enormous collection of ethnic vocals, rhythms and instrument riffs. Well suited to dance music production. Audio CDs (vols 1 & 2): £59.95 each. Akai CD-ROM (includes both volumes 1 & 2): £149. (Volume 1 is also available formatted specifically for Roland 700 Series: £99).



VINDALOOPS

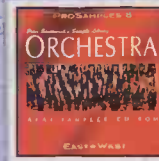
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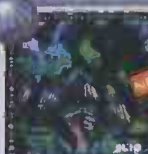
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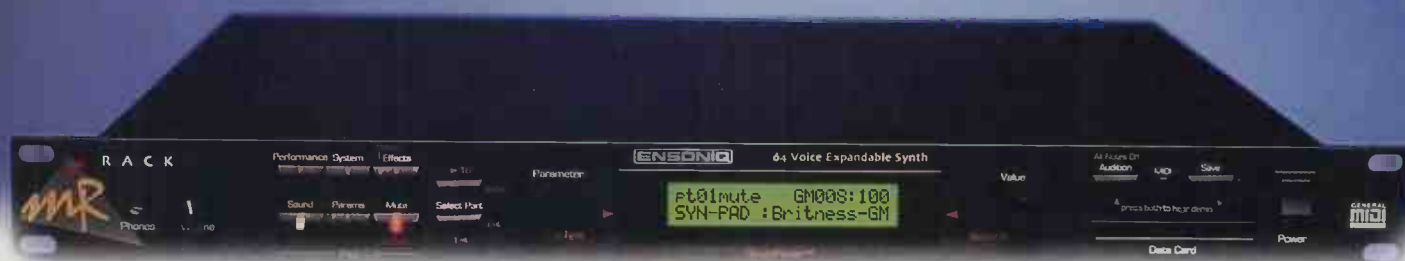
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Sound slave



No matter what the latest exotic synths have to offer, you still need a workhorse module in your rack for all those 'meat'n'potatoes' sounds. Simon Trask checks the menu of the **Ensoniq MR Rack**, and finds his appetite whetted...

After years of dreary design and anaemic names, the synthesizer has recently been re-acquiring some of its former glory. Instruments such as the Korg Prophecy and Trinity, the Quasimidi Raven and the Clavia Nord Lead have injected a dash of colour and character into the moribund body of the synth. With the Quasar and the Technox, Quasimidi have shown that rackmount modules, too, can benefit from a distinctive design approach.

Just as we were getting used to this new boldness, along come Ensoniq with a plain-looking 1U 19" rackmount unit called the MR-Rack. One thing's for sure, it's not going to win any awards for design flair or originality, but then ultimately it's what's inside that counts. So is the MR-Rack as unexciting as it looks, or is this a case of appearances being deceptive?

Overview

At the heart of the MR-Rack is a subtractive synthesis sound architecture with a 12Mb ROM sound source containing the usual mixture of samples and waveforms. Parameter settings are stored in memories called, logically enough, Sounds. The MR-Rack has two ROM Sound banks of 128 Sounds each, one RAM bank of 128 Sounds and a GM ROM sound set and

drum kit plus an additional 10 Roland GS drum sets. This complement of memories can be expanded by means of a ROM or RAM card which you plug into a slot on the module's front panel. Further sonic expandability is available by means of three internal Expansion Board slots, which can take boards offering up to 24Mb of sample ROM along with additional Sounds, Performances (see below) and Demos.

MR-Rack Sounds can be assigned to up to 16 Parts, each of which can have its own MIDI channel together with a number of other settings, including sound customisation. You can store settings for all 16 Parts and a complete multi-effects setup into memories called Performances, for which there are 32 RAM memories available internally. To play all these Parts you get the now de rigueur 64-voice polyphony. A feature called SoundFinder groups Sounds by instrument category, allowing you to zero in on the sort of Sound you want for each Part – for instance, you can quickly scroll through all the electric pianos or all the synth pads contained in the ROM, RAM and GM Banks. In all, there are 36 Instrument categories, while you can also choose Demo, Drum, GM, ROM, RAM or All categories, if you want to scroll through the Sounds in more traditional linear manner. The Demo category is a neat idea, pulling together a cross-section of Sounds

which Ensoniq feel show off the range and abilities of the MR-Rack to good effect.

On the effects front, the MR-Rack provides three effects processors – Global Chorus, Global Reverb, and Insert Effect – together with six effects busses. In addition to its GM/GS Drum Kits, the MR-Rack includes a number of ROM and RAM Kits, each of which can contain up to 64 Sounds assigned to individual keys. You can assign Drum Kits to any number of Parts within a Performance, and what's more, each Performance contains a single editable Drum Kit memory, called the PerfEditKit, so you can customise a Kit within the context of a particular set of Sounds. You can quickly scroll through the available Kits using the SoundFinder feature, which provides Drum Kit, Drum Kit GM and Percussion Kit categories. Drum and percussion sounds can also be selected individually, in which case they're pitched across the keyboard for solo

The essentials

Price inc VAT: £1,299

More from: Sound Technology, Letchworth Point, Letchworth, Hertfordshire, SG6 1ND.

Tel: 01462 480000 **Fax:** 01462 480800

Tel: Phone number **Fax:** Fax number

Spec check

Polyphony:	64 voices
Timbrality:	16 Parts
Waveform	
ROM:	12Mb, 16-bit 44.1kHz
Modes:	Sound, Performance, General MIDI
Effects:	8 Global Reverb, 12 Global Chorus, 40 Insert; 24-bit effects processor chip
LCD:	2 x 20-character, backlit
Connections:	L/Mono & R main stereo audio outs, Aux L/Mono & R audio outs, MIDI (In, Out and Thru), headphones output, power input
Expansion:	Up to 3 Expansion boards, internally fitted, 256 ROM sounds and up to 24MB per board; PCMCIA ROM card containing 256 ROM Sounds and 32 ROM Performances; Ensoniq MC-512 SRAM card
Dimensions:	1U 19" rackmount

64 Voice Expandable Synth

Value

GM008:100

Britness-GM

Sound

press both to hear demo



Power

Data Card

playing; SoundFinder, once again, makes life easy by organising them into Drum and Percussion Solo groups for convenient access.

The MR-Rack can be switched into General MIDI mode from its front panel or via MIDI. You can select GM mode manually from a screen within System editing mode, or set the System WakeUpMode parameter to GM so that the module defaults to GM mode each time on powerup.

In use

The MR-Rack's clearly presented, straightforward front panel makes for easy operation. Leftmost are dedicated buttons for accessing Performance, System, Effects, Sound, and Parameter editing modes, plus a button which lets you quickly mute or solo individual Parts. Each button has its own integral LED, so you can see at a glance which mode is selected and whether or not the currently-selected Part is muted.

Next to these are two buttons which let you step up and down through the 16 Parts; these double as Enter and Exit buttons when appropriate. The stepped knobs on either side of the central backlit LCD also perform double duty: in Performance and Sound modes they let you select the Type and Name in the SoundFinder, while in System, Effects and Param modes they let you scroll through the different LCD screens and edit the parameter setting within each screen. This approach makes selection and editing a pleasantly straightforward, quick and easy process.

This just leaves the Save and Audition buttons to the right of the Value knob, and the always useful MIDI

data reception LED. The Save button provides access to all of the MR-Rack's Sound, Performance and Effect internal/card storage, MIDI SysEx dumping and initialisation capabilities, as you might imagine. The Audition button's function is also fairly self-explanatory, but Ensoniq have gone much further than simply single-triggering the currently-selected Sound as you might expect. A System Audition parameter lets you select from a range of responses: not only can the MR-Rack be set to play the Sound using a major chord or arpeggio in any key, or multiple octaves on any root note, but if you select Sound Type, it will play a short riff, run or chord sequence as appropriate, depending on the type of Sound selected. Used in conjunction with SoundFinder Sound selection, this is a great way to quickly audition, say, the available bass sounds or acoustic piano sounds. Finally, if you double-click on the Audition button, it acts as an All Notes Off button – in other words, a 'panic' button for those awkward moments when notes get stuck for some reason.

The MR-Rack's rear panel is simplicity itself. Along with the power input, there are MIDI In, Out and Thru sockets and two pairs of Left/Mono and Right audio output sockets, Main and Aux. Typically when a synth or module has two pairs of audio outs, one is effected while the other is dry. However, Ensoniq have taken a different approach, with the MR-Rack's Global Reverb, Global Chorus, Insert Effect and Dry Buss outputs each being routable to either the Main or Aux pair of outs. For each pair, if nothing is plugged into the Right output then the stereo signal will be summed to the Left out, while if the Aux outs aren't being used then all Aux

signals will be summed into the Main output.

In Sound mode, the MR-Rack lets you select Sounds using a combination of the Sound Type and Sound Name knobs, select different Parts using the Part up and down buttons, and mute or unmute Parts using the Mute button. While there are always 16 Parts available, 16-part multitimbrality via MIDI is only one option. Using a combination of Part MIDI channel assignments, Mute status and Stak settings you set up the MR-Rack's MIDI response in a wide variety of ways – which are storable per individual Performance. The module's Stak feature lets you group Parts together in split/layer configurations on a single MIDI channel, which you define globally in System mode as the Stak channel. To include parts in the Stak, you simply assign them to Stak rather than to one of channels 1-16 in Param mode; this way you can change the Stak channel globally at any time.

Param mode is where you set all the parameters for each Part in the currently-selected Performance. The MR-Rack lets you set both key and velocity ranges for each Part, so you can create a wide variety of split/layer textures. You can use a System parameter called Stak Coherence to line up all the voices for triggering at the exact same moment, to create a punchier sound, but because it takes a moment to do this the response can appear a bit sluggish; if you're sequencing, this can easily be fixed by time-shifting the relevant track. Other parameters settable for each Part include volume, pan, course and fine transposition, delay offset, glide on/off and glide time, effect buss, and pitch table, along with the Part's on/off response to a variety of MIDI

MR-Rack has two sets of outputs to funnel your sounds through

VAC



ENSONIQ

MR-RACK

Aux Outputs sum into Main if Left Aux is not connected. See manual.



Outputs TRS Bal/Unbal



MR effects

As you might expect from the company responsible for the DP/4, the quality, variety and versatility of the MR-Rack's effects are something to write home about, and contribute significantly to the overall warm character and full-bodied quality of the instrument's sound. Ensoniq have provided 12 Global Chorus and eight Global Reverb effect types for you to work with; you can select one of each type per Performance, edit its settings to your needs, and store the results as part of the Performance. However, it's really with the Insert effects that the true flexibility and versatility of the MR-Rack's effects processing are evidenced.

There are 40 Insert effect types available, all fully editable with the results stored into a Performance. While there are eight single reverb and two single chorus effects, many are dual or even triple effects, variously mixing chorus, flanger, EQ, DDL, distortion, autowah and compression effects. Distortion in particular has long been a strong point on Ensoniq's synths and samplers, and the MR-Rack doesn't disappoint.

What's more, any of the large number of parameters available within each effect (I counted 32 as the largest number, for 38: Comp-Dist-DDL) can be assigned as a modulatable parameter, making it controllable from any one of 17 sources. You're also given some control over the mod effect, through such parameters as min/max range and polarity.

- ▶ controllers. A couple of notable features are the separately programmable responses for forward and back pitchwheel movements, and the ability to set a fixed velocity value to which any velocity messages within a Part's velocity window will be converted.

The only way to do full-blown editing of MR-Rack Sounds is to edit them via MIDI from a computer-based editor program (Mark of the Unicorn, for one, have an MR-Rack editing module for their Unisyn editor). However, the module itself does let you offset the pre-programmed values for selected parameters, namely filter cutoff point together with attack, decay and release times and velocity sensitivity for the filter and amplitude envelopes, and LFO sync, rate, depth and delay. These values can be edited and stored for

each Part within a Performance. The MR-Rack's Sounds also have their own equivalents stored for many of the Part settings I've listed. A System parameter called Part Param Reset lets you choose whether or not Part parameters will change when you assign a new Sound to a Part. This would have been a lot more flexible if you could have set the on/off status for each Part, though. If you're happy delving into the world of MIDI Registered and Non-Registered Parameter Numbers, you can also perform real-time parameter edits on these Part/Sound parameters using, say, a live MIDI editing environment within a sequencer.

As I mentioned earlier, MR-Rack Drum Kits can be assigned to any number of Parts. Hit the Param button and scroll through the LCD windows to the Drumkey page and you can edit the selected Drum Kit. This Kit becomes the PerfEditKit; there can be only one of these at a time, but you can always store the edited Kit into a RAM Sound memory and then choose another Kit for editing. The MR-Rack lets you set the Sound, volume, tuning, pan position and effects buss routing for each individual key in the Kit; you can select any of the module's Sounds, not just the individual drum and percussion ones.

Each Part can be assigned to one of the six effects busses, namely Insert, Chorus, Light Reverb, Medium Reverb, Wet Reverb, and Dry. The three Reverb busses essentially allow different wet/dry mixes, while Dry is of course an effect bypass (useful for when you want to effect certain sounds externally via the Aux outs). You can set a wet/dry mix for the Insert effect buss. The Insert effect mix output can be routed into the Global Reverb and Global Chorus effect processors, with user-settable Insert mix signal amount for the former and Insert/Chorus balance for the latter. The output from the Chorus can in turn be routed to the Global Reverb processor. Meanwhile, Parts routed directly to the Global Chorus go via a wet/dry control, while each of the three Global Reverb busses has its own reverb send amount control.

All in all, this adds up to respectably flexible and versatile effects processing, though it still falls far short of the ultimate goal, as yet not realised by any manufacturer, of having independent Insert effects for every Part. As it is, with just one Insert effect processor the MR-Rack lets you program a single Insert effect per Performance; all Parts assigned to the Insert buss are routed through the same Insert effect. However, Sounds also come with their own Insert effects programmed, and these can be called up in place of the Performance Insert effect for a particular Part if you assign it to the Insert Control Part parameter. This at least allows the Insert effect to change 'within' a Performance, but you lose the programmability element, and of course all Parts routed to the Insert buss will still use the currently-selected effect.

How it sounds

The American digital synth sound has always been different from the Japanese, just as the analogue synths were different before that. Broadly and historically speaking, American synths – as epitomised by Ensoniq, Peavey and Kurzweil – sound warm, rich and gritty while Japanese synths – cue Korg, Roland and Yamaha – tend towards the bright, transparent and smooth. However, as the sound-generating technology becomes more powerful and flexible, so it seems that the distinctions are narrowing – Japanese synths are becoming warmer and richer, while American synths are much smoother than they used to be.

Ensoniq, in many respects, pioneered the American digital synth sound, and their early synths had a classic gritty sound quality which has been smoothed out in more recent years. In part this is down to the quality of their effects processing, as epitomised by the silky smooth richness of the company's greatly admired DP/4 multi-effects processor.

The sounds I typically go for first on an instrument are the basses, pianos, strings and pads. As something of a bass fan, a good strong bass end is a must in my book – ideally one which is able to combine richness,

*As you might expect from the company responsible for the DP/4, the **quality, variety and versatility** of the MR-Rack's effects are something to write home about*

warmth and depth with a taut, punchy quality and deliver real oomph. The MR-Rack delivers pretty effectively on these demands, though it doesn't have all the richness and warmth I'd like ideally. The acoustic piano sounds are excellent: firm, well-rounded yet incisive, and well balanced across the pitch range. Grand, pop, dance and jazz pianos are all effectively represented, too. These are the sort of sounds you'll be able to sit and play solo for ages as well as use to good effect in ensemble work.

The electric pianos didn't grab me quite so much. Best are the bright digital-type pianos, which manage to be both substantial and tinkly; however, while there are a number of Rhodes/Wurler type pianos, overall they fall short of inspiring to these ears, somehow not quite capturing the old-style mixture of warmth and bite. But maybe I'm being too finicky. Select 'Modern Jazz' in the Splits section and there's a really tasty split combination of biting 70's-style electric piano with layered jazz drums and double bass. The other Split memory, 'Jazz Trio', is if anything even more wonderful with its split combination of acoustic piano and layered jazz drums/double bass. It was Kurzweil, I think, who started this 'jazz trio'-type combination, and the MR-Rack certainly lives up to the Kurzweil standard here. I could (and did) play these Sounds for ages.

Ensemble strings and pad sounds have an appealing combination of richness, body and smoothness, but if ultimate warmth is what you're after then the MR-Rack doesn't quite make it. There again, the String Section sound 'Warm Bath' gets pretty damn close, and I guarantee if you play a sequence of thick jazzy sustained chords it'll take your breath away. This sound also has a noble, stirring quality to it that is reminiscent of Korg's Wavestation at its best (what was that I was saying earlier about narrowing distinctions?). 'Evolution' is another wonderful Wavestation-ish sound, a thick 'evolving' pad sound with a hint of underlying burbles.

I could go on forever about the MR-

Rack's sounds, but space limitations step in to say otherwise. So quickly: also of note are some very playable, well realised sax sounds, a pleasingly diverse collection of very effective, realistic acoustic and electric guitars, and the tight, punchy, powerful drum and percussion sounds. And I must mention 'Rave Vox', an excellent 'chordal melody' type voice which is bright, tinny, vibrant and thoroughly uplifting – better suited to the classic British techno sound than to hardcore rave, to my mind. Also, while General MIDI might not be a priority for many buyers, I'll also mention that the MR-Rack makes a very able GM module, and a good alternative to the many Japanese GM sound sources.

Verdict

Ensoniq's MR-Rack has a rich, powerful overall sound, and features sophisticated, high-quality effects

processing. Its features and capabilities are plentiful and well thought out. Overall it comes across as a mature instrument, with plenty of design depth and impressive attention to detail. However, full sound editability is only available via external MIDI editing, so if you like to customise your instruments through in-depth sound programming then you really do need to be set up for computer-based sound editing here.

With internal slots for up to three Expansion Boards, the MR-Rack also offers sonic expandability for those who don't want to do their own programming; in principle A Good Thing, it remains to be seen what Ensoniq have to offer on this front. Finally, the MR-Rack's GM mode rounds out its capabilities to good effect. Overall I was impressed if not completely bowled over by the MR-Rack, which has the potential to become a solid workhorse instrument in the studio. ●

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Hidden depths



The Boss SX-700 is the epitome of the modern multi-effects unit – tasty algorithms, easy programmability and a knockdown price. But its the hidden depths that impress Nigel Lord...

Frankly, I wouldn't care to be an effects processor designer in the mid-1990's. After well over a decade of continuous development, it seems all the technical breakthroughs have been made, every price barrier has been breached – and most potential customers already own at least one multi-processor.

What's left? Well, if the new processors I've heard recently are anything to go by, the answer is... not a lot. Even the inclusion of ever-more complex effects algorithms hasn't tempted me to replace my existing processors – both almost five years old now. And, whilst welcoming the fact that newcomers to the world of hi-tech music can currently buy sophisticated processors for just a few hundred pounds, one has to view this in terms of them having become essential items and no longer machines which you really have the option of using. You can rely on them to add a lustrous finish to your music, but somehow, when that finish becomes de rigueur, part of the shine is lost.

This ubiquity is reflected in the inclusion of high-quality digital effects on budget sound and synth modules, keyboards, and even mixing desks – the most utilitarian of all studio devices. By and large, these are relatively straightforward effects – using only simple combinations of reverb and delay, or chorus and delay, and so on – and this has prompted manufacturers to include much more exotic multi-effects in stand-alone processors. When it comes to using these in the context of a piece of music, however, what once seemed exotic and compelling can soon start to sound

overblown and distinctly irritating.

All of which may appear to be a pretty negative view point to be adopting ahead of a review of a new effects processor – but I make no apologies. Whenever I switch on a new machine these days, I find myself looking to the manufacturers to seriously impress me with their design – the very least they can do, if we are to accept the need for new models every couple of years. Speaking of manufacturers, few have a reputation as impressive as Roland to support them (Boss is a part of the Roland group). One of the very-first companies to release digital effects units, they had already enjoyed many years of success with their Space Echo and spring-line reverb machines. Since the mid-80's, there has been an uninterrupted stream of Roland designs and even the introduction of their own patented RSS surround sound effect in a range of processors of the past few years.

Overview

The SX-700 Isn't the best looking studio effects unit I've ever encountered. In fact, the front panel is pretty ugly, with its large white flash serving no useful purpose other than to look grubby with repeated use of the top row of programming buttons. These buttons, however, do represent something of a departure in the design of multi-effects units (...to my knowledge, at least). It really is an easy system to use. Cue up a preset using the Data Entry control; select it by pushing this control, and whichever of the five main effect groups the preset

employs (EQ, Modulation, Delay, Reverb and RSS) lights a programming button. Not only does this mean you can see at a glance which effects are used in each preset, it also allows you to access parameters associated with each effect individually, without having to comb through those included for others.

I took to it like a duck to water and was soon navigating my way through both presets and the effects of which they are comprised. What makes it especially useful for those who prefer programming their own patches, is that even effects which are not included in a particular preset – and thus, not represented by an illuminated push button – may be quickly accessed by pressing the appropriate button and switched into the preset chain. Obviously, this is a system whose effectiveness is based on the inclusion of more than the usual amount of switches. Further evidence, if it were needed, that clever software and multi-function controls are no substitute for front-panel hardware.

But it's not just the effects groups which are accessed in this way. Below the top row of push-buttons, there's another row through which you can call

The essentials

Price inc VAT: £469

More from: Roland UK, Atalantic Close, Swansea Enterprise Park, Swansea, W. Glam.

Tel: 01792 702701



up the mix level parameters associated with each preset, the preset naming functions and the SX-700's common system parameters. Additional buttons allow you to write parameter changes to memory or exit programming mode altogether. When programming any preset, the parameters are stepped through using a pair of scroll buttons, just below the data entry control, and over on the far right, there are buttons to access the SX-700's utility functions which include MIDI, bulk dump, tuning and screen contrast.

I have to say, it gets a little irritating having to both cue up a preset by rotating the data entry control and then select it by pressing the control, but I can certainly see the sense of the system in a performance situation. It means you can avoid the business of temporarily selecting presets as you dial your way through them, and it allows you to make nice clean, glitch-free changes from one preset to another (something not all processors are capable of). Of course, this wouldn't be a

...this is a system whose effectiveness is based on the inclusion of more than the usual amount of switches

problem using MIDI to issue an instant patch change command, but as I said, in a performance situation where you're doing the performing, it could be extremely useful.

In hardware terms, there isn't an awful lot more to say about the SX-700. It includes conventional rotary input and output level controls, combined with a peak-level LED indicator, two-line liquid crystal display, effects bypass and power-on buttons. At the rear there are the usual MIDI In, Out and Thru ports, dual-mono input and output sockets (the SX-700 works in true stereo mode), and -20/+4dB selector switch. Also included are three jacks for connection of bypass, control and expression foot controllers. As far as the bypass switch is concerned, this simply duplicates the action of the front-panel button, but can be changed (via the Utilities button) to offer full muting instead.

The expression and control inputs can be connected to an optional foot pedal and foot switch (respectively), and assigned to the same group of parameters which are accessed via real-time MIDI Control Change messages. These cover effect on/off, output level, bypass on/off and each of the effect parameters. Control by MIDI and external hardware isn't mutually exclusive – in fact, you can assign more than two controllers to

the same 'target' parameter – but, as the manual points out, it's best not to use two controllers simultaneously, as this can produce unwanted noise.

As far as the foot controllers are concerned, you'll need to use your discretion in determining which parameters require the continuous control of a foot pedal, and which require only a foot switch. For continuous controllers, the movement of the pedal will adjust the parameter within the user-defined maximum and minimum range. By contrast, a foot switch is only capable of expressing a maximum or minimum value. Incidentally, when programming maximum and minimum range points, inserting a minimum level which is higher than maximum effectively reverses the direction of the parameter change.

In use

From looking at the front panel, it might be imagined that the range of effects is limited. But those five categories are extremely broad and cover a wide range of effects. You can peruse the full list in the accompanying box out, on this page – though even this doesn't tell the complete story as it doesn't include all the parameters associated with each effect. Worthy of particular mention amongst the range of effects are the 2- and 4-Voice Harmonist, Band Pass Delay – and (inevitably), the RSS presets.

The Harmonist programs, as their name suggests,

create harmonies of either two or four voices to accompany any signal presented to the input. If you're not using a 'fixed pitch' device such as a keyboard, some pretty accurate tuning is necessary to match the internal oscillator (included under Utilities), and chords are not recommended. But the effort is most definitely worth it. The SX-700 is no Digitech Vocalist or Korg ih (vocal harmonisers), but within its limitations it can produce some very interesting effects indeed. A total of 26 major and minor keys are included. Band Pass Delay is distinguished by its ability to assign individual band-pass filters to each of the five delay 'taps'. The filters may be individually adjusted for frequency, and filters 1/2 and 3/4/5 may be collectively adjusted for Q level. This can be used for some very worthwhile delay programs, tailored not only for individual delay times, but also for delay 'colours'. Panning of each delay tap across the stereo field is also possible.

The real icing on the cake for any processor emerging from the Roland stable over the past few years has been the inclusion of their famed RSS (Roland Sound Space) system. Once a considered worthy of a dedicated processor costing a small fortune, it now comes as an added bonus on units as inexpensive as... well, the SX-700. If you've already heard what RSS can do to a piece of music, please, feel free to move onto the next paragraph. If you're new to it as an effect, I suppose it could be best described as 3-dimensional sonic processing. With it, you can make sound appear to revolve right around you (not just from side to side like a stereo image) and also orient the image to a perceived position above, below, in front, behind or to either side of you. This may sound pretty far out, but

Spec check

A/D-conversion:	8-bit, 128-times oversampling
D/A conversion:	8-bit, 16-times oversampling
Sampling frequency:	44.1kHz
Program memories:	256 - 128 user + 128 preset
Frequency response:	5Hz - 55kHz direct; 12Hz - 20kHz effect
Input level:	+4/-20dBm (selectable)
Power supply:	14V/700mA AC (external)
Dimensions:	Standard 1U rack x 197mm deep

BOSS

SER.NO.

Z110584

AC IN
14V 700mA

CONTROL EXP PEDAL



PERATIO
ERFERE

*I took to it **like a duck to water** and was soon navigating my way through both presets and the effects*

► thankfully it isn't. I say 'thankfully' because jaw-dropping effects usually have a pretty limited shelf life. RSS is striking, but seldom descends to the level of acoustic novelty. The 3-D Panner preset included here (and in all RSS processors) can quickly become wearing, but in short bursts remains effective enough. On the other hand, RSS combined with subtle chorus effects can enhance your music to a degree which can be difficult to live without, particularly if applied to an entire mix.

But what of the SX-700 as a total package? Well... gone are the days when effects processors could be summed up as having a particular sound – at least, one which could be described with a single set of adjectives. Within limits, the SX-700 may be made to sound however you want it. The inclusion of onboard EQ sees to that. Of course, it might be considered that including EQ as an 'effect' is stretching things a bit. And in purely technical terms this may be true. However, if the designers of effects processors have learnt anything over the years, it's how much difference the inclusion of flexible EQ can make to the range of presets. Adjust the reverb time from 5 to 7 seconds and you'll scarcely hear the difference, once the other instruments have been added. Adjust the frequency of a high-gain equaliser from 5kHz to 7kHz and apply it to the reverb, and the difference will be considerable.

Verdict

By any standards, the sonic diversity of the SX-700 is impressive. The reverbs are uniformly engaging, the chorus/flanger presets are bold and involving, and the delays are flexible and easy to set up, particularly with

the tempo delay system which matches delays to tempos simply by tapping on a foot switch. Add to this the RSS component for that exotic touch, absent from comparable processors from rival manufacturers, and the SX-700 starts to look very attractive indeed.

The programming system is a delight to use, and leaves little excuse for anyone to rely on the 128 factory programmed presets. To this is end there are a further 128 user programmed preset slots, making 256 in all. Enough? Yes, I think so... It's easy to get carried away with presets and lose whole chunks of your life combing through them in search of something new and exciting. Besides, a few years ago, the very notion of 256 presets not being enough (particularly with the bulk dump option open to you), would have been considered pretty barney.

And this brings me back to the point I made earlier. Just look at what you're getting for the money...and then consider the number of people harbouring precisely the same thoughts. Think how great life would be if you were the only person to actually have an effects unit like this. Your music would sound so much better, and you'd have complete mastery over your acoustic environment. Doors to every record company in the land would be thrown open to you. Huge advances would be offered against your first album. Fans would be staging all-night vigils in your back garden. Tedious eh? That's why I'm not buying one. ●

EFFECT GROUPS

EQ

Three-band parametric

MODULATION

- Stereo Chorus
- Stereo Two-Band Chorus
- Stereo Flanger
- Stereo Phaser
- 2-Voice Harmonist
- 4-Voice Harmonist
- 2-Voice Pitch Shifter
- 4-Voice Pitch Shifter
- Rotary (speaker)
- Space Chorus

DELAY

- Simple Delay
- 3-Tap Delay
- 4-Tap Delay
- Stereo Delay
- Quad Delay
- Ducking Delay
- Band Pass Delay

REVERB

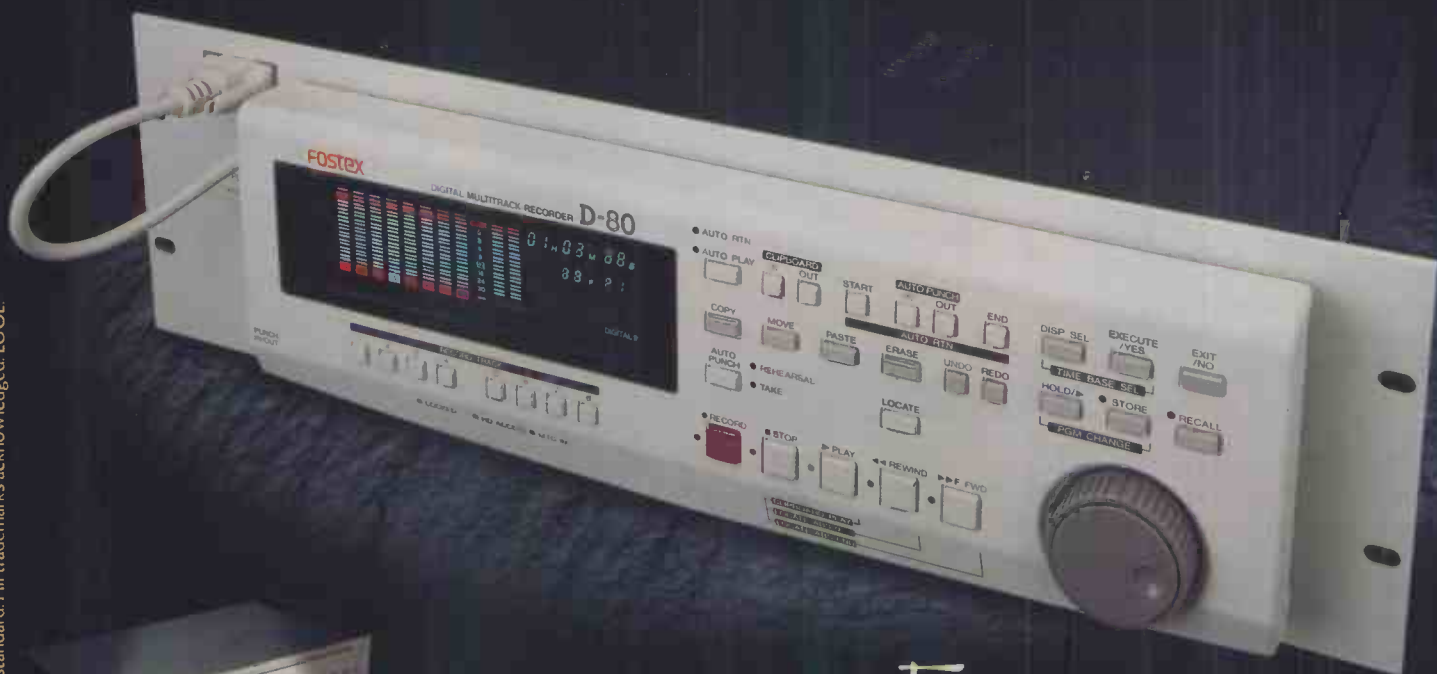
- Room 1
- Room 2
- Room 3
- Hall 1
- Hall 2
- Garage
- Plate
- Non-linear

RSS

- 3-D Panner
- Single 3-D
- Dual 3-D
- Quad 3-D


Fostex

It records 8 tracks simultaneously, at CD-quality, it does this without compression, ...and there's not a tape in sight!



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Finally, someone has developed an expandable IDE-based digital removable hard disk system which offers up to 40 minutes* of true *multitrack* recording, non-destructive 'cut, copy, move & paste' editing, instant locate & search, five 'virtual reels', digital and analogue inputs/outputs along with a full function auto locating remote control. And all in a package which is as easy to use as your tape machine and costs no more than £1,499 inc VAT. Naturally, that someone is Fostex.

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D-80 Digital Multitrack



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Wave machine



Theremins have made a bit of a comeback in the last year – now Bob Moog's company has come up with their own affordable model. Peter Forrest goes all wavy with the **Big Briar Etherwave**

Hot on the heels of Longwave's lovely Theremin (see *The Mix*, December 1995), comes a real surprise: the Etherwave from Big Briar. The surprise isn't that Bob Moog's firm should be producing Theremins. They've been doing so for years, and making and designing Theremins was Moog's introduction to electronics and commerce in the 50's and early 60's. What is amazing is the price. Those lucky Americans can pick an Etherwave up for \$229, including delivery, and with other superb goodies thrown in free. That works out at scarcely more than a tenth of the price of Big Briar's other range of Theremins.

There must be a catch, and in this case it seems a pretty obvious one: the Etherwave is a kit. That's the extent of the bad news, though. This is the sort of kit that anyone can put together, principally because the difficult stuff has already been done. Most significant of all, the circuit board is supplied ready-assembled and tested. All that's left for the buyer to do is put the other bits together, and do a certain amount of finishing.

Putting it together

The review model had already been assembled by the importers, Second Gear, so I can't speak from first hand experience. But looking at the very clear construction notes, and talking to Dougie McKendrick at Second Gear, who put this Etherwave together, it does seem to be very simple. The notes are clearly straight from Bob Moog's mental textbook on methodical engineering for beginners: "...Using a brush or soft rag, remove all sanding dust from the cabinet. Then shake out the work cloth and vacuum up your work area. Put the sandpaper

and sanding block away, and cover your bench with a drop cloth or newspapers. Assemble your wood finishing materials. Read all of the instructions on the wood finish containers...." Clear, useful advice, all of it.

Every step in the instruction manual starts with some empty brackets. I thought at first that someone had forgotten to tell the word processor to renumber the paragraphs before printing; but it's actually a space for you to tick when you've completed a task. Methodical, again, and another example of the care Big Briar have put into this whole package. They really want you to get this kit finished, in real good shape (and then they want you to play it as well – hence the extras thrown in). Everything is provided, right down to all the screws. The only things you need to provide are glue and your chosen wood finish. Tools are all pretty basic, too, with the most technical item being a small soldering iron. Dougie's comments: "If you can use clamps, spanners, glue, soldering iron, wire strippers, paintbrush, screwdrivers and stuff, and are capable of following an excellent manual....then there is no problem!"

The end product is a long thin rectangular box



MASTERING the Theremin

PAL



Instruction and performances by theremin virtuoso Lydia Kavina. This unique video features:

- A series of six lessons covering hand movements, finger position, articulation, tremolos, vibrato, and other essential techniques
- Live performances of three of Lydia Kavina's own theremin compositions
- Brief history of the life of Leon Theremin, and an appearance by Bob Moog



Lydia Kavina has given over 400 performances throughout the world

Leon Theremin in 1927 with his invention. One of the very first electronic musical instruments, the Theremin is still the only space-controlled instrument in existence

Written and Directed by **WILLIAM OLSEN**
Produced by **BIG BRIAR and LITTLE BIG FILMS**

whose dimensions (18" x 9" x 3") seem almost identical to the Longwave's. To the right is the pitch antenna, and to the left the volume antenna – that beautiful traditional angled loop shape. In the middle of the front of the box is the control panel, with a power switch, audio output jack socket, two large knobs for volume and pitch control, and two small ones for waveform and

The essentials

Price inc VAT: £269 (kit form), £299 (ready-made) – both including delivery in mainland UK.

More from: Dougie McKendrick, Second Gear, 2nd Floor Business Centre, Forest Mills, Highurst Street, Radford, Nottingham NG7 7XA.

Tel /Fax: 0115 978 0582

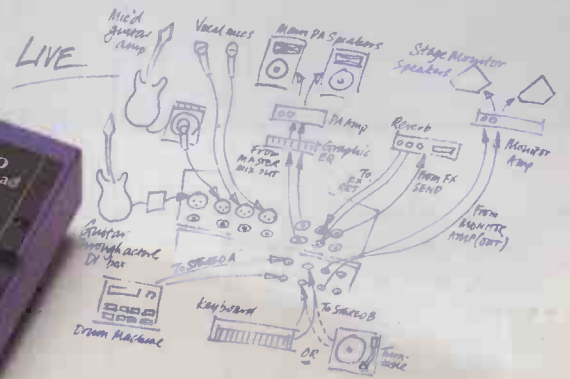
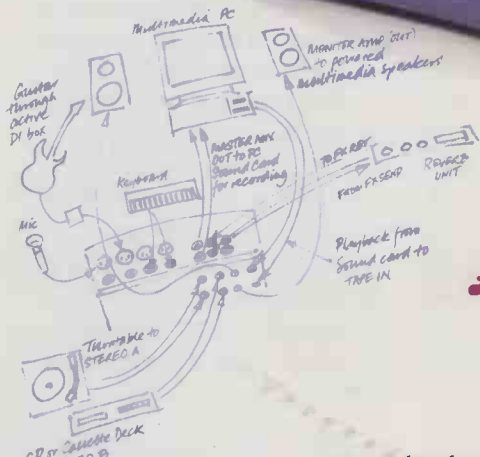
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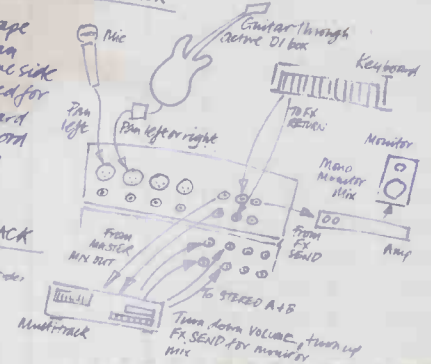
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Unlike many small mixers, Notepad is no toy. It incorporates tried and trusted circuit designs and components used on our flagship mixing desks.



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At Spirit, sound quality is paramount and Notepad is no exception. But don't just listen to us - visit your Spirit dealer, listen to Notepad and judge for yourself.



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By Soundcraft

A Harman International Company

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Name:

Address:

What will you use Notepad for?

What magazines do you read?

Please send me a FREE copy of the Folio Applications Guide written by pro-audio journalist Paul White on how to get the best from your mixer

Spec check

Construction:	Birch ply cabinet, 18" x 6" x 3" Nickel-plated brass antennae (pitch: 18" tall; volume: 10" x 6" max. loop) Black anodised aluminium front panel
Dimensions:	29" x 21" x 8"
Output:	Mono jack socket
Controls:	Volume, pitch, waveform and brightness
Power:	External 200 mA 14 volts AC power supply for UK mains.
Extras:	'The Art of the Theremin' CD, 'Mastering the Theremin' video, and Bob Moog Theremin booklet.

▶ brightness. The hardware is uniformly high quality – quite remarkable when you take price into account. The antennae, for instance, are chunky nickel-plated brass, as on the original instruments from 65 years ago. At the back is the power inlet, on a three-pin DIN plug. The wall-wart power-supply looks custom-made, and very neat.

Using it

The controls are self-explanatory. The pitch knob is really there for the player to set up the range of hand movement they want to use, as well as to tune to an external instrument – but it's also very effective for the beginner to use as a playing technique – tapping the pitch aerial while twiddling the knob is a nice effect. The waveform control sweeps through the range of traditional Theremin tones, from mellow to more cutting; and the brightness knob provides further control over tone colour.

Unlike, say, a flute or a modular synth, it's also easy to make it produce sounds, too. That doesn't mean it's easy to play traditional music well, of course. Pitching just one note correctly is a major achievement. But the design has obviously been carefully thought-out, so that it's as easy to play as any Theremin can be. Unlike the Longwave Theremin, the Etherwave uses the traditional volume control system: the closer your hand gets to the antenna, the quieter the note. If you're more used to the other method, where volume increases as you get closer to the antenna, it takes some getting used to, but soon seems natural. You might think that it would have a little snag: constant sound whenever it's switched on and your hand isn't close to the volume antenna. That doesn't happen, because the pitch antenna also acts as a gate. It's tuned so that the note goes sub-bass (and inaudible) when your right hand isn't within a couple of feet. All you have to do is be careful about the way you approach the beast. Literally. If you walk up to it from the pitch antenna side, it'll lurch into a portamento swoop. Approach it from the left, though, and you can mute the sound with your left hand before anything untoward happens.

You also have to think about where you locate it. Ideally, there should be at least three and preferably four feet of clear space all around. The recommended method is to use it on a mic stand, for which a good solid fixing is supplied. You just need to remember, though, that a Theremin is a lot heavier and bigger than a microphone. A stand that's stable with a Shure attached might be much

more likely to be knocked over once a Theremin is perched on it. And while the Etherwave gives the appearance of being pretty robust, there's no point in testing its resilience out on your floor.

How much does it cost in the UK? There's often an alarming price mark-up on imported items, for a variety of reasons, including import duty, VAT, transport, power supply adaptation, and so on – and distributor's profit margin, of course, which the kits bought by Americans direct from Big Briar obviously don't have. That makes it a pleasant surprise to find the UK price at £269 including delivery. If you're really not into spending time assembling the thing, for another £30 Second Gear will make it for you.

Both prices would be definite bargains anyway, but you get even more for your money with some really good extras. There's the Delos CD 'The Art of the Theremin', by the world's greatest virtuoso, Clara Rockmore; a nicely put together video with some historical background, some talk from Bob Moog, and six lessons from the current leading light of the theremin world, Lydia Kavina, as well as three performances by her; and also, eventually available (delayed at the printers but to be forwarded to all buyers), is a booklet on the history of the Theremin by Bob Moog.

The video's called 'Mastering the Theremin', and that may be the one over-optimistic part in the whole package. You need pretty good pitch, wonderful motor control, and the ability to repeat movements exactly to within a millimetre or so. Even then, you can still occasionally sound like the Flight of the Sampled Manic Bumblebee. There's more to the Theremin, though, than the painstaking struggle to play melodies accurately and with expression. It really comes into its own as an improvising instrument with digital or analogue effects – delay, especially, but also reverb, chorus, flanging... for whatever reason, it seems to put out the sort of signal that effects boxes love.

Verdict

If you like the idea of owning a unique-sounding instrument you can play without touching, then the Etherwave is a wonderfully cost-effective way in. It's well-designed (apparently using quite an expensive

If you walk up to it from the pitch antenna side, it'll lurch into a portamento swoop

collection of parts); sonically flexible; and made by the most famous Theremin manufacturer living.

The next question would then be which to choose, kit or ready-made. Although thirty pounds is a small amount to pay for having someone do the work for you, I'd recommend people to go for the kit unless they were completely unpractical – or very busy. The Second Gear assembly line is all very well – the model I've got is sensibly and correctly put together, and the varnish looks fine on anything but very close inspection – but if you do it yourself you can afford to lavish extra care and attention on the wood finish, maybe just to produce an exquisitely smooth surface, but maybe to customise the colour scheme to your exact design. It's time instruments became unique again, and painting an Etherwave psychedelic or duck-egg blue is a good way to start. ●

On the **RE:MIX CD**

Track
15

No it's not a Hammer House of Horror film – it's Peter Forrest putting the Etherwave through its paces. Spooky!

One of the extra attractions of a Theremin lies in its potential as a controller of other instruments, or of effects. Watch out for the latest on MIDI and CV control via a Theremin, coming soon in The Mix.



Available at **£79.95** + VAT

MX-5 Affordable "Bedroom" Mixer

A new addition to the range of HW mixers, the MX-5 includes all the features required by today's DJ's in a compact, portable unit. Ideal for use as part of a DJ mix studio or on the road, the MX-5 combines superb audio quality and affordability in an unbeatable package.



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"At £275 +VAT the HW International MX-6 must be the best value for money large format DJ mixer in the country - Recommended."

DJ Magazine - January '96



MX-7 Deluxe Mixer

Yet another new model for 1995, the HW MX-7 offers all the essential features required of a disco mixing console, with extras normally only found on more expensive models. 19" rack-mountable, a wide range of inputs can be accepted, and selector switches on the music channels can be internally re-assigned to provide custom input combinations.



Available at **£105** + VAT

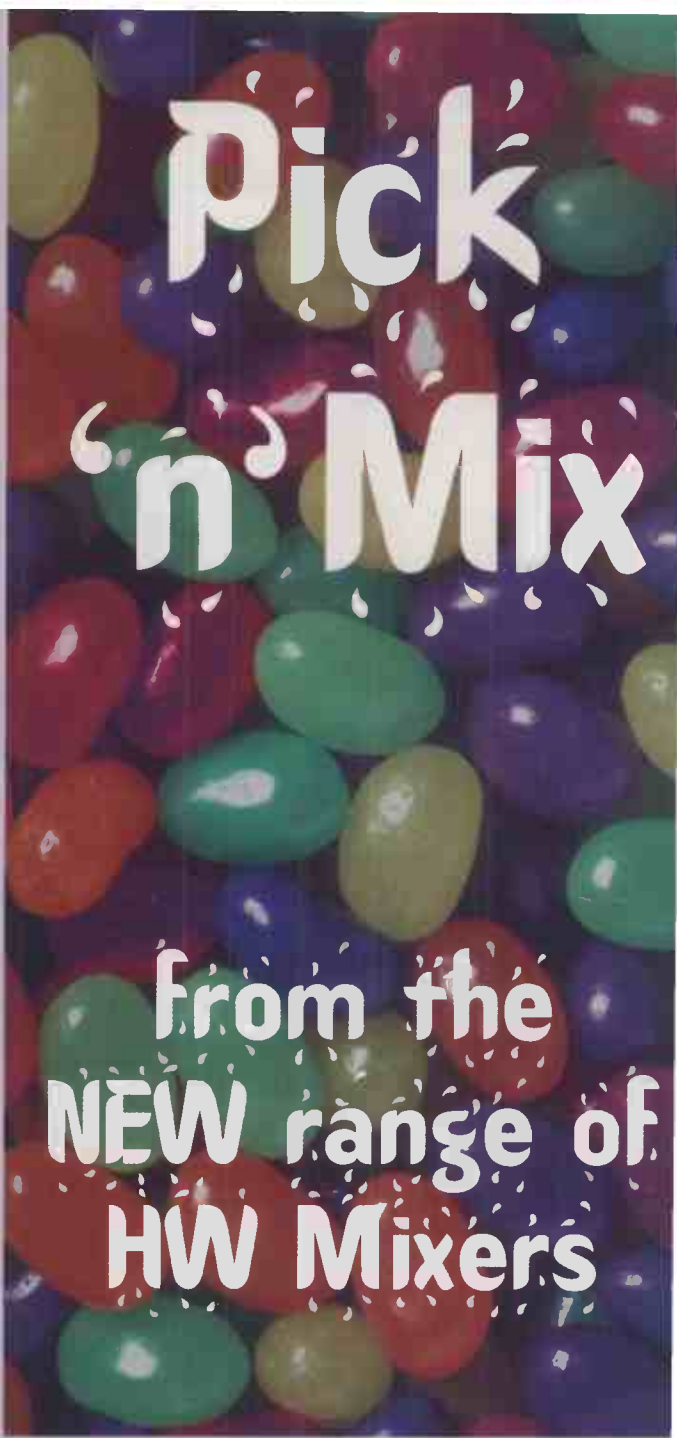
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The MX-8 is a budget priced disco mixer which is designed for D.J.'s, A/V Dubbing and Background music systems and installations. An industry-standard workhorse the MX-8 combines rugged construction with quality workmanship, it is equally at home on the road or in the studio.



MX-10S Sampler Mixer

The MX10S is a budget priced sampler/mixer from HW International. Although designed specifically for the modern DJ, the MX-10S's rugged construction and quality workmanship, make it equally suitable for Audio Visual, Music System and Installation applications at home or in the studio.



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Pandora's box



The Korg Pandora puts stadium-size guitar FX in a pocket-size package. Tim Slater finds it equally at home in the practise room and the studio...

Toneworks is the name of Korg's R&D division, and their manual describes Pandora as a 'personal multi-effect processor'; not an inaccurate description considering its more than passing resemblance to a Sony Walkman, rather than the piece of hi-tec guitar weaponry it actually is. Pandora is literally pocket-sized, but still manages to comfortably accommodate an arsenal of features, including 60 different effect options, 20 fully editable patches of high quality effects, a built-in metronome and even an auto-chromatic tuner.

Layout

One of the inevitable comments prompted by the unit's diminutive size was that Korg might have missed the boat, insofar as some other manufacturers – notably

Zoom – have already cornered the market in bite-sized effects units. But whereas something like Zoom's 9002 placed a strong emphasis on its suitability for live use, this baby admits that it's more geared towards providing the guitarist with a portable, yet extremely versatile, practice environment. On first meeting Pandora, however, its rather sparse, quasi-futuristic appearance does little to suggest what it can do; but as we'll discover later, there are hidden depths. Pandora's vital statistics measure up to a compact 12cms long, 7cms wide and 2.5cms deep – roughly similar to a dictaphone or a video's remote control. The unit is powered by a choice of 9v mains adaptor or two AA size batteries, with the latter option providing around eight hours' continuous use.

The minimalist approach to styling is reflected by

the unit's front panel, which contains a single LCD window and the bulk of the controls for scrolling through patches, isolating the individual effects for editing and selecting the highly useful Metronome mode. This layout doesn't rely on decals or graphics, and the lack of clues might confuse somebody perhaps not *au fait* with the ins and outs of processing. But to be fair, once you've plugged in and switched on, the

The essentials

Price inc VAT: £189

More from: Korg (UK) Ltd, 9 Newmarket Court, Kingston, Milton Keynes MK10 0AU

Tel: 01908 857100



Spec check

Effect types:	Chorus, Flanging, Pitch-shift, Compression, Overdrive/distortion, Echo/Delay, Reverb, Wah, Trem, Stereo Panning, Vibrato, Phasing EQ, Cabinet Resonator
Other features:	Tuner, Metronome
User memories:	20
Power:	9v DC or 2xAA batteries
Inputs:	Guitar input jack, Aux in (mini stereo jack)
Output:	Line/Headphone dual purpose output (stereo phone jack)
Weight:	180g

your favourite tracks. The headphone jack is a stereo output which will also interface with outboard devices such as a portastudio or guitar amp. But if the unit is connected this way, don't forget that if you use a standard 'mono only' cable to make your connections, only the left-hand output from any of Pandora's stereo effects will be audible.

In use

As one would hope (but not necessarily expect) the 20 preset patches are impressive from the word go, but to be honest, I was unprepared for just how good this unit really is. One thing I especially liked was that while the presets obviously try to demonstrate the broadest

you're after, Pandora offers no less than 12 different Distortion sounds. Plug her directly into a combo though and it seems that the majority of the user presets are indeed voiced for headphones, as the warmth and dynamics were replaced with a harsher, more obviously processed tone than the glorious 'Sensurround' effect available through phones. To be honest, while I think that the Pandora is just the business for practice or even recording purposes, for live use there are other units in the Korg range which are probably more suitable.

Regarding the built-in metronome, its loud ticking feels a little intrusive at first, but soon proves to be a handy string to the Pandora's bow by helping to breathe new life into even the most mundane of practice routines. It's amazing how often we take it for granted that we can play exactly in time, but the metronome is a great leveller. Working on difficult licks or exercises at slower speeds before building up to a more challenging tempo is something even very experienced guitarists often find difficult, but the metronome's steady pulse actually seems to aid concentration, which makes practising far more fun.

Verdict

The Pandora is an astonishingly accomplished piece of kit, especially for the price. This unassuming little gadget is not just the perfect companion for practising, but its bountiful supply of user-friendly effects and features makes it invaluable in a recording environment, too. It's a bit like having a studio in your head. Watch you don't get trampled in the rush! ●

It bears a more than passing resemblance to a Sony Walkman, rather than the piece of hi-tec guitar weaponry it actually is

emphasis is on instantly getting to grips with the excellent choice of sounds, so finding your way through the rest of the functions is like following a simple set of logical steps.

Among the built-in effects are Compression, Overdrive, EQ, Chorus, Flanging, Vibrato, Phasing, Delay, Pitch-Shifting, Stereo Panning, Reverb and Auto-Wah. On average, each effect has four different options, although some have more, including Pitch Shift which has a maximum of eight. In addition to these, Pandora also features Noise Reduction, the aforementioned Chromatic Tuner and Metronome, plus a Cabinet Resonator, which offers four different speaker simulator options. The metronome is an audible click track, whose tempo range runs from 40bpm to a maximum 208bpm and this proved to be a surprisingly welcome accompaniment to practising a whole range of different techniques, including solos and rhythm patterns – not just scales!

Pandora has two inputs: a single instrument jack input and a phono Aux input for connecting up a cassette or a CD player so that you can jam along with

possible spread of effects, the onus is pitched towards offering a choice of usable sounds. Of course, the option to go loopy is there if you so desire, but judging by our review sample you can get stuck in right away, without having to wade through a mire of unnecessary techno-cack.

In headphones, this thing just sounds tremendous, and it rapidly became addictive in very much the same way as a good computer game does; you know you have to get on with your work but it won't hurt just to have another five minutes! Creating your own patches simply involves choosing from the vast array of ready-made options and so is quite easy, even without the manual. If you do find yourself becoming a little unravelled, at least the manual is more readable than most, and it's easy to go back and start again should you become stuck.

The range of effects leaves no stone unturned. The Delay section alone comprises a vast panorama of echo settings – including a more than passable Brian May type super-long delay – and if it's Overdrive

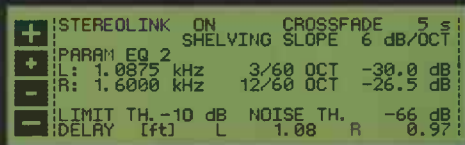
On the
RE:MIX CD

Track
16

Steve Fairclough gets into gear with the Pandora FX box. Check out what this little packet of power can do for your guitar...

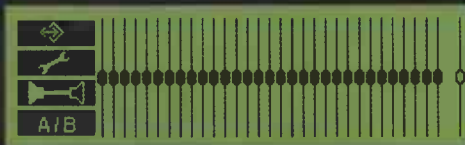
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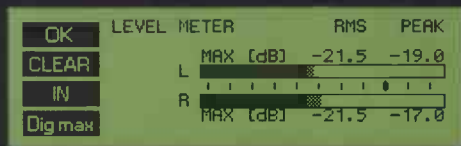
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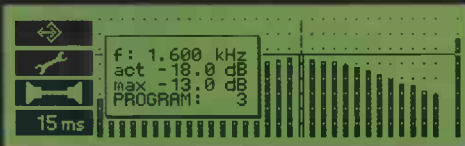
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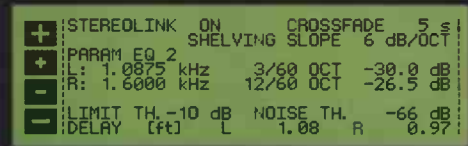
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Scratch pad

The Akai Remix 16 is the latest in a line of samplers aimed at the DJ and DJ/Producer. Rob Green discovers whether it's an expensive toy, or a genuine tool for the DJ...

Hot on the heels of Roland's MS-1 and JS-30 samplers comes the Remix 16 sampler from Akai. Naturally, the big sampler manufacturers have leapt on the 'DJ/producer' concept as a potential growth area for their products, and they are certainly giving it a good go. With stripped down features and a more friendly interface, this type of sampler is biased more towards live performance, as opposed to the studio, as most samplers are. Whether they will also be picked up by out-and-out DJ's is another matter, and depends largely on the way the sampler's facilities are presented. Let's find out...

First impressions

The Remix 16 certainly has a user-friendly appearance, and smacks of a DJ mixer panel. A crossfader is laid out at the front end of the top panel, which allows you to fade between an input (i.e. DJ Mixer) and the internal sampler, and transform buttons are beside it to punch in and out of the channels. There's also a pitch control fader on the left of the unit, and a control slider on the right which can pitch bend or scratch on a selected sample or samples.

A splendid array of sample trigger buttons reassure the user of its ample sampling power and, although the standard memory is only two Megabytes, it can be upgraded to an altogether more impressive 18Meg. These 16 pads would be perfect for DJ sets if loaded with voices, explosions and all manner of special effects. The whole unit has a chunky feel to it which inspires an initial degree of confidence. There's also a floppy disk drive on the front panel and moving back up

The essentials

Price inc VAT: £849

More from: Akai Ltd, Haselmere Heathrow Estate, Parkway, Hounslow, TW4 6NQ

Tel: 0181 897 6388 Fax: 0181 759 8268



to the top, we have a data display with cursors, stereo level meter, a data wheel and a line of rubber pads reminiscent of tape transport buttons (record, play, loop, stop etc.). Monitor level, input level and output level are controlled by three knobs at the rear of the top panel, and you are also offered the option of monitoring from the input, the sampler, or the master output at the touch of a button. The wonders of modern technology!

So what can this gismo do for you? Well, three grades of sampling quality (8, 16 and 32kHz) mean that you can dramatically alter sample time (at the expense of quality of course). At maximum sampling time with 2 Meg, in mono, you can milk 120 seconds out of this box, but that will be very poor quality. At 8kHz, what can you expect? A happy medium is usually 16kHz which allows 30 seconds in stereo and 60 in mono. It's hard to tell the difference between this setting and CD quality (44.1kHz) and you get a pleasant, slightly rough-around-the-edges sound at this sample frequency.

Launch pad

Samples can be taken on any one of 16 pads, ready to be released at any time in the mix. Imagine looping your

These 16 pads would be perfect for DJ sets if loaded with voices, explosions and all manner of special effects.

favourite vocal hook, dropping it in with your tunes, and pumping the beats in and out with the transform buttons. With a little imagination, the Remix 16 allows you to totally change your tunes and create your own breaks. If you decide to expand to 18 Megabytes, the possibilities will be practically endless, and you can even scratch on the sample of your choice with the control slider. With the ability to crossfade between the samples and your records, added with pitch control to match the BPM, you have plenty of control over the mix.

In actual fact, I found scratching one of the least useful facilities that the Remix 16 had to offer. The resulting effect barely resembles a scratching noise, although in bend mode, the control slider can be used for better things. You can bend bass tones for example, and I enjoyed playing around with the bend on a high-pitched sine wave tone which sounded rather like a theremin.

Four floppy disks are supplied with some basic

UP
CLOSE

Data entry wheel makes editing functions (listed alongside) easy



Audio connections are made via phono sockets, with a ground connection for your record deck

► samples to help you get the ball rolling, and these will allow you to get to grips with many of the basic editing functions. One major function that I think they might have squeezed in is timestretching. With MIDI and the added option of installing an SCSI port, I think they may as well have gone the whole hog. The editing facilities themselves are pretty self-explanatory, and the cursor buttons make wizzing around the editing pages a breeze. It's a simple case of highlighting Trim, Loop, Pitch, Level, Program (including MIDI channels), MIDI or Disk. You then simply move down with the cursor to the edit facility of your choice.

It is, however, very necessary to scour the manual as there are many good tips on operation. Some functions (such as sample frequency) are hidden behind multi-purpose buttons. In the case of sample frequency, you have to press the record button and hold it down. Either 8, 16 or 32kHz will appear in the window, and that can be changed with the jog wheel. Several one-touch functions are laid out on pads such as Erase, Hold/Loop, Stop, and Reverse. These are perfect while mixing and the instant reverse seems like a particularly good idea.

Spec check

Sampling Method:	16-Bit Linear Encoding
Sampling Frequency:	32kHz, 16kHz, 8kHz
Polyphony:	8 Voices
Internal Memory:	2 Megabytes (expandable to 4Mb or 16Mb by 72 pin SIMM)
Data Storage Device:	3.5-inch 2DD/2HD Floppy Disk Drive
Edit Parameters:	

Trim... Start Point, Start Fine, Sample length, Length Fine
 Loop... Loop/One Shot, Discard, Loop Length, Loop Fine
 Pitch... Transpose, Sample Tune, Constant Pitch, Bend
 Level... Level, MIDI Velocity, Release, Mono Trigger, Resample
 Prog... Keyrange High, Keyrange Low, Prog. No., MIDI Channel, Priority
 MIDI... MIDI Transpose, Master Tune, P. Change Channel, Note Assign/Out/Thru
 Disk... Load, Save, Delete, Format
 Beat Loop Function... Beat, Sample Tempo, New Tempo

Imagine looping your favourite vocal hook dropping it in with your tunes, and pumping the beats in and out with the transform buttons.

Verdict

For the kind of DJ who is not exactly au fait with technology, this machine should help demystify sequencing and sampling. This little box is capable of making some great sounds, and it certainly has a lot to offer the DJ interested in razzing up his sets. If, however, you are primarily interested in working in the studio, Akai's own S2000 seems like a better bet, for just a couple of hundred pounds more.

The Remix 16 isn't trying to be a studio sampler, though. Compared to something like the MS1, it's a much more sturdy and sophisticated affair, with the provision of a disk drive and its upgradeability being particularly advantageous. I wonder if the price may be a tad too high for many DJs, though I'm sure those with more lucrative gigs will be sorely tempted. You might even see some clubs incorporate a Remix 16 into their DJ booth setup. One thing's for sure — this type of sampler is here to stay, and this is probably the best of its type yet. ●



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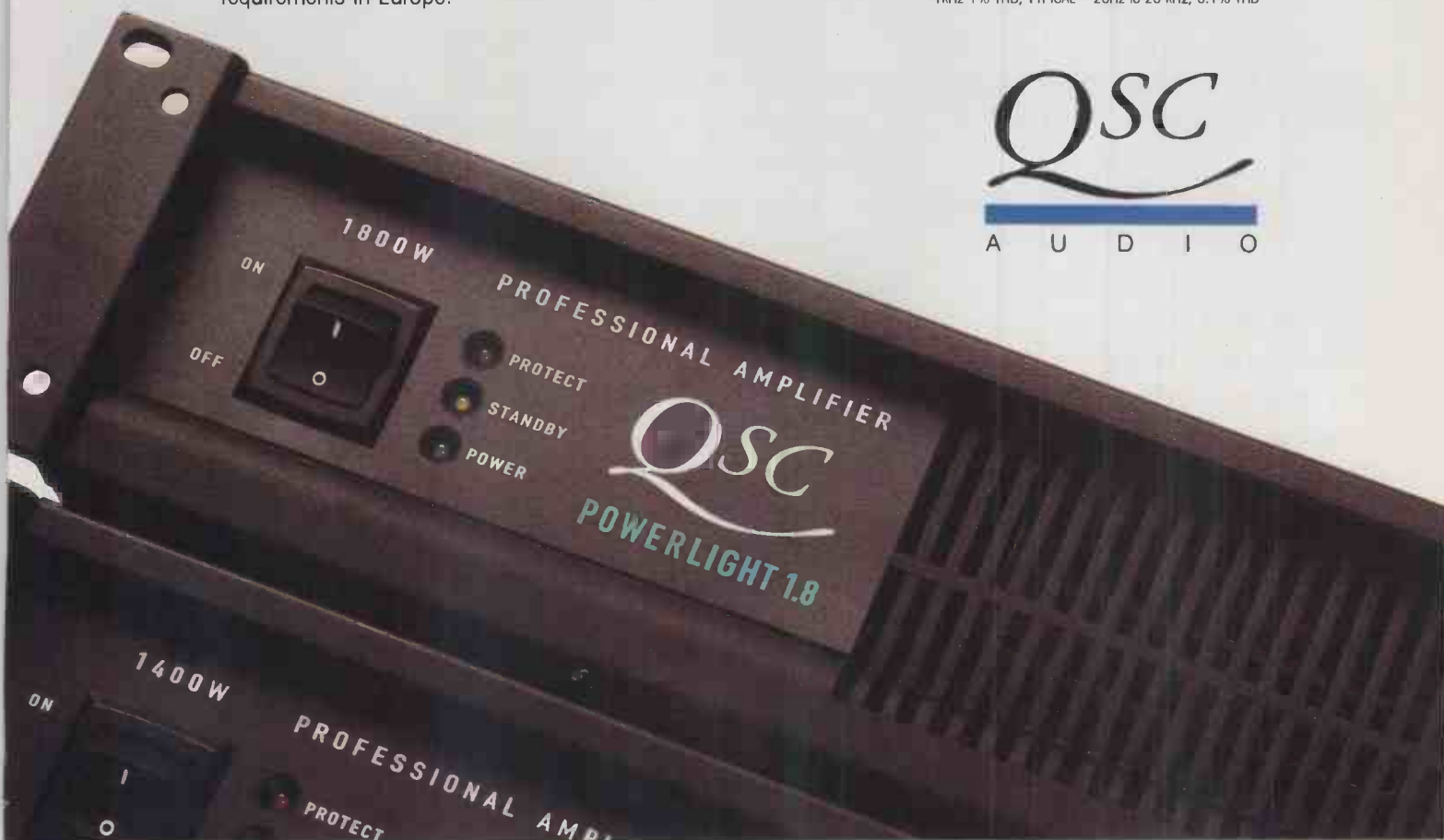
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2 OHM*	500 Watts	700 Watts	900 Watts
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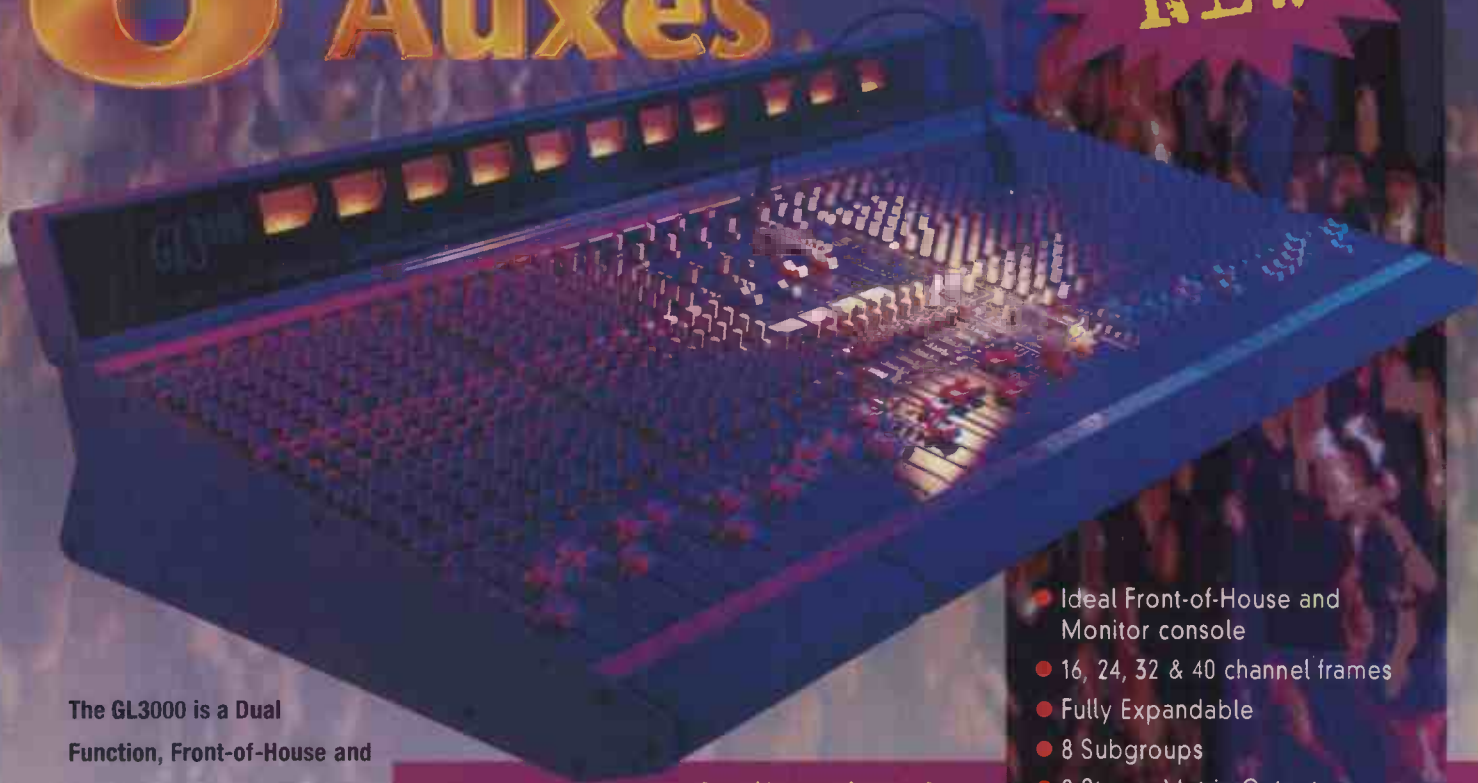
QSC
A U D I O

Name _____ Address _____ Postcode _____

MIX 7/96Q

8 Groups Auxes

NEW



The GL3000 is a Dual Function, Front-of-House and Monitor mixer for Club PA, Band PA and Hire Companies alike. It boasts an exceptional feature set - typical of all Allen & Heath consoles.

Because the GL3000 has 8 Groups and 8 Aux busses; on one night the console can be a stand alone 8-2 mix monitor board, another night a single engineer can mix any number of bands for a showcase performance. It is that easy with the GL3000 because everything you need is in front of you.

The flexibility goes even further. The console can be expanded in two ways;

...for the price of 4
without cutting our features in half!

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- Ideal Front-of-House and Monitor console
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- 4 Stereo Dual Mic inputs*
- 4 band mid sweep EQ plus switchable lo-cut filter
- 8 Aux sends
- 2 Stereo Returns
- 2-track record and replay
- Extensive metering and monitoring capability
- Optional VU Meterbridge*

*Except on the 16 channel GL3000

GL3000

Looking at how engineers produce their shows requires an unusual understanding of the business. Everybody wants to work in a slightly different way.

Bringing together all the different dreams and wishes is now a hallmark of the Allen & Heath approach.

The GL3000 represents our commitment to finding cost effective solutions for your requirements.



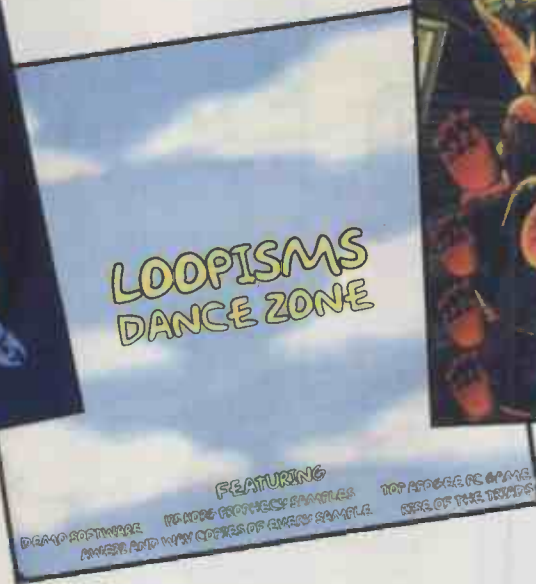
That Jungle Flavour (Zero G/Time & Space)

The cover of this fiendishly freaky sample CD says it all, really. Over 350 hard hitting breakbeats and a stunning 600 wildly diverse, and eminently usable stabs, pads, noises and effects (my apology: stabz, padz, noizes and FX – I'll stick to the terminology!) meld together to make a highly appealing, if slightly esoteric, collection for Jungle aficionados everywhere. Split logically into 36 banks of 10 rhythm loops apiece, each bank of beats being at the same bpm, there's a great mix here of loops of just drum timbres allied with full rhythms including bass sounds, trademark Jungle sped-up vocals, keyboard stabs and the like. A few subtle backward loops are also supplied and mixed in with the straightforward patterns for good measure.

Bpm's throughout the loops section obviously show little variation in speed (160-167 bpm variations is all ya get for the £59.95 asking price) but then that's the whole idea isn't it? That said, I can envisage a number of these loops finding themselves very much at home in areas such as hip-hop and other off-the-wall styles. Effects on the numerous loops are used judiciously, ranging from completely dry sounds to heavily reverb and flange-laden beats. The largely self-explanatory Stabz, Padz, Noizes and FX banks feature a broad range of quirky and useful sounds from Gun Shots to convincing instrument samples, plus a whole host of other goodies in between.

The CD is immaculately produced (and arranged and engineered) by Andy Beach for O'natural Recordings, and offering itself as a first rate partner to Zero-G's Jungle Warfare CD. Jungle Flavour proves itself as an invaluable, if slightly overdue, addition to Time & Space's series of Sample CDs. That Jungle Flavour sure tastes good to me. ● **Nick Serre.**

More from: Time + Space,
PO Box 306, Berkhamsted, Herts, HP4 3EP
Tel: 01442 870681 Fax: 01442 877266
Internet: <http://www.timespace.com>



Loopisms Dance Zone (D-Zone)

24 drum loops kick off this edition of the well known Loopisms series. These programmed slices of dance-omatic grooves contain 4/4 beats, funky hi-hats and effects, and all are usable. There's just one problem with these, and that's the fact that they don't supply the separate parts (eg kick, clap, then hi-hat). There's no way of building up these rhythms, so Loopisms have shot themselves in the foot for a start. What is good is that you are given EQ'd and un-EQ'd versions of every sample and the samples are also supplied as .WAV and AWE32 files.

A hearty selection of Korg Prophecy moments follow, some of which do the business, while others fall somewhere short of the mark. The weirder samples of strange modulating bells and pads are the best, and some of the 'real' sounds like the saxophones and trumpets are sufficiently convincing. I must, however, add that I was unimpressed with most of these sounds and I expected more from the undoubted potential the Prophecy has.

Value for money is obviously Loopisms' strongest point, and at £12.95 (inc. VAT and P&P), Dance Zone still looks like a bargain. If you are a PC owner, you also get a free copy of the game 'Rise Of The Triads' plus Cubasis and S.A.W. demos. Who says your money doesn't go as far as it used to? ● **Robin Green**

More from: D-Zone
Tel: 0181 6512222 Fax: 0181 6513333

Sample Material - International Free Zone (Sounds Good/ Time & Space)

Featuring a veritable plethora of samples based on the sound libraries of New York producer Bill Laswell, this CD offers a superb palette of eclectic and distinctive sounds and loops, suited to a huge variety of different musical styles. Sample material is split into four areas: Zone Ambient, Zone Rhythm, Zone Instrument, and Zone Sound, and incorporates Ambient Soundscapes,



FX-ed beats, Funk guitars, Ethnic grooves and transformed sound effects.

Sample Material's claim that the collection moves towards a "new-edged, multi-directional musical freedom" is not a million miles from the truth. The various banks of loops, including drums, percussion, bass, guitar, clavinet, synth and world, are thoughtfully arranged in banks of identical tempos, making for superb ease of use, and also promoting compatibility with other Sounds Good titles. Since many of the samples here are evidently taken from Laswell's multitrack recordings, there is a certain amount of crosstalk from other instrument tracks and a certain degree of extraneous noise, but this is minimal and really shouldn't cause any problems.

The individual sounds section provides a varied array of kicks and snares combined with some beautifully recorded percussion hits including djembe, tablas, tambourines, chantans and talking drums. Retailing at £59.95, Sample Material – International Free Zone deserves to find its way into any serious samplists' collection, regardless of musical bias, whether to find that elusive sound to complete a composition or indeed to use as sounds that form the bedrock of the track. ● **Nick Serre.**

More from: Time + Space,
PO Box 306, Berkhamsted, Herts, HP4 3EP
Tel: 01442 870681 Fax: 01442 877266
Internet: <http://www.timespace.com>

On the
RE:MIX CD

Track
19-20

We've got some tasters from *That Jungle Flavour* and *International Free Zone* on CD sample at will...

THE HELP FILE

Digital diagnostics, techno troubles, glitches in your Gizmos; they're all in a day's work for THE Mix medical department. Send your queries to: The Help File, THE Mix, Alexander House, Ely, Cambs CB7 4AF.

compiled by Paul Mac

Thank you for all your intriguing *Help Files* so far – keep 'em coming. Due to a very tight time schedule, replying to each help file directly proves difficult, though we do try. Most of the time, self-addressed envelopes and e-mail replies get sent at around the same time we go to press with the issue, as this is when they actually get answered. The reality is: Don't rely on us to get your college project finished on time.

We prefer questions which can't be looked up in an index, can't be solved with a single phone call, or require contacting those who cannot be contacted (Gods, dead people, product support/service departments). It's a tough job, but hey, that's what we do. And when we get stuck – there's a zillion other readers waiting to spill the truth. So here's to three pages of query quashing, problem pulpung enlightenment, that no uvver mag' does as good as we does. **PM**

Jungle tip

I have been interested in producing my own Jungle and Techno' music. I already own an Atari 520 STE. I am writing to you because I have bought your magazine and I am still unsure of what equipment I need. I have a budget of £2500.

PS. Does the Roland JD-800 have a drum and bass kit and samples installed?

Jamie Mackintosh, Llandrinod Wells

The heart of a dance music set up is the sequencer, which records and sends MIDI (Musical Instrument Digital Interface) messages (Which note? When? on what channel?). Most sequencers are now computer based, and so your Atari will do fine. Most people, though, do invest in a one megabyte upgrade so they can run the more sophisticated sequencers, such as Staeinberg's Cubase. Sequencers vary as much as synths, so most people start with demo or shareware sequencers, enabling them to discover their own way of working without excessive investment.

Next you'll need something to tell the

computer which notes to play – a MIDI Controller. This is usually a keyboard, either one which is also a synthesizer, or just a dedicated MIDI controller. Most keyboard manufacturers make controller keyboards which range from full size, weighted, seven octave monsters, to mini-key babies. A compromise is normally in order. On the other hand, you might want a smaller keyboard, which gives you some of the sounds you'll need for your particular area of interest, such as the Korg Prophecy, or the Novation Bass Station.

Next you should consider sound sources. Dance artists favour the sampler, as drum loops are easy, and new sounds are only a microphone or sample CD away. The Akai 'S' series or Roland 700 series samplers are probably the most popular. Though don't forget companies like Peavey and E-mu. However, samplers entail a more expensive initial outlay, so you might want to start with a cheaper option, such as a sound module – which would give you drum kits and several 'instruments.' There are hundreds of different sound modules, many of which can be picked up at ridiculous second hand prices. If you're prepared to explore the operating systems of some of these, you will turn up some surprisingly original material.

To round off this initial spending spree, you'll probably need a small mixer, so that you can take advantage of individual outputs from your instruments. On the end of this mixer, you'll need an amplifier and a pair of speakers.

A good monitoring system can be just as important as the rest of your equipment.

What about multi-track recording, a PA for gigs, outboard gear? Stop here. Start small and build up. You computer, a keyboard, and a sound source are a good start. Use your hi-fi for monitoring until you know what monitors you want, record onto good quality cassettes until you know what type of recording you want to do; and don't play live until you know a couple of tunes. We hope we haven't scared you off.

It is worth looking at workstations as well. These are keyboards which also include all manner of facilities, designed to get you making music quickly, and to grow along with you. The Korg Trinity, for example, has upgrades coming out of its ears, including more sounds, more memory, hard disk recording, and so on.

Here's hoping that this brief reply might set you on the right track. For In depth information, you should be reading the *Sound Advice* section of the magazine, and keeping a detailed eye on the gear reviews. Any back issues you might require can be obtained by calling Music Maker Publications and stating your hearts desire. Previous editions of *The Mix*, *Home and Studio Recording*, and *Music Technology*, plus all Music Maker's other magazines, are available at the end of a telephone line. Additionally, you can peruse the contents of all our back issues by visiting the best music industry web site there is: <http://www.musicians-net.co.uk>.

PS. The JD 800 is a sample based synthesizer which builds complicated sounds



out of simple samples. It does not have ready made drum kits on board, though it does do a nice line in bass sounds. PM

Soundscape escape

Q Please Help Me!! This is driving me mad! I'm running a Soundscape system with Cakewalk Pro V3, a Voyetra V22 MIDI interface and a Sound Blaster AWE32. Here's the problem.

I'm using Soundscape to drive the sequencer and this works fine. However, when I try to use another device connected to the other MIDI input on the V22, and Soundscape is driving Cakewalk, the sequences speed up!!! It's seems that a MIDI message is being sent twice or too fast!! As I've said, if there is nothing turned on while connected to the other input, the operation is fine.

I have tried everything I can think of within Cakewalk to try and solve the problem but nothing seems to stop it and I've been through the advanced users MIDI guide that much that the print's disappearing! Is it something to do with the MIDI mapping? This happened under Windows 3.1 as well. I'm currently on 95. Any help would be greatly appreciated! Thanks a lot.

Gavin O'Neill (e-mail address supplied).

A This is not a problem that anyone at The Mix has come across so far. So, in the interest of being helpful (this being the Help File), the following answer is intended to be corrected by anyone nice enough to write in:

That other piece of MIDI gear could be your system's bane. A MIDI message cannot be transmitted so fast, as it is an asynchronous system with a set clock speed. However, messages can be sent faster, one after the other. If this happens to timing messages, for instance: two lots of MIDI timing information being sent into a MIDI merge and, as your 'master' MIDI clock (whether it's ordinary MIDI clock, or MIDI timecode, or whatever) comes from a Soundscape system, any confusion that arises, will be interspersed with the information that Soundscape provides. If you have a sequencer, or a workstation, or maybe even a drum machine connected to that other MIDI input, you must make sure they transmit no timing information which might confuse things. However, this other device may be a controller keyboard, in which case there should only be note, controller and possibly system exclusive coming out of it. If this is the case, well, er, we're stuck. Has anyone else had this problem? PM

XG extasy

Q In your March issue of The Mix, you included a XG Editor for the Yamaha DB50 daughter board. The name of the guy who created it was Gary Gregson, and I wanted to get in touch with him to ask him a few questions, and to try and register to get the save options. Anyway, in your article you didn't mention his e-mail address, and in his program he gives no information as how to register. I would be very appreciative if you could send me his e-mail address if you guys know it...

Nice One, A. Bako

A Easy-peasy one, this. Gary Gregson's e-mail address is 100270.2603@compuserve.com. There are a couple of nice starting

FZ1 editor - help at hand

Q In your May issue you printed a letter from an FZ1 owner enquiring about saving samples to hard disk: I would like to add the following to your reply:

There is an FZ1 editor specifically written for the Falcon. It has many features, including time stretch/shrink, and sample rate conversion. In spite of the best efforts of myself and many others, it has proved impossible to communicate via the FZ's data port, so sample transfer has to be by MIDI. This is much slower than using floppies and consequently, dumping to hard drive is only really useful for archiving purposes.

The program, Falcon FZed, is available direct from the author (myself) for £30 Telephone: 01223 276311.

Andy Graves, Cambridgeshire.

A It was Michael from Devon who sent the original letter, featured in the May issue. I'll bet he's hot-diggerdy-dang delighted that the dilemma is dissolved, as we weren't much help at the time. Anybody with a Falcon and an FZ1 should send praise (and thirty quid) to Andy Graves. PM

points on the net, for anyone interested in the XG standard and the Yamaha daughter board:
<http://www.eskimo.com/~morlok/xg_info.html> and
<<http://www.rain.org/~nigelsp/yamaha.html>>
PM

Which TLAudio?

Q I have enough money to buy the TL Audio PA-2, but am willing to fork out the extra 500 quid for a PA-1 if it is considerably better. Have you ever reviewed the PA-1 and if so, how can I get a copy?

Marius Dembinski

A Unfortunately, we have had neither of these units for review, even though we have featured several other TL Audio products over the past months.

As you wish to buy one of these, we assume that your concern is for a high quality input stage for either microphone or line input. The questions of which one you buy, and whether the extra money is worth spending are rooted in the importance you put on a good input stage and its comparative quality to the next stage - few people polish an apple before they feed it to a pig.

The PA2 is a dual valve pre-amp/DI which uses the ECC83 and 12AX7 valves - a common combination which doesn't pull too

hard on the purse strings. The PA1, another pre-amp of course, using the prima spec. EF86 pentode valve - a top quality valve, for higher priced units. The PA2 features a phase reverse switch on channel B, while the PA1 has this on both channels. If you're recording in a live, or constantly changing situation, or using stereo microphone techniques, you might be thankful for this extra. The PA2 does incorporate instrument inputs as well as microphone inputs, for use with any other source, while the PA1 has two transformer coupled microphone inputs. The advantages of good quality transformer inputs are well documented, physical and electrical isolation being a good start, as well as giving microphones a jump start with a nice load. We have to reserve absolute judgement on the PA1 inputs, as we haven't had one in the office yet. However, TL Audio's reputation does speak for itself. Switchable filters on the PA1 also gives it a boost in the eyes of microphones everywhere - every situation is different, and the last thing you want to do is add another box on a clean input stage.

The upsurge in pre-amp popularity is mainly due to the advent of digital recording, and the need for conditioning a signal before it is subjected to converters. However, they also have a place in analogue recording for much the same reason. It is becoming more common place now for multi-track inputs to be interrupted only by one of these boxes, rather than trust to the electronics and hefty routing paths of mixing desks. Once you have pristine signal on tape, hard disk, or whatever, the world is your oyster.

So, PA1 or PA2? That is the question. Whether 'tis worth the extra five hundred quid for transformers, switchable filters, LED level meters, and EF86 pentode valves. Neither box will cause undue suffering to your audio signals, so we're talking levels of luxury, rather than lesser demons. Lets be frank (Don't say it, it's an old joke). The PA1 is better than the PA2. On the other hand, you can buy two PA2s for the price of one PA1, with forty pounds to spare.

There is absolutely no substitute for careful listening to both units, preferably side by side, with identical inputs. The Mix has not yet had this opportunity, so it would be unwise commit ourselves, as this opinion would lack credibility. We are sure that people at TL Audio, or their dealers, would be only too happy to set up an audition. Let us know the outcome. PM

Sync the vid

Q I have a VHS video tape of three bands performing live, and also a DAT recording of that performance, taken from the mixing desk. The

PA-1 or PA-2? The choice is yours



► members of the band would like copies of the two, synced together onto VHS video tape. So far, doing this at home has proved to be absolutely impossible.

Is there any way this can be done with a computer program, and are there any companies who provide this service? All of the video service people I've spoken to say that to sync the two together using ordinary means would be very expensive.

As I require only about thirty copies at most, I know that it is not going to be cheap, but after reading various articles in your magazine, it occurred to me that there might be software available that can sync video and audio, or has it not reached the right level of sophistication yet?

I don't own a computer at present, and don't intend to go into video work anyway – I just need to find someone who has, and will know what is required.

Hope you can help.

Bob Shave, Northwood.



You made a bad start. To reliably get video and audio synchronised, you need some kind of time code and/or word clock, which is best 'striped' before you record. To get these items together, after the event, you will need three things: A timecoded video – this means hiring a Betacam machine and transferring your VHS recording onto it; A timecode DAT – again, probably a hire job, as these are not cheap (get timecode onto your DAT recording); and thirdly, you'll be needing a bit of luck, mixed with a lot of patience.

Once you've worked out how to use this equipment, you should find a point where lip sync is critical and move both machines to that exact position – jog and shuttle wheels might save your life. Now observe the difference in timecode on both machines. This will be your timecode offset, which you will be able to set on the DAT machine or, if you're posh, whatever sync box you are using (We didn't mention that did we?). You then run the two machines, with the offset and check the synchronisation. Then do it again and again until you get it right. Next, record the united video and audio for a virtually seamless performance. Transport speeds on the original machines were more than likely imperfect, so one song at a time will give you a fighting chance. Sounds easy doesn't it? Mmmm.

The other option is to record both Video and audio onto a computer capable of doing both video capture and hard disk audio recording. It will very much depend on the software and computers used (Macintoshes and PCs can now do the job), as to the specifics of the operation, but with deft use of facilities, anything is possible.

Both of these are expensive solutions. If you can find someone knowledgeable in the use of such equipment you will save time (and hire costs). This is no time for learning curves. But, and I am sure you know this, preparation before the event would have saved a great deal of hassle.

Why not use the external audio input on your VHS machine. Give it a feed from the Front of House mix, and both audio and video will be locked for eternity. The quality of camcorder audio inputs is often surprisingly good. Thanks to Blitz Vision (Watford), for their invaluable input. PM

Akai DOS it nicely



I have recently read quite a few reviews concerning MIDI files. In particular, the one on Newtronic's Jungle Beat Volume One, reviewed in your May issue.

The problem is, I have an Akai MPC 60 II, which I am told will not accept DOS data. Not really wanting to splash out on a PC to solve this dilemma, I wondered if it were possible to use a MIDI data filer to read the file and then download it into the Akai. If so, how and what filter would you recommend.

Ian Dartford.



Well, there is some rather good news concerning this particular dilemma, and it's called Version 3. This is the latest operating system for the MPC 60 II, which incorporates several new groovy features, including DOS format compatibility – specifically for MIDI files. The only complication is that you have to get it from the USA, through a company called Marion Systems Corporation. Give them a ring on (00-1) 510 283 4631 or contact them by fax, on (00-1) 510 283 6882. Version 3, plus the manual, costs \$200, though if you add on the SCSI interface, we're talking \$450.

MIDI data filers do still exist, though we're sure that this is the better option – especially with the SCSI option. Thanks to Akai UK for helping out. PM



Session in Nippon



My problem is that I bought Session hard disk recording software and connected my mixer (Tascam 688, 8 track MTR, group outs) to my

Power Mac7500/100 and was greeted with a loud hum that permanently sends the recording level to halfway up the level meter (even with all the faders down and effects off!). I connected the mixer to a normal stereo amp to see if it was mixer noise... surprise... no noise!!

Paul Brown



So the problem is most likely with the Mac (but you know that already). Unfortunately, it can sometimes be the case that a certain combination of Sound Manager, hardware, and system configurations (when the seventh moon of Zarg is in the beta quadrant) could be your problem, so a certain amount of trial and error is often needed. Below is a list of things that you should check, or try. Do one and see what happens; then try the next one.

1) You should not be running system 7.5.3. At the time of going to press, Digidesign software will do strange things indeed, when confronted with this latest update.

2) Make sure that Sound Manager, and the hardware set up in Session, are correctly configured – the manual will tell you all about this.

3) Make sure that your Digidesign INI is compatible with the DAE version. INI version 2.93 is the one you are probably using, this should share the Mac with DAE version 1.43, and no other. If you have INI 2.94, you should also have DAE 1.44.

4) Find the Digi setup file in the system folder and trash it, rub it out, say goodbye (don't forget to empty trash can). Don't confuse this with the INI file – you want that. This action will reset the software to default settings, so you might find this does the trick.

5) Check for extension conflicts. Do this by using the extensions manager to remove everything except the Digidesign INI file – this is needed to boot the software. If Session then behaves, add the removed extensions one at a time, as and when they are needed. At some point Session will hum again, and that will tell you which extension is causing a problem.

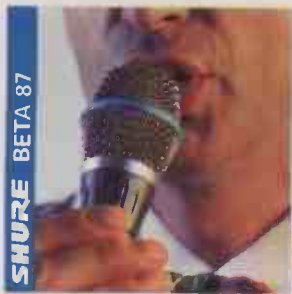
6) De authorise Session and reinstall it. This is a last resort, and a pretty flimsy one at that; but stranger things have happened...

Note that Digidesign technical support (US) are on the world wide web, common problems, installation scenarios, software archives, and so on: <<http://www.digidesign.com/>> Thanks to the Digidesign techies of UK origin for this month's guidance in all things 'Session.' PM

Video nasty: syncing after the event ain't easy



SHURE INTRODUCE THE SUCCESSOR TO THE BETA RANGE...



Just what is it that makes Beta microphones the world's most respected for live performance? Ask a professional performer, and you'll hear about Beta's remarkable response to both vocals and instruments. While an engineer will talk about their tight, uniform supercardioid pickup patterns and how Beta's technical precision turns every live performance into a studio-quality sound experience.

If you're miking an entire stage, you'll want the full Shure Beta Line. It includes the improved Beta 57A and 58A with smoother response and lower handling noise. The premier Beta 87 brings accuracy and detail to vocals. And to drive it all home, complete your stage with the exciting new Beta 52 for your kick drum and the unique Beta 56 for drums and other instruments.

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TM 7/96

Monitor MIX

this month's mixes that matter

Freezone 3 Horizontal Dancing

(SSR/Freezone/Crammed Discs)

Chilling is becoming ever more popular these days and Freezone is becoming known as the place to do it. As the elusive 'feel good' factor fails to return, people are seeking solace in a profusion of blunts and ever more blunted beats. The first Freezone compilation featured a strange mismatch of ambient textures and dodgy progressive post punk rock, more frozen than chilled. Last year's Freezone 2 found a voice and a direction from DJ Morpheus

Jazz to the delighted attention of the mainstream, Freezone 3 instead features tracks recorded exclusively for FZ3. This has yielded some surprising collaborations, Mixmaster Morris vs Jonah Sharpe, Snooze vs DJ Carn and perhaps the most surprising of all Mike Paradinas vs Luke Vibert. Christ knows Luke needs Mike's sense of discordance to stop his work sounding too pretty but you have to wonder what μ -ziq needs to be dabbling in trip hop for when he's already totally mashed up the jungle vibe with the storming Toronto. Still the throbbing pouch full of cheese and cocktail olives which is Smooth Helmet does the business in a post-post-modern, I'm-so-detached kind of way.

Other highlights include Phume's opener, So Many Times with the breathiest, most subliminally sex soaked vocal I've heard for a long while; LMJ + Richie's Universal Horn Remix 96 and the wonderfully named Illuminati of Hedfuk with the Coldcut mix of Miasma, as steamy a slice of downtown funk and uptown electro as you'll find in any good musicatessen. If music is food for the soul this album is a cool green salad with lashings of olive oil and mustard,

chill like cucumber and hot like chilli. ● Roger Brown

Alison Limerick Club Classics

(Artista)

If you've been clubbing at all in the past six years, then you'd be very unfortunate if you hadn't chugged around to Alison Limerick's 'Where Love Lives' at least once. With a killer piano riff and angelic vocals, this soulful classic refreshed the parts other tunes rarely reached.



Now it is to be re-released in June with the original Knuckles/Morales mix, plus remixes from the Dancing Divaz and Romanthony. The album is due in July and includes 'Where Love Lives' (Classic Mix), 'Make It On My Own', 'Come Back For Real Love' (Perfecto Mix), 'Getting It Right' (Masters At Work Mix), 'Love Come Down' and 'Time Of Our Lives'. There are also remixes by Paul Gotel, Dancing Divaz, and Romanthony.

This is a great easy-on-the-ears album for driving or loosening up that difficult party! A happy, 'who gives a shit' album - every tune is a winner. ● Robin Green

Boxcar Algorithm

(Pulse 8)

If you've ever sat down and contemplated exactly what makes a great pop song, then here's the answer - Boxcar, that's what! Just how uplifting and melodic can a track be? How many hooks can you fit into one album? Whatever the answer, *Algorithm* casts a line out and reels us in faster than we can bite the bait.

Australia's most successful international dance act, Boxcar formed in 1988 and have since gone on to accrue international acclaim. The music itself is an up-tempo brew

of house beats, heavenly melodies and live-for-the-moment vocals - Boxcar is what The Beloved should be!

Tunes like 'People Get High' put me in mind of the Pet Shop Boys meets house. In fact Boxcar have even been known to support the Boys on previous Australian and South East Asian tours, as well as Depeche Mode, New Order and The Shamen.

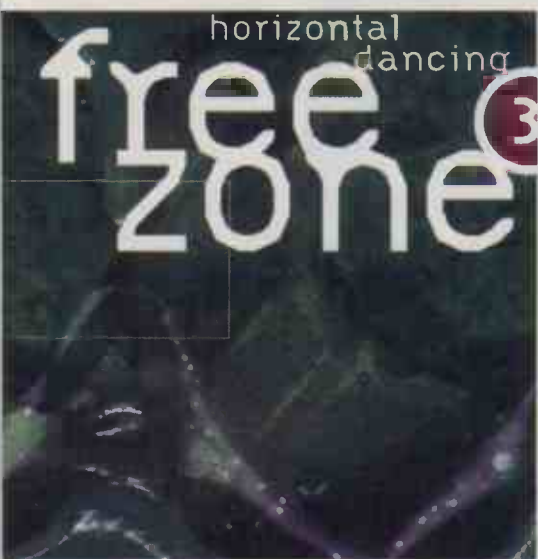
There's also some more underground soundscapes on offer and the title tune 'Algorithm' struck me as being an excellent trancey house tune - of the kind Sasha would probably play. 'Universal Hymn' is a highly energetic main floor tune, while 'Dubariser' is a beautiful, laid back track reminiscent of some of Goldie's album efforts.

This is remarkably upfront and for an Australian band (not wanting to sound snobby) this surprised me. Australia is obviously far more advanced in dance music than I had contemplated. ● Robin Green

Nearly God Nearly God

(Fourth & Broadway/ Durban Poison)

Let's face it. Tricky hasn't put a foot wrong since the release of his splendidly quirky little masterpiece 'Maxinquaye' last year. Until now. Under the pseudonym *Nearly God*, this latest offering is not dissimilar in style to its predecessor; the Portishead-pioneered lazy mellow feel known in some camps as Trip Hop is prevalent throughout. Tricky describes the album as not "a proper Tricky album" but "like a bunch of brilliant demos" and he's not far wrong, but demos is the operative word here. The album features collaborations with Neneh Cherry, Bjork, Alison Moyet, Terry Hall and Cath Coffey, and Dedi Madden of Stereo MC's. The ten tracks were recorded in two and a half weeks in London and New York and the album is put out on Tricky's very own Durban Poison label. But



who shaped a double CD set of some of the most jazzy, drum'n'bass grooves, pre-dating the current fascination with all things syncopated. This was an album which remained on the turntables and laser diodes of the dance cogniscenti for the whole of last year.

Freezone 3 manages to repeat that feat, collecting together some of the most upfront experiments in techno, jazz and drum'n'bass. Where last year's album unearthed tracks from the underground, bringing such gems as T-Power vs MK Ultra's Mutant



enough biog. Tricky's immaculately stoned trademark vocals are omnipresent, whilst the various collaborators offer an intriguing if rather disparate array of colours to the picture. Terry Hall's contributions on 'Poems and Bubbles' are something of a departure for the ex-Ska boy, but a glory to behold none the less. 'Keep Your Mouth Shut', a Tricky/Bjork duet is merely a mundane reworking of the dimpled one's own 'You've Been Flirting Again' from *Post*. Alison Moyet's ridiculously soulful hollers on 'Make A Change', on the other hand are genuine tear-jerkers of the first degree. Essential listening for Trip Hop die-hards. Everyone else should file under "Nearly Good". ● Nick Serre.

Brian Eno Generative Music 1 (SSEYO)

And now for something completely different – an album on a floppy disk rather than a CD which plays for over 100 minutes and which never sounds exactly the same way twice!

Yes, our man Eno has been composing again. At least he's been composing with the aid of Koan Pro which is probably the most sophisticated piece of music generation software commercially available. Consequently, to play the album, you need a 486 PC 8Mb of RAM and an AWE32, SB16 or TDK



MusicCard.

The album costs £44.59 (inc VAT) and includes the Koan Plus Music Player which is used to, er play the pieces. We looked at Koan Pro, the program used to create the pieces, in depth in our March issue so I won't go over the details again. Suffice it to say that the Koan Player reads special music files, "interprets" them and plays them over MIDI. The files can contain elements of probability in which case the music will be "interpreted" slightly differently each time it is played.

This is ideal Eno fare and, not surprisingly, he's taken to Koan like a duck to water. *Generative Music 1* contains 12 pieces, all very, very ambient, rather slow and generally reflective. Many, such as *Lysis* (Tungsten) and *Platform 292* are comprised of slowly drifting/meandering harmonic pads with sweeps of sound floating in and out as the piece progresses.

Komarek is a collection of variable string lines overlaid with raggy piano and solo instrument lines. Rothko Doric moves a little faster. But not much. It's more melodic with short snatches of melody lines.

NS-9001 picks up the tempo to a racing Largo. More pads again with punctuated melodic bass riffs. Methane IV starts with atmospheric helicopter-type sound effects, rolling drums like thunder and brass figures. Microcosmology has metallic sweeps and pads. Quite reminiscent of what you might imagine the music of outer space to be like. If there was music in outer space.

Seed Reflector contains pulses of sounds, not unlike an impressionist version of twittering birds. Oriental harmonies make it one of the more approachable pieces. Densities III is a darker piece in more sombre mood, complete with funereal bells in the background.

Supporting Circle with its baroque-like instrumentation and gentle lines intermeshed with more insistent repetitive rhythms sounds like Purcell on acid. At least that's what they sounded like on first

listening. On subsequent listenings they may sound just a little different. It's the Universal Principle – Things Change!

You can incorporate "sleeve notes" within Koan pieces and it's a shame that none of these pieces have any, neither in the program nor in any of the packaging. A missed opportunity. Koan pieces can last as long as eight hours and, again, it's a shame that only one piece, *Lysis* (Tungsten), takes any advantage of this with its 46:27 running time. The other pieces vary from 2:26 to 7:44 which, given the medium, is a tad on the careful side.

The price will deter all but the most ardent Eno fan, I suspect which is shame as this is a genuinely new type of music which ought to be experienced by everyone interested in ambient music, computer-generated music and alternative compositional techniques. If there were such a thing as pure Eno, this is probably it.

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● Ian Waugh

In Order to Dance 6 Session One: Drum 'n' Bass (R&S)

House music has been served a death sentence, it's been around over ten years now and in popular music terms that makes anybody still listening to it positively retro. In fact the house revival movement has already begun with seminal labels like Trax re-releasing of some of the classics of the genre. Anyone with an ear to the sound of tomorrow is now listening to drum'n'bass, on a mission to find the heart of dance.

Always at the vanguard of dance, R&S have consistently been out there with the most upfront releases and were the first label to see dance music as more than just something to dance too. Renaat Vandepapeliere always championed the most original, upfront performers, from Joey Beltram's *Energy Flash* to the Aphex Twin's *SAW*. Now, this innovative label boss has compiled a double CD exploration of the most cutting edge techno and drum'n'bass.

The album kicks off, literally,

with a pure statement of intent, Alex Reece's masterful remix of Kenny Larkin's *Loop2*. Are you getting this? Here's Britain's hottest new drum'n'bass star, remake/remodelling a classic techno tune from last year, a tune whose very title speaks from the roots of techno to the foundations of drum'n'bass. Loops are what this is all about. Where rock music and all western musical forms before it relied on melody to carry the musical weight, dance music returns to the source, to Africa and the rhythms of life, to the drum loop.



The man who started the whole thing rolling all those years ago with *Clear and No UFO's*, Juan Atkins, is remixed in fine jazz style on this collection by Wax Doctor and that boy Alex Reece again. Wax Doctor makes a cool, laid back and blunted mix of 'I Wanna Be There' which sounds like a manifestation of Juan's unforgettable statement, *Jazz is the Teacher, Funk Is the Preacher*. Alex's reworking of 'The Flow' bears the unmistakable Reece vibe as well as a sample from that long ago original. And they say there's no UFO's! Wax Doctor and Alex Reece join forces as *Jazz Juice* for the track which kicks off CD2, Detroit, another title paying homage to the wellspring from which techno has begun.

A host of artists grace this collection, from original junglists 4 Hero appearing as Jacob's *Optical Stairway* to ambient master Mark Van Hoen, better known as *Locust*. Mark contributes a track, *No-one in the World* which marries a cool, Karen Carpenter styled vocal from Wendy Roberts to a gamut of musical emotions and drum loops.

To say that this collection is upfront is to denigrate its staying power. Quite simply this is one of those albums which people are still going to be playing at the end of the year, marvelling over its perceptive insight into the revolution of techno into drum'n'bass. ● Roger Brown

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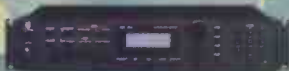


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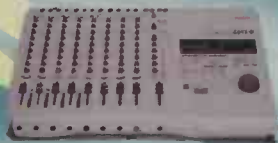
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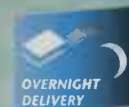


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Detroit techno is alive and well, with a second wave of musicians building on the considerable legacy of their forebears. Of these, **Carl Craig** is the shooting star, with everything he touches seeming to turn to gold. On a sabbatical to London, he tells *Tim Barr* the story so far...

Unless you grew up in Detroit, having had to hew out an existence for yourself in this city of grayed dreams and abandoned architecture, you will perhaps never understand the anomaly that is Carl Craig. Our city politic does not produce "producers". Carl Craig is the virus running rampant in the program. He is the extra piece in the jigsaw puzzle...

Psyche/BFC Press Release

Carl's 'Future Daze' drifts out of the speakers and fills the room with succulent alien textures. On the television screen, Beavis & Butthead act out their dope-head fantasies which end abruptly when an angular, cartoon dog bites Beavis. Click. The television switches off. "I've got a little multi-media thing going on here," laughs Carl. He's here in London to chill out for six months, relax and escape the politics and brooding atmosphere of Detroit. He seems happier than he was this time last year, caught in the glare of the media feeding frenzy which preceded the release of his debut album, *Landcruising*. So we chat about cop shows like *Homicide* and movies and the way that the entertainment industry seems unwilling, unable to take responsibility for its actions. Inevitably, we also talk about the love affair which has threaded through both our lives. As usual, we talk about techno...

With the exception of Underground Resistance and The Belleville Three (Juan Atkins, Derrick May & Kevin Saunderson), Carl Craig has done more to push the envelope of Detroit techno over the last ten years than almost any other artist. His adherence to the implicit principles of techno – the twin themes of originality and individualism – has produced a body of work as vital as anything which dance music has so far produced. From the lo-fi bump'n'grind of Psyche's 'Crackdown' (his first Transmat release) to the pristine, jazz-tinged romanticism of 'At Les' or his overwhelming, other-worldly remix of 'God' for Tori Amos, he's displayed an unnerving ability to take the next step forward, to forge new directions for Detroit's post-soul sound. In this ongoing process of reinvention, Craig's close links with Derrick May have provided a unique bridge between the music's first and second generations. Carl Craig may have stepped out into the future, but his roots are still firmly locked to the conceptals of techno's first wave.

Back in the early 80's, as a student at Cooley High in Detroit, Carl Craig's trajectory seemed unremarkable enough. Like most other kids at the time he was heavily into the wired funk of Prince and, through his older brother's record collection, he'd already discovered Led Zeppelin. But while it's not hard to track the influence of something like the crunching drumbeat in 'When The Levee Breaks' on Craig's later output, it's more difficult to locate another of his teenage infatuations – The Smiths. A black kid in the city of funk swooning over that most quintessentially English of bands? Maybe it was the strangeness of that convergence which attracted him?

As he practised guitar in his bedroom, however, other seeds were being sewn. Carl's cousin, Doug Craig, was already involved on the local club scene, doing the lighting for parties and clubs like Cheeks in downtown Detroit where Jeff Mills was resident. Carl would sometimes tag along to hear the DJ playing stuff like Junie Morrison and Nucleus. Back at home, his sister would switch onto The Scene, a Michigan-based TV show which was loosely formatted around the more mainstream Soul Train but which concentrated instead on the funkier, electro-based grooves which were becoming increasingly popular in the Motor City. And, of course, there was the radio – Electrifying Mojo was taking Detroit's airwaves on an inspired journey through Pink Floyd, Kraftwerk and Marvin Gaye, cutting the blend with raw house tracks fresh in from Chicago and the wired, spaced-out beginnings of techno itself.

It was after hearing Derrick May spin tracks like 'Nude Photo' and Suburban Knight's 'Groove' on WJLB that Carl decided to enrol himself in an electronic music class. He had taken his first tentative steps in recording after reading an article about Yello's Deiter Meier and Boris Blank. "They used to record songs by dubbing two cassettes back and forth," he explains. "I tried it, but the music was different because I only had a guitar. I didn't have any real effects boxes or anything like that so I couldn't take it that far. I couldn't get any weird noises or effects which would make it more electronic." In class, however, Craig went out on his own: "It was more like a musician's look at electronic music – in the way that Wendy Carlos would make electronic music," he says. "Any kind of experimentation had to come from within yourself. I really don't think that the instructor knew where I was going with it. I ended up going it alone, just teaching myself about how the equipment worked, how to create sounds with it and the way those sounds could be applied in music."

With money his parents had saved for him, Carl bought his first synthesiser – a Sequential Circuits Prophet 600. He also acquired an Alesis MMT8 sequencer (Carl later became so proficient with it that Kenny Larkin once described him as "the master of the MMT8 mute buttons" thanks to his ability to improvise by using the mutes as a compositional tool). On a borrowed four-track – a Tascam Porta One – he began recording his own version of the strange, dislocated music he'd heard on the radio. "To begin with, I recorded lots of tracks without drums, like the original version of 'Neurotic Behaviour', because I didn't have a drum machine," he recalls. "But it didn't matter. There were no rules. Back then, none of us had anything to lose."

A mutual friend introduced him to Derrick May. "I played some of my stuff to him," remembers Carl. "I'm not sure he liked it too much but he was still encouraging. Then he heard 'Neurotic Behaviour' and he freaked. He arranged for me to go into Juan's studio to re-record it. That version didn't turn out too well but it was the beginning of Derrick and I working together."

May was so impressed with Craig's talent that he enrolled him in Rhythm Is Rhythm for a trip to Europe which included a live set at London's Town & Country Club supporting Kevin Saunderson's Inner City. The visit lasted six months with Craig contributing to Rhythm Is Rhythm tracks like 'The Beginning' and helping May with programming duties on Mark Moore's S'Express album *Intercourse*. On the same trip, Carl recorded 'Crackdown' and 'From Beyond' in a studio in Belgium. It was a beginning of sorts. Later that year, Carl contributed 'Elements' to Virgin's second techno compilation, 'Crackdown' came out on Transmat under the name Psyche, and together with May, he up-dated Rhythm Is Rhythm's classic 'Strings of Life'. At around the same time, Transmat's subsidiary Fragile released another Craig track, 'Galaxy' under the name BFC. ➤



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Before I made Landcruising, I studied all my favourite albums, just to see what it was that made them so exciting for me...

▶ Along with 'Andromeda' (on the first Psyche release), 'Galaxy' underlined Craig's increasing confidence in the studio. He had relocated his set-up to his parent's basement, borrowed a friend's Alesis HR16 drum machine and convinced KMS Studios to lend him a Roland U20 keyboard before setting to work on the Porta One. The results were an astonishingly powerful reworking of techno's original blueprint. Other four-track recordings like 'Evolution' and 'It's A Shame' hinted at a new ghost inside techno's circuit boards. "My whole thing was that the machines weren't just instruments — they were my band," says Carl simply.

Soon after working with May on Rhythm Is Rhythim's 'Drama', Craig hooked up with Damon Booker to launch the Retroactive label. During the day he worked in a copy shop; at night he jammed with the machines producing epic Retroactive releases like 'Wrap Me In Its Arms' and 'No More Words' on the four-track. "Back then I was on borrowed time," he recalls wryly. "Most of the equipment I had belonged to other people. But I was at one with the machinery. Even in the copy shop. I had a friend who was a drummer and he had a job at MacDonalds and we used to talk about the rhythm of what we did during the day. He used to say that working there was a lot like playing the drums — he'd get the burger, hit the fries, pick up the Coke — and it was a rhythmic kind of thing. I was like that with the copy machines. I knew their rhythm inside out."

Those rhythms spilled over into tracks like 'The Climax', a diaphanous collapsing groove built on disco loops and a cycling piano figure which Craig later reworked as the third Paperclip People single. But disputes with Booker led to Retroactive's dissolution and Carl struck out on his own again to set up Planet E Communications, a new label which debuted late in 1991 with another Craig alias, 69, and the astonishing 'Four Jazz Funk Classics'. When the record hit, it dropped a bomb on techno's classic "George Clinton and Kraftwerk stuck in an elevator" strategy. Gritty, grainy and almost unbearably raw, tracks like 'If Mojo Was Am' and 'My Machines' flirted insanely with rhythms which suddenly switched stride, arpeggios which rocketed skywards before stalling and rough-cut samples. In Detroit, no one knew who was behind the release, though Eddie Fowlkes, on a visit to Lawrence Burden's 430 West Records, conjectured "whoever made this must be from the old school because he remembers when Mojo was on in the mornings!"

"It was just me wondering what it'd be like if Mojo was on AM radio," admits Carl. "But a lot of people had that idea. I like coming up with titles that people can interpret in their own way. When I made 'Four Jazz Funk Classics' everything in the studio was hooked up with old guitar leads and I had acquired this old Electrovoice mixer which had a real static problem. I used to have to tap on the mixer to get it to stop making noise. I also had an old Roland sampler at the time which limited me to four samples and I had to cut the sampling rate way down to fit everything in. It all came together to create the sound of that record. The cleanest I could get it was to get rid of the static..."

Carl followed the 69 release early in 1992 with a new pseudonym, Piece and a new single 'Free Your Mind' which combined charged super-funk with a dizzying collage of samples and heavy, muscular beats. Deep in the mix were traces of hip-hop, hardcore and, weirdly, Duran Duran. This was Craig stretching out to meet the twin challenge of New York — the crushing techno-on-steroids of Joey Beltram's 'Energy Flash' and the cut'n'paste frenzy of Todd Terry. 'Free Your Mind' was an off-the-cuff rejoinder, a reverse-spin statement of Detroit's dancefloor supremacy. And just to prove the point, Carl wired it up with a bassline which was pure Funkadelic.

By the time Innerzone Orchestra's 'Bug In A Bassbin' materialised later that same year, it was obvious that Craig wasn't content to tap into just one vein of spaced-out electronica. His interpretation of Detroit's guiding principles — forged during his relationship with May — was pushing him to investigate new territory with every release. The jazz-break symphony of 'Bug...' reshaped boundaries which most of us didn't even have on the map. As a consequence, it wasn't until the break beat of Goldie, Roni Size and LTJ Bukem began reaching for the stars during the summer of '94 that the track's significant influence was felt.

"I didn't ever try to copy Derrick or Juan or anybody else," says Carl. "That would have been missing the point. They had their thing and I had mine. When I first heard Kevin Saunderson's tracks — things like 'Forcefield' or 'Bounce Your Body To The Box' — they were booming, but it never entered my head to do a straight take on that stuff. That's not what techno is about and it isn't what my music is about." ▶



Carl Craig – Discography

SINGLES

'Crackdown'	Psyche (Transmat/Kool Kat) 1989
'Galaxy'	BFC (Fragile) 1989
'Drama'	Rhythim Is Rhythim (Kool Kat) 1990
'Please Stand By'	BFC (RetroActive) 1990
'Wrap Me In Its Arms'	Carl Craig (RetroActive) 1990
'As Time Goes By'	Carl Craig (RetroActive) 1990
'The Climax'	BFC (RetroActive) 1990
'No More Words'	Carl Craig (RetroActive) 1991
'Oscillator'	Paperclip People (Retro Active) 1991
'Four Jazz Funk Classics'	69 (Planet E) 1991
'Free Your Mind'	Piece (Planet E) 1992
'Nitwit'	Shop (Planet E) 1992
'Bug In A Bass Bin'	Innerzone Orchestra (Planet E) 1992
'Dreamland'	Carl Craig (Eevolute) 1993
'Stars'	Naomi Daniel (I Ner Zon) 1993
'Neurotic Behaviour'	Psyche/BFC (Art) 1993
'Wonders of Wishing'	Urban Culture (Eclipse) 1993
'Feel The Fire'	Naomi Daniel (I Ner Zon) 1993
'Sound On Sound'	69 (R&S) 1993
'Remake/Throw'	Paperclip People (Planet E/Open) 1994
'Lite Music'	69 (R&S) 1994
'The Climax'	Paperclip People (Open/Ministry of Sound) 1995
'Science Fiction'	Carl Craig (Blanco Y Negro) 1995
'The Floor'	Paperclip People (Open/Ministry of Sound) 1996

ALBUMS

'Landcruising'	Carl Craig (Blanco Y Negro) 1995
'The Sound of Music'	69 (R&S) 1995

COMPILATIONS

'Elements' on 'The New Dance Sound of Detroit II'	(Virgin) 1989
'At Les' on 'Virtual Sex (Buzz)'	1993
'DJ Kicks (Mixed By Carl Craig)'	Various (K7) 1996

► It's important to note here that, while Carl Craig's "major dream" was always to be able to make music, his parents both supported him and instilled in him the necessity of planning an alternative career path "in case things didn't work out". Even by 1992, when his growing reputation as "the boy genius of the Detroit underground" was spreading worldwide he was still thinking that, eventually, he'd become a fireman. "If things didn't pan out and I had to stop doing music, I would still want to do a job like that," he says, "something which contributes..." It's this concept of doing something worthwhile, of making a contribution which provides a causal link between Carl Craig and Mike Banks – the drive which pushes Underground Resistance to initiate community programmes, to fight City Hall on a purely social front, is also the drive which sets their music apart, makes it not just relevant but crucial. And it's also the reason that Mike Banks and Carl Craig have continued to explore the outer limits of what it's possible to do with dance music.

Despite the fact that his records were becoming increasingly complex, Carl's studio set-up was still relatively minimal. Both the 69 material and 'Free Your Mind' had been recorded using only the onboard effects on his keyboards. "I do whatever I can with the equipment I've got," he states. "I've always been interested in the creative side of what you could do with things. It has never been about having the most up-to-the-minute keyboard or racks of effects. It's what comes out of the other end that matters. Most of the technology I had at that time might have been considered obsolete but that's a challenge in many ways. When Derrick recorded 'Strings of Life', the Ensoniq Mirage was already old technology, but those samples gave the track that edge. If he had used a 'now' sound it would have dated. Instead 'Strings of Life' is a timeless piece of music."

Carl did expand his studio to include a new Mackie desk, a Kurzweil K2000 and an Akai S1100 sampler during 1992, prior to the recording sessions which produced 69's 'Jam The Box', Naomi Daniel's 'Feel The Fire' and 'At Les'. Relocated in his girlfriend's eighth-floor apartment overlooking the Detroit river, the set-up provided Craig with yet another dimension. Tracks like 'Dreamland' and 'Microlover' wrapped rhythms in warm strings and effortlessly pretty arrangements, while 'Feel The Fire' proved that he was equally adept at crafting vocal garage.

Free to play games with the electronics, Carl combined drum samples from the S1100 with the HR16 to create breathtaking percussive patterns which swung across house, hip-hop and jazz. But he was also pushing his melodies in a more articulate and emotional direction. On 'At Les', which still remains one of techno's most compelling landmarks, he combined wildly syncopated rhythms against a backdrop of evanescent, pastel-shaded textures to create an extra-terrestrial be-bop symphony – part heart-aching melancholy, part unfettered euphoria – which reached deep inside, to a place beyond words. Along with Kenny Larkin's 'Tetra', Craig's masterpiece marked the apotheosis of techno's romanticism, proving not only that electronics could convey such subtle nuances of feeling but also that Detroit's "new dance sound" had a breadth of validity and meaning outside of the dancefloor which, to date, has still not been fully explored.

Carl's horizons broadened even further with the first new Paperclip People release since 1991's 'Oscillator' had closed the Retroactive catalogue. 'Remake/Throw' skipped exuberantly across funk, disco and Manuel Göttsching's 'E2 – E4' to become one of the biggest underground hits of 1994. On the fractured dancefloors of that year, it also provided a symbol of reunification for the house and techno scenes which had become increasingly separated as clubs moved into ever more specialist realms. "I don't think that policy of dividing things up was ever healthy or productive," says Carl. The success of the Paperclip People single proved that the free exchange of ideas between genres was still a valid source of inspiration. At the same time, Carl's remixes demonstrated that his talent stretched out across them all. In 1994, he reshaped the minimal techno of Maurizio's 'Domina' into a lush house classic, stretched La Funk Mob's 'Ravers Suck Our Sound...' into a brooding, languid groove and pushed Inner City's 'Do Ya' towards subtle angles and bubbling funk.

Perhaps the most stunning affirmation of Craig's talent as a remixer was his treatment of 'God' an introspective, wistful tone poem by Tori Amos. Stripping back the instrumentation, Carl reworked the track into a minimal epic, using only a two-note pitched

tom-tom sequence from a Sequential Circuits Drumtrax drum machine underneath the full vocal for much of the track's length. The result was a mix which was not only sympathetic to the song's original intent but one which took it to new levels. By allowing the vocal most of the space in the mix, and providing some creative hard edits, Carl underlined the song's emotional content, moving into a full arrangement only after the vocal's final lines. It's a testament to Craig's skill that though his version is more than 10 minutes in length, the mix never loses its compelling grandeur or emotive power.

"I really admire the way that the original pioneers of remixing, like Larry Levan and François Kevorkian, stayed true to the original vision of a song," he explains. "They got inside the songwriting, using the elements of the original production and perhaps enhancing those with some additional parts – it wasn't just a case of cutting up the vocals and rewriting everything else. With 'God' I had that approach very much in mind. In the end, there wasn't much of the original arrangement that I could use, apart from the vocal, and so the mix developed around that." Like most of his major remix work, the mix of 'God' was pre-programmed in Carl's own studio before recording sessions began at Stages Studio in Detroit. The mix also emphasised the fact that creativity doesn't depend on the cost of a piece of equipment – Carl's Drumtrax was a \$50 bargain from a pawnshop.

In April, 1995, Carl Craig's long-awaited debut album was finally released on Blanco Y Negro, a subsidiary of Warner Brothers. *Landcruising* confused many critics who expected a note-for-note reworking of the original Detroit blueprint. Instead, Craig revealed yet another side to his talents by delivering a unique masterpiece which up-dated techno's legacy and pushed forward into new realms. Tracks like 'Mind of A Machine' betrayed a heavy debt to the proto-techno of German outfits like Tangerine Dream and Kraftwerk, while outstanding moments like 'Science Fiction', 'They Were' and 'Einbahn' laced spiked melodies against pure dancefloor grooves before dissolving into a panorama of wide-screen electronics. Brighter, bolder, deeper and, in places, more abstract than anything else Detroit had yet produced, the album relocated techno in a shinier, glossier future. "Making the album was an exciting challenge," says Carl. "I waited for a long time before



Carl on the Roland SH-101...

agreeing to do it because I wanted to have the kind of budget which would allow me to spend more time on the tracks. I really wanted it to be something special – something other than just a bunch of singles. I wanted to design something, specifically, that would be listened to as an album from beginning to end."

In fact, this aspect of the project was so important that Carl spent a lot of time considering the problem and doing some fundamental research:

"Before I made *Landcruising*, I studied all my favourite albums, just to see what it was that made them so exciting for me. I didn't want to put too many tracks on it (the album contains just 9 cuts) because the albums that I really love, like *Computer World*, don't have that many. I think that gives the listener a chance to concentrate on the music without being swamped. I borrowed the idea of making the total running time around an hour from Public Enemy, because I always felt that their records worked really well over that length – you've got time enough to get into the flow of the album, but not enough for it to become boring."

Something which surprised many people was the fact that the production values on *Landcruising* were markedly different to the boxy, bedroom sound which had featured on so many of Detroit's seminal classics. Breathlessly beautiful, *Landcruising* drew a new sonic architecture for electronic dance music, eschewing what has become misinterpreted as the canon of Detroit techno's instrumentation in favour of a broader sound canvas and an unrelenting focus on its guiding principles of innovation and emotional communication.

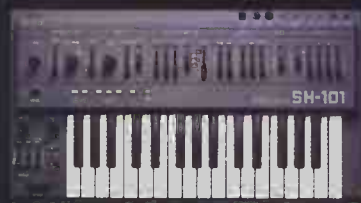
"I deliberately wanted to make the album a polished and professional affair," asserts Carl. "Since the early days, I've always had a phobia about those consumer machines like the DX100. I always wanted the most professional gear – I was a big fan of things like the PPG and the Fairlight, though I could never have afforded them. They were always out of reach – untouchable – and I guess that's what made them all the more attractive. It always seemed like those machines were full of mysteries and the kind of super-high fidelity that everybody always aspired to. Probably that's reflected in the production of the album because I finally had the chance to get to grips with that level of technology. I had done the lo-fi stuff and I felt that I wanted to move on a bit from that."

"I think that the focus on machines like the TR-909 and the TB-303 and so on, has influenced people to think that techno is only made with those instruments. That isn't the case. Some of those things we used out of necessity because they were affordable at the time but to have the idea that making techno

depends on having those particular instruments is to miss the point of the music completely. A track can be full of 909 beats and 303 acid lines and still not be techno or a track could have none of those and be a perfect

example of techno. It's not about the instrumentation, it's about the way the instruments are used and to what purpose."

A few months after *Landcruising* appeared, R&S released another Carl Craig album, 69's *The Sound of Music*. A combination of two earlier 69 EPs ('Sound On Sound' and 'Lite Music'), it served



sounds. If you listen to 'Free Your Mind', you'll hear that distinctive SH-101 clap sound. I stopped using it for a while, but I got it out recently and it's still got that magic."

"The SH101 has got more balls than any other analogue keyboard," Carl reckons. "It's like Roland's version of the Minimoog. I bought mine in 1990 from Anthony 'Shake' Shakir for \$50 and it's one of the best purchases I've ever made. It's not in the best condition – the controllers are crackly and the output isn't great – but it still works. It has a rough sound but it's got a tremendous amount of personality. I got to use a Roland System 100, with an analogue sequencer, recently and I found a lot of similarities between the two synths. The SH-101 is a great all-rounder. I use it for bass-lines and hi-lines but it's also really good for percussive sounds. In fact, I used to use it a lot for clap

to demonstrate the contrast between two of the many facets of Carl's music. The lush, carefully-orchestrated grooves of *Landcruising* seem, at times, to be a million miles away from the edgy rawness of the 69 material. And yet the same influences are at work, the same urge to communicate. Carl Craig's testimony is that the same ghosts whisper through different machines. Ten years on, and Detroit's original vision has mutated, metamorphosed, altered, in some ways, beyond recognition. We now live in the age of global techno – a long way away from the sparse, rebel machine funk of Model 500 and Rhythm Is Rhythm and Psyche. But, while those early records continue to transmit their signals across the void of time, the music has become a victim of its own success. In much the same way as Derrick May warned at the beginning of the 1990s, "the whole concept has been degraded" by imitators and cash-in merchants. How many pseudo-Detroit records have you heard this year? Even some of those in the city itself have played to the market, subverting the original manifesto of adventure and exploration in favour of clownish commercialism.

Despite his success with defiantly underground singles like Paperclip People's 'The Climax', which was released by The Ministry of Sound's Open label last year, even Carl feels pressured by the paradox at the heart of dance music's progress from the inner cities of Chicago and Detroit to the mass-markets of the world:

"I believe wholeheartedly, that a lot has been lost because the whole dance music thing has become hugely successful," he confirms. "My music has changed because of that. There are expectations and demands that I conform in a certain way. The way that *Landcruising* confused some people was just another part of that. There are some people doing special things – Juan's remix of Joey Beltram's 'Instant' for example – but they're not 'strange' in the way that the early Model 500 stuff was."

"It's a haunting situation. When Derrick made the decision not to make any more records, he was thinking about the same thing. And it is a paradox, because back in the day, we wanted all the industry attention – the whole goal was to do music which would be exposed. But, at heart, we were making music for ourselves. It's a concept that is in my head every time I go into the studio. It is my life to make music that is different and close to me but a lot of techno that's being made now is missing something – like a lot of other music being made it seems like there's a distinct lack of imagination at work."

But if techno is to survive in an immediate, exciting and relevant way, there has to be a solution to this conundrum. Back in Detroit, both Underground Resistance and Aux 88, for example, have explored electro as an avenue of escape. Techno's ability to reinvent itself depends on the intellectual framework it has built for itself; depends on pulling itself into the future on a skyrocket manufactured from rigorous conceptuals, fuelled by principles like integrity and innovation which are alien to the industry in which it operates. Carl is optimistic that such a solution will be found: "The way forward is not to deliberately make music that's difficult for people to understand," he concludes. "Instead, think about the days when Mr. Fingers and Farley Jackmaster Funk were doing really hot, crazy stuff. It was crazy, but everybody could get into it. It is possible to go 'out there' and still take people with you. I don't intend to let myself be pushed into a corner, or be forced into making music which isn't close to my heart. As I said, it is my life to make music that is different and that won't ever change."

It seems like Carl Craig is still running wild, deep inside the program... ●

On the RE:MIX CD

Track 03

Carl has given *The Mix* an exclusive unreleased track called 'Butterfly'. Here's what Carl says about it: "I made 'Butterfly' early in early 1992 when my studio was still set up in the basement of my parents' house. The drum sounds are mostly 808 and 909 samples, since I didn't own either of those machines at the time, while the high-pitched leadline is an SH-101. Though it's never been released, it's always been kind of a special track for me – I like the mood it creates and it's got that light, airy feel which suggested the title. Definitely something nice from the Planet E vaults..."

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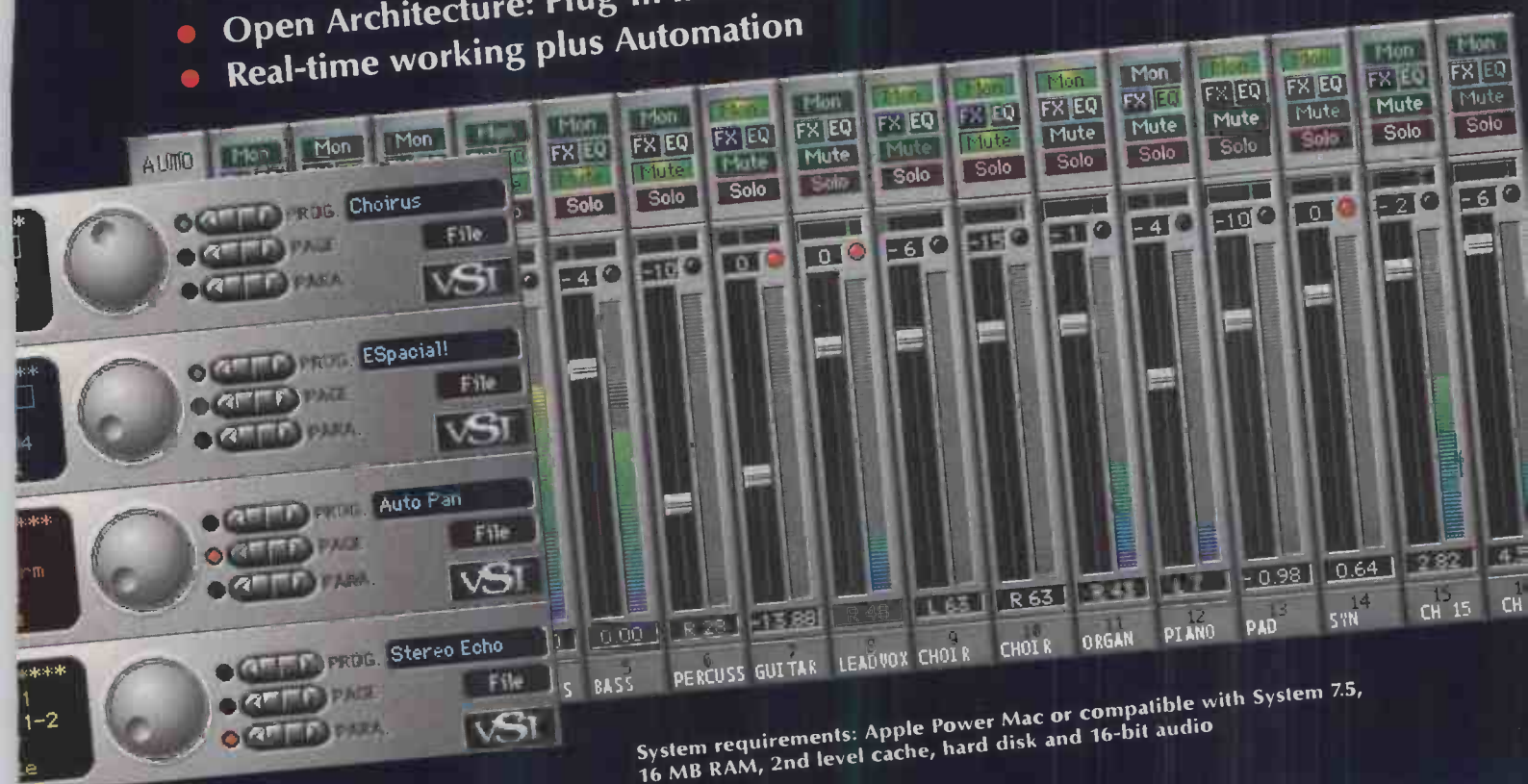
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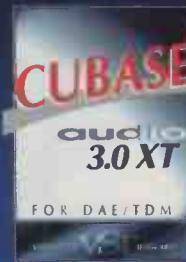
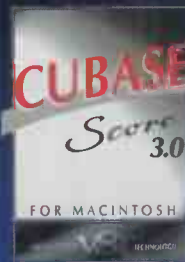
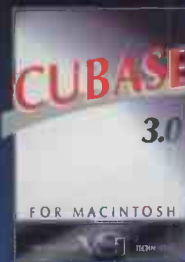
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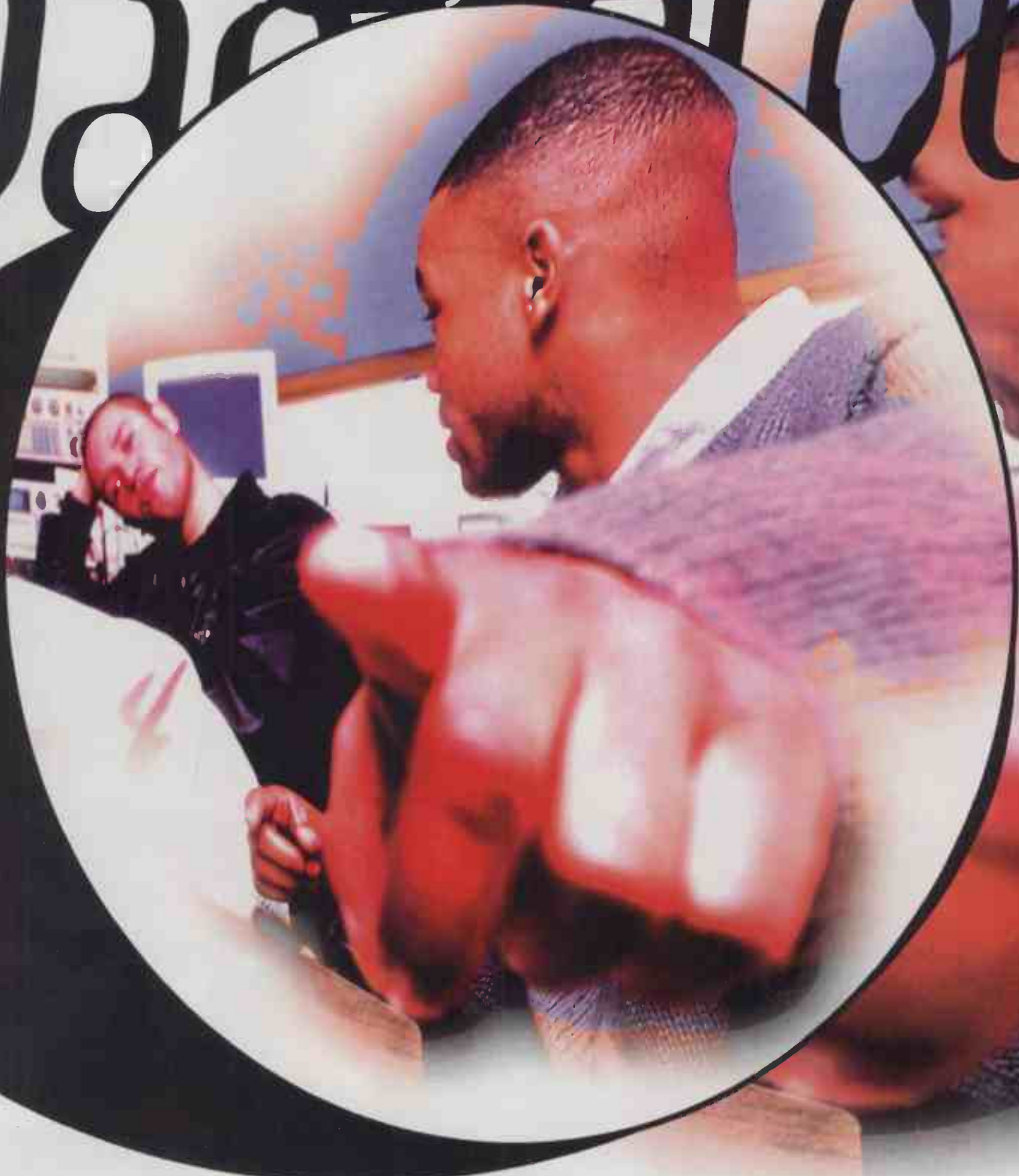
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Dangerous Liaisons



"All the way from Kingston, back to New York," **Junior Dangerous** is set to cause a stir with his outlandish blend of ragga, hip-hop, soul and funk... The list of influences could go on, and *Robin Green* tracks Junior and producer Lucas down at Townhouse Studios, London.



Rough, Tough & Dangerous was one of Junior's previous guises. Having ripped up junglist dancefloors with a microphone, the celebrated ragga MC has turned his attention to what he knows best. One of the most unlikely characters you can imagine being involved with jungle, Junior wrote poetry as a child. He had poems published, and was even asked to recite one at the Houses of Parliament. Wrap your ear lobes round Junior Dangerous' new single 'Comin' out to Play', and you'll be rewarded with a feast of diverse influences. This eclectic musical orgy harbours hip-hop beats, reggae vibes, soul atmospheres, ragga vocals... the list of ingredients could go on.

Working alongside the prolific American producer Lucas, Junior now enjoys more artistic license than ever. Having been hooked up since 1994, the duo have an excellent working relationship. Lucas had produced American hip-hop artists such as Kool Keith of Ultra-Magnetic MCs, Chubb Rock and Jamalski, later to win a solo deal with Warner Brothers. During this period, Lucas needed a ragga MC for his album and Junior was recommended to him by the rap outfit Outlaw. He then went on to record some tracks with Junior, a tour ensued and the partnership was forged.

On this side of the Atlantic, Lucas has produced artists like Shara Nelson, Nu Colours and new bands First Class and AKA. Lucas explains the roots of his sound... "My sound is like a mix between the American and British cultures. Junior and me are like a blend of cultures - reggae, ragtime, blues, hip-hop, scat - it's more like a fusionist sound. R&B today is so boring. It's in dire need of an injection of something slightly more progressive, either musically or lyrically, or hopefully both."

Junior became involved in jungle and co-produced some material on Ibiza Records. "I was also a jungle MC, although I never really took it seriously," admits Junior. "I just did it to keep myself going. It was easy to get into, because everyone knows me on the street anyway. I had no interest in it at all, it was purely for money. I don't really like jungle. I'll tell you the truth... Jungle isn't music. It's just a bag of noise to me!" He had originally been attracted to jungle when it became more ragga oriented...

I got upset when they were using samples because I knew I could use my own vocals. I think it's ridiculous. When you've got people in England, why the hell are you using samples from Jamaica, you know? People like myself, General Levy and Demolition Man were using live artists rather than samples. But they're sampling off old reggae music because they don't know how to play the reggae bassline. So that's partly why I got involved. To add my ideas to it. It's hard to mix the two. Either you're going to be a producer or an artist. I'd rather be in front of the desk than behind it."

I always find it fascinating to learn how lyricists like Junior get their inspiration. The lyrics themselves make such good sense and relate to the music so well that you wonder what came first. Junior explains... "Some of my lyrics are written on life experiences and some are written through frustration. I'd rather write about being something than actually going out and doing it. Say like I'm talking about some form of criminal activity, not saying I do, but I'm just giving an example. I'd rather write about it and let out my frustration that way."

Junior's first single was entitled 'Life is Funny'. Based on a subject which would seem somewhat controversial to some, the song was saying that 'life is funny when you live in the ghetto and you ain't got no money.'

"It's not funny, but it becomes funny because you're so used to having to go out and hustle," Junior expands. "You just have to sit there and laugh about it. If you don't, you'll start killing people or become a bank robber or something."

"I remember when I was younger, I wanted a new pair of trainers and my mum wouldn't buy me any. I was telling everyone at school how I was going to buy a new pair of trainers, and they'd all curse me and say 'where's the trainers?' That's why I say life is funny when you ain't got no money. That's just an example of some of the things that I write."

At the age of ten, Junior had already had a poem published and later got into breakdance. Hip-hop was then dropped in favour of ragga... "It seemed more natural, being that my family is West Indian. The first time I DJ'd was when I was about 12, and everyone said 'you're not going to do it' so I took the mic and ripped it and said 'I'm never turning back.' I had a sound system with a guy who lived across the road called King Titan, and then moved on to a bigger one called Jamie Magic. I released my first single in 1991 on a sound system from Jamaica called Stone Rebels who had their own label."

Junior doesn't write straight ragga any more, as he feels there's too much competition from England. What he does is mix his own style of music. Junior will bring the ragga element while Lucas will bring the hip-hop influences, but there's a wealth of styles in there which include jazz, funk and many more. Lucas supplies some of the rapping in the Junior Dangerous project, and he now hones the skills learned from

years of hip-hop production. Apparently he is something of an ace with the old Emulator...

"The Emulator SP1200 is my favourite piece of kit - a primitive eight-bit sampler. It's got about ten seconds of sampling time. When you truncate samples you get loads of bottom from the kick and the snares. I mean that's been used in hip-hop since 1985 - everyone from BDP to Public Enemy - every classic hip-hop record you have has been made on an SP1200. I just use it for snares and hi-hats, truncate them and play around with them individually. They've got a really natural swing to them. The quantisation is really natural, so you don't have to move your snares around to make them sit in a swing feel like you do in Cubase. You have certain swing feels, but they're really shitty to be honest. Computers are pretty shitty when it comes to getting a natural drum feel."

Lucas currently has around 800 kick drums in his sample library. Most of those are taken from records or simply made by himself. He uses a Mackie 32:8 at home... "I always EQ the drums before I sample them, so I sample, EQ and then sample back. It's almost like making a new sound. I find a kick or snare and then maybe make them more bottomy, and then I might add another two kicks to that."

"You need to take pride in your sounds," adds Lucas. "Everyone can use the same sound modules. Everyone can get the JV1080 and every other sound module in the world, but at the end of the day, that means you're limiting yourself and it means there's a whole group of producers out there working from the same base."

"Me, I've got a big record collection. Not insane, I might have about 8,000 records but I've got a lot of up-beat sounds. I rarely use the same things more than once or twice. That works to my disadvantage too, sometimes, because if you're successful with one thing, people want the same sounds. If you're trying to find new things all the time, you're shooting yourself in the foot, as well as moving forward. That's more important to me than repeating myself because music ain't really a job. Music is about playing."

"There's people who have preset programs - maybe eight different patterns for a house beat and they'll have the bass sound ready and everything ready, so within two hours they have a track. It's like a factory. I don't knock that, but me personally, I don't want to do that."

Lucas comes from the school of DJ's who played in New York - scratching and mixing, although he never really took it to the level where he was playing in clubs. He was usually the rapper.

"I used to be big into electro. Electro is the foundation for a lot of modern music. A lot of techno and house comes from that, and even jungle is getting back into the electro sounds."

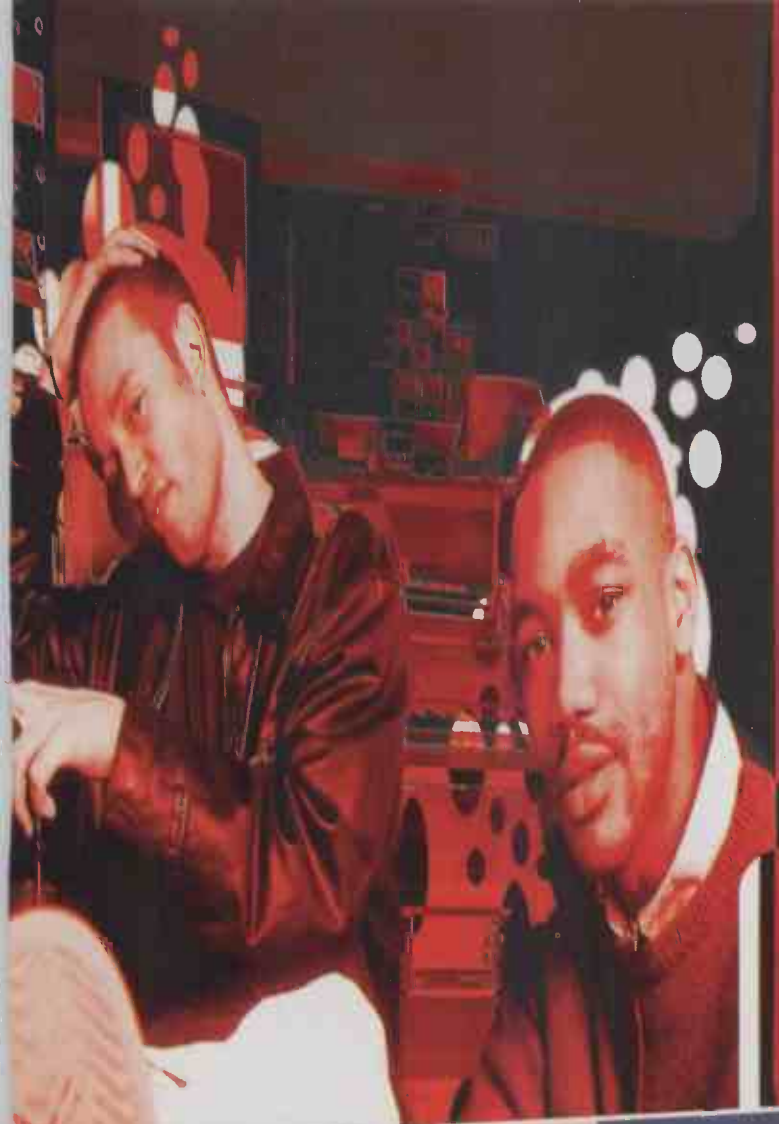
Junior and Lucas have an efficient method of working in the studio in that they prepare everything before they get in there. That way they get more time for mixing. Lucas will often arrange backing tracks at home, put them on DAT, and he and Junior will sit down and decide which of them work.

"I'd rather write to the music than him making music to the lyrics," said Junior. "There's people who can take three days EQ'ing the snare drums, and in those three days we can do two tracks finished and mixed," Lucas explained. "Why spend four days on a track when you can spend a day and a half? Junior's album was the quickest album in Mercury's history. It was finished in about 22 days from scratch. They don't get that normally. They were shocked. They're used to people spending about 800 days in a studio and running up a £40,000 bill. I think they were disappointed! Things like that aren't really appreciated. There's an industry stereotype that you have to play a rock'n'roll lifestyle and not show up in the studio for two weeks. To me, that's not professional."

"In Jamaica or America there's a million rappers and a million ragga artists, and if you can't do one tape in a studio, what the hell are you going there for, because there's a million people sounding just as good as you," said Junior. "You've got to compete, I don't believe in wasting time. You can't afford to mess around." Lucas believes there are problems with the black music business in the UK... There's a certain order in this country that when they get a deal, because it's so limited, they tend to piss it away. The problem with the British music business is that there's a definite lack of infra-structure to the black movement. There's a definite lack of Uptown Records, Def Jam Records and other labels like that in the UK."

Jungle is a more independent off-shoot of black music - even now. It's more about people messing around with sound in their

"if you look at the amount of people in majors who deal with black music, it's very limited."



► bedrooms, and that sound becoming a club hit. As Lucas says, that culture undermines the majors.

"No-one can tell them to change the drums or anything. It's their music and it needs to be respected. We need more financial independence for black music in Britain. This isn't a racial statement, but it is a very white scene in a sense. I'm not talking about the grass roots level, I'm talking about on a corporate level. If you look at the amount of people in majors who deal with black music, it's very limited. Mostly it's 45-year-old white males who are attempting to comprehend black music.

"The worst thing is that A&R people don't realise that this planet is changing and the music is changing. If you look in the charts, you'll see ten out of forty records, at least, based on black music. But that's recognised very slowly. Wayne Marshall released on their own label and got into the top 30 off their own backs with nothing but Pinnacle. That's pretty impressive. To me, that is progress. The sales potential of black music needs to be recognised."

"You can't compare Britain with America," Junior interrupts. "Each state is different. Half the problem is that British people, black or white, have no identity. They always look to another country. They want to be like Americans, Jamaicans, Australians... Even if the 40+ white guys in the industry were to say 'This is our British music, and this is going to be our black side,' that would be better. But they just say, 'the Americans are here, so we're going to follow them too.' They don't take the chance to go round another corner."

Both Junior and Lucas had plenty to say about the music industry, but to round off the day's proceedings, how about a little advice...

"You need to take pride in your sounds...everyone can use the same sound modules"

"People like Oasis and Blur are photocopies of The Beatles. They're good songwriters, but you can't tell me they're original. At least jungle is a British thing. You've been swallowing American music for so long, let's give something back! I hate it when people talk about British waves because a wave indicates that it is going to stop. It indicates that there's a time limit on it." ●



On the
RE:MIX CD

Track
04

Check out Junior Dangerous and Lucas in action on 'Comin' Out To Play'

Band



Country cure

If there is one modern band that needs few introductions, it has to be The Cure. Their mix of dark, spiritual songs and delicious pop anthems has made them a major force in the music industry for the past seventeen years. Indeed, The Cure have already earned themselves a prime space in the music history books, but this is one band that is not living in the past. From the raw nativity of their debut album *Three Imaginary Boys*, the surreal weirdness of *Seventeen Seconds*, the disturbing undertones of *Pornography*, through the clean-cut, optimistic vibes of *Head On The Door*, and on to the subtlety of *Kiss Me*, and *Disintegration*, The Cure have produced consistently inspiring material. Their striking image has captured the imagination of millions, and although many have tried, the essence of The Cure is inherently awkward to pin down.

In the aftermath of criticism of the *Mixed Up* album, a compilation of Cure dance remixes, and the critically acclaimed *Wish*, The Cure took a well earned two-year rest. With a new line-up including drummer Jason Cooper, the return of Roger O'Donnell on keyboards, all-rounder Perry Bamonte, long-time member Simon Gallup on bass and of course, the enigmatic Robert Smith, The Cure drew up their plans for the next project. The result, which will soon be on sale, is in my view some of their strongest work to date, and outshines *Wish* ten-fold. *Wild Mood Swings* is an appropriately entitled collection of songs recorded at a remote manor house in the west country. The 23 monitor mixes I heard went off on massive tangents, offering faint reflections of moments in past albums, while boldly marching on to uncharted territory. One of the most interesting aspects of these recordings was the fact that they'd used real orchestral strings and trumpets to further expand The Cure's eclectic sound.

I had the opportunity to visit The Cure's temporary abode, and after a long drive, several boiled sweets and a burger, my chauffeur located the narrow road that would bring us to our destination. The road seemed to stretch for an eternity. Winding this way and that, our car passed medieval residences and picturesque scenery, until finally, we came to a halt outside the fairy-tale Cure castle. It was as if the manor had been built for them, and it was exactly the kind of property you'd expect Smith and his chums to haunt. Robert had looked at the house early last year, and now the album was virtually cut, he had two traumatic weeks of press interviews to look forward to. The place was a hive of activity, and I was directed away from the madness into a large sitting room. With no lighting, this room had a strange ambience, and pieces of Cure memorabilia and toys scattered here and there, added to the phantasmogoric atmosphere.

"I like just having brightly coloured pedals so you click them and they do what they're supposed to..."

quality (in inverted commas) recording easier and more flexible. We bought a couple to start doing the demos on. We used a 16-track desk and gradually started adding bits of gear to it, until we realised that it is easy."

The biggest step for Robert was buying a desk, yet unlike many other guitar-based artists, he actually takes an interest in the technical side of things. The Cure's reputation is riding on these recordings, so naturally he wanted everything to be perfect: "I had to decide whether to go for something very big and expensive or something that was just like a flexible recording console. The original idea was to go and mix the album in a proper studio that's set up acoustically. As it's turned out, we're kind of doing both. We've got a big desk in to do it."

The album *Wild Mood Swings* will be mixed by different people, and it might even end up that each song is mixed by someone different. What's more likely, however, is that it'll be a blend of theirs and The Cure's. If Robert had his way, every mix would be a Cure mix, but as Robert explained, splitting the mixing work has its advantages.

"In some ways, one disadvantage of spending this long on a project is, are you getting the songs exactly as you want them? I think you lose a bit of perspective in a strange way. You can only hear them a certain way and when you get some mixes back from people who have only been listening to something for a couple of days and done a mix, (I mean obviously they're really good people anyway), but they're finding things in the song that you've never heard before. "There's also a danger that if you get something back that sounds very different to what you've been listening to over the past few months, you're going to go for it just because it's novel. What I wanted to achieve here mix-wise, was something that was a lot more naive sounding. A bit more upfront – very few effects."

While listening to the new Cure tracks, I couldn't help but pick up on little reminders of past albums like *Disintegration*. Was this a conscious decision or indeed, does Robert even agree?

"There's always going to be echoes of what we've done before as soon as I start singing. I think, taken overall, depending what songs we pick for the record, it's going to sound unlike anything else we've ever done. But there's always going to be bits that will echo the past. I know what you mean, but it's more the kind of thing that you imagine is happening. It's like two steps back if you compare, because I often worry and think 'Christ this is sounding like...' And I actually listen to what I think it's sounding like, and it's not the same at all. It is really me singing, I think, most of the time. You hear me singing a

Is no bastion in recording safe? **The Cure** – million-selling guitar rock band – have shunned the comforts (and costs) of a major studio to record their latest album in an ancient manor house. **Rob Green** visits their personalised recording environment for the full story...

Half expecting a hunch-back butler to poke his head round the door, I saw Roger O'Donnell enter the room. Roger has now been welcomed back on keyboards, after a brief spell in the band around 1987 on the album *Kiss Me*. He was closely followed by new drummer and film score composer Jason Cooper.

I was soon introduced to Robert Smith, the single-minded man who nursed The Cure from a bedroom band to a million album-selling entity. It was as if he had stepped out of a poster, with the same mopped haircut, V-neck jumper and T-Shirt that have featured on so many bedroom walls. I asked Robert why he had chosen a country manor over a London studio in which to make an album... "We haven't done anything in a London studio since 1984. We did the *Kiss Me* album in a residential studio in the South of France. We've also used The Manor which has now closed. It was a matter of choosing which residential studio we wanted to work in.

"We were all set for using a residential studio, but when I thought about it, it seemed quite dumb. Not just from an economic point of view, but from an artistic point of view. The one drawback with residential studios is you feel that you're there under sufferance. Even though you take your clothes out of your bag, you do feel like you're metaphorically living out of a bag. And there's always a chart on the wall telling you who the next group is and when they're arriving. That always bugged me, particularly when we were at The Manor, because there was business going on while we were actually making the record and you become aware that it is a business, so I started looking around for a suitable house and basic items of gear that I would need. The ADAT made professional, high-

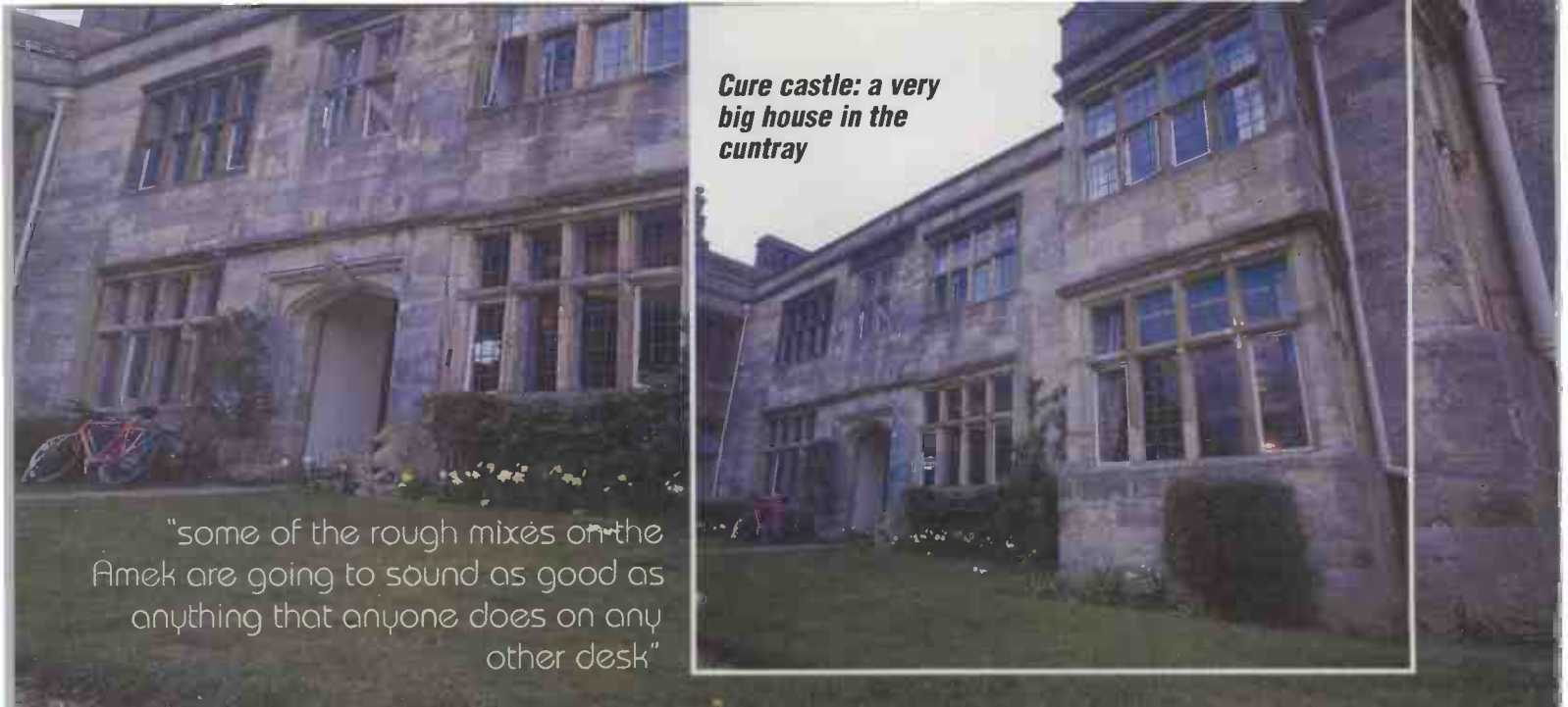
certain way and it makes you think of something else that we've done."

It must be a wonderful luxury to record an album in the setting of your choice, in your own time. A year seems like more than enough time to record twenty three songs, so what happened to the rest of it?

"The songs, we kind of recorded within two months, and since then, I don't even know what's been going on! Lyrically I wanted to achieve something with this record that I haven't achieved before, and I wanted to be absolutely 100% happy with every single song. I didn't know which one of the 23 was going to end up on the record, and I didn't want there to be such a thing as a B side. I wanted them all to be up there competing. I wanted to approach it as a double album with every song really shining. I would say that 90% of the time spent fiddling about with the songs has been to do with the lyrics and the vocals. I've re-sung everything about three times, but then, I've given myself the time to do it, it's no big deal.

The pressure's now on, which seems quite insane after all this time. I suppose we've taken huge breaks from recording, and even when we've been in the house, there have been times when we've had a whole week and maybe done one thing. We spent a lot of time early on drinking vast amounts and jamming. It was important to get to know each other as part of the new line-up. We'd never jammed before. 15 years of not jamming all came out."

Recording in the manor became something of a way of life to Robert and crew. The pressure to finish was counter-balanced to a degree because no-one was in a great hurry to finish. Would you be if you were working in an idyllic country mansion? We discussed



Cure castle: a very big house in the cuntry

"some of the rough mixes on the Amek are going to sound as good as anything that anyone does on any other desk"

▶ the few drawbacks of this luxurious workshop.

"The only drawback of recording in this way is that you set your own time-limits, but having said that, you don't really meander, because you do other things. It's not like you're looking at changing individual beats on the hi-hat. You just don't bother, I mean once the drum take's done, and you're kind of happy with it, that's it. Jason's drum tracks have virtually remained untouched."

"We never hear the vocals until the last minute," Roger interjected. "It's weird sometimes. You live with a song for months and months and get a certain idea of what it is."

"And then write your own while you're singing them round the pool table," said Robert. "I can't hear it any other way!"

"Simon and I are well known for writing our own lyrics," added Roger.

"Don't you mean fuckin' up songs," joked Robert with a mad gleam in his eye.

Robert's head is full of lyrics, and he'll often hoard them until the right song comes along. Sometimes he'll hear how a track turns out and be inspired to write lyrics. "I think a piece of music should say something without words anyway, and the words should kind of enhance that. I've got words that I've never found the right piece of music for."

Everything is written individually, and listening sessions are arranged to pool everyone's efforts. They then decide what's cool and what's not, and something will be worked on as a group. This is the way things have always worked in The Cure, the only difference is that band members offer more input now. "In the old days it was mostly down to me," says Robert.

It came as a surprise to me to discover that The Cure are now using Cubase. It seems a strange move for a band that is essentially live. However, it came in rather handy as a method of laying down synth lines, and as Roger insisted, they never used quantisation. They also employed the program as a trigger for the odd sample.

"I found Cubase instantly very easy to understand, because it's graphics are incredibly obvious. We use it in a very basic way. It's not at the heart of the record, because a lot of the keyboards are played into it, and odd little sounds and bits of drums. It's also good for shifting stuff around, just to see if it's going to work. I could really get into it on a different kind of project to this. I think that it takes over, and you spend too much time staring at a TV screen.

"I haven't got a computer at home, and I could certainly never write on one. I don't like the idea. What we do is much more to do with actually playing music, and Cubase, even though it's there and beaming at you the whole time, it's a very peripheral kind of item. For dance music, it's perfect."

"If you're like me, you don't have to use it as a sequencer," said Roger with conviction. "I just use it as a MIDI tape recorder. I never quantise, and I don't loop." Robert: "Can you be more bitter?"

"I always see quantising as cheap, and if you can't play the line how you want it, you're not going to get there by cheating," replied Roger. "Personally I use it just as a MIDI tape recorder." For Robert however, the point of Cubase is made somewhat redundant by the fact that they're a live band.

"I think for a large percentage of people who use it, it's the heart of what they do. They

don't tend to play live, but when they do, they're just appearing on stage with a load of machines. The Prodigy is exciting in the right environment, but it's not really like a one-off live event, but a Cure concert is.

"It's never going to be the same two nights-running. The tempos are different, everything's different. Nothing is triggered, nothing is run off tape, nothing is run off code. Depending on how we feel, the song is going to have a different mood, a different tempo. Without that, touring would drive me even more insane than it does. Knowing that each night you can adapt it to how you feel, is the whole essence of playing live. We've done something to tape on the last three tours, really because you're so keyed up that it's good to have a reference point, and that's literally a guitar trigger which is mixed out as soon as the song starts. To have to play along to a click is so boring."

Although Robert is extremely creative with a guitar, I believe he is underrated. He's not a virtuoso in the sense of technical excellence, but he certainly takes his audience on a sonic excursion whenever he puts hand to string. Every time he plays a solo, it will differ in style and length, and Robert has fans on the edge of their seats in anticipation of the next move. Robert explains...

"My favourite guitarists were people like Hendrix who could play with great feeling. They weren't technically perfect, but it didn't matter, because what they did sounded good. I never ever tried to emulate and I never had the desire to be a lead guitarist, but I think that's more to do with my character than anything else. I always liked playing chords. Chords were more satisfying, probably because I started on piano. Piano has that big sound, and changing to guitar, playing a single lead note – even if you play like Hendrix, you miss that big tonal quality. So I became what in the old days, you would call a rhythm guitarist. I never really heard anyone who I thought 'I really like their style, I'll try and play like that.' It developed out of who I was playing with at the time. I was never really that good, I don't think. I can sort of play what I hear in my head."

"You're better than you think," Jason reassured Robert. "What about the other night when I said 'play it like that', and you said, 'impossible.' And then within ten minutes... you still couldn't do it! Sorry, you did it."

"The only thing I'm naturally good at is wah-wah," Robert replied. "I think some people are really good, but they never get the hang of wah-wah. It's football co-ordination, you see. Foot-hand-eye co-ordination."

After all this time, you would expect The Cure to be using state-of-the-art guitar processors and effects. A computer perhaps that saves your favourite settings for instant recall on stage? Nope! I'm afraid brightly coloured Boss pedals are still the order of the day, although they are apparently breaking the tradition on the next tour – after more than twenty years! "We use Boss because going on tours like we do, they take such a pounding, and it's really a sacrifice. Live, it doesn't bloody matter most of the time. People go into these subtleties of effects live, but it's all a total waste of time. People are there for the experience, the songs and the performance. The subtleties of effects should come from out front, not on the stage. I like just having brightly coloured pedals so you click them and they do what they're supposed to.

"I'm a bit nervous deep inside about using things with numbers on, and trying to ▶

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► remember everything. The amps have been Peavey for the last ten years, but not in the studio, just live. In the studio we use a whole range of amps and effects. When you're out on tour, things break very easily, and you end up using the things that are less likely to break down. When it comes down to it, you get a magnificent, slightly distorted valve sound, but the chances are, it isn't going to work on the third show, so there's not really much point. You can't buy valves in Hungary. All these tedious things, you have to take into consideration. In the studio, we've got everything."

Robert's favourite instrument at the moment is his Gibson Chet Atkins special edition semi-acoustic guitar, which is apparently like carrying a small child around... "Wherever you play it – any string, any fret – it's got the same loudness and quality. That's it really. It's the only guitar I own, out of forty that I play now!" As I mentioned earlier, The Cure had taken a trip into remix territory back in 1990. Although an innovative move, The Cure took a slating from the pundits. Still philosophical about *Mixed Up*, Robert discusses the pros and cons of remixing of bands.

"At the time, that remix album was a bold step, and we got a severe hammering for doing it. We've done a lot of mixes like that over the years. Right since the early 80's we've had 12" dance remixes done. I don't think many of the songs on this album lend themselves to that, but I think remixing has come along immeasurably since we did *Mixed Up*. That was really the start when Paul Oakenfold began doing mixes for bands in a serious way, but now, there's a million and one people doing it.

"I don't know if it really works for us, because a lot of the songs are very performance led and everything's played for real – drums and real strings. If you took all those elements out and built it back up again, you'd really just be left with me singing a vocal over the top of a track. One of the songs is going to go off to Adrian Sherwood to actually do something like that with, because it's the only song with electronic drums in. It comes out of a Casio keyboard – the cutting edge of technology!"

Having listened to several desks at the start, Robert ended up opting for an Amek 'Big by Langley' console, which he loves. "I think it's an excellent desk, but it's limited. We recorded everything on it and it's really good. The EQ is really subtle, and it's cheap – not that you can just go and buy one on a whim, but it's not up there with the computer-driven consoles. And its automation, although we've never used it, we've kind of got it to work. The internal compressor's good. Because we were just using it for recording, we didn't touch the automated side. It didn't really have enough channels to use as a mixing console. Particularly as we've now got real strings running and 5 ADAT's, so you can fill the board just by bringing them all back on one channel, even if you don't do anything else with it. It's a little bit primitive."

Another idea of Robert's was to hire an old Neve VR console. In a rational moment, Robert realised that he could have that desk for nothing if he merely bought it and sold it on. That's exactly what he's doing... "At its best it sounds good, but it's got a flying fader system which is really old. The way it's put together is really thick. It frustrates me a great deal. Steve liked it because he could see when the faders were moving, but I found it a bit disconcerting. When anything moved I thought 'Am I going mad, or is this thing actually working.' Sometimes you'll just touch the fader and hold it, then take your finger away, and it'll quiver. He's telling me it's because I'm shaking. We had all these experiments where I was going 'look, I'm not shaking!' The software's a bit suspect. It's not too bad."

"I don't really like anything at the mixing stage that's too technical. It kind of gets in the way. Deep down there's this tech war going on. It's all a load of old bollocks. You can make it sound good on anything."

"I thought it sounded good on the Amek," added Roger.

"Yeah, some of the rough mixes on the Amek are going to sound as good as anything that anyone does on any other desk. Once you get beyond a certain technical spec, you don't notice much difference. Once you get to that Amek Big console, that's as much as you need, I think. That's the one I've bought, and I'd be quite happy to do the next record on it. I've bought this Neve, but I wouldn't keep it."

The Cure are now becoming more and more involved in the whole process, and handle everything from artwork to video concepts. But Robert has always held his own when it comes to image, and of course, hair.

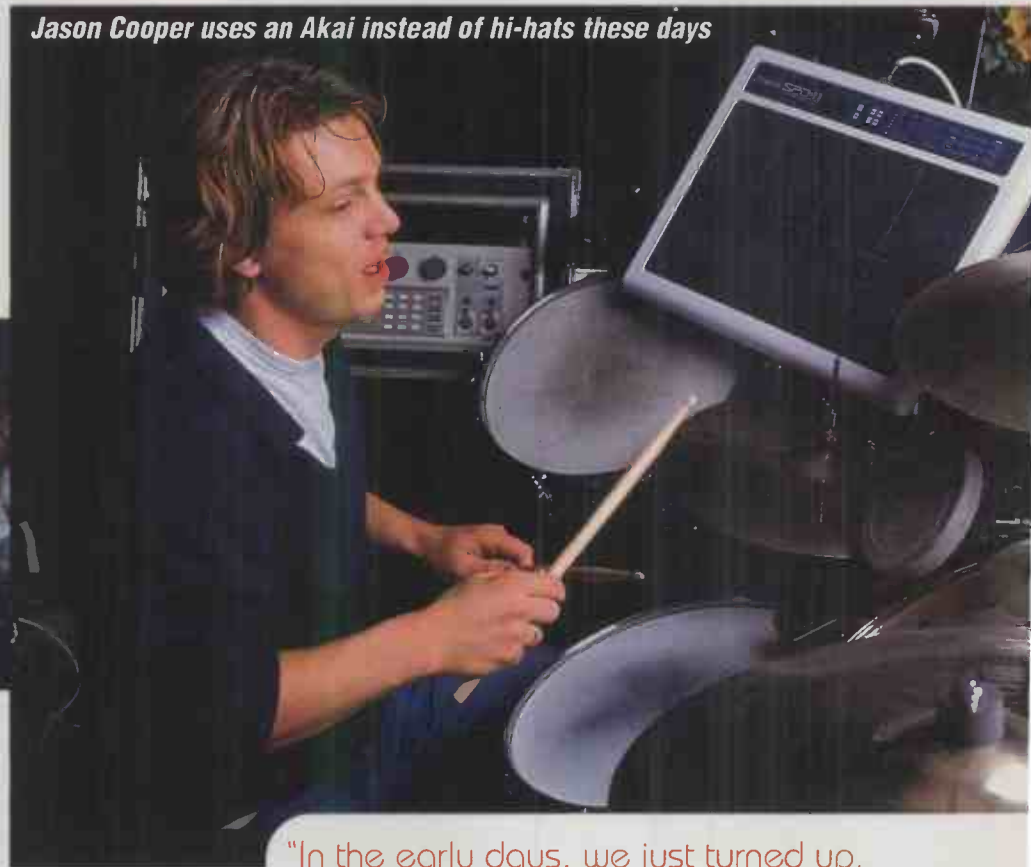


"Over the last ten years I've had three number two crops, but the photos of me looking like a football hooligan don't get used as much. It's not my fault. It's a media thing. I suppose it's a more instantly arresting image, so it's used more often. I'll probably cut it off in the summer. I cut it off before we came here last winter, so it grows very, very fast. I don't actually do anything to it any more. I frantically back-comb it for the first two weeks and then it gets like a bird's nest. Then when my head starts itching unbearably, I just cut it off.

"I like the lipstick and all that. When we go on stage, it's a theatrical thing. People have done it for thousands of years. You wear make-up and look larger than life on stage, and you can get away with things. It kind of helps the performance if you're feeling that you can get away with things. I take an element of it into my every-day life, so I do walk down the street with make-up on. I mean, I think there's people who look much weirder than me in Bath. I don't think I stand out that much."

The band only employ two people, and that's one more than they ever have in the last fifteen years. They've only taken them on because they want more control over artwork and merchandise. They're actually doing it all themselves on a computer. With the return of Roger, and regarding how user-friendly computers are becoming, control is less of a problem: "We don't have to rely on anyone at all. It's so easy. It's almost like going back to when we first started. . . The new stuff revolves around brightly coloured tin toys, so we gave them the ideas for how we wanted them and they went away and sort of made it better. It's actually enjoyable. There's a lot of work involved, but the satisfaction of doing something and seeing it finished exactly how you want it to look and how you want it to sound is brilliant. If you start to hand most of that over, you lose part of that satisfaction. Why give it all to

Jason Cooper uses an Akai instead of hi-hats these days



someone else if you enjoy doing it?"

"The powers seem to think that it's anarchic for us to be doing it ourselves, and there's like a resistance to us doing our own stuff," said Roger. "We're going to do our own tour programme, and the people that usually do it say 'you're just having a game.' Fuck 'em!"

Soon, The Cure believe they will be able to by-pass everyone, and apparently people are more worried than they'll let on, in particular, the record companies. Robert explains. . . "They're panicking. The lawyer side of the record companies haven't got a fucking clue how to regulate stuff. We're talking about doing a CD-ROM and tying it in with the tour. Just the suggestion sends them into apoplexy. They have no idea who owns what. I mean, we own images of me when I was six years old. So where do you draw the line? While we're talking now, who owns it? I'm just having a conversation. They're not quite sure what the deal is, so they're desperate to set some kind of guidelines. If you're in at the front, you're dictating, and for the first time ever, it's artist led. Without the creative input, the internet and everything else doesn't really mean anything."

"It does worry them, because at the moment there's a very conscious effort to shift the emphasis onto style over content, and the medium becoming more important than the message. I think that hurdle will be jumped, and it will be established that content is of paramount importance, which it is in music. Why should it be different in any other entertainment medium? They're very nervous that there are no controls over it, and that if it is artists led, how can they possibly stop it?"

"Doing all this ourselves, we're in the position where we're able to afford to buy equipment ourselves. It's like an investment in what we do. Why hire stuff and effectively give money to someone else to provide you with exactly the same service? Do it yourself.

Even if the band wasn't as successful as it is, I'd still do it. I feel that things have gone full-circle and I kind of feel that we're back where we used to be. Through the 80's it was very difficult. We told everyone what we wanted to do, but once we let it go, it went wildly out of control."

The first of the new videos will probably be done with a woman called Sophie Muller, who is best known for her work with Annie Lennox. They know basically what they want to do, it's just a question of getting someone who's going to interpret that in a way that suits them.

"She seems to work in the same way as Tim Pope, in that she wants the ideas to come from us as to what the song means, and she'll interpret them in her style. The thing with Tim was that he was very important to the group, and I think the combination of us and Tim worked brilliantly. A lot of videos he did with other people, turned out to be pretty awful and he'd be the first to admit it."

He comes up with a lot of his own ideas, too. That's what makes a good director, but there was a particular affinity that existed between him and me which developed. It's the same as Dave Allen who's been engineering and co-producing our records for a similar amount of time. We've changed now, and because of the new line-up, it felt right for

"In the early days, we just turned up, mooched about for a couple hours, someone filmed us and then we went home"

everything to change. I ran a great risk of adopting a video persona, which I was becoming very aware of, so it was probably a good time to get someone in who will hopefully not take into consideration all the other videos we've made."

For Robert, the worst video The Cure ever made was 'Charlotte Sometimes' in 1981. In fact, that became a landmark in Cure history – a catalyst to find a new director.

"In the early days, we just turned up, mooched about for a couple hours, someone filmed us and then we went home. Luckily, MTV didn't exist then! We didn't really understand why we were doing it. It was like a waste of time. But when we did the 'Charlotte Sometimes' video, Mike Mansfield succeeded in destroying what was, at that moment, my favourite song that The Cure had ever done. I was so horrified that I said 'unless we find someone that can make a good film, we're not doing this anymore, because it's actually destroying the songs.' You think of 'Charlotte Sometimes' and get a mental image of some blonde girl walking around a mansion. It's stuck. She is Charlotte!"

You can pick up a copy of The Cure's latest album on Fiction Records. For Robert's sake, let's hope that Mike Mansfield will not be directing their next video. ●



Pistol whipped

With guitars, bands and songs back in vogue, new respect is being accorded to the musicians that inspire today's young guns. And that suits ex-Sex Pistol **Glen Matlock** fine – with a mountain of songs in the cupboard, he's ready to come out shooting again. *Phil Strongman* takes

cover...

The mid-70's was a pretty low point for exciting music; progressive rock had degenerated into the aimless shoe-gazing of stadium dinosaurs; bands who could only be glimpsed on some distant stage, whilst the singles chart was awash with teenybop rubbish and variations on the disco duck theme. Enter, with more headlines, and ripped headlines, than any other band in history – The Sex Pistols – the act whose explosive no-heroes, no-future stance ignited the whole punk-new wave phenomenon, thus ending a half decade of cultural stagnation.

If bass guitar is the heartbeat of rock'n'roll, then the original Pistols bassist and tunesmith, Glen Matlock, is the man who gave the patient's fading pulse a life-saving electric jolt. His pumping, faster than fast style was soon taken up by the mainstream of rock and metal. In the 1980's, ex-punks like Adam Ant, Sting and Bob Geldof hogged the limelight and the Pistols' influence continued into the 1990's with Nirvana and the current crop of Britpoppers. And so here, in 1996 with the once unthinkable Pistols reunion about to happen, what could be more apposite than an album by Glen Matlock himself. After the Pistols and Rich Kids, Matlock spent the 80's in the wilderness, hitting the bottle more than he did the right musical notes. But he knew it was time to quit the world of heavy drinking after he awoke naked in Paris to find the late Johnny Thunders saying, "Gee, Glen, you look worse than Arthur Kane. Did you remember agreeing to play with Iggy Pop tonight?" The week before this, Matlock had gate-trashed a fourth floor party (via an outside window) and that was after putting his hand through some plate glass while playing cops 'n' robbers on cocktails.

With such excesses firmly in the past, nothing stronger than shandy passes his lips now – the man Sid Vicious ousted from the Pistols has

simply got on with the music again. And so, by the time you read this you should already have sung-a-long to his 'My Little Philistine' single, a big bold rocker crammed with classic riffs, and a surplus of the kind of conviction that makes most modern rock look positively lame. Not that the ex-Sex punk disses today's groups himself;

"I like Oasis; the songs and the performances are really good and I like the way they've come from nothing to sell over three million in under two years. It shows there's still a demand for rock 'n' roll. I quite liked Supergrass until I saw them on the White Room doing some new stuff – I could spot all the 60's influences immediately; they were still OK but a bit of a disappointment."

Disappointing is not, however, an adjective that springs to mind after hearing the new Matlock album *Who Does He Think He Is When He's At Home?*, a new 12-strong set of some distinction which is set to emerge on the currently-hip Creation label. The album varies from the power-chorders you'd expect, to philosophical ballads like the epic 'Story Of Your Life', a charming downer with a hook that a pirate captain would kill for. It's also, like the others, sung by the lad himself;

"The singing on the album I did myself, having recorded it in me backroom, in the home studio. I think the neighbours must have thought I was mad, shouting to myself of an evening. I fancied doing most of the vocals at home, coz I've always been self-conscious about singing. That follows years of record labels saying, 'Oh, you need a vocalist' or 'your voice is only so-so'".

This was a myth Creation records were more than happy to help him demolish; "And now I'm the lead singer, I find myself thinking 'Ere, that voice is too low in the mix'. But whenever I think that, I remember what Joe Strummer said to me after that first Clash album; he said 'I'd have liked myself louder but I know, in me heart-of-hearts that I shouldn't be – a good vocal level should only stand out from the mix very slightly, like when you run your finger over a joint on a bit of furniture – just a bit of a ridge.' And, of course, he's right. I recorded the vocals on Neumann U87, through an old Rebis compressor RA 303, and onto a Tascam DA-88 and then put them onto a two inch 24-track. I recently tried a Tube Tech mic, and I'll probably

use that next time, just to see if the sharpness comes over in a full mix...

"Other stuff went down digitally, because I've always ended stuff on two inch masters. Not that I'm a Luddite; I use Cubase and Notator on me Mac and I've just got a new Mackie VLZ SR24-4 desk which I've had customised as it had no headphone cut-out – useful when you don't wanna deafen the girlfriend or whoever happens to be around. It's a nice clean desk with some good EQ on it, though I try and avoid using the latter too much – if the sound ain't close to begin with then you've probably gone wrong somewhere beforehand.

"For the bass, I used a Fender 61 Precision recorded through an old Fender 100 watt bass amp. I DI'd into the desk as well, of course: I like to try a slightly different bass sound on each song, something that'll suit each song, it being my chosen instrument. I always wanted to be a bassist – always. As a nipper, I loved that early Tamla bass sound, rubbery but with an edge to it. What would Bowie's 'Let's Dance' be without bass guitar? Or Fontellas Bass' 'Rescue Me'? Or a whole host of songs? It is the heartbeat of modern music."

Has he ever tried off-the-wall combinations with the bass?

"Oh yeah, me and Clive Lager once tried having a band with two bass guitars – one playing real high, the other low. It didn't really work. And then I saw Dave Cochran do some of the very first slap bass when he was in Mick Ronson's band but, after thinking about it, I said 'no, what's the point? Dave's so good at it, there's no mileage in it.' I decided then to work my own particular groove as well as I could. A good direct bass line still carries a tune and gets your foot tapping. That's good enough for me."

Amongst the other items that complete the Matlock home studio are a Fostex RD-8 digital recorder – "yeah, I replaced the Tascam 88 coz it ►

A Mackie SR24:4 desk and Fostex RD-8 form the backbone of Glen's setup



"rock 'n' roll isn't an exact science – you don't necessarily need five computers and a 48 track digital recorder to cut it"

off the beat but it was a good take, we'd go with it. Technology should serve you, not vice versa. The feel, the vibe, is pretty nearly everything – rock 'n' roll isn't an exact science, you don't necessarily need five computers and a 48 track digital recorder to cut it."

Aside from Baxter, other musicians involved in the project were guitarists Steve New and Chris McCormack, with backing vocals from Three Colours Red singer Pete. It was a project which Matlock himself had to initially fund since the usual A & R deadheads had all turned it down. Something which irritated Glen no end: "I'd hear experts on the radio saying how big the Pistols were, how we influenced Nirvana and Guns 'n' Roses and all that, but for years I couldn't get arrested, and the fact that I'd produced other people, the fact that I'd worked with the best performers around – Rotten, Iggy, Midge Ure – all seemed to count for nothing. The first Pistols song, the one that started it, was 'Pretty Vacant' which I wrote both music and lyrics for and yet... The music industry is so very conservative at heart. Labels would keep saying to me 'if only your production was smoother' or 'it's too rough, smooth it out' or whatever stuff that I knew wasn't really true or even what they really felt.

"I hate dishonesty, I've lost work because of it. I was producing the Ian Hunter album a few years ago and he was basically writing, very slowly, in the studio, at very great expense. He'd gotten used to it with Mott The Hoople when they were having No.1 hits. And what with that and the percussionist ignoring me – it was Jethro Tull's old drummer who I later found out was deaf in one ear – I'd had enough so I just came out and said it, 'Ian, you're just wasting your money here, writing in the studio is just so wasteful, we should have done some of this before. We should leave the 32-track and write stuff then come back' so, of course, he fired me. But it payed off in the end, being honest about stuff, as he called me back last year and we did some material together again."

Also returning to the limelight is the classic British guitar band, something which put Matlock's finely-honed skills back in demand after years of exclusion. "I got so annoyed with A & R men coz they'd say 'This'll be difficult to market so we won't try' and I had all these song ideas that didn't come out, that just kept stacking up. So now I'm happy, coz, at last, some new stuff is coming out."

And, Pistols reunion aside, Glen Matlock's album is all set to prove that the wait's been worthwhile. ●

gave me problems with drop-outs and tape stretches and so on, that's why I went back to the 2 inch for the master, I temporarily lost faith in modern tech" – as well as Tannoy Gold speakers and the usual round of Alesis D4s, Quadraverbs and MIDIverbs.

"The good thing about recording at home is that you don't have the money worry. If you're in a £95 an hour studio with someone who's great but who takes a bit of time to warm up, like guitarist Steve New, you find yourself watching the clock and thinking 'Oh My God, another three hundred quid gone and we still haven't got it down.' At home you can take your time and, if your gear's good enough, you can still have stuff you can use later. Doing stuff at home also allowed me to try different lyrics on various songs. I'm a great believer in using lyrics that sound like they fit, even if, logically, they don't. Marc Bolan did that a lot, most of his words seem senseless until you hear them sung and then, wham, they fit."

The album's drums and final guitars were not recorded at Chez Matlock although, again, old and new techniques were blended. "With the drums we did use a click track but if Keith Baxter ever wandered



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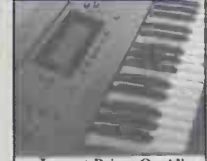
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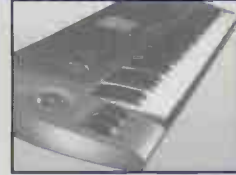
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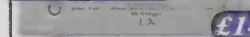
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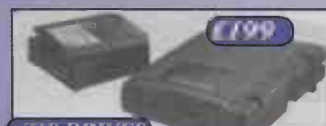
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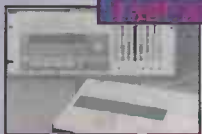
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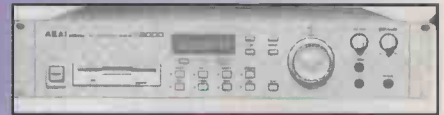
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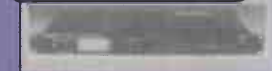
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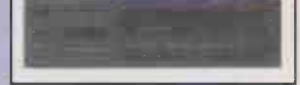
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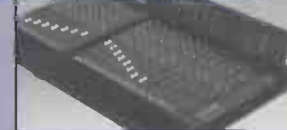


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toolbox



Sun Up, 030



With doubts casting themselves over the longevity of the Falcon, more frequently than clouds in a typically British Spring afternoon, it's a blessed relief to find companies who still believe the Atari to be a wonderful machine. Sunrise Electronics, inventors of the SE-600 and 800 audio expanders, are one such bunch; their latest foray, is a custom-built,

involves hard-wiring it to the motherboard. This is true of the hard drives, which makes them far more reliable than simply connecting them with an external cable from the SCSI port.

On the standard model, the audio inputs and outputs are located on the back panel, along with an extra fan. This is also where options such as extra MIDI outputs, SPDIF or ADAT interfaces, or even more audio outs



Another alternative, and altogether more studio-like, home for your Atari Falcon.

2U rack-mounting case for the Falcon.
The case is similar in dimensions and aesthetics as the newer Akai samplers, with the Falcon motherboard itself sitting inside the case length-wise. Fitting the board this way around does mean that it's quite a deep rack-mount, but this way it's securely-fastened, and also conforms to the 19" standard. There is an advantage to having such a deep rack-mount: almost any conceivable Atari peripheral, save for daft things like a monitor or printer, can be accommodated within the case. Indeed, one of the machines currently being worked upon, has an internal cartridge port expander, allowing several dongles to be plugged in at once.

Up to a maximum of three or four internal SCSI devices can be mounted inside, which can include a CD-ROM, CD-R, Zip drive, or similar device that needs fitting to the front panel. All the hard drives, along with the floppy disk drive, are mounted onto a rung above the motherboard, leaving plenty of space for processor upgrades, and so on. Whatever devices are fitted inside, they are properly connected. In some cases, this

can be fitted. The rack can also be configured with XLRs instead, or even a complete SE-600 eight output, or the eight-in, eight-out SE-800 module, can be built-in, for the cost of the unit.

The Falcon's old case is not wasted; with a bit of ingenuity, and a few scary moments with large cutting implements, it is transformed into a swish case for the separate keyboard. The alternative is to have a PC-type AT keyboard, but this costs a little extra, and is hardly worth it, when the Falcon keyboard is so good anyway.

The cost of the case (£270), not only includes complete fitting, but the much needed audio modifications too, like the inputs

and outputs reconfigured as line-level jacks. Optional extras can be supplied by you, or be bought as part of the kit, making this Falcon house certainly worth getting a mortgage for.

As well as the rackmount case, Sunrise Electronics also sell

complete Falcon systems (hardware and software). Contact them at their new telephone number, 01379 853999, or fax: 01379 854879. Sunrise Electronics, The Rising, Needham, Harleston, Norfolk, IP20 9LG.

Musical drink dispensers



Back in the early eighties, when the contemptible stuttering of sampler abuse was rife, the vocoder was king. Few records were released that didn't have these incoherent burlblings of coffee percolators in them somewhere. Now, Falcon owners can relive the memories of incandescent boxes and odd noises, with a software vocoder, Voxx.

There are a few limitations to the Public Domain demo version, which is otherwise perfectly useable. Firstly, patches cannot be loaded and saved to disk, and secondly, the parameters automatically change every minute or so.

Voxx uses the Falcon's stereo input for both its modulation sources: left for the formant (microphone, or drum pattern), and right for the carrier (a synth or guitar, for example). Both inputs have faders, in addition to individual faders for the outputs, so a finely balanced mix can be created, even with the sensitive mic-level inputs of the Falcon.

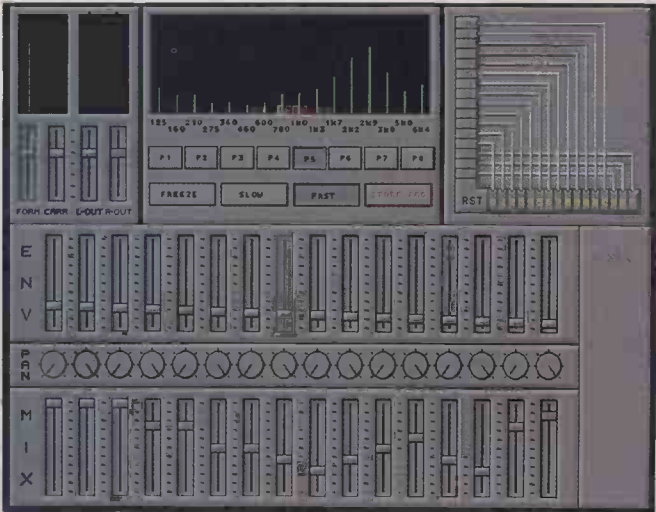
A completely configurable 16x16 matrix is used to connect the formant envelopes to the carrier amplifiers. Indiscriminate poking of these virtual patch leads into any old box, often causes some fantastic, harmonically-complex sounds, so there's no real need to actually *understand* what you're doing.

Each of the envelopes and amplifiers have their own fader control; the envelope faders set the attack or decay time, whilst the other set of faders are for a more common purpose: gain. The glazing on the bun is the pan pot featured on each 'channel', allowing you to set-up a magnificent stereo spread.

The program was written to take full advantage of the Falcon's DSP, and as a result, is incredibly quiet; and fast too, updating parameters in real-time. The full version costs about £95; a small expense for such a useful musical tool.

Disk no. F5539 (HD disk). Available from Floppypshop. Tel: 01224 312756.

"I swear, if you say 'b-b-b-breakdance' once more, I'll clock you with that microphone..."



On the RE:MIX CD
Track 01
There's a veritable feast of Atari software on CD-ROM this month, so got directly to page 7 to find out what it is...

Musical memos



Databases tend to appeal to those with a sadistic tendency towards esoteric cataloging systems; most musicians would become ill just thinking about them. But, unlike the average, exceedingly tiresome database, Songz can tie-in additional text, graphics, audio (both samples and MIDI files), and even moving images (in the form of MPEG films). The program has also been principally written as a music database, with the entry fields all requesting some form of album-related information, making it an ideal companion to the computer musician.

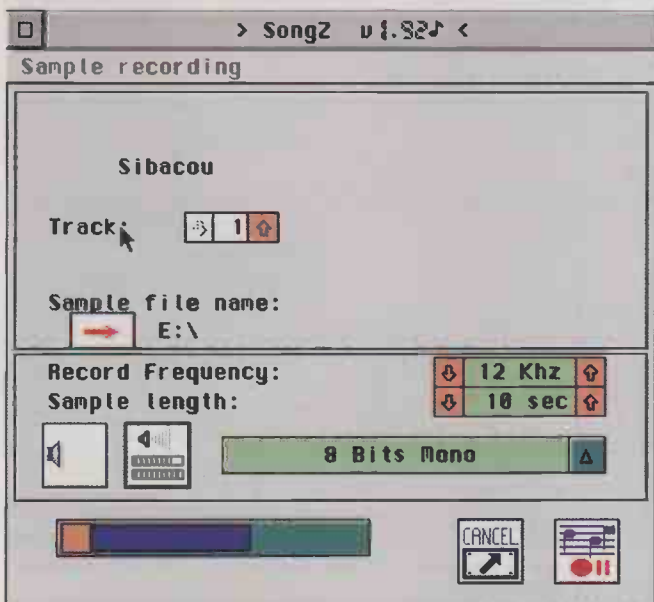
Sample snippets of records can be grabbed within Songz itself, although the file format in which it saves doesn't seem to conform to any standard sample format (annoying doesn't begin to describe it). The Falcon version supports 16-bit, stereo sound, with

a sampling rate of up to 50KHz, as well as lower, more space-effective, sampling rates. External links are made to small programs to allow Songz to support a wide range of audio and visual formats: *.WAV, *.MPEG, and *.JPEG viewers are included on disk for the Falcon, or you can use any of your own software.

Although Songz is supposed to work on all Ataris, it stubbornly refused to work on the Mega STe, which was puzzling. Also, the demo version has some restrictions in the size of the database, and in not permitting pictures to be viewed. Registering your copy for £15 gives you a completely unrestricted version, which may have the bugs ironed out. As it is, Songz is a nice, but rather crinkly, program.

Disk No: F5440 (HD disk), also available on ST disk. Call Floppyshop on 01224 312756 for details.

Right: Archive those classic Mulligan and O'Hare albums onto the hard drive, using Songz.

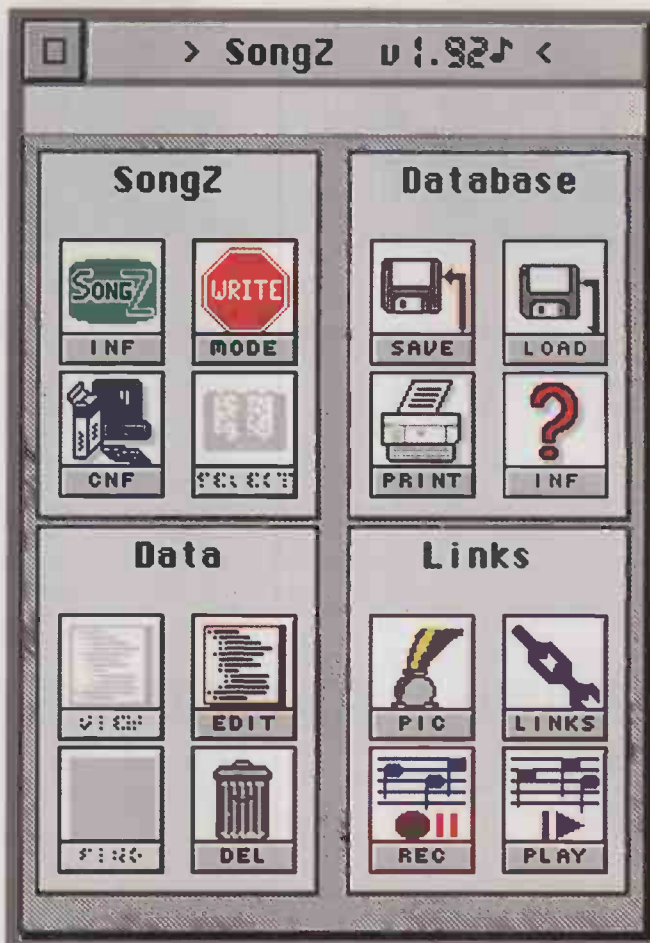


More speed, vicar?

The most unique thing about Titan Designs' new Falcon hardware product is its incredibly low price. For under £50, you get to increase the CPU and bus to 24MHz, and the DSP to 48MHz, all of which can be switched back to standard speeds for compatibility. As well as the obvious speed difference, it's now possible to run the Falcon in high-resolution, true colour mode, on a standard VGA monitor.

A little soldering is required to fit the modifications onto the Falcon's motherboard, but apparently it shouldn't be too difficult to do. At the moment, the upgrade is in its prototype stage, but it should be ready some time in June. In addition to this exciting news, Titan have announced a new version of their animation package Apex, and that they will also be taking over UK distribution of the Afterburner040 accelerator, owing to the unfortunate closure of Compo software. The 040 board should also be available in June, and actually works in conjunction with the other hardware modifications.

More information from: Titan Designs, 6 Witherford Way, Selly Oak, Birmingham, B29 4AX. Tel: 0121 693 6669. Fax: 0121 414 1630. E-mail: 100345.2350@compuserve.com



More solutions for systems

Rarely does a week go by without System Solutions unveiling some new software or hardware; the last four have been no exception, with additions to their extensive CD-ROM library, and some impressive new hardware.

With one of the new Blow Up FX systems installed in your Falcon, it is possible to increase the screen resolutions on (S)VGA and Multisync monitors, up to sizes such as 1,024 x 768. But, not only does it offer screen enhancement, but processor acceleration, too, and the opportunity to have more RAM than 14Mb. The CPU clock is increased to 40MHz, the bus to 20KHz, and the DSP to 50KHz.

Most popular software works without any problems, including Cubase Audio and Apex Media, which you would expect for £179.99. Fitting the board requires a steady hand, some soldering tools, and a little more than the vaguest idea of what's inside the Falcon. System Solutions will fit it for you, but it will cost an additional £50.

Software protection is all very well, but having oodles of dongles and just one cartridge port, can be very irritating. Cartmaster Lite, a cut-down version of the already-available Cartmaster, is a cartridge system with two buffered ports, enabling two dongles to be plugged in at the same time. Software is provided to manually select the right cartridge for the application (although most programs auto-detect). Cartmaster Lite costs £59.95.

Amongst the many new CD-ROMs available is The Ultimate Cubase CD-ROM; a disc full of files and accessories for Cubase users. As most Cubase files are generic, this CD can be used with Macs, PCs, and Atari computers. For £69.95, the CD-ROM gives you 300 MIDI files, 240 drum loops and 1,200 samples (both saved in AIFF format), mixer maps, and drivers, plus computer-specific applications, encompassing sample editors, calculators, and librarians.

More from: System Solutions, Windsor Business Centre, Vansittart Road, Windsor, SL4 1SE. Tel: 01753 832212. Fax: 01753 830344.

toolbox



compiled by Ian Waugh (email: ianwaugh@cix.compulink.co.uk)

We've tons and tons and tons of useful, interesting, and just plain loopy software for you this month. It's all on the cover CD but if you don't have a CD ROM drive it should also be available from several Net sites. If I know the pointers, they're listed here. If you don't have a modem they should be available from good PD libraries. Incidentally, if you run a Mac PD library or you know of a particularly good one, let me know.

If you're interested in 3D animation, check out Ray Dream Studio in the *PC Toolbox* pages and if you like analogue drum sounds there's something of interest for you there, too.

Instant Play Bach

composed a set of 176 bars of music and created



You know the guy who wrote the Macworld Music & Sound Bible? Have you heard of the Macworld Music & Sound Bible? It's the biggest, thickest guide to music on the Mac ever written. It came out in 1992 and I'm sure we reviewed it then.

compositions by rolling a dice to select the bars. The clever bit, of course, is making sure that whichever order the bars are selected, the result is still makes musical sense.

And that's what this program does. Click the button and it 'composes' a new piece of music.

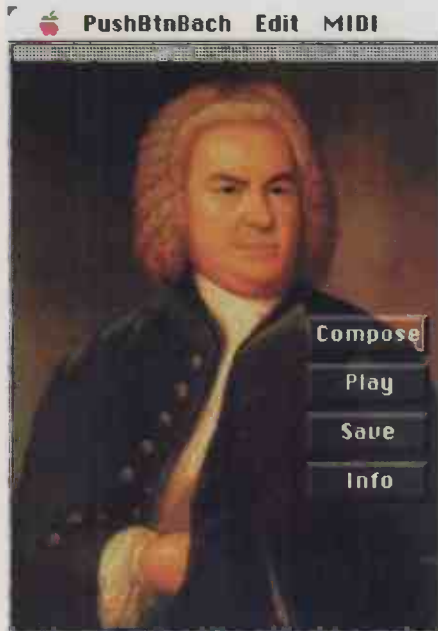
It includes notation which you can print and you can save the composition as a MIDI file.

The other program is Push Button Bach which generates Bach-like pieces using a structural model. Features include real-time instrumentation change and the ability to save as a MIDI file.

The two programs illustrate two approaches to computer composition, CyberMozart simply picks musical sequences at random while Push Button Bach actually 'composes' music based on a set of algorithms. It contains a set of parameters

which you can see and twiddle with in the free version of the program. However, if you register, the changes will have an effect on the music. Settings include Rhythm, Pitch and Harmony, plus some more esoteric controls such as Form, Nuance and Texture.

Incidentally, if CyberMozart presents you with a Quit box after booting, click on Cancel, select



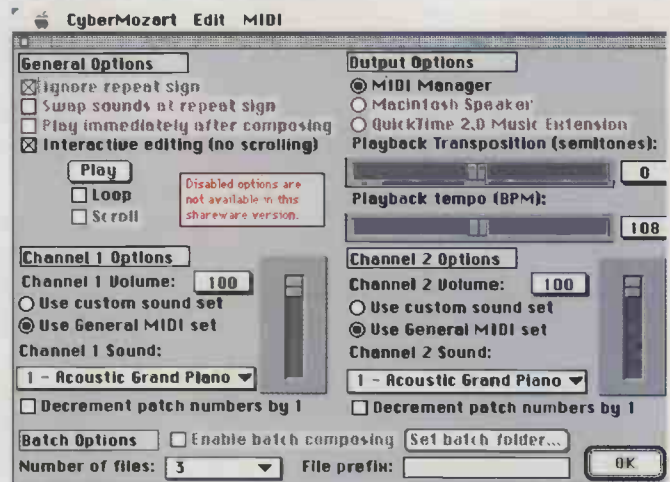
Press the Compose button and Bach will write you another tune.

It's a mammoth 1400 pages long and it was written, unbelievably, by one man - Christopher Yavelow. Anyway, he's a bit of a software developer, too, and he's written some composition programs which will interest anyone into computer composition.

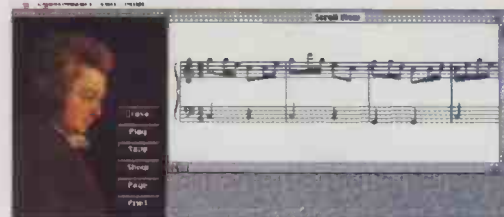
CyberMozart is a computerised version of Mozart's musical dice game. So the story goes, Mozart



In the registered version, the Options control panel lets you adjust the composition parameters.



CyberMozart's Playback options give you control over various aspects of the output.



Click on the Play button and CyberMozart will produce one of the zillion possible variations on a theme!

Playback options from the CyberMozart menu and click on OK. This sometimes happens on some systems but if you follow that routine it should solve the problem.

Christopher Yavelow has more programs in the pipeline, both of a commercial and shareware nature, and we'll bring you more information on them as and when they appear. CyberMozart and

PushBnBach are on this month's CD and available from CompuServe (MIDI/Music Forum), various ftp sites and several Net sites including Yavelow's own home site: <http://www.xs4all.nl/~yavelow/>

They are also on the Electronic Courier BBS on 01232 401737 and 01232 705452. Voice contact is 01232 791233.

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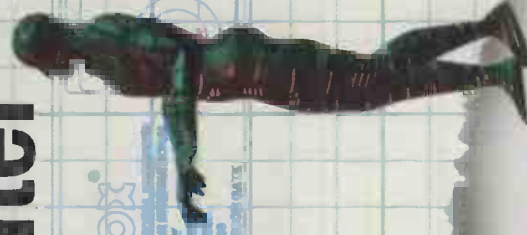


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The Invisible Scan



Playback options give you control over various aspects of the output.

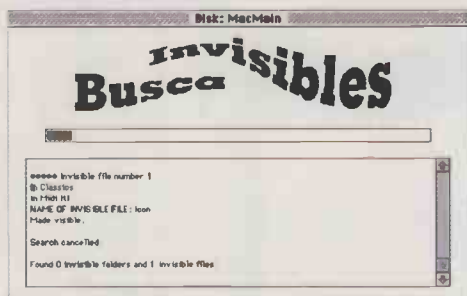
Have you any idea how much trash is lying around on your hard disk? No, I'm not talking about your songs which I know are brilliant, I'm talking about hidden files. You may know that the Mac creates invisible Desktop files which it uses to store certain information. You may also know that some programs do this, too, and some even create invisible folders.

Well, if you'd like to know what's lurking on your hard disk BuscaInvisibles is for you. It scans

your disk, tells you what invisible files it's found and makes them visible if you wish. It's an easy matter to see what they do and delete them if they're redundant.

But do be careful. Programs create invisible files for one reason – to keep the user away from them so they can't be accidentally deleted. Hard disk installs copy invisible files to your hard disk. Don't try to move them or copy them 'cause it'll likely end in tears. It's also a good idea to copy any folders containing invisible files before you delete them, just in case.

BuscaInvisibles is useful for finding files which may have been left behind by programs long removed, so freeing up some disk space. It's on this month's CD.



Track down the invisible files on your hard disk with Busca-Invisibles.

ROM with a view



There's a certain fascination about being able to see what sound looks like. SoundView lets you do just that. Select one of the Mac's audio inputs and the program will display sound arriving at it in real-time. It can also load and play sounds and display that graphically, too.

Sound data is displayed as time waves (amplitude vs time), spectra (amplitude vs frequency), and

spectrograms (amplitude vs frequency vs time). There's bags of information in the documentation and the program supports Balloon help. It's actually quite a sophisticated program and well worth a look if you like spectrographs, FFT display and all that.

SoundView is on the cover CD and available from Net sites including: <http://www.physics.swri.edu/SoundView/> which should also have a Native PowerMac version.

SoundView lets you view sounds in a myriad of formats – showing it like it is.



toolbox

Sound Stack



If you work in the acoustics arena you'll already be well acquainted with terms

such as Abffusor, the Precedence Effect, Modal Resonance and the Law of the First Wavefront (sounds like one of Judge Dredd's rules). You probably even know that ASHRAE stands for the American Society of Heating, Refrigerating, and Air-Conditioning Engineers. Or perhaps not.

Anyway, you can find

definitions of all these terms and more in a neat HyperCard stack called Acoustics Glossary. Just the thing to have on your hard disk when someone rings you and says the absorption coefficient in his studio has gone off the wall and is giving his auditory cortex and the pinna in particular, serious grief. On the other hand you could tell him to wash his mouth out with Benzedrine and crack open another six-pack.

Acoustics Glossary is on the cover CD and should be available from all the usual Net music places.

All the files on all your floppies

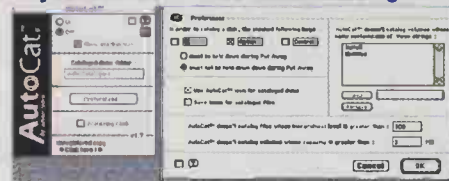


If you keep backups or rarely-used files and programs on floppies it doesn't take long to

amass several boxes of badly-organised disks. AutoCat can help you keep track of all of the files on all of your floppies. It's a neat Control Panel which automatically catalogues a floppy – or any other removable volume – when you eject it.

The disk must have a name and AutoCat creates a folder of the name in a special catalogue folder containing aliases of the files on it. To search for a particular file you can

AutoCat: AutoCat catalogues your floppies so you need never lose another file again.



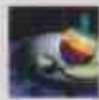
use the Finder's Find command or you can browse through the folders and aliases as you would any normal folder. If the Mac need to access a file it asks you to insert the relevant disk.

It has an archiving mode which lets you quickly catalogue a series of disks. It's altogether rather brilliant. The only downside (which isn't that much of a downside) is that each alias takes up space – 16K on my system – so if you have, say, 200 disks containing an average of 10 files it could hog quite a bit of your hard disk space. Still, if you have some

free disk space and a lot of floppies it could save you a fair whack of time searching for files.

You'll find AutoCat on the cover CD and the usual Net sites.

Big Bang



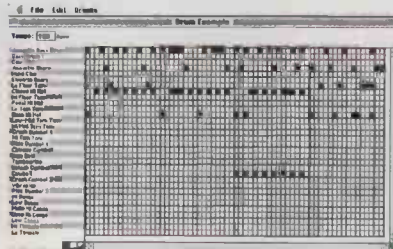
How's your pioneering spirit? Fancy pushing back the boundaries of drum machine programming as we know it? No, I don't mean writing a drum machine program. Actually, you don't have to write

it, just bug test it a bit and throw in some suggestions.

BigBang, by the author's own admission, is quite unstable. It quit on me a few times, but at least it didn't crash my Mac. Yet. It's a drum machine which uses QuickTime's Musical Instruments Extension for its sounds. You click hits onto a grid in time-honoured drum machine fashion and then you can play it and save it. Ideal for working out a few killer grooves with your Powerbook on the bus or train.

It's on the CD.

BigBang - the world's first QuickTime-based drum machine. Probably.



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toolbox



Compiled by Ian Waugh (email: ianwaugh@cix.compulink.co.uk)

AWEsome



If you read the review of Creative Labs' AWE32 in our May issue and got the impression that I liked it, you'd be right. It's not so much that it has better sounds than the other cards on the market – although they are reasonably good – but the fact that you can load samples into it and create your own sounds makes it such an interesting prospect for the musician.

There are tons and tons of programs, files and utilities for the AWE32 and in the review I promised that we've look at some in the Toolbox pages – so here we go...

Winging it

If the avid AWE32 experimenter only buys one CD it must be High Wings Media's Soundbank and Utility disk. It contains around 150 SBK files and although most will fit into the AWE32's on-board 512K RAM, some are 2Mb, 4Mb and 8Mb in size. Most have an associated readme file so you can tell what's in the bank without loading it. Some were created for a specific piece of music and have an associated MIDI file, too.

If you want to create your own banks and sounds, there are around 160 .WAV files to experiment with. They cover a variety of sounds and drum loops although most are lowish quality recorded at 22.05kHz and 8-bit resolution. There are also over 400 MOD files and a pretty neat MOD player.

The CD also contains several utilities including Esbeekay which is similar to Vienna but it can do a few things Vienna can't such as make velocity splits. It can also handle WAV, GUS and Kurzweil patches, and MOD samples. Other utilities let you dump the contents of the AWE32's ROM to a file, tweak the reverb and chorus settings, monitor incoming MIDI streams, and convert between different sample formats. There are also programs for transferring audio CD data from a CD to your hard disk.

The best thing about the CD is the price – a mere £12.50.

If you like listening to MIDI files, High Wings also has a CD called 50 Number One Hits. They're mainly MOR titles and include 'A Good Heart', 'He Ain't Heavy', 'I'm Not In Love', 'Keep On Running', 'Unchained Melody' and 'When The Going Gets Tough' (*Jesus, the going is getting tough...Ed*). There are three versions of each piece in GM, GS and AWE32 formats. You also get a copy of Steinberg's Music Box, a software jukebox player, so you can play them. The CD costs £21 which is a most reasonable 42p per song.

More from: High Wings Media Services, Denver House, Acton Burnell, Shrewsbury, SY5 7PQ. Tel: 01694 731718. Email: db59@dial.pipex.com.



EMU's first SoundFont CD containing Guitar, Drums & Synth samples.

EMU's second SoundFont CD with Guitar, Drums & Synth samples.

And so on and so on

Specialist PC music software distributor Et Cetera also has a caddy of AWE32 SBK CDs. AWE32 owners probably know that the card contains an E-mu synth chip and they may also know that E-mu has released some SBK CDs.

SoundFont Collection One is subtitled Guitars, Drums & Synths. It contains 30 SBKs, each with lots of instruments so it's fair packed with sounds and there's a readme file for each bank. About half the banks will load into the standard 512K but the others need more RAM.

SoundFont Collection Two is subtitled Traditional, Voice & Keys. 18 banks need more than 512K but the largest is only 511K so why they couldn't have left out a few sounds or shaved the samples down by a few K is a bit of a puzzle. Either that, or included some sounds which required a full 2Mb or 4Mb. I don't think E-mu has shares in RAM chip manufacturing.

The Developers Choice is subtitled the Pop, Rock & Jazz collection and basically contains all the banks on the other two CDs. However, there are three sizes of each SoundFont – small, medium and large – which require 512K, 1Mb and 2Mb of RAM.

The sounds in these collections are generally superb. Check out the strings, guitars, brass and vocal sounds in particular. The SoundFont Collections are £29 each and the Developers Choice is a rather hefty £79 although if you want quality sounds and have more than the standard 512K it may be worth the extra to be able to exploit your card's facilities a little more.

Finally, SBK CD Vol One was created by Heavenly Music, a name most readers will be familiar with as creators of high quality MIDI files. The CD is a potpourri of sounds, music and

styles. There are 174 SBKs and 148 will fit into the standard 512K. They are grouped into several sections such as effects, basses, ambient sounds, percussion, bells and so on, and there are ten MIDI files designed for some of the SBKs.

The readme file says the CD should contain some songs by the Heavenly Music duo, but it doesn't. That apart, the CD contains a superb variety of sounds although it could have been put together a little better. At £49 it's considered purchase but you do get a lot for your lolly.

More from: Et Cetera, Unit 17, Hardman's Business Centre, Rawtenstall, Rossendale, Lancs, BB4 6HH. Tel: 01706 228039. Fax: 01706 222989. Website: <http://www.etcetera.co.uk>.

Out of this world

Our final AWE32 CD this month is from Time+Space. The company will be known to readers as purveyors of the most humongous range of sample CDs this side of the red shift. The Groove Construction CD was developed especially for the AWE32. It features 140 MIDI file loop plus sample banks and audio versions of the loops.

There are seven categories – Techno/Euro, 70's Funk, Garage, Hip

On the RE:MIX CD

Track 01

Another tantalising section of PC software resides on the CD-ROM – check page 7 for details.

SoundFont

The Developer's Choice
Pop, Rock & Jazz Collection
Volume 1

E-mu Systems, Inc.

The Developer's Choice Pop, Rock & Jazz CD containing lots and lots of SBKs in three sizes.

Hop/Rap, New Jack Swing/US Dance, Streetsoul and Rave/Hardcore – each with its own 25-sample drum kit. There are actually two sets of SBKs – one for the standard 512Kb of RAM and one for cards with 2Mb. There are also .WAV files of every drum so you can make your own kits. Each drum in the MIDI file is on its own track and they follow the GM drum map as much as possible.

This is an excellent CD, extremely well organised, very professionally constructed and with lots of grooves for the Dance brigade. Good value, too, at £29.95.

More from: Time+Space, PO Box 306, Berkhamstead, Herts, HP4 3EP. Tel: 01442 870681. Fax: 01442 877266. Website: <http://www.timespace.com>.

Dream on



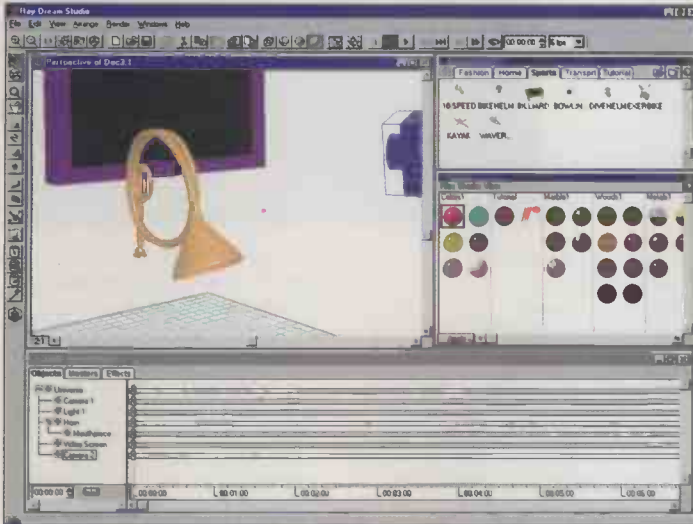
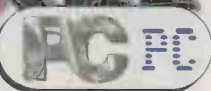
It's quite the thing now to produce a set of images to accompany a song or piece of music and wrap it all up in a QuickTime or Video for

Windows movie. The release of *Toy Story* has probably done a lot to engender interest in computer-generated animation, and if your appetite has been whetted you may be wondering what's the best way to go about it.

If you fancy a spot of 3D animation, take a look at Ray Dream Studio. It's the latest package from Fractal Design and includes Ray

movie and it has lots of movie-making features to help you do so. Tweeners create 'inbetween' frames, filling in the animation between two frames. Behaviours can make balls bounce and spin, for example, while Rotoscoping lets you wrap an existing movie around an object.

toolbox



Getting horny with Ray Dream Studio.

Dream Designer just updated to version 3, Ray Dream Animator, a wedge of 500 ready-to-go 3D images and a set of programming tools for those who want to write their own Plug Ins.

It's available for both the PC and Apple Mac. The PC version is optimised for Windows 95 but it will run under Windows 3.1, too. You need a pretty powerful machine if you don't want to hang around watching screen redraws. Rendering (the calculations the computer performs to transform your instructions into 3D images) takes a while, too, so a fast Pentium is definitely the order of the day.

Designer lets you create 3D images. It's quite a sophisticated piece of software and follows the general modus operandi of 3D graphics programs. You draw a shape in 2D then view it against a 3D grid and use 3D Sweep Lines (which are a sort of 3D projection of the shape) to mould it in 3D. The concept is not as difficult to grasp as it may sound but 3D sculpting can take a little getting used to. There is a Modelling Wizard, however, containing lots of shapes which is a good help, particularly for beginners.

You can add colour and texture to the objects. These have parameters such as highlight, shininess and glow which are all customisable.

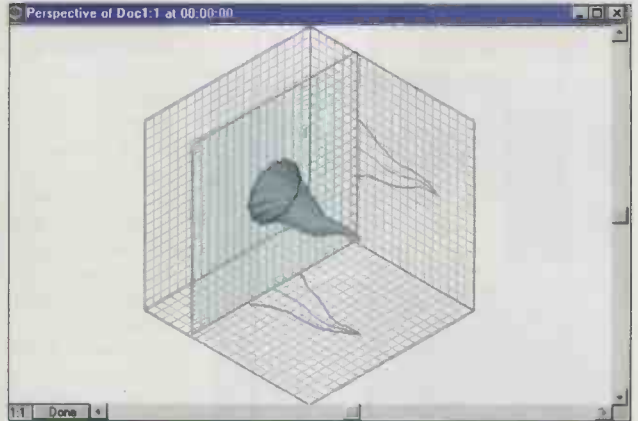
Finally, there are light and camera objects which you can create, adjust, customise in innumerable ways and move around the scene.

Model form

Ray Dream Animator builds on the 3D drawing facilities to enable you to produce animations. Basically, it lets you create a sequence of 3D frames which it renders and converts into a

Free Form Modelling is the most powerful – and time-consuming – option. It basically animates the construction and transformation process you go through when creating a 3D object. It lets you turn any object into virtually any other object.

The creation of 3D images and 3D movies is quite a complex business and Ray Dream Studio handles it all quite well. It contains excellent tutorials and even the relative newcomer be will show some interesting results after working through them



Giving a twist to a 3D image in Ray Dream Designer.



The Modelling Wizard contains a range of 3D shapes which are good starting points for your own objects.

but this will take a few days – yes, as long as that. Also, operation is not totally intuitive, although that partly goes with the territory. Bit like music – if it was easy everybody would be doing it.



But the results can be very impressive indeed. If you're interested in 3D, Studio is definitely worth checking out. If you've created a movie or animation and put music to it, send it along and we may feature it on the cover CD. Fame for a month! Eat your heart out Andy Warhol.

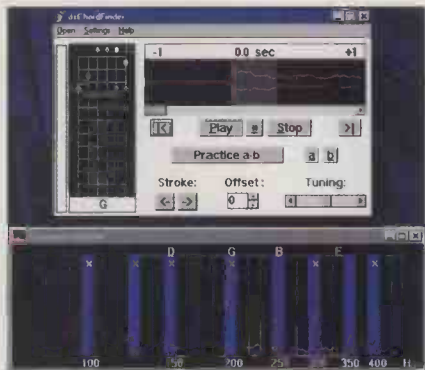
Ray Dream Studio costs £410.08 (£349 plus VAT). More from: Principal Distribution, Carrs Industrial Estate, Toddhall Road, Haslingden, Lancashire, BB4 5HU. Tel: 01706 832000. Fax: 01706 832568. Website: <http://www.fractal.com>

You, too, can make an animated movies with Ray Dream Animator. ▶

Tune In



There would appear to be rather few programs for guitar players. Leaving aside the obvious ribald and jesty reasons why this should be so, it's nice to see that some programmers have clasped the guitarist to their bosom and produced some guitar-oriented software.



The clever Chord Finder program analyses an audio recording of guitar chords and tell you the notes it contains.

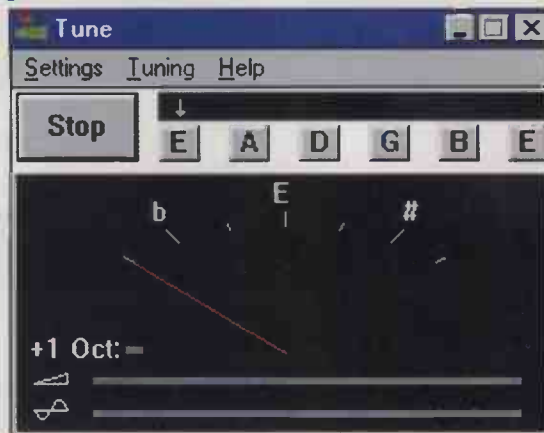
dsTune is a Windows-based guitar tuner. Using a Mic, you play your guitar into a sound card and an on-screen meter helps you tune it. There are options for using alternative tunings and custom tunings, too. You can plug your guitar directly into your sound card but the program issues dire warning about doing this lest you blow the thing up!

There's also a calibration program which you may have to run to make sure the card is giving a correct reading and you'll need a tuning fork or other absolute pitch source to do this. If you don't have a fork (and usually tune to the drummer (oboe player joke, chaps) there's an automatic calibration function which the program reckons is accurate to half a percent.

The program is shareware and the same author has also written a program called dsChord Finder which uses frequency analysis to analyse audio guitar chords and tell you what notes it contains.



Use dsTune to tune your guitar. Tuning has never been so much fun.



Both programs come in 16-bit (for Windows 3.1) and 32-bit (for Windows 95) versions. The 32-bit version of dsTune is on the cover CD.

Mr & Mrs Log and Anna



The passion for analogue drum sounds continues unabated. But who needs a drum machine if you've got a sampler? In fact, you don't even need a sampler. You can load drum hits into a direct-to-disk recording program and create your own drum patterns. You can also load them into a waveform editor and muck about with them in all sorts of ways.

So if you've got a mate with one of these analogue drum machine doobies, all you've got to do is get him to bring it around so you can sample it. But if you ain't got a mate

with a drum machine – or ain't even got a mate – worry not, 'cause a few friendly people have done some sampling for you.

Uni loops

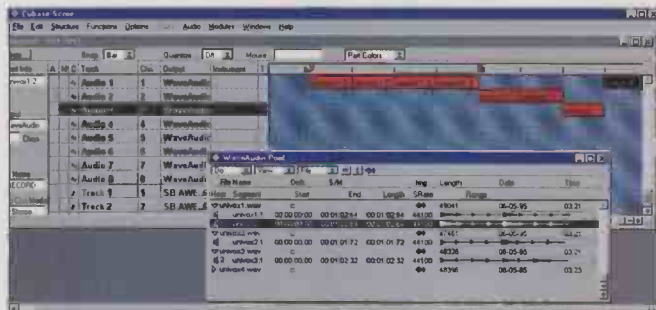
For your enlightenment, entertainment and edification, we present the Univox Micro-Rhythmer 12. The what? Never heard of it? Well, neither have I. It seems to have been one of the less well-known drum boxes of yesteryear but it contains some interesting analogue sounds and loops nevertheless. You'll find them on the covermount CD along with the four drums which make up the patterns although the bass drum sound never occurs on its own. Just

like a real drummer, eh?

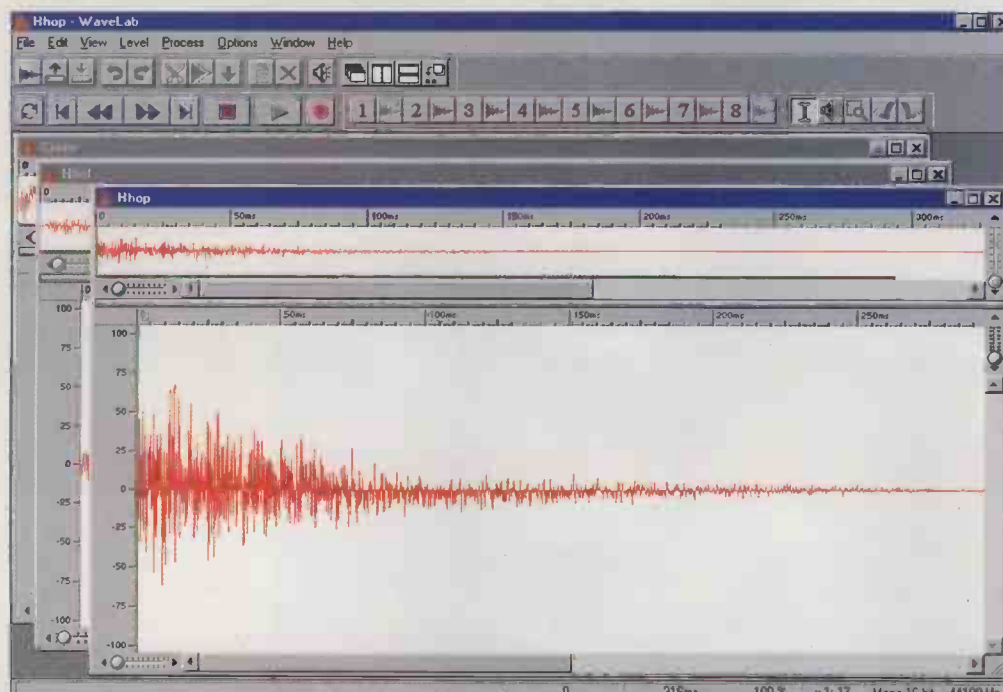
Anyway, another enterprising chap applied a little digital signal processing to the combined bass drum/hi hat sample and removed the hi hat. This is also on the CD as a separate sample.

Aces high

Anyone remember the Rhythm Ace drum machine? Another blast from the past. Well, another chap's been out with his sampler and done the biz on this one. There are 16 samples in all, although, again,



Creating a funky Dance pattern with the Univox samples in Steinberg's Cubase Audio.



some sounds never occur on their own and are consequently layered with other sounds.

Korg

If you don't recall the other two drum units, what about the Korg KPR-77? No? You're probably under 20, then. So again we have a set of eight samples from the machine. Use them on their own or in conjunction with other drum sounds for variety.

All the sets of samples were recorded at 44.1kHz and 16-bit resolution and saved as .WAV files.

I've had these samples for a while and I can't remember exactly which Net site they came from. Sorry. However, by the time you read this they will be on our Net site so point your Browser towards:

<http://www.musicians-net.co.uk/Mix>

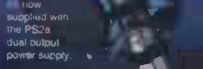
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Route finder

Directing a signal through your mixer isn't always as easy as the manufacturers would have you believe – little things like buses, auxs and groups often confuse the situation. *Paul Mac* puts on his traffic cop's hat and directs the traffic in this guide to **mixer routing**

sound advice

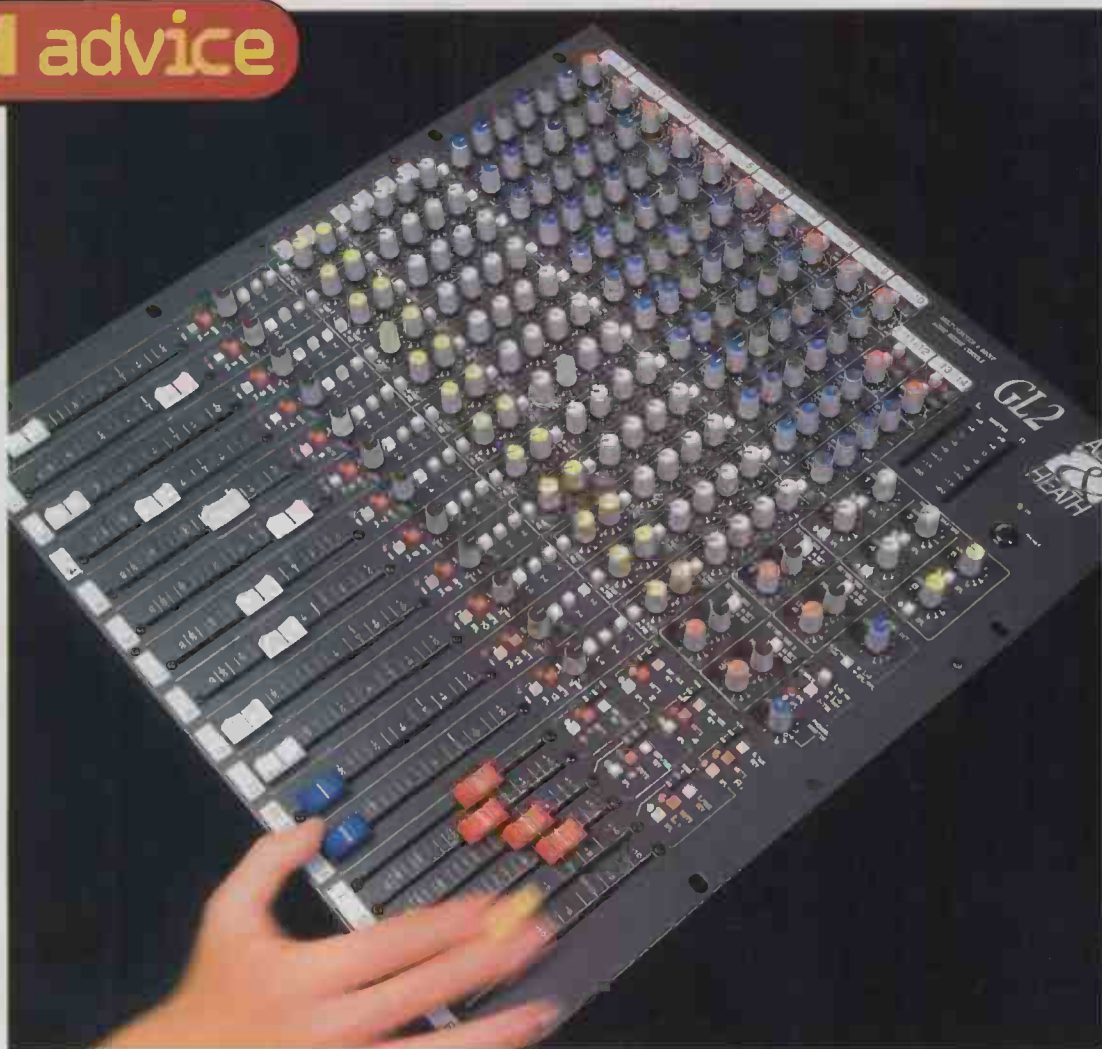
If you stand by a large console on display at a trade show, you'll often see people lunge for the headphones and the EQ section. Eight times out of ten, their eager grin will morph to a frown as they realise that the audio is lost somewhere within the labyrinth that hides beneath the fascia. No amount of button pushing, head scratching, or gain tweaking will coax the signal out of the headphone socket. This scenario is usually due to the customer's illogical, or uninformed approach to the desk's routing controls. We are here to help..

Directing the traffic

Routing is the traffic lights, roundabouts and Police diversions of a mixing console. It's a matrix which defines the source, destination and via points of every signal inside a desk. This article will address the common features of routing systems in and around desks, together with how they fit into a multi-track recording system. Live applications, while using the same basic structures, will probably only serve to confuse matters. So, for the time being, we will concentrate on recording.

The best way to start is to decide what you'd want from a routing system and why. We'll then see how existing routing systems fit into that framework.

Multi-track recording, as most are aware, is a process where individual sources (single



instruments, microphones, and so on) are recorded onto individual tracks of a magnetic tape, hard disk recording system and such like, and then sent back through the mixer, where they are combined into a stereo (two track) recording. The advantage is that you can record as many or as few tracks as you like, simultaneously, and add to that, eventually building up the entire content of the recording.

Here's a list of things you'll want to do while multi-track recording:

1) Move signal through the desk, from the

input to the multi-track, and onto a track of your choice.

2) Process a proportion or the entirety of a signal with external equipment, and bring it back to the desk.

3) Check level and condition of the signal before it goes to the multi-track or a subgroup, or the dogs.

4) Mix several signals into one 'sub group', to be recorded onto one track.

5) Create a simultaneous 'monitor mix' of previously recorded tracks, plus the current

one, while recording.

6) Mix all recorded multi-tracks down to a single stereo mix, via EQ and external equipment.

7) Listen to individual subgroups, signals going to or from processors, extra monitor mixes, and so on, at the touch of a button.

That's what we want, but how is it done? We'll take all of the common routing facilities, one at a time, and show them for what they really are.

Inputs

The only real routing decision to be made for a signal which is entering the desk for the first time, is which input to use. You will most often be faced with an XLR and jack input which, when used in conjunction with the pad and mic/line switches, determine the conditioning that the signal receives. Some mixers now offer a single route for mic and line signals, with no attenuating pad, and input impedance as the only difference between the inputs, such as the Ultramic+™ system by Spirit.

A *direct output* is a common escape hatch for signals near the beginning of the input channel audio path; and its name explains the function. There's normally no switching option, so the audio waits on the edge of the socket, ready for a jack to provide a way off. Where the direct output is derived from seems to be a source of debate among mixer manufacturers, and many hand the choice over to the user, in the form of jumpers on the circuit board. Post gain stage, but pre everything else is a common option, as this allows use of the mixer's pre-amp, so that the

signal is primed for its next adventure, but does not suffer the inevitable degradation caused by travelling further than is necessary (the minimal signal path philosophy). For exactly this reason, the direct output is often a good route to the Multi-track tape – no superfluous processing, no arduous routing matrix and, theoretically, the cleanest signal. You do however, miss out on the metering and other goodies afforded by the mixer.

The next little diversion is the *insert point* on a channel though, depending on the mixer, this may be pre direct output. It is most commonly comprised of a stereo jack socket, where audio leaves the channel via one pole and returns through the other. Insert points have often been the cause of mysterious disappearing audio events, as they are usually normalised, so that when a jack is inserted, it breaks the channel's signal path. The audio must return, either down the other side of the jack, or to another suitable input, otherwise it will come to a dead end.

All of the manuals will tell you to use insert points for noise gates, compressors, and so on (out and straight back through the same door) which is fine. However, you might want to consider your inserts as extra inputs or outputs. If you have a super duper mic pre amp or a tube conditioning box, you could avoid the mixer's input stage by plugging straight into the insert return – though be certain that the extra gain stage isn't needed.

On the buses

Now onto the auxiliaries, and the concept of 'buses' within a mixing console. A bus is a frequently, and unnecessarily, misunderstood

part of a mixing desk. It is one wire which transports several signals, picked up en route, to a single destination. For instance, every auxiliary one control directs a proportion of its channel's signal onto the auxiliary one bus. All of these signals, now combined, are sent to the auxiliary one master control, which adjusts the signal level on that bus, before sending it on to the desk's auxiliary one output. Unlike an insert point, there is no return provided to the same channel, and the use of an auxiliary does not break the channel path. However, some desks do provide auxiliary return channels, aside from the normal input channels, which have far fewer features and often just provide routing to the stereo mix.

The actual auxiliary controls are junctions, with one entrance and two exits. One exit is signed 'straight on.' Any audio that takes this one ignores deviations and moves onto the next stage of the channel, unchanged. Any audio directed down the other exit will be ushered onto the auxiliary bus. The nature of this junction is important. It is not a switch, sending everything down one route or another, it is a potentiometer (pot, control, knob, or whatever), which sends a proportion (variable from 0 to 100%) of the signal onto the auxiliary bus, and whatever is left continues down the mixer channel.

There are several standard uses for this facility. The obvious one is as a send to effects devices, such as reverbs. Most people prefer to bring the returns back to another input channel to give maximum control over its place in a mix. An auxiliary output is really just a mono sub mix, and there are plenty of other uses for this, such as a monitor mix's for musician's

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- ▶ headphones, another multi-track feed, and so on, and so on. Be imaginative.

Group action

The next common routing option you will find on a mixer channel is the group/LR bus routing switches. These normally take the form of a bank of switches near the faders, labelled according to the number of groups available, plus LR (or Stereo, or something like that). The LR bus is just the stereo/two track wires which carry any signal directed to it (see the definition of a bus above). When mixing down, this will carry your final mix; when recording, you'll most likely have your main monitor mix here.

The numbered selectors will correspond to the 'groups' or group channels available on your console. Group outputs are normally directly connected to the multi-track inputs for recording, so routing to the Multi-track can be done on the input channels. The buttons will correspond to a pair of groups, and the distribution of signal between the two is done with the pan control (left to the odd number, and right to even number). Group channels are fed by group buses, hence the common reference to a four or eight bus console (four or eight groups).

Going solo

Probably the most common reason for a lost signal is the Solo or PFL (pre-fade listen button). When this is pressed, the pre-fade signal from that channel is directed to the PFL bus, and the monitor output (headphones, control room, LR meters) is then dedicated to that signal. This is mainly used for checking individual channel outputs before they reach the next stage and, to further that cause, can often be changed to AFL (after fade listen). Both input channels and group channels normally have this facility. You might also find auxiliary bus AFL switches – another plus. All of these are invariably linked to a solo light on the master channel, or main monitor section. If you lose your mix, check this light, as a solo might be activated on an unused channel.

Split and in-line

We now know the basic routing options. You'll be pleased to discover that there's even more to know. You may have heard the words 'split' or 'in-line' console before and wondered what the story is. Well it's routing – surprise, surprise.

The main difference between split and in-line consoles is how they implement and physically arrange the routing to and from the multitrack recorder. In both instances, input channels will route signals to group buses, which eventually get assigned to individual tracks on the multi-track recorder via group outputs. On a split desk, the right hand end of the console is normally occupied by group / monitor channels. The bottom row of faders are the group outputs, and the top are the monitor returns. So if you've already recorded a drum track on tracks one to four and are now recording a bass part, you can route the bass input channel to group five (we'll assume this corresponds to tape track five), and use monitor channels one to four to listen to multi-track returns one to four, while recording the bass. So the right hand end of the desk deals with tape send and return, while the left hand end deals with input.

At mixdown, it is usual to bring the tape

tracks back to the input channels, using LR bus and group routing to reduce them to stereo. This leaves the monitor section redundant, so there is normally a switch which routes the monitor channels to the LR mix bus, allowing you to use these for mixdown as well. As the monitor channels often have fewer facilities than the input channels, these might be best used with a MIDI set up which has not been put onto the multi-track, and is often pre-processed to some extent.

An in-line desk handles this arrangement in a very different way. The input channels and monitor sections actually share the same channel strips, and often have auxiliary and EQ sections which can be split and assigned between the two. For instance, an input on channel one might be routed to group ten, which would then be returned to the monitor section of channel ten. However, this could get confusing, so you can often decide which tape return a monitor section is connected to. To further aid your endeavours, facilities such as fader flip (assigning the main fader to the group / tape return section) will often be provided.

Okay, so a full featured split or in-line recording console is out of reach of most people's purses. The recent trend in four / eight bus multipurpose consoles has left us without a dedicated monitor section, for which an alternative needs to be found. Well, before you start, get a patchbay. Multi track recording is far easier with a forward facing bank of jack sockets to play with, especially when you are trying to improvise a monitor section.

Recording

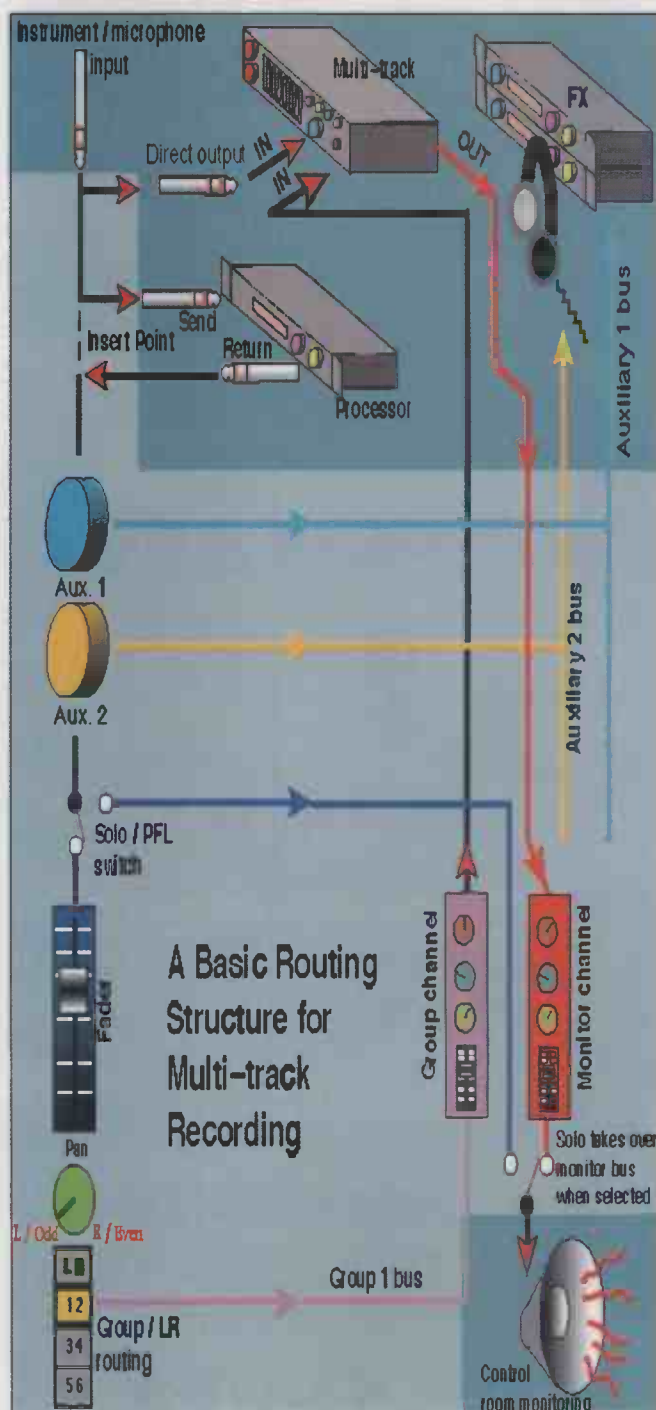
Getting signals to multi-track is easy. Just use any outputs you can get your hands on. The groups are the obvious choice, as you can send sub mixes straight to tape, saving on tracks. If you run out of groups, use an auxiliary bus or two; it's unlikely that you'll have too much in the way of effects at the recording stage. Individual inputs can also be sent from direct outputs, especially if you are using two groups as an extra monitor mix. All of these sockets become ten times as useful when they can be found on a patchbay, along with multi-track inputs and outputs.

Monitoring

For monitoring, it's back to the patch bay. Bring multi-track returns back to spare input channels on the desk, stereo input channels, and two track returns. A control room monitor mix can be routed to the LR bus. Extra mixes (for performers, producers and so on) can go wherever you like; use a couple of spare groups, or a pair of auxiliaries.

An alternative, which is enthusiastically suggested by manufacturers for obvious reasons, is to get another small mixer for use as a monitor section. This is fine, if you've got some spare cash, but a patchbay is often just as good.

If you can consider your desk as a resource of inputs, outputs and gain controls, ready and waiting for you to arrange and connect, then you are en route to recording success. ●



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struck

Careful use of **effects and signal processors** can significantly improve the performance of your live sound system. *Neville Wake* explains which black boxes can help you, and why...

Before we discuss how best to use effects and which ones are really necessary, let's take a look at the basic types that are useful to PA (pedal power fanatics should read *Guitarist*), and what they do.

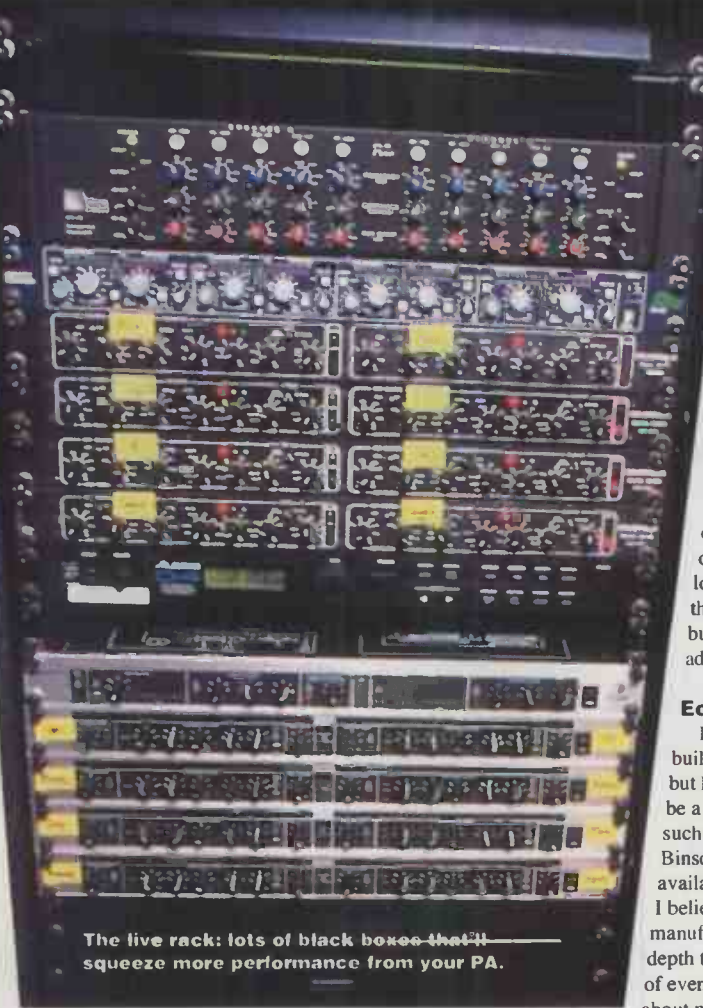
Compressors and Limiters

Once sold separately, but now almost invariably a single combined unit, these are important, albeit uncomplicated, devices that enable you to get more welly out of your system without investing huge amounts of dosh on doubling the power of your PA.

Pumping up the volume initially results in nasty old distortion creeping into your sound, and eventually blows a fuse, a speaker, or whatever. And the sound ain't great, either. A limiter simply prevents signals from reaching critical levels and thereby can make your PA sound much louder, 'cos it ain't distorting.

A compressor is a more versatile unit which compresses the dynamic range of a signal so that quieter bits sound louder. Compressors come in 'soft knee' and 'hard knee' variations, which means they effect the signal gradually or do it suddenly. Worth a bit of a try-out to find out which suits your type of music. Heavy Metal would require 'hard knee', MOR probably 'soft knee'.

All sorts of controls can be featured, but the main ones are threshold, ratio, attack and release. Most compressors have a threshold control which lets you set a level at which compression starts – very useful this, as you can get problems with low level interference being the 'quieter bit' that the compressor makes louder, and you really don't want this. The



The live rack: lots of black boxes that'll squeeze more performance from your PA.

other controls I'll explain later when we come to using these units.

Noise Gates

Particularly useful for drum miking, Noise Gates are muting units that let a signal through when they're open, and don't when they're shut (is the man a genius, or what?). You set the threshold level at which the gate opens and closes, and you also have control over how quickly the gate opens (delay), and how hard, or

softly it shuts (rate) – you can have it slam shut in the middle of a dying note, or close gently to allow the note to decay. Their main use is to avoid noise from channels that are in operation, but are temporarily quiet (an example is that the toms are miked up, but the drummer isn't bashing hell out of them at the moment, so you don't get any nasty overspill from other parts of the kit through the toms mic while the gate is shut).

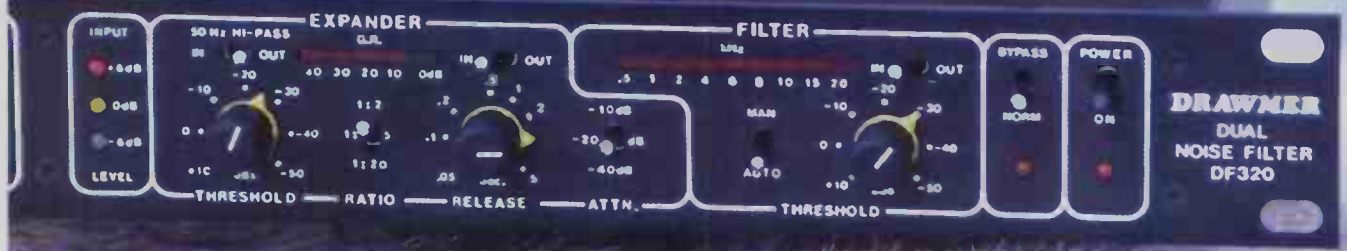
Another variation is the Dynamic Noise Limiter which is a more precise device, not simply opening or shutting, but monitoring the type of signal and filtering out treble at low volumes to get rid of hiss. I find this beastie quite useful for recording, but rather too precise to be of any real advantage in a live situation.

Echo and Reverb

Echo tends to be something we find built into multi-effects units these days, but Echo machines themselves seem to be a part of the retro scene, with units such as the Watkins Copycat and the Binson Echorec being sometimes available on the second-hand market, and, I believe, the former is actually being re-manufactured. They are helpful in giving a depth to vocals that can improve the voice of even the louisest of vocalists (talking about my dulcet tones again, aren't we?).

On the whole, I prefer Reverb, which combines multiple echoes to give a kind of depth that is a lot more subtle and controllable. The spring-line reverbs that you'll find in a lot of mixer-amps, even in this digital age, are okay, but many digital reverb units offer loads of different variations, from the Albert Hall to a small room, so it's really up to you. One thing to bear in mind if you're using lots of different settings for different numbers: how easy is it to get at and see the controls in half-light? Pick a

Drawmer processors are some of the best around: their compressors and noise gates are particularly highly thought of...



► model that's been designed with the live musician in mind – many aren't...

Multi-effects

I love 'em – but... It's all very well having a compact little unit that can provide all the effects under the sun, but how often do you really need to use one in a live environment when the aim is probably to put across your own sound rather than a packaged variation of it? My band uses one – for two numbers. Money well spent, or what? I guess we do use it to bugger up (or do I mean improve) our recordings...

The choice in multi-effects units is colossal, but don't forget that, even though your chosen one may be stereo, you can't normally get different effects on each channel, and you need to sort out how easy it is to set up between numbers – your audience won't take kindly to a ten minute interval after every number while you fiddle...

output: In-Line is where the effects unit goes between instrument, or mic, and input; Global is where it goes between the output(s) of the mixer and the inputs to the amp(s), or in a group or master insert, and is effecting the whole sound; Channel connection goes to the insert point on a single mixer channel; connecting to Aux / Effects Sends and Returns can be useful when you want different amounts of effect on different channels.

Using Compressor/Limiters

These are globally connected, and, as I've said before, important bits of kit for your PA, have to be treated with some respect – over-enthusiasm can lead to a colourless and lifeless sound that won't do a lot for your image. You're using these devices to make you sound louder without spending a lot of dosh, not to put yourselves out of business.

Chances are, in a small band or in a small venue, you'll just be sticking the vocals through

how fast the gate shuts – you can slam it or push it to gently. A long delay and slow rate on vocals and a short delay and fast rate on drums is the general rule of thumb.

Using Reverb and Echo

There's not a whole heap you can do with a basic spring-line reverb other than control its rate, and occasionally its tone, to get a not too obvious overall 'spaciousness' to your sound. It can, nevertheless, be very effective, but do keep your spring-line away from any place it can get bumped or knocked about – you, and the punters, will know all about it otherwise.

Digital reverb is another animal altogether – these units can be very sophisticated indeed and a whole host of knobs or buttons can confront you. The basic controls, however, will be three in number. The first of these, input, will usually have an overload LED, which you don't want to light up – overloading input on these digital devices is not to be recommended



The old Yamaha SPX90 is a great introduction to multi-effects

On the whole, unless you've got a sound engineer, I'd stick one in the home studio, and leave it there.

Enhancers and Exciters

The normal type of Exciter, which adds a certain presence and fizz to the top end, is useful only on vocals in a live situation, and unlikely to be high on your list of priorities unless you've just won the Lottery (in which case why go out for a measly few quid, anyway?).

The type that adds more bass an octave below what's already in existence can be more useful for live music, and combination bass and treble beasts are now available.

I really don't want to waffle on about Exciters any longer – you'll get bored, and I'll start to find reasons why I should buy one, and I haven't any money...

Putting it all to good effect

So, how do we go about sticking our effects processors into our PA system or backline. Some effects such as chorus, delay and echo can be connected in-line or on inserts, others, like compressor / limiters, can't be brought back into the mix, and we have to run them globally.

Brief lesson on connecting up here for grannies with no teeth and a liking for hen's

the PA, so listen to your main vocalist's voice to determine the ratio (between 3:1 and 6:1 is fairly normal). If you're putting everything through the PA, then your type of music will dictate the ratio – country will require very little, heavy rock a lot.

The threshold control sets a point at which compression comes in and leaves everything below it uncompressed. Setting this up takes time, because you've got to make sure that it's the quieter good stuff that's sounding louder, not crap like hum and noise..

Attack and release controls let you control how the compressor deals with a signal, how fast it reacts to signal increase and how fast it returns to normal. Be careful with these controls, you can lose the ends of notes and all sorts of nasties like that – so, once again, take your time. An auto compressor won't have these controls, it will have been factory pre-set for the optimum – I like life being made easier for me...

Using Noise Gates

Basic controls are threshold delay and rate. Threshold sets the level of signal at which the gate opens and shuts. Set it too low and you lose the ends of notes, too high and a decaying note will go on forever. Compromise is the name of the game. Delay sets how quickly the gate will open after the threshold; rate sets the

sound-wise. Secondly program selection – probably loads of these with, hopefully user programmable memory settings - once you've chosen the programs, or combinations of same, that suit various numbers, take loadsa notes of what goes with what, 'cos it saves time later when you're on stage. Thirdly there should be a mix control – if you've got the reverb between the desk and amp, start at about 9 o'clock and work up to your ideal position, (no, it doesn't go up to 69), which, of course, will probably need to be varied for different programs, so out with the note book again. If you're plumbing it through the effects send and return, turn the control right up and use the effects return level control to get the right mix.

Using Multi-effects

On the basis that these are basically digital reverb units with a lot more going for them, follow the guidelines above. Note taking becomes even more important because of the wide varieties of combinations you can set. See if you can pick up a Yamaha SPX90, for not too much dosh, as a great introduction to the world of multi-effects – it has a very distinctive 'Yamaha' sound to it, but, if you can live with this, it can really liven things up, particularly if you're in to doing weird and wonderful numbers. ●

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Studio Basics, pt6

sound advice

Is worth getting a separate mixer for your portastudio? How many channels do you need? These and other questions are answered by *Nigel Lord*, studio guru to the stars...

Last month, I outlined the relatively few options open to manufacturers when determining what facilities should be included in the recorder side of a cassette multi-track machine. As we discovered, the standard design of the compact cassette itself leaves little room for manoeuvre, and aside from logic-controlled transport systems and quality of the heads, there isn't much to choose between different machines. On the mixer side of things, however, manufacturers have the scope they need to ensure their machines stand out from the crowd (...or not) – or break new barriers in terms of price and performance.

Within the range of facilities which determine whether a machine will become a highly-regarded market leader or just a creditable performer for those on a budget, the number of recording 'buses' included in the mixer ranks pretty high. From this is determined the number of tracks which can be recorded to tape at any one time.

This is a function of the onboard mixer – rather than the recorder – because it is within the mixer that signals are combined together to feed either two or four of the recording head tracks simultaneously. For reasons we needn't enter into here, it is considerably more expensive to produce a 4-bus mixer than it is a 2-bus design, and this is seized upon by manufacturers of budget machines as a way of saving money without compromising overall performance.

But surely, only being able to record on two tracks at a time must compromise performance? Not necessarily. Only if you have to record three, four or more parts simultaneously (in a band situation, for example), is it necessary to use a four-bus mixer. For the average musician working alone (as the majority of cassette multi-track users do), it's perfectly possible to get by recording one or two tracks at a time – additional tracks being added whilst monitoring those already laid down. This, obviously, takes longer, but results in no loss of audio quality.

Even if you are working with other musicians, it is still perfectly possible to record them individually or in pairs – drums and bass, guitar and keyboard, for example. If vocals or other instruments are to be added, and you have already used up all the available tracks, it then becomes necessary to 'bounce down' existing tracks – say two pairs to a single pair – in order to free tracks for additional instrument parts.

We'll be looking more closely into such recording techniques later in the series. For now, it's only really necessary to decide whether recording on two tracks or four is appropriate to the type of music you produce. Incidentally, though I have only mentioned them briefly in passing, there are a number of 8-track cassette machines available which give surprisingly good results (...considering the size of each track across a 3.81mm strip of tape, particularly after you've left room for 'safety'

areas between each recording track). However, to my knowledge none of these offer simultaneous 8-track recording; the most you can expect is 4-track recording from the four mixer buses (for more on buses, go to the 'Routefinder' article in this section).

Inputs and channels

It's important not to confuse the number of tracks with the number of input sockets or mixer channels. Like conventional mixing desks, it is perfectly possible to have four, six or eight mixer channels feeding a stereo source.

Many newcomers to multi-track recording find this confusing. Why, if the tape only has four tracks, do you need more than four mixer channels? Well, consider the drum kit: a variety of percussion instruments – snare, bass drum, hi-hat, cymbals etc – most of which need to be miked up separately but heard together, as they would in a live situation. Here, it would be necessary to devote one channel of the mixer to each individual mic or instrument and then mix them together to produce a mono or stereo signal for recording onto tape.

Really, it all comes down to understanding the difference between inputs, channels and tracks. A mixer comprises a certain number of channels – 4, 8, 16, etc – each of which may include one or more inputs for microphones or other instruments. These may be mutually exclusive (so that using the mic input prevents

► you using the other inputs) or available simultaneously for 'funneling' multiple inputs into a single mixer channel.

In a similar way, mixer channels are then funnelled together (onto recording buses) to feed one or more tracks of a recorder. And, as we've just discovered, as far as cassette multi-trackers are concerned, these are available either pairs or in fours. Clear enough? Good, because in addition to making decisions about the number of tracks you'll want to record on simultaneously, it's also necessary to estimate the maximum number of mixer channels you might need at any one time.

Obviously, if you're in the business of recording drums, which may require four, six or even more mics, the demand for mixer channels will be felt more acutely. Similarly, if your music is characterised by multilayered synth parts, having enough mixer channels is essential.

In fact, the decision about mixer channels is in some ways more important than that of the number of recording tracks simultaneously available. Unlike the latter, there is no substitute for having enough channels to cope with the maximum possible number of inputs. Get the calculations wrong and you face having to buy a separate sub-mixer to cope with the demand for extra channels.

On the other hand, you may well see this as a solution, if there is a particular cassette multi-tracker which would be ideal for your needs, but which lacks sufficient mixer channels. A second, 'sub-mixer' can be bought at a later date, or borrowed from a friend, when needed. Alternatively, you may already own a mixer of some type which could be pressed into service as a way of supplementing the input channels of the cassette multi-tracker.

Separate mixer?

With a sufficiently good mixer, you might even be tempted to bypass these input channels altogether and connect it directly to the recorder. This would be useful as a means of expanding the number of mixer channels and/or the facilities they include, but there could be problems when the time comes to playback and mix the tracks you've recorded. This is because the mixer in a cassette multi-tracker is not only used to combine input signals and send them to the recording heads, it also serves as a means of combining playback signals from the four (or eight) tracks, once recording is complete.

Without a set of direct output sockets (fed from the playback heads) to which an external mixer could be connected, it would be necessary to use the multi-tracker's built-in mixer for mixing down your tape tracks to produce a stereo 'master'. Many machines do include these sockets, but some don't – and it's not always price that is the deciding factor. If you do have a mixing desk you'd like to use to expand the number of input channels on your multi-tracker and when mixing down, make sure the machine you decide on has the necessary connection hardware to make this possible.

Of course, you might well ask, if you're going to use a separate mixer, why bother with a cassette multi-tracker at all? The answer, I'm afraid, is because manufacturers have never really embraced the concept of the stand-alone 4-track cassette recorder. If you want to go down the road of separate mixer and recorder, you're looking at a (considerably more

SOUND JARGON BUSTER

You may know the terms, but do you understand the meanings?

Volume – defined as the amplitude or intensity of sound pressure waves emitted by a vibrating source.

Loudness – Because human perception of volume varies according to a number of factors – particularly pitch – we use the expression loudness when speaking of our subjective impression of a sound's intensity.

Control over loudness is quite different from control of volume. The loudness switch found on hi-fi amplifiers, for example, boosts the upper and lower regions of the human hearing range – but not frequencies in between. This is to compensate for the fact that low and high frequencies are perceived to be quieter than mid-range frequencies at low volume levels. As overall volume is increased, human hearing response tends to flatten out and we hear all frequencies more equally.

Level – We speak in terms of level once acoustic energy has been transformed into electrical energy via a microphone or similar transducer. When the fader on a mixing desk is raised we are increasing the voltage level of an electrical signal. This may lead (through the amplifier and loudspeaker stages) to an increase in volume, but that's further down the chain.

Being related to sound pressure levels, signal voltage levels also use the decibel as a comparative unit of measurement – the dBu expresses signal voltages in relation to a 0.775V reference point (which came about through the development of the telephone), whilst the dBv expresses signal voltage relative to a 1V reference.

Gain – The degree to which an amplifier 'magnifies' electrical signals is referred to as the gain of an amplifier, and in certain circumstances is made to be variable.

The overdrive controls on many guitar amplifiers are gain controls, and you'll find gain control stages in most mixing desks – often wrongly used as a level controls. Why wrongly? Because by using the gain control to boost volume rather than the channel fader, you boost noise and distortion along with the signal itself. Gain should always

be adjusted to the lowest possible setting, once the input fader has been set to the desired level.

Power – Audio power is defined as the total energy supplied by an amplification system, and is determined by multiplying the average voltage present at the output by the output current. This gives you a measurement in Watts RMS – the only true indication of an amplifier's power rating.

'Peak' or 'music' power, though often quoted because they are higher than the RMS figure, are virtually meaningless in terms of real power output and should be ignored when checking amp or speaker specifications.

Dynamic Range – In any continuous audio material such as music, there are minimum and maximum volume levels. The variation may be subtle or more extreme, but whatever the difference between the two, this defines the dynamic range of the audio source. In order to reproduce music accurately, the dynamic range of an amplification system must be as wide or wider than the source material. If it isn't, the relative proportions of the low and high volume signals will be lost.

Often, it is useful to deliberately limit dynamic range to make certain program material easier to cope with. In recording applications, for example, lowering the level of signal peaks allows you to increase overall level in relation to background tape hiss, without the risk of distortion. This is principle behind noise reduction systems such as Dolby.

Distortion – Distortion is an unavoidable side effect of all amplification systems. Harmonic distortion, intermodular distortion, phase distortion – all help degrade the quality of a signal as it passes through the various components of the system.

However, it's the additional distortion caused by mismatched equipment and overloading which is responsible for the most severe problems and which we should strive to overcome by careful choice and use of each component in the audio chain.

But it shouldn't be forgotten that distortion has its positive side; our preference for a particular amplifier or speaker often stems from the character it imparts to the music. This character is actually a subtle 'colouration' of the music and in that sense is simply another form of distortion.

expensive) multi-track reel-to-reel machine of some sort – a combination we'll be discussing a little later in the series.

Back in the world of cassette multi-trackers – oh, alright, portastudios (come on Tascam, do your worst...) – a separate mixer may well be used as a way of supplementing onboard facilities, but those are onboard facilities you're going to have live with. It makes sense, therefore, to buy a machine which either provides the bare minimum of controls, so that you're wasting as little money as possible, or one which includes enough facilities to stand on its own two feet.

But what are these facilities and what should you look for? That's what we'll be discussing next month. Till then... ●

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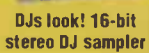
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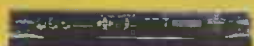
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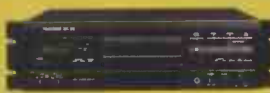
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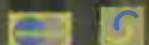
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The P300 combines an 88 note, master keyboard based on the industry standard KX88, with the best piano samples we've ever heard - identical to, and developed for the groundbreaking P500, (rrp £5,500, used by Chick Corea etc.)

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Store up to 32 voice and MIDI settings in any desired order, using the performance / chain feature, MIDI merge, Local On/Off for individual parts, 40 character backlit LCD and dedicated Hold button make editing a breeze. 40w stereo amplifier and built-in monitor speakers with 2 x line-in, 5 band graphic and loads more - call for a brochure.

Unbelievable amount of hardware for the money. If you're contemplating a master keyboard or digital piano this year, get one of these before they all go.

RRP £3199
£1399
NEW BOXED

WALDORF PULSE

ALL NEW ANALOG MONO SYNTH

Waldorf quality at a previously unheard-of price! Their first venture into the burgeoning monosynth market has been universally acclaimed, and rightly so. The Pulse has three oscillators, provide some of the latest sounds around, and its modulation matrix allows a far higher degree of programming complexity than anything else in its range. Add to that the fact that adding any parameter sends out a MIDI controller-only you have a tonastic all round performer.

NEW PRODUCT
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ROLAND SC88 VL

64 NOTE POLYPHONIC

Based on the original Sound Canvas module, but with much more of everything, the SC88 is 32 part multi-timbral with two independent MIDI ins, also 64 note polyphony for handling virtually any MIDI thrown at it. Having twice as much sample ROM too, the SC88 is really like two SC55s, except with 18 bit D/A converters, delivering the same audio quality as the 16-bit 050 synth. Choose from a GS / GM compatible sound palette of 654 individual sounds, and 24 drum kits. The built-in interface for Mac or fast PC provides further value for money. When used with PC software such as Muscator, you can adjust the vol, pan, reverb and tuning on each individual drum sound. Last ever units, get your order in now.

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£369
NEW BOXED

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SPIRIT Powerstation PA mixer

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Another winner from Soundcraft, their first entry into the powered mixer market is sure to be a success. Based on the well-known Folio 12, and also featuring a 2x200w amplifier, dual 7-band graphic and a built-in Lexicon Alex! Check out these amazing package deals:

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 MusiTime is what we call a "pure" score program - it has no arrange page, no piano roll, no drum grid and no MIDI Manager. All editing is done on the score itself. This makes it much simpler & quicker to use, and ideal for educational situations. MusiTime is easily our most popular computer music title for this reason.
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PRICE SLASHED PRICE SLASHED
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 Mac and Atari version 4.0 is still available at only £165.00

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 The Rolls Royce of four tracks. The Fostex 3805 features Dolby's incredible 'S' noise reduction, 4 mono channels, with 2 auxiliary sends, 3 band mid sweep EQ, and mic input capability, plus another 4 stereo channels with 2 auxiliary sends and faders, and a further 2 stereo effect returns. 2 insert points are provided as are a fully logic controlled transport with auto locate points and a large action master comparsator and bargraph meter display, 2 speeds, individual track outputs, and of course recording on all four tracks at once. Strictly limited quantities. buy now to avoid disappointment!
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FOSTEX
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 Customers will be able to compare many different solutions for writing notation from a computer, including Sibelius 7 version 3.0, Passport Encore 4.0, Steinberg Cubase Score 3.0, Personal Composer. Guest speakers from Sibelius, Passport, Steinberg, Coda and Et Cetera will be on hand to answer your tricky questions. Refreshments will be provided!
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 Apple Macintosh Performa 630 (66MHz/6904k, 8 meg RAM, 250 meg Hard Drive, 2x speed CD ROM drive, 14" colour monitor and keyboard), Claris Works business software, 1 in 3 out MIDI interface, your choice of Cubase, Logic or Vision. Apple B stock - full warranty!
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 NOW IN STOCK - NEW TROPEZ PLUS - £299
 Features twice the size of synth ROM, plus digital effects
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ALSO SOUND FORGE 3.0 - £499
 Sound Forge XP is a low-priced, general purpose sound editor which replaces the often unusable editors commonly bundled with most sound cards. It provides a wide range of Audio Processing functions including Fades, Plans, Normalizing, Reverse, Smooth, Voice Control, and Stereo/Mono Conversion. Audio effects include Delay/Echo, Chorus, Distortion, and Reverb. Sound Forge supports most common real-time audio compression formats - 100 and 1024 bit, and is fully 32 bit native in Windows 95 and NT.
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 Viscoint's entry into the fully professional effects market features a highly accurate fully delivered 24 bit processor with 128k over-sampling Delsi / Sigma converters. True stereo 20x4 dB connections. Realtime MIDI control, large backlit display, huge range of effects including reverb, delays, chorus, flanging, pitch-shift, wah, phasing, Leslie simulators, etc...
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NEW BOXED

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AKG C3000
 Large Diaphragm Mic
INC FREE ROOM STAND
 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.
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NEW BOXED

FOSTEX DCM100 + MIXTAB package

£349
 This has to be the deal of the year! Fostex's DCM100 is a fully MIDI controllable stereo mixer with 8 stereo inputs, 2 aux sends, 2 band EQ, multi, pan and level. An additional 2 stereo aux returns and a stereo master/sub input give a maximum of 22 inputs. This alone would be incredible value for money, but the MixTab also gives hardware control of every function of the mixer via MIDI. The MixTab can store up to 100 snapshots of all the parameters of the mixer, and multi-colour LEDs allow resetting of all the hardware controls to the current position. MIDI output from the system can be recorded into any sequencer giving totally automated mixing and recall - come back to exactly the same mix weeks later! Cubase and Logic maps also available. Under half price (Total RRP £778). Very limited quantities - last units ever!
RRP £599
£349
NEW BOXED

FOSTEX DCM100 + MIXTAB package

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 This has to be the deal of the year! Fostex's DCM100 is a fully MIDI controllable stereo mixer with 8 stereo inputs, 2 aux sends, 2 band EQ, multi, pan and level. An additional 2 stereo aux returns and a stereo master/sub input give a maximum of 22 inputs. This alone would be incredible value for money, but the MixTab also gives hardware control of every function of the mixer via MIDI. The MixTab can store up to 100 snapshots of all the parameters of the mixer, and multi-colour LEDs allow resetting of all the hardware controls to the current position. MIDI output from the system can be recorded into any sequencer giving totally automated mixing and recall - come back to exactly the same mix weeks later! Cubase and Logic maps also available. Under half price (Total RRP £778). Very limited quantities - last units ever!
RRP £599
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NEW BOXED

DIGITECH STUDIO QUAD 4 CHANNEL STUDIO EFFECTS PROCESSOR

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 be configured as 4 mono ins feeding 4 effects processors, leading 4 stereo outputs. Huge screen, and new intuitive operating system make editing a breeze. 20 bit converters give greater than 90 dB signal to noise ratio. Effects include reverb, delays, chorus, flanging etc... Hundreds of other features too numerous to mention. Very limited retail stocks, order now to avoid disappointment!
NEW PRODUCT
SHORT SUPPLIES
£499
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LEXICON Vortex

SPECIAL OFFER EXCLUSIVE
 The Lexicon Vortex breaks the mould in allowing effects to be morphed between in real time and in the process, creating new and previously unheard-of effects. This is not a simple cross-fade between effects. This unit is ideal for dance music, and anybody requiring out of the ordinary effects, and is real time time make it an excellent choice for live performers such as guitarists. Effects are also affected by the input signal, so that dynamics can control various different parameters within an effect algorithm. Tempo can be tapped in to control delay times etc... Typical Lexicon quality can be taken for granted. Exclusive bulk purchase prices that have never been possible on the end of the line. First come first served!
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NEW BOXED

ABSOLUTE 2 Studio Monitors by SPIRIT

PHONE FOR BEST PRICE
 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!
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BULK PURCHASE
 The Vitalizer is 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 substantially smoother and richer. 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 £599
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NEW BOXED

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Exclusive Turnkey Deals
SPECIAL OFFER
 Our tremendous buying power makes this the only sub £200 effects unit to look at! True stereo and the quality of the reverb are a make it worth the price, but there's too much more of the 512 presets doesn't stop exactly when using the two parameter knobs will allow you to tweak the program until it does the addition of 2 band EQ will further tailor the sound to your mix. Other effects include delay, chorus, phasing, flanging etc., and all this in a full 19" 1U rack. No need to look elsewhere!
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NEW LOW PRICE
 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 separate sub-woofer is also available.
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AKG C3000

Large Diaphragm Mic
INC FREE ROOM STAND
 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 £399
£299
NEW BOXED

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FEATURING 'S-DISC' PROCESSING
 With the introduction of the Studio Quad, Digitech have decided to stop production of the TSR12 as it is too expensive to make. We have stock of the last ever units available at a bargain price. Features include S-DISC processing, up to five effects at once including several different types of reverb, delays, chorus etc. Full MIDI spec allows realtime control of individual effect parameters. Limited stocks only.
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NEW BOXED

LA AUDIO DEALS

Exclusive Turnkey Deals
SPECIAL OFFER
 Our tremendous buying power makes this the only sub £200 effects unit to look at! True stereo and the quality of the reverb are a make it worth the price, but there's too much more of the 512 presets doesn't stop exactly when using the two parameter knobs will allow you to tweak the program until it does the addition of 2 band EQ will further tailor the sound to your mix. Other effects include delay, chorus, phasing, flanging etc., and all this in a full 19" 1U rack. No need to look elsewhere!
RRP £199
£159
NEW BOXED

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ON THE BEAT

On the RE:MIX CD

Track 1, 12 & 13

The samples for kit 1 are: 1. Closed hi-hat 2. Open hi-hat, 3. Ride cymbal 4. Ride bell 5. Timbale 6. Side stick 7. Snare drum 8. Bass drum 9. Bass

The samples for kit 2 are: 1. Closed hi-hat, 2. Open hi-hat 3. Side stick 4. Snare drum 5. Bass drum 6. Bass

More rhythm patterns from Nigel Lord – with the MIDI files and samples on the RE:MIX CD...

PATTERN: 1B

BAR NUMBER: 1 2 3 4

Closed HiHat
Open HiHat
Side Cymb
Side Bell
Timbale
Side Stick
Snare Drum
Bass Drum

B
A
S
S

TIME SIGNATURE: 4/4 TEMPO: 105 BPM

PATTERN: 2A

BAR NUMBER: 1 2 3 4

Closed HiHat
Open HiHat
Side Stick
Snare Drum
Bass Drum

B
A
S
S

TIME SIGNATURE: 4/4 TEMPO: 105 BPM

PATTERN: 1B

BAR NUMBER: 2 2 3 4

Closed HiHat
Open HiHat
Side Cymb
Side Bell
Timbale
Side Stick
Snare Drum
Bass Drum

B
A
S
S

TIME SIGNATURE: 4/4 TEMPO: 105 BPM

PATTERN: 2B

BAR NUMBER: 2 2 3 4

Closed HiHat
Open HiHat
Side Stick
Snare Drum
Bass Drum

B
A
S
S

TIME SIGNATURE: 4/4 TEMPO: 105 BPM

PATTERN: 1C

BAR NUMBER: 3 2 3 4

Closed HiHat
Open HiHat
Side Cymb
Side Bell
Timbale
Side Stick
Snare Drum
Bass Drum

B
A
S
S

TIME SIGNATURE: 4/4 TEMPO: 105 BPM

PATTERN: 2C

BAR NUMBER: 3 2 3 4

Closed HiHat
Open HiHat
Side Stick
Snare Drum
Bass Drum

B
A
S
S

TIME SIGNATURE: 4/4 TEMPO: 105 BPM

PATTERN: 1D

BAR NUMBER: 4 2 3 4

Closed HiHat
Open HiHat
Side Cymb
Side Bell
Timbale
Side Stick
Snare Drum
Bass Drum

B
A
S
S

TIME SIGNATURE: 4/4 TEMPO: 105 BPM

PATTERN: 2D

BAR NUMBER: 4 2 3 4

Closed HiHat
Open HiHat
Side Stick
Snare Drum
Bass Drum

B
A
S
S

TIME SIGNATURE: 4/4 TEMPO: 105 BPM

Tips from the top:

No.1 Disappearing guitar

sound advice

On the
RE:MIX CD

Track
11

Do you scan the interviews for tricks of the trade that'll help you improve your recordings? Do you listen out for info that only professionals inside the industry know about? If you do, then this new series is just for you. We'll be pinning down top producers, artists and engineers and threatening them with grievous bodily harm, unless they give us one decent tip to pass onto our readers. Once we've got the top secret information, we'll then turn it into audio-reality and present it for your delectation on The Mix CD...

We kick off this column with a tip from top engineer Stephan Galfas, whose credits include John Mayall, Meatloaf, Ray Charles and the Allman Brothers. Stephan is well-known for getting a mighty rock sound, and at our 1994 seminar at the APRS Show, he let us in on some of his secrets for mixing this type of music. In particular, he talked about creating a 'hole' in the mix for certain instruments.

A good mix should have its instruments spread across the frequency spectrum, rather than clumped together in one frequency area, which leads to parts being inaudible and confused. With most instruments, this isn't too

Stephan Galfas



much of a problem; the bass won't interfere with the hi-hats for example, but there are some instruments that occupy a similar

Hear how the guitar and keyboard parts conflict on the first example, because they both occupy the same frequency range.

Once they've been EQ'd, though, they can both be heard in the mix, as the second example demonstrates.

frequency band – guitars and keyboards are a prime example.

If you've got a mix with guitar and keyboards playing together, it's likely that one part will be obscured by the other. The answer is to EQ both parts so they complement, rather than conflict, with each other. Cut some of the middle frequencies from the keyboard part, and slightly boost the bottom and top ends. Do the reverse for the guitar part; cut the bottom and tops slightly, and boost the mid frequencies. This creates a 'hole' in the mix for the guitar part, and both the keyboard and guitar should sound clearer and more audible than before. And that (as a bald little shit often says) is magic!

ONE MAN, FOUR BAND

Normally, the only way to get high quality inputs equipped with full 4-band parametric EQ is as part of a big, expensive console.

Now, uniquely, the compact FCS-916 gives you sophisticated control of a single input with clear, easy-to-use controls and bright indicators. Engineers, musicians and songwriters get all the creativity they've ever wanted – right at their fingertips.

Now one man can have four bands.



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EQUALISER
PREAMPLIFIER

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- Sweep Low Pass Filter
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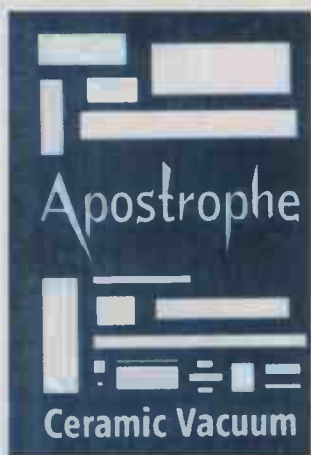
rough mix

your music – your way

Hatchet wielded by **Rob Green**

Welcome to Rough Mix. Each month, we'll review new, unsigned music which we believe is genuinely going places. It may be a white label 12", a cassette album or a self-produced CD. It may be on a floppy disk accompanied by computer graphics, or video. You may even have already formed your own record or production company. If so, we want to know about you.

In today's recording market, the anonymous, speculative demo is a thing of the past. You can go as far as you like on your own – if you've got something to offer. So what you got?



Apostrophe Ceramic Vacuum

From an artist who's named after a punctuation mark, comes a track which sounds something like a mashed-up remix of 'Oh I do like to be beside the seaside', only without the slurred vocals. There's enough cinema organs to go round here and no mistake, and this music has a very home-keyboard feel about it. Perhaps *Keyboard Review* would have been more appropriate reviewers!

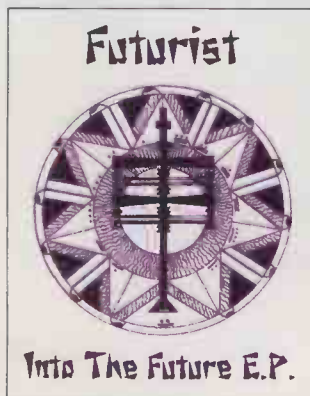
There's an abundance of reverb here which only serves to enhance the image of an old geezer playing in a picture house. The other tracks are slightly different in sound, but the idea is basically the same. I find the keyboard sounds quite weak, although the whole thing is very macabre, with a flood of reverb covering the melodies.

I can't really see the point in this, I'm afraid. There's nothing to really sell this on apart from weird

production. The melodies don't work very well and the compositions are all over the boutique.

A decent idea creeps out of the reverb every now and again, and I think Lee Beaumont, the creator, should concentrate on these strengths. OK, the production is somewhat intriguing, but if he toned it down slightly, emphasised the stronger riffs and added more rhythm, Lee could sound pretty hot. I think a name change is in order for a start – 'Apostrophe' bears no relevance to the music whatsoever. But how many band names do? Perhaps I'm just old fashioned!

More from: Lee Beaumont
Tel: 01502 713394



Futurist Into The Future EP

This guy knows his drum 'n' bass... and his techno, and ambience and... Futurist

apparently has it all. Futurist's influences are difficult to pin down, yet the brew is so intense that it leaves a fantastic aftertaste!

Futurist has its own 'space station' at home, and some of the most imaginative pads and sounds you can imagine emanate from that room. These spiritual movements are then fused with energetic bursts of breakbeats and bass.

With added samples and out-of-this-world effects, the result is a format perfect for dancing, or merely assuming the horizontal position. It matters little which one you choose, as the melodies and sounds move your mind, while if you're up for it, the funky beats do the rest.

What I'm describing here is what many would refer to as 'ambient jungle', but I believe this goes somewhat further. For example, track four, 'Into The Future' introduces a melancholy violin riff which sets the techno-oriented breakbeat backdrop off perfectly.

The first three tracks, however, are my favourites. There's something that puts me in mind of travel when I hear these tunes. The outlandish futuristic ambience evokes images of a scene like *Blade-runner's* LA, with its monstrous towers, flashing beacons and flying billboards. The underlying energy from the beats hints at movement, and I picture a scene of travelling through that landscape in a flying car, listening to Futurist and watching a dark, confused, high-tech city zoom by (*they call him the 'Daydreamer' – Ed*).

Saying that, I tend to have a somewhat overactive imagination at best, and I'm sure you will have your own images. These tracks are almost like pictures or soundscapes (a word which I'm particularly fond of).

My favourite track was 'Anahata' which introduces a wonderful eastern female vocal (reminiscent of *Bladerunner*, I might add!). The drum 'n' bass and pulsing, sweeping ambience makes for a surreal listening experience. I suggest that if Futurist doesn't obtain a deal with this material, then you give him a bell and request a tape.

More from: Futurist
Tel: 0181 5093471

GLASSHOUSE

LIKE AN ALIEN



Glasshouse Like An Alien

As that old saying goes 'people in glass houses shouldn't throw stones'. Maybe this is true, but as far as I'm concerned, Glasshouse can throw as many as they like. Comprising a line-up of Geoff Pinckney (programming), Ian Davies (keyboards, vox), and Pete Steer (guitar, vox), Glasshouse take us on a trip to a time very close to THE MIX writer Nigel Lord's heart – the new romantic era!

I am of course talking about the days when "sharp young men in skinny ties stood in pairs behind synthesizers and proved you didn't

On the **RE:MIX CD**

Track 5

Futurist 'Change Of Consciousness' Ambient Jungle on a futuristic vibe from the man who can...

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► need drummers and bass guitarists to produce a shit-hot four-minute pop song."

Glasshouse have an incredibly retro sound which reflects Duran Duran and perhaps early Depeche Mode. This is old hat – there's no questioning that, but they do it so well. The only sound to give away its 1990's origin is the breakbeat inserted on track one 'Like an Alien'. I particularly like the naff, tinny 80's guitar stabs.

The arrangement on 'Like an Alien' is excellent with effective links between the verses and chorus, and the middle eight hardly lets it down either. This is structured in a traditional mode of song writing, and I suppose as a pop song, 'Like an Alien' is almost perfect. The vocals are uncommonly strong, too.

'Back 2 This', the second and last offering is mildly less impressive as a song. With a band like this, the sound is often similar from song to song, and so the formula doesn't endure as well as it might. Simple minds creep out from time-to-time in this mix of stadium-oriented pop.

Some development is needed, and I think Glasshouse should introduce some new sounds. This is, however, a commendable effort and the production is practically faultless. This is very catchy, but I wouldn't expect to see them on *TOTP* for a while.

More from: Glasshouse
Tel: 01883 626971

H.A.T Demo

Techno, techno, techno, techno... And don't we love it! Well, whether you do or not, a decent techno track is definitely to be commended. There's nothing I hate more than people who slag off dance and take the snobby standpoint of 'anyone could do that.' Could they?

The best answer to the last comment is usually 'go away and do it yourself, and see how far you get.' That's exactly what Trevor Hollingworth is doing with his H.A.T. project, and with a modicum of success.

'Did you love me 3030303?' is one of the tracks supplied on Trevor's plainly-packaged cassette. It's a driving track which is a little busy at times. The so-called 303 pattern is in fact a Bass Station doing its famous 'not quite there' impersonation of a 303.

I wasn't particularly keen on the noisy rave stabs, but at times the track sounds very together. I like the 'Did you love me' sample. This has been well treated and adds a dark appeal to the whole sound. Unfortunately the track ends a bit abruptly, just when you think something else is going to

happen. The end of a tune is often as important as the beginning.

A furious frenzy comes in the shape of 'Up'. Fast breakbeats and nasty stabs lend this a very ravey feel, and I'm not particularly into this. Perhaps there are those out there who will be, though. The Dutch and the Germans are bang into nasty techno, and I'm sure these high-speed acid beeps and bleeps won't fail to please.

More from: Trevor Hollingworth
Tel: 01283 517578 or 01283 500500

Lonsboro Testing The Water

Andrew Selby of Lancashire took a break from writing what he terms as 'Euro-pop' and produced two tracks which he was determined would not adhere to any current dance moulds. He has certainly achieved this with his two tracks 'Delay '96' and 'Pastures New'.

'Delay '96' is nothing like anything else I've heard recently, in fact like nothing I've ever heard signed. This is simply weak. Some of the sounds are pleasant, but the 4/4 kick drum (no current dance moulds?) sitting next to a 'nice' bright melody brings little inspiration other than the need to take 40 winks.

I can see that Andrew is trying to escape the norm, but that shouldn't happen at the expense of the basic ingredients of good dance music. A club full of wet blankets on Tamazipian would probably be the appropriate audience for this unfortunate tune. It is fairly well arranged, but more impact is needed. Energy in both the rhythm and the melodies is essential. Often a synth line that is melancholic or 'apocalyptic' as I like to put it, has more effect on the dancefloor. It makes you feel like something is going to happen.

A driving bassline would also have improved matters... In fact a bassline would have helped. Bass is probably the most important part of dance music. It's like health – if you ain't got it, you ain't got nothin'. That's what my old Grandpa used to say!

Apologies to Andrew if he wasn't trying to achieve an effective dance track with 'Delay '96'. If, however, he was trying to hint at something more ambient, this still doesn't contain half the atmosphere needed to carry it off. One would expect some experimental sounds or perhaps some well chosen samples wouldn't one? Do yourself a favour and lose those glossy digital presets.

'Pastures New' was only mildly

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more impressive, and to an extent, reminded me of the Cafe Del Mar brand of ambient house. The pan-pipes and guitar synth noises were too obtrusive, evoking echoes of the *Holiday 96* theme tune. A pleasant vibe is induced by the reverb-drenched voices subtly resting beneath the mix and I like the idea of introducing the vocal – Even if it does sound a little Mancunian and rough around the edges!

There's plenty for Andrew to be getting on with here, and I wish him luck, and eagerly await future material.

More from: Andrew Selby
Tel: 01253 890048 (eve) or 01772 716921 (day)



Trench Demo

With the current hype surrounding 'Brit-pop', it's refreshing to hear live music approached from a different angle. A distinctly American flavour is purveyed by West London's Trench. But that's not the end of the story. Trench are incorporating technology with the energy of a live performance in a manner reminiscent of PWEI. The result however, is far different.

You could almost describe this material as industrial, but the whole sound is too smooth for that

label. There's even funky touches to it with the Chilis popping their heads out of the mix from time to time. Analogue synth loops also complement the largely traditional rock instrumentation.

There are three tracks on the demo tape, all of which were recorded on an Allen & Heath GS3 desk and a Fostex G16 last year in Mass's bedroom. Mass is the vocalist and he handles all the programming, while Leigh takes care of the guitars and backing vocals, Tom plays bass and shares in the backing vocals with Leigh, and drumming is performed by Ian. Unfortunately, Trench didn't have the facilities to record live drums on this demo, so they had to settle for programming, and as programming goes, this is fairly realistic.

The recording has been very carefully executed and much thought and time has been given to the production with some exotic sampled effects and general weirdness. On the last track for example, Mass has sampled a tiny phrase of his own voice and employed it as a percussive effect.

The list of tricks could go on, and the music is highly energetic. I can imagine this would be great to watch live, and placed in the right studio with the right producer, this lot might just be unstoppable.

More from: SDM Management
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On the
REMIX CD

Track
6

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Track
7, 8

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- For other details see the SH-09, or the retrospective in the Mix, Nov 95.

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Mix retro Nov 95.

SH-1000



SH-1000

Combined preset and variable 37-note (F-F) monophonic synth.

c.74 - c.78

Original price: £499 / £470 (1976)

Target price: £70 - £120

Users include: Steve Roach.

- Possibly Roland's first keyboard product? In some ways, the SH-1000 is a cross between the SH-3A and the SH-2000. Along the front, beneath the keyboard surface, are 32 rocker switches in more or less hideous colours, as on the SH-2000. Here, though, only the right-hand ten select presets – Tuba, Trumpet, Saxophone, Flute, Clarinet, Oboe, Violin, Bass guitar, Harpsichord, and Piano.
- The others select tremolo waveform and off/on; vibrato waveform, preset delay, and on/off; and VCF mod waveform – 'growl', 'wow', or ADSR; envelope settings – either according to the ADSR controls, or presets – Slow Attack, Staccato, Percussion, or Hold; and any of the basic voice waveforms – 32', 8' and 4' sawtooth, 16', 8' and 2' square, 16' and 8' pulse, and noise – reminiscent of the SH-3A.
- The main control panel sits to the left of the keys, and includes portamento and glide, as on the SH-3A; an ADSR and VCF with cut-off and resonance; LFO, VCO, VCA and VCF

Of logue

After last month's bumper crop of Roland classics, we've got...another one. There's so much Roland stuff out there, we've just got to devote the whole of Total Recall to all things analogue. So here it is...with corresponding audio samples on the RE:MIX CD.

modulation depth controls, white and pink noise, and S/H. depth controls, white and pink noise, and S/H. The manual is great on the sample-and-hold: 'When RANDOM NOTE is switched to "ON", accidental sounds having no relation to the performer's mind are produced by operating the VCO with random voltages of the uncertain factor emerging from the white noise'. What the manual doesn't say is that the spread of these 'random voltages of the uncertain factor' is determined by the noise level control. If you have the noise turned down, you don't get traditional sample-and-hold – in fact, if it's turned right down, you don't get any voltage variation at all. Quite a good facility, actually – except that it's mystifying at first.

- Glide switch and VCF pedal inputs, but sadly no CV/gate in/outs – otherwise this could be a real little goer, with many of the SH-3A's good points, and some extra ones of its own.
- Unlike on the SH-2000, you can't over-ride the presets' VCF or VCA envelope settings, but at least you have the extra non-preset oscillator instead. There is also of course no aftertouch, which is a shame.
- Low-note priority single-trigger keyboard – so to re-trigger the envelope, you have to release a key.

Sounds	★★★★★
Keyboard	★★★
Interface	★
Controls	★★★
Memories	★★
Ease of use	★★★★★
Character	★★★★★
Power:space	★★★
Maintenance	★★★
Collectability	★★★★★

SH-2000

Pre-set monophonic synth with aftertouch.



c.73 - 78

Original price: £573 (Jul 76) / £764 (78) / £816 reduced to £599 (Jul 79)

Target price: £80 - £140

Users include: 808 State, Jimmy Destri /

Blondie, Nick Magnus / Steve Hackett, Mike Oldfield, David Palmer / Jethro Tull.

- One of Roland's most successful products in the early days. Although it probably took some ideas from other instruments (eg ARP's Pro-Soloist) it was also copied itself – very closely, by one or two manufacturers.
- Presets were Tuba, Trombone, French Horn, Trumpet, Saxophone, Bassoon, Oboe, Flute, Clarinet; Cello, Violin, Bass Guitar, Hawaiian guitar, Banjo, Fuzz guitar I,II; Piano, Harpsichord, Accordion, Vibraphone, Xylophone; Singing voice, Song whistle, Popcorn, Space reed, Planet, Frog man, Funny cat, Growl wow, and Wind. Taken in isolation, not many of them have any sort of realism at all; but many have their place in a mix, and were widely used in seventies music. Popcorn is a nearly perfect recreation of the Moog modular sound used on 'Popcorn'. Several other sounds are full of nostalgia.
- The most important thing, though, is that, thanks to the performance controls, and particularly aftertouch, the SH-2000 can be a surprisingly expressive and even emotional instrument.
- The preset switches aren't self-cancelling, which is a shame. The farthest right simply over-rides all others. Despite Roland's claim at the time, that doesn't make preset selection quicker. It makes it slower, compared with a self-cancelling system. Cheaper, though.
- The touch sensitivity section includes an overall sensitivity knob, and switches for Volume, Wow, Growl, Vibrato and Pitch Bend.
- You can also over-ride the presets' VCF settings by switching to manual, and gaining

control of modulation amount, cutoff and resonance. You've also got control of LFO speed, portamento speed (and a 'Slow' setting, which extends the time for special effects), and can switch in S/H into the VCO modulation, either on all the time ('Auto'), or keyed.

- The VCF board was changed after s/n 578049.
- MT retrospective: Aug 91
- Unfortunately, no CV/gate connections – in fact just one socket on the back, for audio output.
- The surprise is just how good this sounds in the hands of a sympathetic player.

Sounds	★★★★★
Keyboard	★★★★
Interface	
Controls	★★
Memories	★★
Ease of use	★★★★★
Character	★★★
Power:space	★
Maintenance	★★★★★
Collectability	★★

SPV-355

rackmount 2-VCO synthesiser with pitch-to-voltage converter.

c.late 79 - c.83

Original price: £491

Target price: £150 - £250

Users include: Tony Arnold, Lawrence Juber / Wings, Rick Wakeman.

- One of the first rackmount synths ever; and although it was originally designed to be triggered by a traditional instrument (guitar, voice or 'wood/brass transducer' are the three types of input mentioned on the front panel) there's no reason why you can't use it simply as a rackmount expander – it's fully equipped with CV/gate ins and outs. Better still, though, you can use it with any monophonic keyboard as master. The pitch following was never going to be that brilliant with any guitar or wind instrument – the technology maybe still has some way to go, nearly twenty years after the first guitar synths – but it works fine with the cleaner signal a synth or electric piano, for example, produces.
- There is a threshold level control for the front panel instrument input, and a green LED for the right level, and a red one for overload. Portamento and of course envelope following (for VCF and/or VCA) are available – or you can switch to the internal ADS envelope. Pitch following for the filter is also available – which is subtly different in practice from the usual



- keyboard follow facility. Especially useful, because the (24dB) VCF is designed to self-oscillate.
 - One disappointment: the VCOs share common waveform and octave setting. On the credit side, there's a square-wave sub-oscillator, and two individual tuning knobs for VCO2, which you can switch between, with a front panel-connected footswitch.
 - Lots of other good things, as well: a send and return jack for sending the synth signal to an effects box before final output; one audio mixer for the synth, with sliders for Sub, VCO1, and VCO2, and another for the final Synth and the original Direct signal; and a front-panel pedal socket for controlling VCO and/or VCF, with sensitivity sliders for each. There's also a CV/gate hold footswitch socket – designed to compensate for technological shortcomings (the inability to keep tracking a decaying signal), but that shouldn't stop you being creative with it.
 - It's not a complete synth. No modulation, or S/H, or ring mod, or noise (and no release on the envelope); but as an addition to some other CV/gate synths, it's excellent. It's sturdy and well-made, and the positioning of lots of signal and control inputs on the front encourages the interfacing experimentation it's well suited to. It also sounds nice.

Sounds	★★★★
Keyboard	
Interface	★★★★
Controls	★★
Memories	
Ease of use	★★★
Character	★★★★★★
Power:space	★★★★
Maintenance	★★★★
Collectability	★★★★

SPV-355

Rackmount 11-band vocoder - c.79 - c. 84

Original price: £548

Target price: £350 - £550

Users include: Rod Argent, Bass-o-Matic, A Certain Ratio, Rupert Greenall, The Grid, Will Mowat, The Other Two.

- An excellent little vocoder, with built-in

chorus.

- See the A-Z of Analogue Effects for more details.

System 100

Semi-modular synth and sequencing system. c. late 75 - c.79

Original price: £1760

Target price: £700 - £1000 for the complete system.

Users include: Alphaville, Richard Burgess, Heaven 17, HIA, Human League (102 Expander), Ian Marsh / The Future, Ross Middleton, Nick Rhodes, Tomita,

- After the powerful, neat and beautiful 100M came along, this, Roland's original semi-modular system, seemed old-fashioned and practically worthless. Times change. Coming back to it after fifteen years, I was amazed at how powerful the system is.
- There are five component parts, most of which are actually self-sufficient: unlike most modular systems, they don't need a separate rack or power supply.
- The 101 (£575 in 79) is the main unit, and works well as a simple self-contained synth. A 37-note (F-F) keyboard sits in front of a control panel which 21 oval-topped sliders, five knobs, 14 mini-jack sockets, seven switches, and three quarter-inch jacks, for headphone (with level control), and high and low output. Standard features include an ADSR, LFO, Portamento, VCO with unusual tuning knob marked in Hz – from 10Hz to 10kHz – and PWM; white or pink noise, one of Roland's neat audio mixers, with sliders for Ext Input as well as VCO and Noise, a HPF, standard LPF with all the usual controls on sliders, and VCA which can have LFO input for tremolo. One nice little Minimoog-style bonus: an A=440Hz oscillator. Auto-glide and a manual glide button are good, as well. The mini-jacks give you access to a lot of the voltages, including ADSR, CV/gate and VCO sync out, and CV/gate, Env, and VCF in, and a lot of the audio signals – VCO, Noise, Ext Input, etc..
- The 102 (£499 in 79) is the expander version, designed to sit upright behind the 101. Very similar, with just a few changes:- instead of the glide controls, there's a good S/H module with variable lag time, and a ring modulator instead

of noise. There are weak and strong sync inputs, and a mix cascade jack socket instead of the tuning oscillator.

- The 103 (£266 in 79) is a 4-2 mixer/amplifier, with panning, mono FX send, and built-in reverb, designed to sit to the right of the 101.
- The 104 (£335 in 79) is a 12x2 step sequencer, and is probably the jewel in the System 100 crown. Facilities include fully variable gate time, series or parallel configuration, switchable ranges, and chunky little buttons for Start, Continue, Stop, and Step. Playing around with one of these, you can see why analogue sequencers shot up in price. This definitely beats the 100M sequencer – even if only because it has twelve instead of eight steps per bank.
- The 109 (£85 in 79) was a pair of 16cm 3.5W speakers in angled boxes designed to sit either side of the 102.
- There was a stand (100/S) available for £99.
- Other parts to the system were originally planned (hence the gap in numbers from 104 to 109?), but Roland instead chose the radical re-engineering and re-design that resulted in the 100M.
- Scores are first for just the 101, then for a complete system.

Sounds	★★★	★★★★★★
Keyboard	★★★	★★★
Interface	★★★★	★★★★
Controls	★★★★	★★★★
Memories		
Ease of use	★★★★★	★★★★★
Character	★★★★★★	★★★★★★
Power:space	★★★★	★★★★
Maintenance	★★★★	★★★★
Collectability	★★★★★	★★★★★★

System 100M

Classic miniature semi-modular system. 79 - c.84

Original price: £1242 (80) / £1299 (81) for 5-module 2-VCO system with 181 monophonic keyboard.

Target price: £1200 - £1800 for the above.

Users include: Aphex Twin, Jeff 'Skunk' Baxter, Ian Boddy, Richard Burgess, Vince Clarke, Depeche Mode, Andy Horrell (73 modules), Human League, Masterworks, Meat Beat Manifesto, Daniel Miller, Mulligan, Radiophonic Workshop, Tears for Fears, Hans Zimmer (a modest system somewhere over a hundred modules).

- This is one of the neatest modular systems ever designed. Not as versatile or open to experiment as, say, a Serge system, or even a Digisound; but beautifully designed and engineered, reliable, and neat. Most important of all, it sounds really good. The filters seem so much meatier than most other late seventies Roland gear, and there's just the right mix of accuracy and analogue imperfection to give you a reliable but human sound. It packs a lot into a very small space.
- As is the case with almost all modular systems, a range of basic modules came first, and then others were added at later dates. This process tends to tail off, as the release of new units becomes commercially less and less of a sure thing, so there's some doubt about whether some of the very latest modules ever went into full-scale production.
- The backbone of the system, whatever modules ►

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- E&MM review: Mar 84.
- Scores are for a five-module rack with 181 keyboard, and then a typical fifteen-module system with 184 keyboard.

Sounds	★★★★★	★★★★★
Keyboard	★★★★	★★★★
Interface	★★★★★	★★★★★
Controls	★★★★★	★★★★★
Memories		
Ease of use	★★★★	★★★★
Character	★★★★★	★★★★★
Power:space	★★★★★	★★★★★
Maintenance	★★★★★	★★★★★
Collectability	★★★★★	★★★★★

System 700

massive modular synth with price-tag to match. c.76 - c.82

Original price: £8600 (76) / £10627 (Nov 77) / £13556 (78) / £12644 (79)

Target price: £8000 - £10000

Users include: Richard Barbieri, Jeff 'Skunk' Baxter, Vince Clarke, Depeche Mode, Guido Mylemans?, Klaus Netze, Nitzer Ebb, Stefan Reinert, Martin Rushent / Human League ('Dare'), Tim Simenon, Tomita, Visage, Hans Zimmer.

- Roland had the advantage of coming after the major players had had their shot at large modular systems, and were able to take some of the better points from Moog, ARP and so on, to produce a huge monster of a synth. In many ways, it's like an over-sized 100M – which was developed, no doubt, from it, but which makes the 700 look a little too big – clumsy, almost.
- There's less variability in System 700s than in, say, comparable Moog modulators. This is mainly because each of the six racks that make up the system was generally sold as a whole unit. It was theoretically possible to place special orders for your choice of constituent modules (and you had a choice of some 47 to select from), but that doesn't seem to have happened much.
- The main console was definitely sold only as a ready-made unit, because it had pre-wired normalised connections for the most common routings. It also functions on its own as a self-contained 3-VCO synth, with two VCFs,

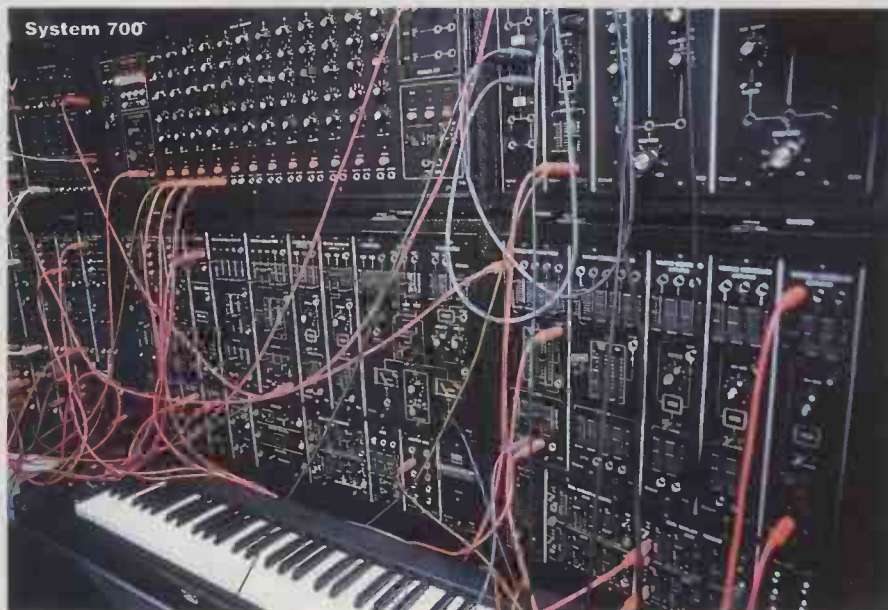
▶ you went for, was a rack. The modules themselves were so beautifully constructed (encased in metal) that they could have sat around unprotected quite happily, but you needed an 8-pin DIN specialised power connector which came with the rack. The internal CV/gate and trigger system also came via the rack, saving un-necessary patch-cords.

- The 190 (£149 in 81) was the smaller rack, holding three modules, and with a few interconnection sockets on its base. An optional 190B base was available if you needed to raise the 190 above a keyboard.
- The 191J (£175 in 81, and definitely better value) was a five-module rack, with a very useful set of multiple connectors on its base.
- Modules (all 104cm W x 230cm H x 199 D, prices at 1981 levels) included:-

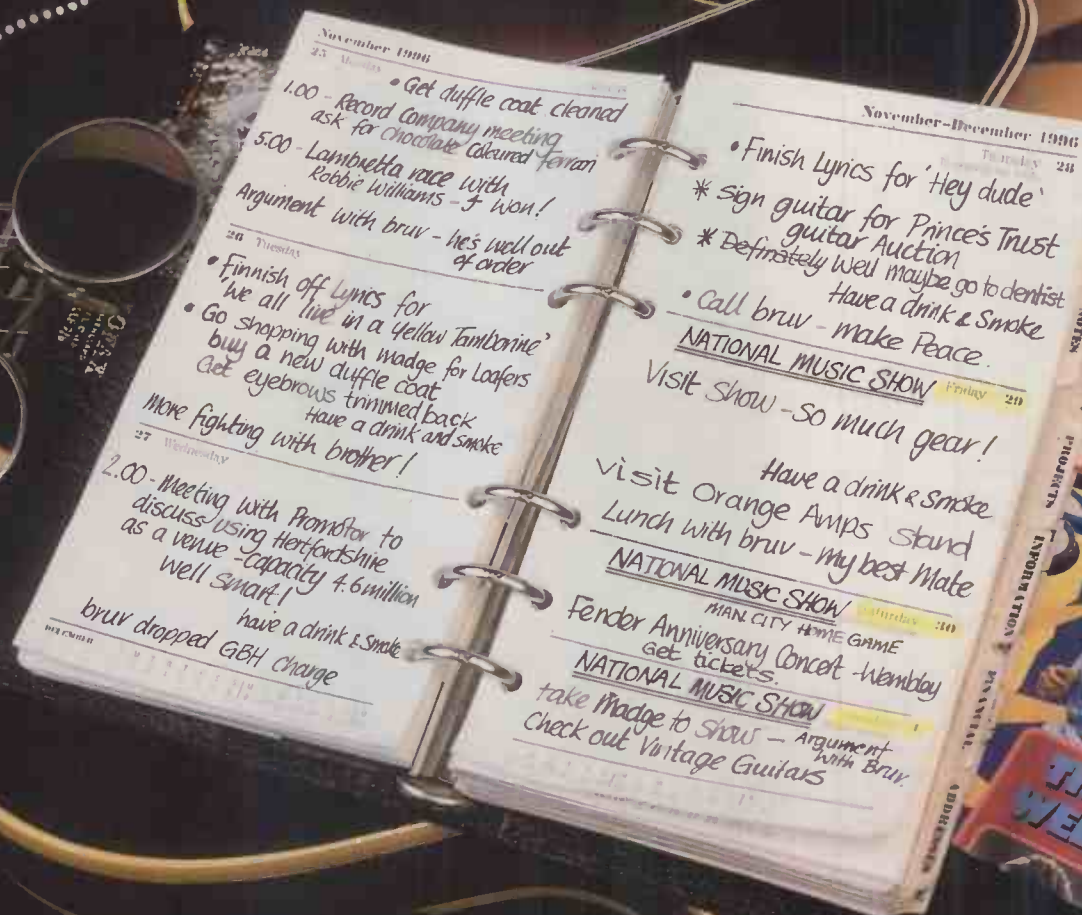
- 110 (£225) VCO-VCF-VCA, designed to go with the 140 to be a complete voice. Ultra-neat.
- 112 (£225) Double VCO, with 3 instead of 2 CV ins, two instead of one outs, and weak/strong sync.
- 121 (£199) Double VCF, similarly expanded compared to the 110, with a simple high-pass filter.
- 130 (£175) Double VCA, ditto, but with a linear / exponential switch.
- 131 (£175) Output Mixer, 4 into 2 or 1, with panning and a tuning oscillator (220/440/880Hz).
- 132 (£149) Double Mixer (4 audio or control inputs to 2 +/- outputs) and variable + and - CV sources.
- 140 (£175) Double Envelope (full ADSR, invertable, and a nice little red button for manual gate) and five-waveform LFO with useful switchable range (x1, x1/10).
- 141 Double Envelope, Gate Delay, Invert/Adder.
- 150 (£175) Ring Mod / Noise / S&H / LFO: S&H with lag; pink and white noise; LFO same as 140.
- 160 Computer Interface.
- 165 Double Portamento Controller, with CV in, particularly useful with MC-4 sequencer.
- 170 Pitch/Voltage Converter / Envelope Follower / Audio amp.
- 172 (£175) Phase Shifter / Audio Delay / LFO / Gate Delay: Phase Shifter and Audio Delay can use built-in LFO or ext CV; Gate Delay can work as sync-to-tape device. 1980 price

of this was £349.

- 173 Quadruple Signal Gate (+ and - gating, good with the MC-4) and six four-way Multiples.
- 174 Parametric Equalizer, four-band, with 20Hz - 20kHz centre frequencies.
- 182 (£199) Analog Sequencer: 2x8 step, serial or parallel.
- Three keyboards were eventually available (although any synth / sequencer / MIDI/CV interface with CV/gate outputs at 1V/octave will do):-
- 180 (£192) 32-note (F-C) low-note priority keyboard with transpose switch and portamento knob. Price increased to £199 by 1981.
- 181 (£249) 49-note (C-C) version, with portamento switch added, and bender lever (with CV out). Price increased to £275 by 1981.
- 184 (£399) 49-note (C-C) four-voice CV/gate version, switchable mon/polyphonic, with arpeggiator and polyphonic portamento. Available May 81. This is the one to go for if you get the chance.
- The 100M is the featured synth in the sought-after Roland books 'Practical Synthesis for Electronic Music, Volumes One and Two'.



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- The left wing cabinet (if anyone in the UK remembers what that is) has six VCOs (bringing the standard total up to nine, in true Moog fashion), another little mixer, 2x5 multiples, LFO2, S&H, and another Dual Envelope Generator.
- The right wing cabinet has two more VCFs, three VCAs, two Dual Envelopes, a 2x5 multiple, and a Gate Delay.
- Upstairs, on the left, there's an Interface (with pitch-to-voltage converter), VCA, very nice Multi-mode Filter, and simple nine-way audio mixer.
- In the middle comes the chunky 3x12 sequencer, which is all just one huge module. It packs in a Master Controller a bit reminiscent of the System 100, a Pulse Shaper, Clock Oscillator, and Series and Parallel output sections, and enough control to be able to use it not just for simple pitch sequences, but also tone-colour changes, complicated envelopes, syncopations, and so on..
- On the right at the top comes the least dense of all six blocks: a Phase Shifter, Audio Delay, four-input Analog Switch, and a nice little multiple (1x12, 1x4 / 1x8, or 3x4).
- The VCOs come in several slightly different configurations. They're all 702s, they all have four waveform outputs (sine, triangle, sawtooth and rectangle), PWM and range knobs (LO to 2), and a pitch control (plus or minus 12 semi-tones); but 702A has a PWM mod input and slider and LFO1 mod input hard-wired, 702B has hard-wired ADSR1 and LFO1 mod inputs and sync, and 702C has S&H and LFO1 input and sync. Those three are the VCOs on the main panel. On the second panel, there are three 702Ds – like 702As with a socket instead of the hard-wired mod inputs – and three 702Es – like 702B/Cs without the hard-wired inputs.
- All VCOs have a claimed range from 0.1Hz to 100kHz.
- The VCFs have voltage-controlled resonance, and all the control voltage producers like the LFOs can themselves be voltage-controlled, for, eg, envelope control of vibrato speed. Powerful.
- Maybe because of the scale of the design, there's room to be more specific than usual in the legend. You don't often see envelopes with ATTACK TIME, DECAY TIME, SUSTAIN LEVEL AND RELEASE TIME all written in full on one line, and precise timings on the scale – from 2 ms to 10 sec. (2 ms is some way up the scale, by the way. The envelopes' attack times are sprightlier than that.)
- The standard keyboard was 61-note (C-C) duophonic, with portamento up to ten seconds, and pitch-bend settable to a maximum of a semi-tone, an octave or five octaves!
- A 'Laboratory' system was available – a cheaper starter version, the size of one of the lower wing cabinets in the big system, with 3xVCO, noise and ring mod, a simpler VCF, a VCA, simple mixer, LFO, S&H, and Dual Envelope Generator.
- You have to see one of the full-size System 700s to appreciate how big the things were. The

advantages of this are, 1) they're visually very, very impressive, with smart black tolex covers, lots of LEDs flashing, and hundreds of knobs and sliders; and 2) they can use full-size jack plugs and slider caps. If you're rich, with big hands and a big studio to match, this one's for you.

- Andy Horrell of EMIS thinks the VCFs on this are far superior to Moog filters – and 100M filters, come to that.

Sounds	★★★★★★★
Keyboard	★★★★
Interface	★★★★★★★
Controls	★★★★★★★
Memories	
Ease of use	★★
Character	★★★★★★★
Power:space	★★★★
Maintenance	★★★★★
Collectability	★★★★★★★



TB-303 Bass Line

Micro-processor-controlled bass synth/sequencer. 82 - c.84
 Original price: £215 (82) / £89 (85)
 Target price: £480 - £750

Users include: 808 State, A Positive Life, The Aphex Twin, Jeff 'Skunk' Baxter, Beatmasters, The Beloved, Bizarre Inc., Cabaret Voltaire, A Certain Ratio, Coldcut, Dreadzone, Ege Bam Yasi, Electribe 101, Future Sound of London, A Guy Called Gerald, Haircut 100, Simon Harris, hia, Hit Squad, Marshall Jefferson / DJ Pierre (Phuture 'Acid Tracks'), LFO, The Madness, Man Machine, Mulligan, Mushroom / Massive Attack, The Orb, Orbital (x2) ('Chime'), The Other Two (Groove's MB303 adaptation), The Prodigy, Rhythmic, Tom Robinson, Kevin Saunderson, Shamen, Tim Simenon, Switzerland (x2), Ultraviolet, Underground Resistance.

- The prime example of hyper-inflation in the analogue synth world. Once Jeff 'Skunk' Baxter and Haircut 100 got their hands on one, prices went sky-high...
- Actually it was 'Acid Tracks', a ten-minute-plus Chicago workout from 1987, which did the trick. It apparently came about more by accident than design – which is probably true of all the best 303 lines. This is not an instrument which benefits you to sit down and read the manual thoroughly right the way through. For a

start, the manual runs to 90 pages, and weighs almost as much as the 303 itself; and, more important, the more you know about it the more you can spend hours ending up with the sort of thing you could do in two minutes with a software MIDI sequencer. Far better to jam the programming – entering random Accent and Slide hits after finishing the basic notes – and see what you get. If it works, use it. If it doesn't, just go again.

- Apart from the 'found riff' aspect of the sequencing, what is it that impels people to pay so much for a Bass Line? The sound is okay as a pure bass synth – although something like a Gnat, or Prodigy, or even an SH-101 can do a lot better (let alone a Taurus) – if you hook the Bass Line up to a bass amp and speaker, and treat it like a bass guitar, it can sound pretty solid. But that's not the story. You could do the same with any synth that had square-wave or sawtooth waveforms and a decay control on the

envelope filter – eg practically any synth, full stop. The secret of the sound lies in the design of the filter circuit. Maybe it's because the envelope is so simple; maybe because the unusual 18dB/octave filter and resonance circuit just happen to come together so well; maybe, as Mr. 808 claims on the net, it's because the envelope modulates the filter cut-off all the way from fully negative to fully positive in one sweep. Presumably the makers of the various 303-inspired rackmounts (the Deep Bass Nine, Clone Three, and so on) have some of the answer, but maybe they're not telling. Roland themselves haven't seemed too bothered.

- However it happens, you get a squelchiness with the 303 filter that is very difficult to equal with other synths. Coupled with the Accent, which works on the resonance of the filter as well as the VCA, and Slide, which, because it's programmed separately, can sort of start mid-air, you end up with a distinctive sound, more mid-spectrum than bass.
- The other important factor is that all the tweakable controls are right there, on the front panel, next to each other. Accent level, Decay, Envelope modulation of the VCF, Resonance and VCF Cutoff are right there, not hidden among twenty other knobs like on most synths.
- One other nice thing: battery back-up of the sequence, unlike on the MC-202.

- It's still a pig, though: you can sync it with any Sync 24 machine – a 606, 808 or 909, for instance, or a CSQ-600 or MC-4 sequencer – but you can't play it from anywhere else except its own sequencer. Why it should have had CV/gate outs but not ins is a mystery.
- There's a Mix In socket, which for a moment might give you the impression you could use the filter in the 303 to effect another instrument. You can't. It's really there so that you can run something like a 606 and the 303 off the same input on your amp.
- From a collector's point of view, you need to look out for a 303 in its original box, still with its shiny fabric cover with the little press-stud fastened strap, the manual, of course, and if you're really into minutiae, the Chord Shift Scale – a little revolving wheel to help you with transposing sequences.
- Cast your mind back to late 1985, when Soho Soundhouse were offering some good little bargains, brand new, boxed, with a year's guarantee, for £159, including delivery. No, that was the MC-202. The TB-303s were £89.

Sounds	★★★★★★
Keyboard	★
Interface	★★
Controls	★★
Memories	
Ease of use	★★★
Character	★★★★★★
Power:space	★★★
Maintenance	★★★★★★
Collectability	★★★★★★

*MT retrospective: Feb 89, Mix retro Jan 96.

VK-1

Electronic one-manual 61-note (C-C) organ with drawbars.

Mar 80 - early 80s

Original price: £650

Target price: £80 - £120

- Three presets: ensemble, full tibias, and theatre brass. Hmm.
- Chorus/vibrato with variable depth and rate. Nine drawbars in standard configuration. Second, third and fifth harmonics percussion, with variable volume and decay.
- Portable but maybe un-necessarily big – 111cm wide.

VK-6

Two manual (49-note, C-C) electronic organ with drawbars.

c. 78 - c.80

Original price: £2499

Target price: £180 - £450

- A workmanlike organ, still heavy at 58kg, but a good deal more portable than a Hammond.
- Very importantly, it has a 9-pin Leslie socket and controls already built-in - something that does a lot for its sound potential. (An 8-pin Roland Revo socket as well.)
- All the usual Hammond impersonation functions: two sets of nine drawbars, and three for the bass section; the same percussion as on the VK-1, with the addition of Click Attack; but unfortunately still only a global set of vibrato controls, rather than one for each keyboard. Presets on the upper manual were Synthesizer, Trumpet, Full Tibias, and Theater Brass; and on the lower manual Bass, Tibias, and Ensemble. Two envelopes (and a separate output) for the bass - which could play from the lower manual

or optional 13-note pedals.

- The one stand-out feature: CV/gate out, to control an external synthesiser from the upper manual; and portamento controls for this, with a time control knob, and a Flyback rotary switch, with Down, Off, and Up positions – unusual terminology, but what it does is simply give you up-only or down-only portamento if you want it.

VK-9

Two-manual (61-note, C-C) electronic organ with full drawbars. 78 - c.82 ad im apr 78 p164 Frankfurt 78 £4499 (1978)

Original price: £4499

Target price: £300 - £600

- Not to be confused with the VK-09.
- Roland's flagship organ. "Nearly every idea desired by leading musicians throughout the world has been provided for. You must do more than read about the amazing new Roland VK combo organs. And you must do more than merely hear them. You must actually play them to begin to realize how carefully they were planned... how painstakingly they were designed... and how perfectly they were built."
- Full drawbars as on a Hammond B-3 - except that on the VK-9, you could play any set of drawbars from either keyboard. Optional 25-note wooden pedalboard.
- Otherwise, all the features of the VK-6 (except for the Leslie / Revo socket, which needed a separate VKA-1 kit) plus a stand that looked like a designer park bench.
- Total weight with all the options was 127kg, so maybe a Hammond wasn't such a bad alternative for gigging after all – but at least the VK-9 keyboard itself was only 73kg, which was more easily manageable by two people.

Sounds	★★★★★
Keyboard	★★★★★
Interface	★★
Controls	★★★
Memories	★
Ease of use	★★★★★
Character	★★★★★
Power:space	★★
Maintenance	★★★★★
Collectability	★★★★

VK-09

Single-manual (61-note, C-C) electronic organ with drawbars.

81 - c.84

Original price: £475

Target price: £100 - £150

- Not to be confused with the VK-9. Weighing in at just 9kg, this is one eighth the weight of the VK-9's keyboard, and very compact, as well – only 89cm wide.
- Two sets of drawbars, one for sine wave, one for 'Bright Wave', both with 16', 5 1/3', 8', 4', 2 2/3' and 2'. Second and third harmonic percussion with Volume Soft and Fast Decay switches; slow/fast vibrato (switchable via back panel socket), and short/long sustain. Gate output socket.

VP-330 Vocoder Plus

49-note (C-C) splittable vocoder / string machine. 79 - 80

Original price: £1314

Target price: £600 - £900

Users include: 10cc, Don Airey, Laurie

Anderson ('O Superman'), Tony Banks, A Certain Ratio, Vince Clarke, Spike Edney / Queen, John Foxx, Dave Hewson, Kitaro, Rudiger Lorenz, Nick Magnus / Steve Hackett, Man Machine, Masterworks, Andy Nye / Michael Schenker Group, Mike Oldfield, Alan Park / Cliff Richard band, Riuichi Sakamoto, Tomita, Vangelis.

- One of the shortest-lived of all Roland keyboards, in terms of period of manufacture but not end-user popularity.
- It has three sections: the vocoder, Human Voice, and Strings.
- The strings are very like the RS-202: limited in scope (just Attack and Tone controls) but extremely effective. They can be selected to play either side of the two-octave key split.
- The voice sound is ordinary enough untreated – give me a Mellotron or an 8-bit sampler any day – but sounds great with Roland's classic stereo Ensemble switched in. On the lower split, you have Male 8' and Male 4' (getting such unusual sized singers in to the sampling sessions is just further evidence of Roland's astonishing attention to detail); and on the upper, Male 8' and Female 4'. That means that the Male 8' voice carries on right through the four octaves, which is useful. They're nasal, but with Ensemble, not bad at all. An Attack slider is the only other control.
- The vocoder section couldn't be much simpler: apart from the split assignment controls, it has nothing else except a mic level slider and ensemble switch. If you want, by the way, you can use another synth to provide the carrier signal – but it's easier to use the VP-330 itself. Balanced (XLR) and unbalanced (jack) mic inputs are provided.
- One slider controls release for all three sections. If you want a vocoder sound with a long release, you have to 'freeze' the mic signal via a footswitch.
- Global vibrato is available, with control of depth, rate, and delay – always worth having.
- Auto-bend (only below the actual pitch, not above it) is available on all three sounds, and can be switched in with a footswitch.
- Single triggering: to trigger the next attack, all keys must be released for an instant.
- Mono or stereo output.
- If you want a vocoder with which to experiment, then this isn't the one. Some of its internal processing takes short cuts, compared with the classic vocoders like EMS, Bode or Sennheiser. But if you want a really good vocoder-type sound without any fuss, and Roland's classic string synth sound and some analogue choir voices as an added bonus, then the VP-330 comes highly recommended. After all, it was good enough for Laurie Anderson on 'O Superman'.

Sounds	★★★★★★
Keyboard	★★★★
Interface	★
Controls	★★★
Memories	★
Ease of use	★★★★★★
Character	★★★★★★
Power:space	★★★★
Maintenance	★★★★
Collectability	★★★★

• MT retrospective: Feb 92

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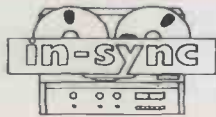
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Utilising classic sounding FET technology combined with the latest in solid state circuitry, the Classic Channel (mic pre-amp, equaliser, filter & compressor); Classic Compressor (dual channel vintage compressor/limiter); and Classic Equaliser (dual channel mic-amp & 4-band vintage EQ); bring much needed character and warmth to today's recording processes.



Typical set-up using the V8 to add warmth to a digital recording

DIGITAL RECORDER

DIGITAL ENHANCEMENT

V8 + C8 Perfect Digital Partners

Digital recording is great. Fidelity is high and you love it. However, digital can often sound 'cold' and to some ears sterile. This is where the LA Audio V8 and C8 step in.

The V8 is a unique application of valve technology offering 8 separate channels, (8 tubes!) of valve conditioning for digital track laying or mix-down.

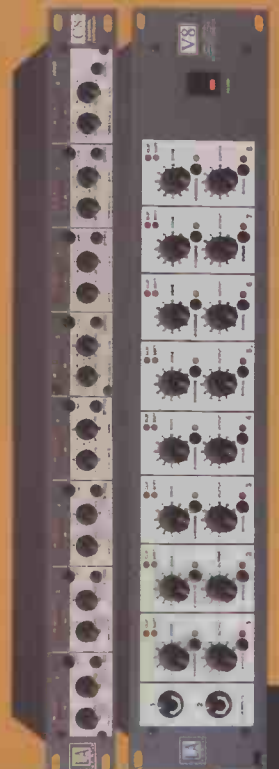
You get balanced XLR I/Os, full Overdrive and Level controls, DI on channels 1 & 2 and unlike some valve equipment, two active valve gain cells per channel for maximum valve sound.

The C8 offers 8 channels of compression, each with fully variable threshold & gain along with metering and Auto Sensing attack, ratio & release. - Used on the front end of your digital recorder, digital distortion will no longer be a worry. Digital recording is great - LA Audio makes it better.



Channel 1 & 2 W

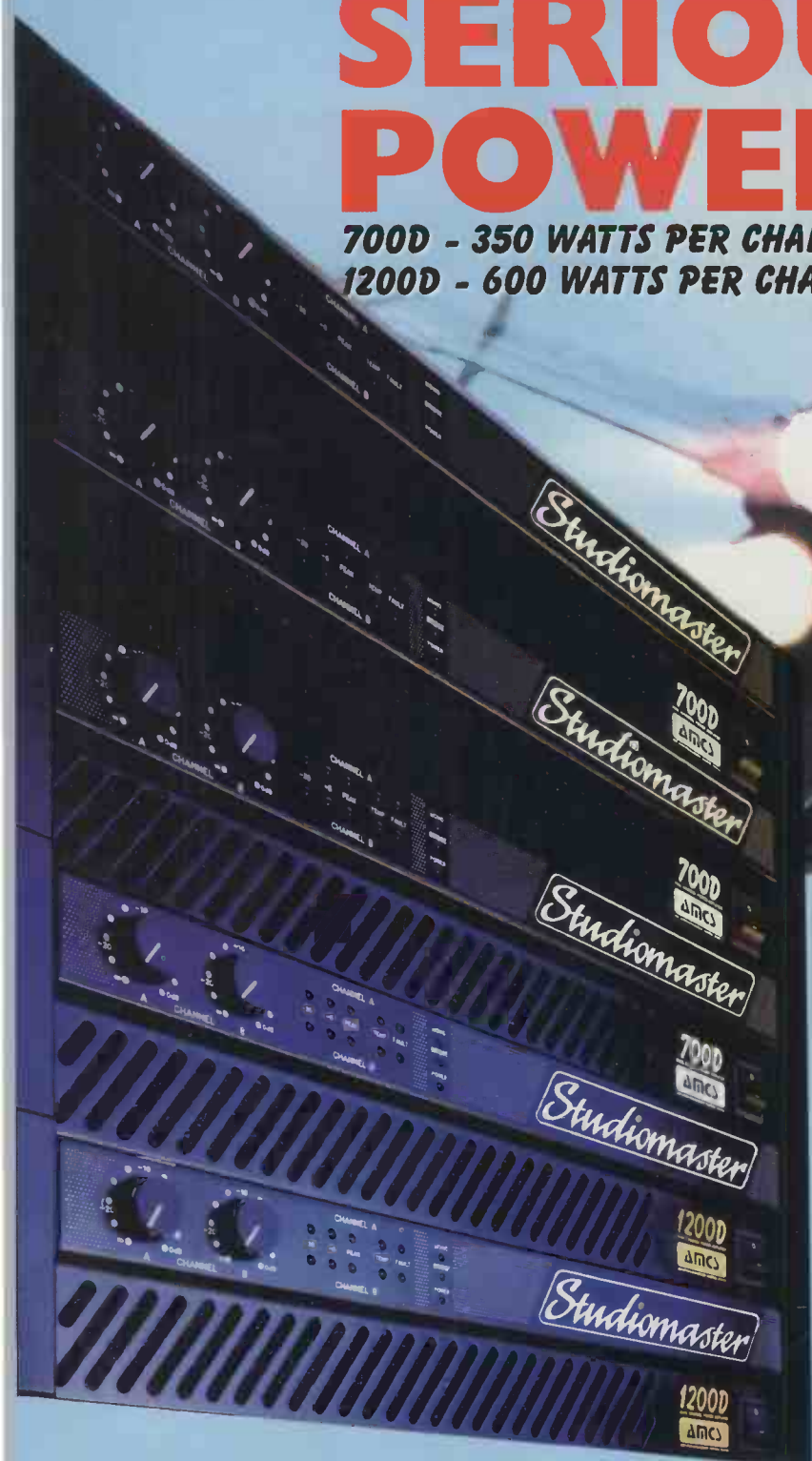
From mixing console
tape sends



700D & 1200D DUAL CHANNEL POWER AMPLIFIERS

SERIOUS POWER

700D - 350 WATTS PER CHANNEL
1200D - 600 WATTS PER CHANNEL



Are you ready to join the professionals?

The latest amplifiers to carry the Studiomaster name are the **700D & 1200D**, housed in a 16 gauge steel, 2U, rackmount monocoque chassis, both models have been engineered to give years of service, delivering a sound quality, night after night, that has ensured continued success with the professionals over the past two decades.

Sky high specification, design and earth shattering performance means you get to take off with the best and price-wise you can bank on Studiomaster not to burn a hole in your pocket. So when you need to get serious, check out the **700D & 1200D** at your local dealer. Why buy a cheap amp when you can afford Studiomaster?

AMCS™

SERIOUS PROTECTION

Power, sound quality and reliability are only part of the story - with such high power levels it is easy to cause damage and so protection circuitry has an important part to play. Our amplifiers are fitted with our unique Amplifier Management Control System - **AMCS™** - which not only protects the amplifier and the speakers, it also ensures you get the best out of the amplifier under all operating conditions. **AMCS™** includes

- SIGNAL LIMITER
- THERMAL AND LOAD SENSING FAN COOLING
- ELECTRONICALLY GATED POWER STAGE
- GROW BAR SPEAKER PROTECTION

WHEN YOU NEED TO GET SERIOUS...



I need to get serious so please send me details of the 700D & 1200D AMPLIFIERS

Name.....
 Address.....
 Postcode.....

Tick here if you would like to be kept up to date with STUDIOMASTER'S product range.

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