THE MIX

35 PAGES OF REVIEWS

LESSONS IN **LAW**
How to avoid being ripped off by record labels

Issue 65
August 99
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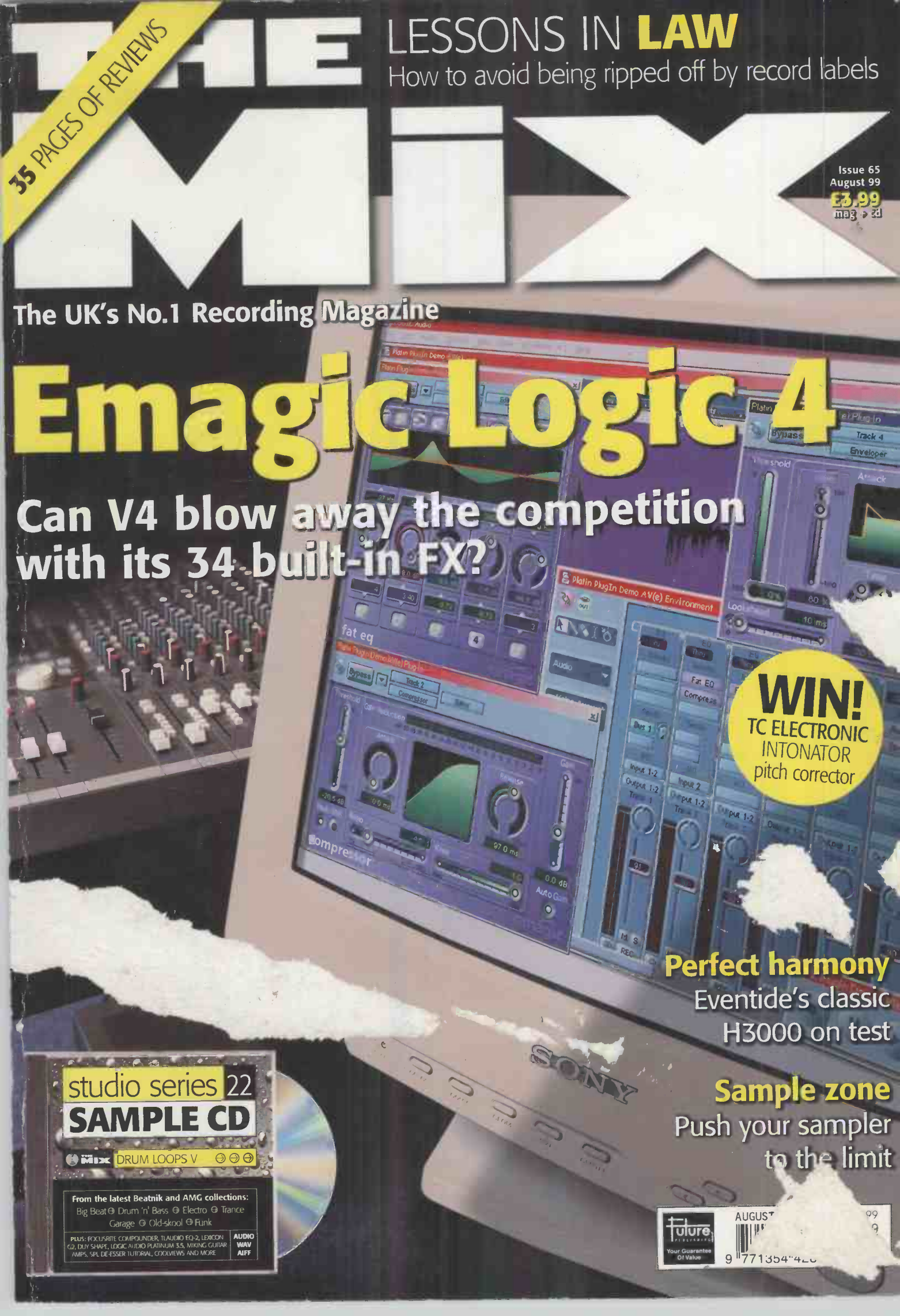
mag + cd

The UK's No.1 Recording Magazine

Emagic Logic 4

Can V4 blow away the competition with its 34 built-in FX?



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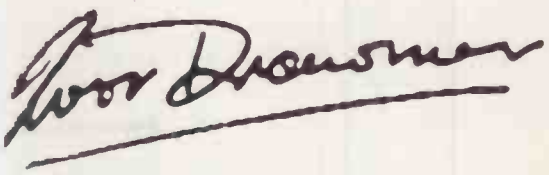
Yes, master...

Ivor Drawmer: the man who gave us the classic Drawmer DS201 Dual Noise Gate

A lot of people are now mastering their compositions 'at home'. In a way, that's a great indication of the fact that the technology is now in place for people to do that. However, there is a great danger in that it can be overdone. For certain kinds of music, especially dance, when you're literally 'rail bashing', it probably *is* possible to do that at home. The trick with mastering, though, is to fill as much of the audio spectrum as possible, to get it up to 0dB while keeping as much dynamic range as possible, and to keep it interesting. What I hear is that home studios have a tendency to overdo it, so that when they get down to the mastering room, the guys there have to spend a certain amount of time 'undoing' some of the 'against the rails' antics. Certain mastering engineers have said to me that they can tell the specific piece of equipment something has gone through – and that, of course, is one of their problems.

A professional mastering engineer has years of experience, and he/she knows how far to go, knows the frequency bands, and knows how to get the required results. For home studio owners who haven't done mastering before, the available technology may make it seem very easy to master a project. But, of course, there are subtleties that will be missed. It is very realistic that people can and will be able to master at home, but we shouldn't forget the amount of experience that mastering engineers have, and as such, they are likely to turn out a better result at the end of the day. Having said that, the result that a home studio could turn out may be perfectly acceptable, depending on the market the piece of music is intended for. Bigger studios are aware that you can pre-master to an extent with given pieces of equipment, but they will still leave that final touch to the mastering house. For music with little dynamic range, it can be a viable option. But the tendency is to take it too far, and if you are dealing with music with a broad dynamic range, then you need to be wary of all the possible pitfalls. Mastering engineers know that, and that's why they can be more subjective, and ultimately achieve better results.

Having said all this, it is certainly worth a try to master your own material. Maybe nine times out of ten it will work fine. But there are bound to be cases where a mastering house may do a better job. That's something that we all need to have sight of. It's a case of striking a balance between the two, as with many a production issue.



Ivor Drawmer

contributors to this issue

Phil Strongman
Our resident Mr Rock 'n' Roll is still riding high with his sizzling debut novel, *Cocaine* (whose fictional hero writes for *The Mix*, no less)

Jon Musgrave
The in-house engineer from Roundhouse studios is currently hard at work on an album by revived '80s pop icons Culture Club

Seb Pecchia
A former engineer at Real World studios, Seb has recently completed the score for a movie starring David Bowie and Goldie

about THE MiX

THE MiX is the essential accessory for the recording studio. Our equipment reviews, written by working producers and engineers, give you an impartial opinion of the latest studio and recording gear, and our interviews get to the heart of the current techniques and issues in the recording industry.

THE MiX Studio Series CD helps you produce better music, by providing a varied monthly selection of collectable studio-quality samples and MIDI files, demos of the latest software and hardware, and audio tutorials demonstrating contemporary recording techniques.

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cd contents

about the *Studio Series* sample CD

Every month, the *Studio Series* CD brings you a selection of top-quality samples that you can collect to build your own sample library. Each CD is themed, with one instrument/sound-type featured at a time, and using our colour coding system you'll be able to locate samples quickly and easily. Need a drum track? Just go to the correct CD, load up the samples, and you're away...

also available from us

Future Music, XFADE, Computer Music, Guitarist, Total Guitar, Rhythm, Bassist, Guitar Techniques, and Classic CD

software

track 1

MAC
Emagic Logic Audio Platinum demo
A save-disabled version of Logic Audio 3.5, the predecessor to this month's cover review software.

AppWatcherLite (p. 95)
See what programs are running in the background – and kill 'em to free up more RAM and resources.

CoolViews (p. 95)
Customise your View layout in ways Apple's own OS does not allow you to do. For OS 8.0 and 8.1.

SPL De-Esser (p. 95)
A tutorial demo of the SPL De-Esser plug-in: say goodbye to 'Sso-sso-ssoundss'.

Heavenly (p. 97)
Sample MIDI files, catalogue and MPEG3 demo of Heavenly Music's music.

PC
Emagic Logic Audio Platinum demo
A save-disabled version of Logic Audio 3.5, the predecessor to this month's cover review software.

Heavenly (p. 97)
Sample MIDI files, catalogue and MPEG3 demo of Heavenly Music's music.

SPL De-Esser (p. 95)
Tutorial demo of SPL's D-Esser plug-in: say good bye to 'Sso-sso-ssoundss'.

gear demos

track 3

Focusrite Platinum Compounder (p. 66)
We put this low-cost dynamics processor to work. The 'bass expand' in particular sets this unit apart...
(i) Dry drums
(ii) Compressed drums
(iii) Compressed drums with bass expand
(iv) Compressed drums with bass expand 'huge'
(v) Noisy guitar
(vi) Gated noisy guitar
(vii) Analogue synth chopped up by gate, triggered from key input
(viii) As above with bass expand

please read before using the samples on this CD!

All equipment demos, as well as samples marked * on the listing on these pages, are not licensed for commercial use. Samples that are not marked * may be used freely within any musical composition, provided they are credited to *The Mix Studio Series*.

track 4

TLAudio EQ-2 (p. 46)
Now that's what we call quality – TLA's beautiful-sounding valve EQ:
(i) Semi-acoustic guitar DI'd into the auxiliary input. Clean, then re-recorded with excessive brightening EQ and drive
(ii) Dry drum loop. First clean, then over-EQ'd and overdriven
(iii) Acid bassline. Clean, then with drive and wah-style sweep on EQ
(iv) Synth pad. Clean, then with drive and filter sweeps

track 5

Lexicon MPX G2 (p. 52)
The designers of the world's finest reverb processors have branched out with this dedicated guitar FX processor. Check out this selection of G2 programs used on a Gibson SG guitar.

track 6

DUY Shape (p. 59)
We test out this detailed sound design plug-in on a simple, and fairly dry track. Each round of four bars consists of the mix so far, one of three parts solo'd, that part effected, then the new mix. A cheesy kick roll separates these phrases

track 7

Recording Guitars Part 2 (p. 111)
To accompany our *Recording Guitars* tutorial, here's a demonstration of the different sounds you can obtain by placing one mic in different positions across a speaker.

demo of the month

track 2

Morphic: 'Foreign Language' (p. 115)
Melodic and intelligent pop with ethnic nuances and a quirky vibe.

samples

We've got more than 100 drum loops to bump up your sample library this month, most of which are copyright-free. See the inside of the CD cover for a full sample listing.

tracks 8-18

Beatnik Modular Series

Exclusive tracks from Beatnik's first lot of sample CDs: *Big Beat & Electro*, *Psychedelic Trance & Goa*, *UK Garage*, and *Drum & Bass*. All the Beatnik CDs offer an intuitive 'construction kit' approach to sampling, and the audio is allied to MIDI and WAV files allowing ease of use for sampler and sequencer users. Each title is a two-CD set, with audio and data, and retails at £39.95.

track 8

Psychedelic Trance & Goa

If it's the hypnotic vibe you're after, then you can't go far wrong with this offering.

tracks 9-11

Big Beat & Electro

Whether you're after that massive drum sound, or a bit of old-skool, this collection will suit every palate.

tracks 12-14

UK Garage

Hard-nosed underground timbres are the order of the day for this set.

track 15-18

Drum & Bass

Straight from the faster-than-hell camp, these d'n'b sounds hit you right where it matters.

tracks 19-20

AMG Diffusion Series **The Next Generation*

A taster of AMG's latest collection of studio-quality samples, also in REX format.

More information on the Beatnik and AMG range of sample CDs can be obtained from Samplezone, Tel: 0800 731 2939 Web: www.samplezone.co.uk

tracks 21-24

Simon Hanson

20 funky loops from one of London's finest session drummers, who's played with everyone from All Saints to Natalie Imbruglia to Death in Vegas to Hall & Oates

news

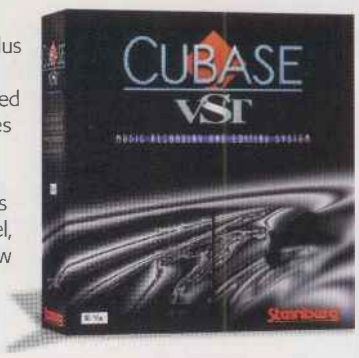
If it's new and it's music production, it's here. All the gear, gossip, and goings-on from a month in the biz...

Next generation VST

Steinberg announce VST 2.0 for Cubase

Cubase VST just got better. VST 2.0, implemented in Cubase 3.7 on the PC and Cubase 4.1 on the Mac gives every Cubase user access to virtual instruments from their sequencer. Synthesizers, drum machines, and samplers can be programmed and played in real-time with the VST interface. This is possible because Steinberg have created a 'seamless link' between the Cubase MIDI Engine and the VST plug-in interface. The instrument outputs go through the VST audio mixer where you can process them, just like any other track.

As a taster, every copy of Cubase VST now comes with a software synthesizer called Neon Synth. It's a polyphonic, 2-oscillator synth with an analogue sound filter, plus amplitude and filter envelopes.



Also in VST 2.0 is the upgraded dynamics section, which includes five processors: AutoGate, Compress, AutoLevel, Limit, and SoftClip. The dynamics section is available on every audio channel, and can be automated. Also new is the ability to hide individual audio channels so that users can tidy up their desktop, and the monitor mixer section combines Group, ReWire, and synth channels. Each song can store up to 32 mixer views, and you can copy and paste parameter settings between channels.

And there's more... The new remote control feature lets you control volume fading, pan, and EQ, amongst others, directly from a hardware control surface – and that includes a Yamaha 02R digital mixer.

If you've been having a bad time with recording latency in your system, then ASIO version 2.0 might be the answer. Also included with VST 2.0, the new ASIO software allows direct monitoring, which Steinberg say achieves zero latency! ASIO 2 is so far supported by Lexicon Studio, Digidesign D24, Event, MOTU 2408, Korg 12/12, and Sonorous Studio I/O. Registered users can download ASIO 2 for free on the internet.

Prices:

Cubase VST £329

Cubase VST Score £499

Cubase VST24 £649

Cubase VST ProducerPac £699

More from: Arbiter Group

Tel: 0181 970 1909

Web: www.arbitergroup.com

Email: sales@arbitergroup.com

Cubase VST 2.0 now has synthesis capability and is ASIO 2 capable

JoeMeek move into microphones

Yes, you heard it right, it's the Meekrophone!

The Mix received a particularly unusual document the other day – a folder branded 'Top Secret', purporting to come from the JoeMeek 'secret weapons' lab. It was the announcement that Fletcher Acoustics, the brains behind the JoeMeek gear, have added a completely new weapon to their armoury – the JM47 Meekrophone, a large-diaphragm condenser microphone.

The JM47 has solid-state amplifier stages, and is designed for high-quality studio recording at a low price. It has a 1" gold foil capacitor capsule, a cardioid polar pattern, a switchable 100Hz filter, and a 10dB pad. The whole thing comes complete with a shock mount suspension. For a more complete system, you can buy the JoeMeek TrakPak, which combines a VC3v2 Pro Channel together with the microphone, all in a neat flight case.

This is it, the secret weapon... Scary

JM47 features

- 1" gold foil diaphragm
- Solid-state amplifier
- Transformer coupled output
- 100Hz filter
- 10dB pad

Prices:

JM47 Meekrophone £289

JoeMeek TrakPak £449

More from: JoeMeek Distribution

Tel: 01626 333948

Web: www.joemeek-uk.com

24-bit MOTU

MOTU announce new recording system

MOTU have followed up their 2408 hard disk recording system with another one, built for the pro. The new 1224 core system is for "those who demand the very highest-quality analogue I/O." It has balanced I/O, 24-bit conversion, AES/EBU, and XLR outputs. Existing 2408 users can purchase the 1224 as an expander. As a core system, it includes the PCI-324 card and drivers for all major audio applications on both Mac and PC.

Also from MOTU is a new version of their Digital Performer audio sequencer software, version 2.6. The main update is a RAM-based audio loop recording feature called POLAR. When you start playing, POLAR starts recording. As the first take is finished and the loop repeats, POLAR automatically creates a new take. Other updates include direct audio input from Retro and Unity, and a new MAS plug-in called AudioTap that allows a direct feed from any Sound Manager compatible software.

Prices:

1224 Core system £1,295

1224 I/O expander £995

Digital Performer 2.6 update from 2.5 £free

Digital Performer 2.6 competitive update £199

Digital Performer 2.6 full version £549

More from: Musictrack

Tel: 01462 812010

Web: www.musictrack.co.uk

The new MOTU 1224 core – PCI audio for pros

in brief

CDR grows

Traxdata have launched the first 80-minute audio CDR. This new disc allows the user to record an entire original 80-minute CD or compilation onto one disc. Up until now, it hasn't been possible to fit some commercial CDs onto a CDR, which is naughty anyway. Traxdata say that this new media is ideally suited to products like their Traxaudio 900 audio recorders... But then they would, wouldn't they?

More from

Traxdata Ltd: 01753 586655

Web: www.traxdata.com

Six more minutes on a CD-R, only from Traxdata

Computer Music

The current issue of our sister mag *Computer Music* is rather dramatically called 'The Burning Issue' so you won't be surprised to learn that it's all about making your own CDs. There's a huge article that separates the CD-burning facts from the fiction, and a massive head-to-head of every major CD burner out there. Add to that the usual free samples (500 this time) and software (Beat 2000) and you've got a very hot issue indeed.

Your computer can play toons, doncha know

in brief

Split!

MTR have announced the follow up to their PS-4 4-way passive audio splitter. As the new box is an 8-way passive audio splitter, they thought it best to call it the PS-8. It features one stereo jack input feeding eight stereo jack outputs, all mounted on a PCB. Each output has overload protection and a board link can 'mono' the unit. Uses include driving multiple headphones, and it costs £34.

More from

MTR Limited: 01923 234050

Email: mtrltd@aol.com

Connect eight sets of headphones with the PS-8

New Spirit logo

Spirit by Soundcraft, the people who make the 328 digital console, have changed their logo. Their new icon is designed to bring the strong brand image closer to the parent company, Soundcraft, and represent the increasingly 'technical' Spirit customers. So it's new T-shirts all round then.

More from

Spirit by Soundcraft: 01707 665000

Web: www.spirit-by-soundcraft.co.uk

The new Spirit logo brings Soundcraft a little closer

Pro audio for PC

R.Ed is for 24-bit, 96kHz PC multitracking

Soundscape Digital caused a stir at the recent Munich AES show by demonstrating their new PC-based audio recording and editing system. No, it's not just another widget, this system is modular, and at its most basic, supports 32 tracks of 24-bit, 96kHz audio, with up to 28 inputs and 32 outputs per unit.

The system is called R.Ed, and like Soundscape's other system, the SSHDR1-Plus, it relies on the computer only to manage screen operations. The rest of the work is done inside the R.Ed box itself, which provides "maximum stability and audio quality," and of course, you don't need to keep re-investing in the latest PC technology.

R.Ed supports up to two removable and two fixed E-IDE drives (up to 137Gb per disk), and the standard audio connections are on two AES/EBU input channels, four AES/EBU output channels, and three TDIF ports. Alternatively, R.Ed can connect to three Soundscape SS8IO-1 Audio Interfaces for 24 channels of balanced analogue I/O or ADAT/TDIF conversion. Other I/O options include an optional board with 24-bit conversion, and a Word/Super Clock I/O.

The software is an enhanced version of Soundscape's Version 2 software, so successful on the SSHDR-1-Plus systems, and includes a host of non-destructive editing tools, including multichannel audio scrubbing and dialogue editing tools, plus synchronised playback of non-linear digital video files.

As R.Ed is modular, you can combine two or more units for more tracks and I/O, and add one or more Mixtreme cards for Soundscape's mixing and plug-in environment, which already has a lot of support from third-party developers. R.Ed is compatible with Windows 95/98 and NT-based systems, and is fully networkable.

Price: £4,694 (not including drives, PC, or analogue I/O)

More from: Soundscape Digital Technology

Tel: 01222 450120

First for ASIO2

Fed up with latency? Here's the answer...

The first PCI card with ASIO 2 drivers is shipping. RME's DIGI 9652, the so-called 'Project Hammerfall' PCI card, has no less than 26 inputs and outputs on a single PCI card, and sells for an amazing £399. This card does have standard Windows drivers, and is said to be blisteringly fast even without the ASIO drivers. But with them, the card allows the latest Cubase VST 3.7 to automatically hardware-switch record inputs direct to the corresponding output, completely bypassing the latency associated with monitoring through the PC's main processor. 24 of the I/O 9652's I/O channels use three optical ADAT interfaces. For the other two it has an S/PDIF digital I/O. Other connections include an ADAT 9-pin sync input on a breakout cable, and word clock I/O through BNC connectors on a secondary card (supplied as standard).

Price: £399

More from: Digital Media Ltd

Tel: 0171 581 4595

Web: www.rme-audio.com

The RME PCI card features zero latency with ASIO 2

INTRODUCING THE MACKIE DIGITAL 8·BUS.
TOTAL CONTROL. TOTAL CREATIVITY.

56 inputs

72 channels

25 motorized faders

12 aux sends per channel

24-bit D/A & A/D

Mackie Real Time OS™

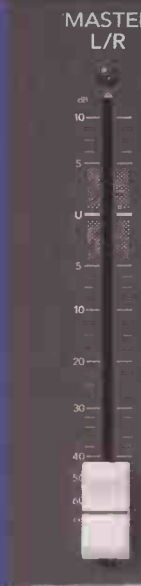
Full dynamic and scene automation of all digital parameters

Digital parametric EQ, dynamics and gating on every channel

No computer needed: Internal 32-bit processor, 16MB RAM, hard disk, 3.5" disk drive, Ethernet port, mouse & keyboard ports, and SVGA output

Open, upgradable architecture

Apogee UV22® Super CD processing



"I have always used Mackie desks, both for live and in the writing studio. I've found them to have loads of headroom to cope with my productions, and I am looking forward to putting the new d8b desk through its paces in my new projects." Liam Howlett, The Prodigy, UK

"I've been waiting for years to have a mixer that allows me to swap between projects whenever the inspiration strikes. The d8b's total recall gives me that creative flexibility, while still being intuitively easy to use. Within the day I was chopping them out." Mark Saffritz, Goldie Collaborator, UK

"The Mackie d8b has become invaluable to me working with Pro Tools. For example, I can record vocals in Los Angeles, and then, while LA winds down, an engineer in the digital room at Olympic Studios in London can be mixing the backing track from the same Pro Tools files. Next morning the London Mackie track mix can be instantly piped into the Mackie d8b in LA. If I'm not quite sure about the EQ on the vocals, I can call Mick Guzauski in New York and send him the London mix to run on his d8b. Mick can find the magic freqency on the vocal in 15 minutes and modem it back to my Mackie. By 11 am LA time, I can have a finished mix ready to go to the Mastering room!" Simon Climie, Producer, USA/UK

If you want a mixing console that gives you the look and feel of analogue — with the creativity and sound quality you'd expect from digital — check out the Digital 8·Bus. Visit our web site at **www.mackie.com** for a closer look.

The core Digital 8·Bus Development Team

MACKIE Digital Systems

MACKIE DESIGNS UK
TEL: 01268 571212
FAX: 01268 570809
WEB SITE: WWW.MACKIE.COM
E-MAIL: MACKIE.UK@RCF-UK.COM

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in brief

Testing...

Wave Studios in London's Soho have become the test facility to create digital post production suites around Soundtracs DPC-II consoles. Their two new facilities were created by Johnny Burns and Warren Hamilton, specialists in 'blue chip' advertising work.

More from

Soundtracs plc:
0181 388 5000

Web: www.soundtracs.com

Soundtracs in situ

Future Music

The August issue of our sister magazine *Future Music* is perfect for rack synth fans. They've put three analogue beasts head-to-head – dsTEC's Original Syn, Doepfer's MS-404 and Spectral Audio's Neptune – and found out which is the best buy. There are tests of the Creamware Pulsar do-it-all card, E-MU's e6400 Ultra sampler and plenty of software. Meanwhile they talk to Garbage, Banco De Gaia, Todd Terry and David Sylvian, and, as always, there's plenty of studio advice and tips for all you bedroom musos. And don't forget the chance to win a £5,000 music-making PC set-up by voting for the best in the past, present and future of music. It's out now!

Analogue shoot-out in FM73

Reveal get active

Tannoy launch new active monitors

Tannoy's Reveal monitors just got a power boost. The success of these passive nearfield monitors has spawned the active version, called Reveal Active. For £549 you get a pair of two-way monitors, each with separate 50W amps for the LF and HF drivers.

The cabinets are 12-litre, bass reflex types, which apparently produce a 65Hz-20kHz frequency response with highly-detailed, accurate, and dynamic reproduction. The bass driver is a long-throw Tannoy type, and complements the softdome HF unit. Both are magnetically shielded for AV applications.

Tannoy are aiming these monitors at the home recording, project and pro studio.

Building on success – the new Reveal Active monitors

Reveal features

- 50W (RMS) amp per driver
- 2-way bass reflex design
- 65Hz-20kHz frequency response
- 40mm thick, curved front baffle
- Azure blue!

Price: £549

More from: Teac UK Limited

Tel: 01923 819630

Web: www.tascam.com

CDR upgrade

The HHB CDR850 Plus has the digital touch

HHB have announced the CDR850 Plus, a modified version of the CDR850, for use in all-digital studios.

First, they've added a word clock input so that the CDR850 can lock to a master digital clock. Second, a set of DIP switches on the back enable the digital clock source to be any one of the word clock input, the AES/EBU input, the S/PDIF input, or its own internal clock. Lastly, HHB have added a balanced XLR digital output, so large facilities can dispense with cable-run problems.

It's also worth noting that the new HHB catalogue is out, with 172 pages of new gear, prices, and loads of useful information.

Prices:

CDR850 Plus £TBA

CDR850 £899

More from: HHB Communications Ltd

Tel: 0181 962 5000

Web: www.hhb.co.uk

Dynamic Range...

...123dB

What is Dynamic Range?

Dynamic range is the ratio of the size of the smallest signal that a system is capable of processing, to the largest. It is expressed in Decibels. A ratio of 123 dB is greater than 1,000,000,000,000 to 1!

So what's the big deal?

Real, breathy, open sound – vocal clarity from a whisper to a scream. Precise detail in percussion and every nuance from the saxophone and trumpet. It means you can use all the dynamic range digital systems can handle with less dynamics processing.

Get more for less with the new MCE 90 microphone.

beyerdynamic... *Fidelity in Audio.*™

for more information
Tel. (01444) 258258 Burgess Hill, RH15 9TN
e-mail: sales@beyerdynamic.co.uk

beyerdynamic

The main event

Event Electronics have released a new hi-spec soundcard

Event have released a new version of their Darla card – Darla 24. It's a 24-bit, 96kHz capable multichannel soundcard. It has two balanced analogue inputs and eight balanced analogue inputs accessed through a desktop audio interface box..

The system has 24-bit, 128x oversampling conversion, and supports sample rates up to 96kHz, and Event say that Darla 24 is "ideally suited to DVD and surround sound production".

Darla 24 is a cross-platform card and ships with drivers for WAV device driver-based and ASIO-based software on the PC, and ASIO-based software on the Mac.

The new Darla 24 card and interface box

Darla 24 features

- 2 analogue input channels
- 8 analogue outputs
- Low latency monitoring
- Clock sync among multiple cards
- Full duplex
- Includes recording/editing software
- External connections

Price: £TBA
More from: Key Audio
Tel: 01245 344001
Email: info@keyaudio.co.uk
Web: www.keyaudio.co.uk/keyaudio

Bullet-proof

Tascam launches new pro CD player

Recognising the need for a CD player built with the rigours of professional use in mind, but without the heavy pricetag, Tascam have come up with the CD-150. It's the latest in their CD series of rackmountable compact disc players, which includes the CD-401 mkII, the CD-301mkII, the CD-201, and the CD-450.

The CD-150 features ±6% variable pitch control, auto cue, and programmable playback, as well as the standard CD functions. Tascam say that the CD-150 is "the most cost effective CD player for commercial installations where either space, budget, or maintenance capabilities are limited." The CD-150 comes complete with its own infra-red remote control.

CD-150 features

- 1-bit DAC
- 8x oversampling digital filter
- Variable pitch control
- Auto Cue with LED indication
- Time display
- Music calendar
- Intro check function
- 2U rack-mountable

Price: £229 (approximate)
More from: Teac UK
Tel: 01923 819630
Web: www.tascam.com

The CD-150: the pro player with a tiny price

HHB

CDR850
Compact Disc Recorder

ANDERTONS MUSIC CO
Guildford Tel: 01483 456777
DAWSONS
Warrington Tel: 01925 632591
DIGITAL VILLAGE
Barnet Tel: 0181 440 3440
DIGITAL VILLAGE
Croydon Tel: 0181 407 8444
DIGITAL VILLAGE
London W3 Tel: 0181 992 5592
EDDIE MOORS MUSIC
Bournemouth Tel: 01202 395135
GIGSOUND
London SW16 Tel: 0181 769 5681
THE GUITAR & AMP CENTRE
Brighton Tel: 01273 676835
KGM / SOUND CONTROL
Wakefield Tel: 01924 371766
THE M CORPORATION
Nottingham Tel: 0115 9474070
THE M CORPORATION
Ringwood, Hampshire Tel: 01425 470007
MUSIC CONNECTIONS
Birmingham Tel: 0121 212 4777
MUSIC CONNECTIONS
Bristol Tel: 0117 946 7700
MUSIC CONNECTIONS
London SW6 Tel: 0171 731 5993
MUSIC CONNECTIONS
Southampton Tel: 01703 233444
MUSICAL EXCHANGES
Birmingham Tel: 0121 248 5868
MUSICAL EXCHANGES
Coventry Tel: 01203 635766
MUSIC VILLAGE
Cambridge Tel: 01223 324536
MUSIC VILLAGE
Romford Tel: 0181 598 9955
Q MUSIC
Birmingham Tel: 0121 643 4655
RIVER PRO AUDIO
London SE1 Tel: 0171 231 4805
ROSE MORRIS
London WC2 Tel: 0171 836 9741
SERIOUS AUDIO
London WC1 Tel: 0171 637 9498
SOUND CONTROL
Bristol Tel: 0117 934 9955
SOUND CONTROL
Dunfermline Tel: 01383 733353
SOUND CONTROL
Edinburgh Tel: 0131 557 3986
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SOUND CONTROL
Newcastle Tel: 0191 232 4175
SOUND CONTROL
Sheffield Tel: 0114 221 3007
SOUND CONTROL / KGM
Wakefield Tel: 01924 371766
SOUND DIVISION
London N1 Tel: 0171 609 6639
STUDIO SPARES
London NW1 Tel: 0171 485 4908
TURNKEY
London WC2 Tel: 0171 379 5655

HHB

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73-75 Scrubs Lane · London NW10 6QU · UK
Tel: 0181 962 5000 Fax: 0181 962 5050 E-Mail: sales@hhb.co.uk
Visit HHB on line at http://www.hhb.co.uk

CD-R

WE JUST CHANGED THE RULES

Thought you couldn't afford a fully loaded, professional CD recorder? Well HHB just changed the rules. The stunning new HHB CDR850 combines cool looks, a great sound and a budget-friendly price with all the features you need for serious studio use, easily accessible from the front panel via a straightforward menu system.

The most comprehensively equipped CD-R in its class, the CDR850 uses both write-once CD-R discs and CD-RW rewritables, and makes recording a one touch operation, thanks to four easy record modes, auto copying of CD, DAT, MD, DCC and DVD track starts, and a built in sample rate converter.

Things are equally impressive round the back, where you'll find XLR balanced and RCA phono analogue inputs and outputs, coaxial and optical digital I/Os, plus an additional AES/EBU digital input. And peace of mind comes as standard with a full 12 month parts and labour warranty, and the build quality you'd expect from a world leader in CD-R.

So if you thought you couldn't afford a fully loaded professional CD recorder, get down to your HHB dealer today and check out the new CDR850.

Developed specifically for professional audio use, HHB CD-R media sets the standards for performance, compatibility and archival security. Pictured left to right: HHB CDR74 Silver, HHB CDR74 Gold and HHB CDR74 Gold P (printable) discs. Also available: HHB CDR Bulk (not pictured).

HHB Communications Ltd · 73-75 Scrubs Lane, London NW10 6QU, UK
Tel: 0181 962 5000 · Fax: 0181 962 5050 · E-Mail: sales@hhb.co.uk

HHB Communications USA LLC · 1410 Centinela Avenue, Los Angeles, CA 90025-2501, USA
Tel: 310 319 1111 · Fax: 310 319 1311 · E-Mail: sales@hhbusa.com

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Tel: 416 867 9000 · Fax: 416 867 1080 · E-Mail: sales@hhbcanada.com

http://www.hhb.co.uk

HHB

DISTRIBUTION

in brief

Van valves

Engineer Walter Samuel has been using TLAudio valve products during his recent work with Van Morrison at The Wool Hall Studios. Walter has re-mixed 30 vintage Morrison tracks for a new double CD using the 5021 compressor and the 5013 equaliser. He now uses a TLAudio valve voice processor for recording Van's vocal tracks.

More from

TLAudio Limited: 01462 680888

Web: www.tlaudio.co.uk

TLAudio fan and Morrison mixer, Walter Samuel

Manley deal

Loud Mastering have equipped their Taunton-based facility with two Manley DAC-20 Reference 20-bit stereo digital to analogue converters with tube output stages, supplied by Raper & Wayman. After a long testing process, Loud chose the Manley Reference units to complement their existing tube processors

More from

Raper & Wayman: 0181 800 8288

Email: sales@raperandwayman.com

Loud boss John Dent chooses Manley conversion

Plug-in bonanza

Fancy 74 new VST plug-ins? Look no further...

Cycling '74, an online distribution company for music software by David Zicarelli (the man behind Opcode's 1985 DX7 editor, Jam Factory, and MAX), has announced the availability of Pluggo. This Mac-based software package consists of a shell to 'house' the VST effects (for use with Logic, Vision, Cubase VST, and so on), and the 74 effects plug-ins themselves.

All you have to do is download the trial version of Pluggo from the Cycling '74 website, then if you're happy with it, transform the trial version into a full version by purchasing an authorisation code online for a measley $74.

You'll need a minimum of a PowerPC MacOS computer with Sound Manager to get the basic 16-bit, 44.1kHz audio I/O, but Pluggo also supports 16-bit and 24-bit hardware by Digidesign, Sonorus, Lucid Technology, and Korg.

For those who want to do a bit more fiddling, the Pluggo plug-ins are created using MSP – a set of DSP extensions to Opcode's MAX 3.5 programming environment. In fact, if you're a registered owner of MSP, you get Pluggo for free. If you haven't got MSP, get over to the Cycling '74 website. If you haven't got MAX, give SCV London a call on 0171 923 1892.

Plug-in categories

Synchronisation, delay effects, filters, filter/delay combinations, pitch effects, distortion, granular synthesis, spectral modification, visual display, meta-plug-ins and audio routing, sampling and synthesis, dynamics and reverb, sound localisation and panning, and modulators.

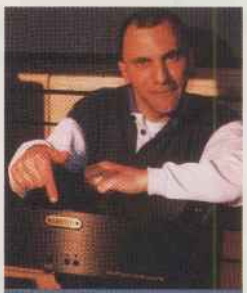
Price: $74 (from the internet)

Web: www.cycling74.com

This modulator is just one of 74 different effects

Strike a chord

Chord amp with Dynaudio speakers is a winner



Scruff, with his shiny new Chord amplifier

West London's AL Digital, specialists in multimedia and audio recording and programming have exuded their interest in their Chord amplifiers with Dynaudio monitors set-up for their facility. With a list of clients including Cellnet, Scottish Widows, and DHL, as well as running the internet radio portal (www.pirate-radio.co.uk), the Chord/Dynaudio pairing was a considered purchase. AL's studio manager, Scruff, comments: "I tried out loads of different amps with loads of different speakers. It was an exhaustive process, but when I heard the Chord 1032 with the Dynaudio M3s I was completely blown away. They were by far and away the best. They work brilliantly together." Other fans of Chord and Dynaudio set-ups include Apollo 440, Abbey Road Studios and Ray Charles.

Chord say that their priorities are sound quality, reliability, and musical integrity and that the SPA 1032 has greater control and an enhanced ability to drive speaker loads in the 4Ω range at high power.

SPA 1032 features

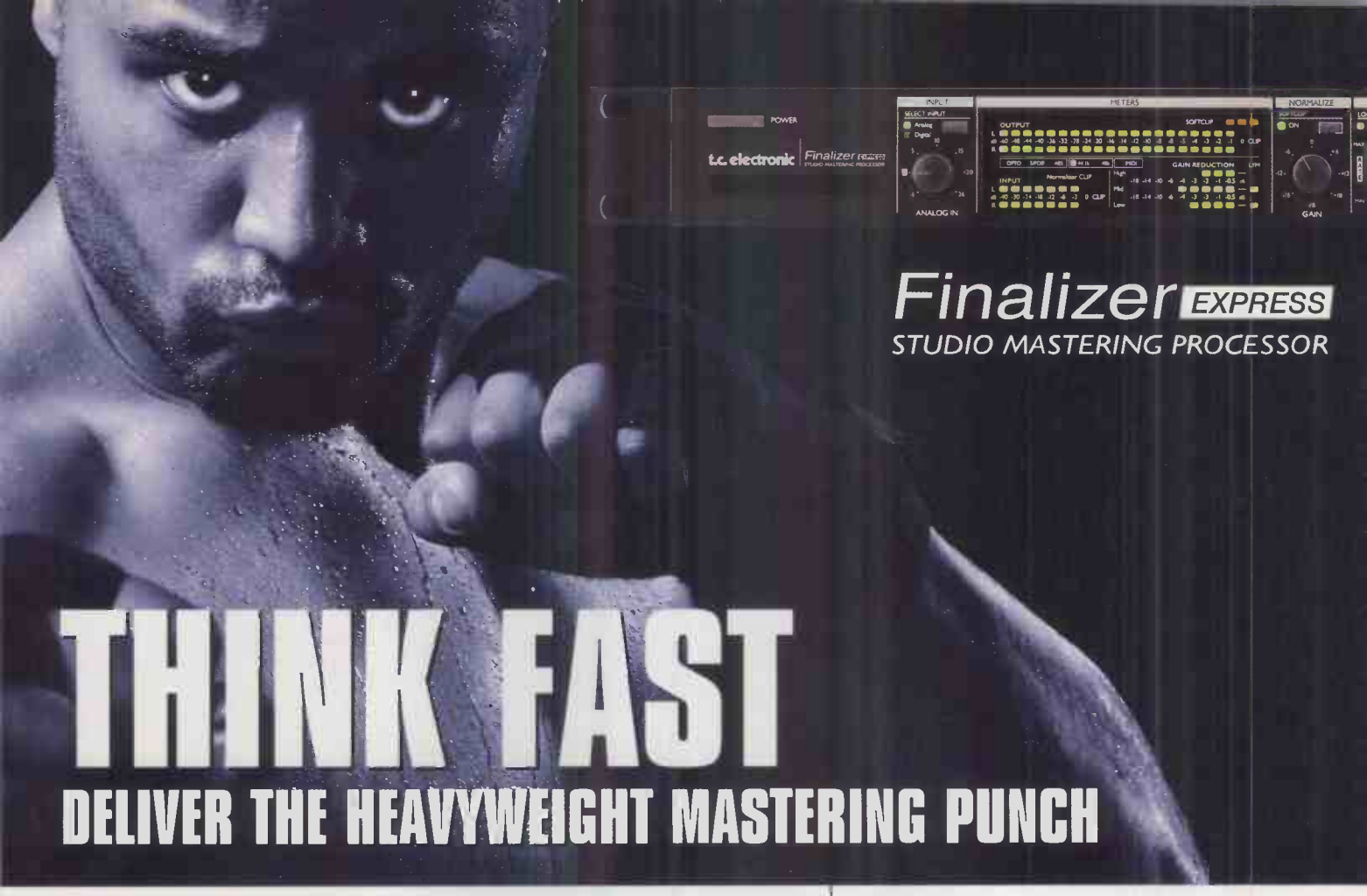
- Balanced XLRs
- 4mm banana plugs
- Thermal management
- Clipping indicators
- 18kg chassis
- 500W per channel into 2Ω
- custom power MOSFETs

Price: £1882

More from: Chord Professional Systems

Tel: 01622 721444

Web: www.chordelectronics.co.uk



Finalizer EXPRESS
STUDIO MASTERING PROCESSOR

THINK FAST
DELIVER THE HEAVYWEIGHT MASTERING PUNCH

Introducing Finalizer™*Express*

The fast and efficient way to turn your mix into a Professional Master! Based upon TC's Multi-Award winning Finalizer Mastering Technology, it delivers the finishing touches of clarity, warmth and punch to your mixes, putting the world of professional mastering within your reach.

Insert the Finalizer Express between the stereo output of your mixer or workstation and your master recording media to refine your tracks with the powerful mastering tools, adding real energy to the mix without worrying about "overs". Punching up your mix using the fast, intuitive hardware user interface delivers the ultimate sound quality you deserve - quick and clean! Spectral balance is improved, bass is tightened, the level is optimized and your mix sounds like a finished CD... it's that simple.

Main features

- Bring your mixes to life with TC's unique Multiband Compressor & Limiter Algorithms
- Boost and cut over three bands with the Spectral Balance Controls
- Prevent "overs" from occurring with Soft Clipping
- Foresee incoming peaks with Look Ahead Delay, allowing for faster, more accurate response
- Use the Compressor Matrix for 25 variations in style and ratio
- Optimize your overall level with the Automatic Make-Up Gain
- Add extra compression in each band by using the Emphasis keys
- Record your fades (by using the Built-In Digital Fader or the optional remote controllable TC Master Fader) on to a sequencer, move it around, adjust and play it back into the Finalizer Express

Other features

- 24 bit resolution A/D & D/A converters
- 16 and 20 bit dithering
- Industry standard connectivity: AES/EBU, S/PDIF, Optical Tos-link & MIDI I/O's
- High Resolution LED Metering of I/O & multi-band gain reduction

For an even more comprehensive set of features:

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EMAIL: TCUK@TCELECTRONIC.COM ▸ WEBSITE: WWW.TCELECTRONIC.COM

in brief

MC834

Rapscallion of the airwaves and TV alike, Chris Evans' Virgin Radio breakfast show is about to hit Sky TV. In choosing a microphone that would not obscure too much of the lovable Evans' face, as well as providing the necessary audio quality, Beyerdynamic's MC834 was opted for. Alex Lakey, Virgin Radio's chief engineer selected the mic after testing numerous models, and found it best for emulating the Virgin vocal sound, as well as allowing us all to see the cheeky chappies face in all its glory. Aren't we the lucky ones?

More from

Beyerdynamic UK: 01322 860344

Web: www.beyerdynamic.com

The Beyerdynamic MC834 in all its glory

D8B console

Mackie Designs have announced another plug-in for their Digital 8•Bus console, reviewed in *The Mix* issue 63. This time, it's the turn of Antares to join the DSP card in-console format with their Auto-Tune software, one of the most popular pitch correction algorithms. Development has started, but there's no news yet of a shipping date. In the meantime, sing better.

More from

Mackie UK: 01268 571212

Web: www.mackie.com

Just the job

Rocky Road announce a new box of tricks for recording engineers everywhere

A new box from American company TerraSonde is about to make engineers everywhere very happy. Rocky Road Distribution are handling the UK distribution, and they have said that Toolbox is "one of the coolest new audio products for years."

The TerraSonde Audio Toolbox is a complete set of audio tools in a handheld computer. The software-driven, black injection-moulded box does everything from acoustical analysis to reverb decay time calculation, frequency response sweep, and SMPTE and MIDI timecode functions. In addition, there are a bunch of 'session helpers' – more software that covers such useful jobs as guitar tuner, tempo computer, cable-tester, phantom power and battery checker, and even games.

A backlit LCD displays all data, and on either side of the unit are banks of Neutrik XLR, TRS, RCA, and MIDI connectors. Toolbox has a built-in microphone and speaker, and works on AC or battery power.

TerreSonde Toolbox: jam-packed with studio tools

Toolbox features

Acoustic Analysis: SPL meter, real time analyser, reverb decay time, energy time curve, energy frequency time, polarity
Test functions: signal generator, level/frequency meter, S/N ratio, phase, phase sweep, frequency response sweep, sample scope
Session helpers: guitar tuner, tempo computer, MIDI reader, MIDI transmit, time code computer, hum cancellation Utilities: monitor amp, cable tester, power tester, alien assassins, ping, blaster

Price: £764

More from: Rocky Road Distribution

Tel: 01494 535333

Merv chooses Yamaha

Merv de Peyer invests in two new O1V consoles for the Electronic album

Yamaha just can't stop showing off. We've received news that Merv de Peyer, featured last month in *The Mix*, used two Yamaha 01V digital mixing consoles to mix several tracks on the new Electronic album, featuring Bernard Summer and Johny Marr. Merv is no stranger to big names, as he's worked with the likes of Suede, Terrorvision, Gloria Estefan, and St. Etienne. He had previously used the Yamaha Programmable Mixer 01 on pre-production, and decided to but two 01V consoles for his ProTools/Logic-based suite to finish the job off.

Merv said, "One of the things that I really like about the O1V is the way that it integrates so easily with ProTools. I use one O1V essentially as a controller for ProTools to automate everything... The other one is rack-mounted, and that interfaces directly with my ADATs. Merv also mentioned that the O1V just happens to be a "great digital mixer," and that "I effectively have a 48-input console with the kind of automation other manufacturers can only dream about."

Merv De Peyer looking pleased with his Yamahas

Price: £1,399

More from: Yamaha Pro Music Division

Tel: 01908 369269

Web: www.yamaha.co.uk

ADAT masterclass

Watch and learn, with EMTEC

A joint venture between ADAT inventors Alesis, and EMTEC Magnetics, the company that makes the BASF magnetic recording products, means good news for ADAT owners. The two companies have come up with a 45-minute training video entitled *Care & Feeding of Your ADAT*.

The video takes you through basic cleaning procedures, maintenance, and proper handling and storage of ADAT master tapes. This video might help keep ADATs happy and save studios service charges.

Video highlights

- Cleaning procedures
- Maintenance
- Tape handling
- Tape storage

Missed it at the cinema? Buy the video

Price: around £17.99

More from: Sound Technology

Tel: 01462 480000

Web: www.soundtech.com

FX Rentals do Digidesign

Pete Clark (front): ProTools never let him down

The soundtrack to the latest British film smash, *Notting Hill*, saw music editor Pete Clarke using a ProTools 24/Mix system, his first editing job on the Digidesign set-up. The system was supplied by FX Rentals, and originally booked for four weeks. However, that ended up being six months. Pete said: "I worked for three or four days getting used to the system. It never let me down."

Pete edited five versions of the film, using pre-recorded material and original scores, written and produced by Trevor Jones at Abbey Road.

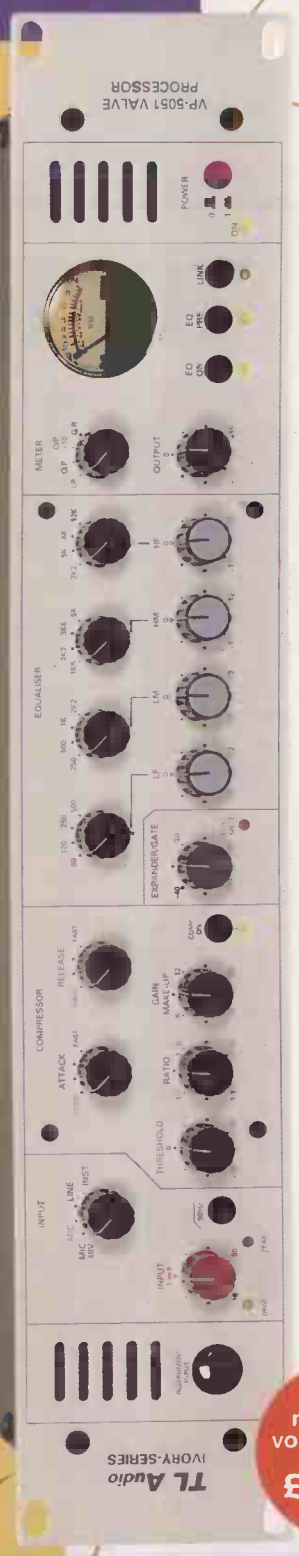
Price: £260 per day basic rate (based on a four-day week). Longer hire periods are less.

More from: FX Rentals

Tel: 0181 746 2121

Web: www.fxrentals.co.uk

TL Audio®



got one of these?

then get some of this

- The single channel voice processor format has become the accepted way of getting the most out of any microphone. The Ivory 5051 provides the perfect front end for any system by offering a combined mic preamp, compressor, equaliser and expander/gate in one easy-to-use package.
- Plus the inclusion of line and instrument inputs means that the 5051 can process absolutely any signal you care to throw at it.
- But it doesn't stop there - because with TL Audio valve processors you get the unmistakable warmth and fatness that solid state devices just can't hope to deliver.
- To hear what TL Audio Valve Technology can do for your sound, contact your dealer today.

5051 mono valve voice processor £399 ex vat £469 inc

- morcheeba
- sae technology college
- portishead
- paul young
- mark 'spike' stent
- ricky wilde
- tour tech

ivory series

www.tlaudio.co.uk

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TL Audio Limited, Sonic Touch
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Letchworth, Hertfordshire
SG6 - 1TN

NAME:
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POST CODE

MIX

in brief

MD momentum

Sony Broadcast & Professional Europe have reported an increase of 300% in professional MiniDisc units supplied to the industry. They also say that the consumer market for MiniDisc is growing rapidly, and quote a figure of two million sales since the format's launch. Could MiniDisc be gathering momentum? Watch this space...

More from

Sony Broadcast & Professional UK: 01932 816000

web: www.pro.sony-europe.com

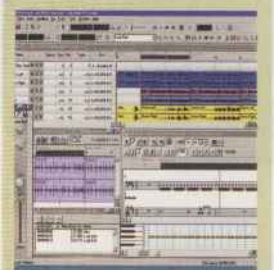
Sony say that MiniDisc sales have never been better

Cakewalk course

In conjunction with Et Cetera Distribution, Coventry Technical College's Music Technology department is offering a recognised OCN accredited training course in the use of Cakewalk Pro Audio. The course lasts ten weeks and starts on the 1st of November 1999. Course fees are £180, or free for those in receipt of benefit. Cakewalk is an audio and MIDI recording and editing application for PC, distributed by Et Cetera Distribution (01706 228039).

More from

Coventry Technical College: 01203 526775



Learn to use Cakewalk with Coventry Technical College

TC deal from R&W

An excellent exchange deal for M5000 owners

Raper & Wayman Professional Audio, specialists in TC Electronic products for several years, have announced the launch of the ADA 24/96 interface cards for the M5000 Digital Audio Mainframe. And they are currently offering a tempting low-price exchange deal for the older 20-bit ADA-2 cards.

Each ADA 24/96 interface enables stereo A/D and D/A signal conversion at either 88.2kHz or 96kHz, with the fully balanced signal path achieving 24-bit resolution and handling input levels up to +30dBu. It has a choice of sample rate conversion types, including Linear, Bright, Standard, Natural, and Vintage. Also with the upgrade, the soft-clipper processor of the M5000's MD2 package now operates in the 96kHz domain, which reduces aliasing distortion. M5000 owners will require one ADA 24/96 card per DSP module.

ADA 24/96 features

- 88.2kHz/96kHz sample rate
- 24-bit
- +30dBu input
- 96kHz soft-clipper

Price: £528 (exchange for ADA2 card)

More from: Raper & Wayman Ltd

Tel: 0181 800 8288

Email: sales@raperandwayman.com

Upgrade your M5000 with Raper and Wayman for less

Player prices down

Marantz chop the price of their CD players

Marantz have announced price reductions on all of their CD and CD/cassette players. Marantz, well known for hi-spec pro and hi-fi gear, say that their increased level of sales has facilitated these price reductions, as well as improvements in productivity, economies of scale, and strong market demand.

The PD321 CD player, which comes with balanced audio as standard, has been reduced by £82 from £464 to £382, and the PMD320 CD player (balanced audio is an option on this machine) has been reduced by a whole £94, from £382 to £288. The PMD350, which is a CD/cassette combination unit for those with a soft spot for old formats, comes down by nearly £120, from £582 to £464, which has got to be great value for money. All of these units are standard 19" rack-mountable.

Mark Perrins, European Sales and Marketing Manager, said: "We have enjoyed considerable success with our CD player range. These products were already well-priced, but the increased level of sales has allowed us to pass on the benefits to our customers."

Prices:

PMD321: £382

PMD320: £288

PMD350: £464

More from: Marantz Professional

Tel: 01753 686080

Web: www.marantz.com/marantz

Prices tumble because sales are up...

R.Ed-Recorder ◆ Editor

The Next Generation DAW from Soundscape™

2496

- *32 tracks at 24 bit Resolution Per Unit (expandable to 256 tracks/24bit)*
- *Up to 96kHz Sample Rates*
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- *16 Bus Custom Digital Mixing and Real Time Plug In's**
- *Punch In/Out "on the fly"*
- *RS422 Machine Control**
- *Full Motion Non Linear Video Playback (requires capture card*)*
- *VTC,SMPTE/LTC,Word/SuperClock™ Sync**
- *Hardware Control Surfaces* e.g. Mackie HUI™, JL Cooper, Motormix™ etc.*
- *Compatible with existing SSHDR1 Audio/Arrange Files*

* *Optional extras may require additional hardware or software*

From £4995.00 + tax (Shipping August 1999)

R.Ed® recorder ◆ editor

www.soundscape-digital.com
Tel: +44 1222 450120 Fax: +44 1222 450130
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M 147 costs less

Sennheiser cut price of Neumann mic

If you think of top-flight microphones, you'll probably think of Neumann. Many classic models have come out of that German company. You'll be pleased to hear then, that Neumann's UK distributors, Sennheiser UK, have reduced the price of Neumann's latest valve condenser, the M 147 tube. Sennheiser say that this is because original projected sales levels have been greatly exceeded. The original price of the M 147 Tube was £1,763, and now it's £1,523 – a price drop of £240.

The M 147 tube is based on the K47/49 capsule design, made famous in the U47 and U47 FET microphones. It's a hypercardioid design, built for a well-balanced frequency response and even attenuation of signals from the rear of the microphone. It can handle an extremely loud 130dB SPL without distortion, and features Neumann's latest high-performance transformerless valve circuitry.

M 147 tube features
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- K47/49 capsule design
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It now costs less to own a legendary microphone...

SCV expand

Distributor becomes one of the biggest around

SCV London distribute loads of gear. They already deal with Opcode, Fostex, Genelec, Bias, LA Audio, Sonic Foundry, and Waves. They've just got bigger.

The new arrivals include Digigram, manufacturers of high-end soundcards for recording studios, and production facilities. Products include the VXPocket PCMCIA card, and the VX222 PCI soundcard.

SCV have also taken on the Pulsar and Scope cards made by Creamware, a powerful PCI-based recording, synthesis and sampling system.

Other companies include Electrix, a brand aimed at the DJ with intriguing gear entitled WarpFactory, FilterFactory, and MO-FX. There's the T-RackS mastering software and GrooveMaker software from IK Multimedia, and SeaSound, a new company headed by Tom Oberheim with their new product, the Solo Digital Audio Recording System, due for launch.

New to SCV
- Digigram
- Creamware
- Electrix
- IK Multimedia
- SeaSound

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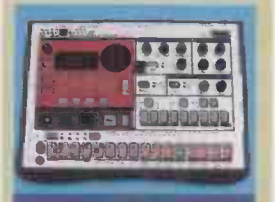
The T-RackS is just one of SCV's new products

in brief

Farewell

Kerry Willcox, one of the female vocalists we featured on Volume 17 of *The Mix Studio Series* Sample CD passed away suddenly on May 25th. Kerry's last musical work, with Morphic, is featured in this issue's *A&R Dept*, and is also on the CD. Kerry's talent and charisma will be missed by us all, and our sympathies are with her family and friends.



The Korg Electribe boxes are explored on the new CD

Korg CD

Korg have produced a new demo CD packed with everything you need to know about the new Electribe EA-1 analogue and ER-1 rhythm synthesizers, plus the performance processor KAOSS pad. There's demo tracks from some of the top names in UK dance, including Grant Nelson (with a KAOSS NNG Mega Mix), Rob Playford (Moving Shadow records), and Gavin 'Face' Mills (Catch and Banana Republic). Korg say, "You'll be amazed at the versatility of both the Electribe EA-1 and Electribe ER-1... The Korg CD takes you through a step-by-step guide which explains how incredibly simple it is to build creative sounds and patterns using these fantastic tools." Sounds good.

You might remember the excitement caused by the KAOSS processor and Electribe products at the National Music Show. These are definitely tools for the dance music artist, with sounds, sequencing, and preset grooves in the Electribes, and cool touch control in the KAOSS pad, so this is definitely a CD to check out.

But the best bit of this CD is the price – it's free! Just call Korg on the number below.

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open mic

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sound bites

Don't just sit there reading and fuming. Write to *Open Mic* and join in our furious debates on the hottest topics of the day...

Fallen majors...

It's becoming increasingly difficult to justify high prices on mega-spec gear when top sound quality can be had from a hard disk and some choice outboard. Can big, expensive studios stay alive, or are they just waiting for Godo?

Bass of taste?

The Spice Girls, Boyzone, Billie, and Steps might be considered bad for your street cred, but aren't they good for our industry?

Do they keep the true musos in beer, or are they just a waste of a perfectly good CD? Tell us what you think.

Write to us:
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The Mix,
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Bath
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BA1 2BW

Or email us:
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Software hardball 1

In your reply to the *More Pirates* letter in Mix issue 64 you ask Mr Anonymous: "why is it that just because software is less tangible than hardware, people place a derisory value on its worth?" Well the obvious answer is because whereas hardware works straight out of the box, software is often full of bugs that make it at best awkward to use, and at worst a total system wrecker.

My recent experiences with Cubasis AV (supplied with my EMU APS card) has been a real sad eye opener. The general attitude is "well you bought it, you fix it". After a frustrating (and expensive) series of phone calls and e-mails, being passed like a hot potato around various 'help' lines, to finally be offered the solution "well you should upgrade to VST!" is an insulting, and – talking to various friends – not uncommon attitude. I *know* that Cubasis AV is a "freebie", but Steinberg were as happy to take the cash for the licensing from E-mu as E-mu were to use it as an incentive to buy the card.

So in conclusion I *don't* think it's unreasonable to ask for a "leisurely six months" to try out software as it often takes us poor bastards at the sharp end that long to get it working, if we get it working at all! I'm not suggesting people should use pirate software – that just hurts all of us in the long run – but if software manufacturers weren't so keen to use us as Beta testers for underdeveloped products, they might find people are less ready to rip them off.

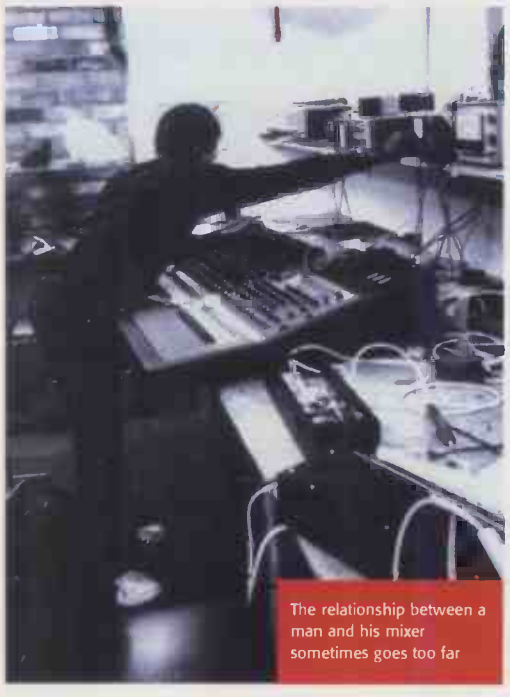
Carl Gardiner, by email

Software hardball 2

I don't think you can compare software and hardware the way you do in your reply to the anonymous reader who deals with pirate software (issue 64). I agree with you that pirate software isn't good for the industry and ruins further development of software, but I agree with the reader, that we should be able to try the software before we buy it. True, you can't do that with a piece of hardware, but if you buy a car you don't expect to tweak it and restart it a number of times before it works, do you? Or if you buy a brand new telly you don't expect that only *some* of its features are working, do you? Considering this, I don't think there's any basis for a software and hardware comparison, because although your computer has the minimum requirements that a piece of software requires, you can't be sure it's working!

You can have a brand new super soundcard like the Yamaha SW1000XG, but you won't be able to use it in a lot of (especially cheaper) audio applications, because these applications require Direct Sound, and Yamaha hasn't written those drivers yet (but they're working on it!). Nobody tells you *that* when you're going to buy a piece of software. So you can have an excellent demo in the music store, but you can't be 100% sure the software will work with *your* computer. And nobody tells you that the £500 GigaSampler completely captures your soundcard, so you won't be able to use it in other applications at the same time (at least they didn't tell *me* that in my local music store!). It's a jungle out there, and a lot of the software companies develop software so fast because of competition, that they release some really buggy products...

Mads Stoumann, Denmark



The relationship between a man and his mixer sometimes goes too far

Senior Editor Chris Kempster replies...
Mmm... I seem to have opened a can a worms here, don't I? It can be the most frustrating thing in the world when you've spent hours trying to get some software to work and can't for the life of you figure out what's wrong. I know, I've been there. Save from strangling your cat (or choking your chicken, huh huh) there's very little that you can do to rid yourself of the unbearable irritation that comes from not being able to just get on with making some music. And naturally the temptation is to blame the software for everything, because it's an easy target. But in so many cases of a system not working properly, there are other factors to blame rather than just the software itself, such as the hardware being configured incorrectly. On the other hand, there are many cases when the software *is* to blame, and I'm certainly not going to defend developers who put out software that's not been fully tested, is bug-ridden, or just plain doesn't do what it's supposed to do.

However, pirating software still doesn't help this situation, it makes it worse. The more pirate software there is, the less money is recouped by developers, and the less money they can put into new development and testing. And therefore the buggier that new software will be.

One solution we're keen on here at *The Mix* is to put old, but fully-working versions of current programs on our cover CD for everyone to use. This way you can check whether the software does what you want, then go out and buy the latest version if you're happy with it. It proved popular when we gave away ProTools 3.4, and maybe we'll do more of this in the future. What do you think?

Master debate

Ever since sound recording was first invented, the aim has been to improve sound quality and achieve the most realistic reproduction of the original sound. Over the last few years audio technology has raced ahead - driven by digital technology - each new format moving us nearer to that audiophile utopia of perfect sound reproducion. Remember what a revelation CDs were? SACD and DVD-Audio are now with us (just), both being as much a step up from CD as CD was from tape and vinyl. So why-oh-why-oh-why have the white-coated boffins taken a such a huge leap backwards with MiniDisc? Why anyone would consider MiniDisc as a viable alternative to DAT or CD is beyond me! I don't mean to say that MD doesn't have its uses - obviously it does (I just can't think of any at the moment) - but mastering isn't one of them. They sound "plasticky", have no depth or body to the sound, the stereo image always seems...well...odd. Let's face it, they sound shit! If you're a budding bedroom producer you're likely to have spent more than £1,000 on computer equipment and software alone, not taking into account how many synths, samplers and effects you have kicking around so, when it comes to mastering, why not pay the extra and get a DAT or CD recorder? And, yes, I can hear the difference between MD and CD... right!

J.R., Sunderland

Technical Editor Paul Mac replies...
The compression that Sony implement on the MiniDisc format has improved considerably since the early days. There is still a discrepency, but it's quite small. If you had to choose between a cassette and a MiniDisc, you'd go for the MiniDisc every time, and it costs far less than a decent DAT machine. That said, MiniDisc was intended as a consumer format; small, hardy, and with random access. The compression is a result of the size requirements. MD is ideal for restricted bandwidth broadcast and theatre use where random access cueing is a boon and sound quality isn't top of the list. It's also great for small multitrack machines. Audiophiles might be annoyed, but MD does have its uses where size and economy are important.

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Win this ace baseball jacket

The author of the best letter we receive each month wins this fabulous Shure baseball jacket. So get thinking and writing – it could be you!

letter of the month

Net loss

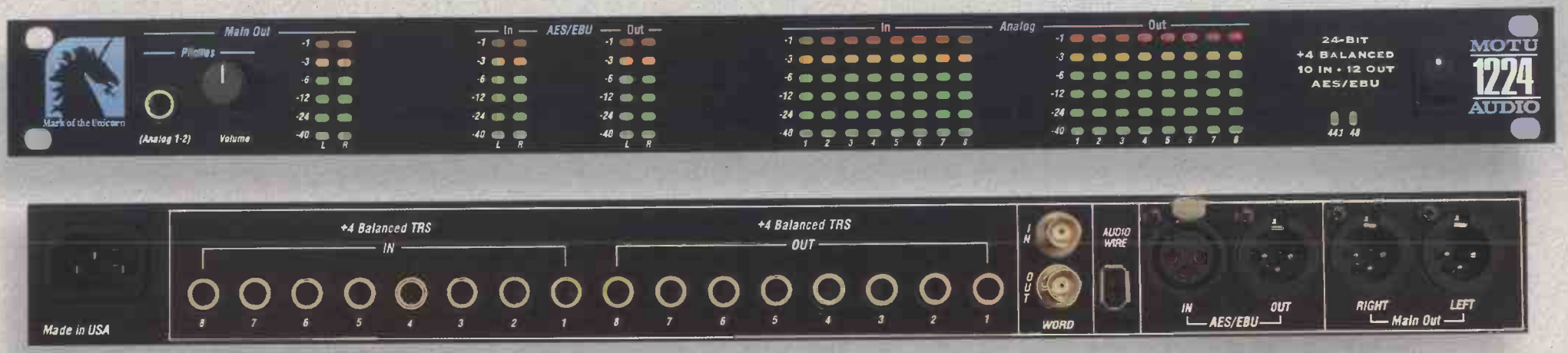
I'm writing in response to the debate on on-line music (Ian Thomas, *The Mix*, July 1999). I realise that, just like many other things, it is inevitable that the distribution of music via the internet will become widespread over the next few years, via MP3 or whatever other format, and actually think this is essentially a good thing. It'll be great being able to go shopping for music from your living room, get the songs almost immediately, and pay less than a hard copy (i.e. CD, cassette or vinyl) of the same music. However, as I'm downloading 'Dance Anthems of 2001', there'll be a twinge of sadness for me, as I remember with fondness the act of walking into a record shop and browsing through the racks of records and CDs, before rushing excitedly home to hear my latest purchase.

There's something special about records (and, some would say, CDs), over and above the audio that they contain. Okay, there's the nice picture on the front, there's the sleeve notes and the lyrics on the inside, but more than anything a record is a tangible 'thing', something to love and cherish. Will a hard drive full of MP3 files ever evoke the same emotions as a rackful of records, lovingly collected over the years? I think not...

John Rodber, London

Senior Editor Chris Kempster replies...
MP3 files might not get *our* generation too excited, but what about the sprogs of today who are tomorrow's music consumers? Perhaps there will be special MP3 collectors' fairs, where rare files are exchanged for extortionate amounts of money. Those looking for music on the cheap might nip down to Age Concern and other charity shops to browse through their MP3 files in search of some bargains (it'll probably be full of Herb Alpert, Mantovani and those *Top Of The Pops* compilations). At charity auctions, you'll get Rolling Stones MP3 files with electronic autographs from Mick, Keith and the boys. And, of course, all the DJs will receive a constant supply of white label MP3s, which have no artist name or song title. And in the plushest of musicians' pads, you'll have specially-made mahogany hard drives, made from the highest quality componènts, to keep all those 1,000s of MP3s in perfect condition. This is the future of music as we know it. Or maybe not...

Introducing the 1224.



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- 10 independent inputs and 12 independent outputs.
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Everything you need for 12 channels of 24-bit audio, including the 1224 19-inch rack I/O shown above, PCI-324 audio card for Mac & PC, AudioDesk workstation software for Mac with plug-ins, and drivers for today's leading Mac and PC audio software.

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The 1224 I/O shown above plugs right into your 2408 system and adds eight 24-bit balanced +4 analog inputs, ten balanced +4 analog outputs and 24-bit stereo AES/EBU digital I/O.

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Mac OS Windows

Who tests the gear

Our team of equipment reviewers are all audio industry professionals, experts in their chosen fields – engineers, producers, musicians, software specialists and audio journalists. This means that you can trust the opinions expressed in our reviews.

How the gear is tested

Wherever possible, the gear we test is used in actual sessions. Indeed, some of the biggest-selling records this year will have acted as testbeds for our reviewers. We believe that to truly evaluate kit properly, it needs to be tested in studio conditions – not a dark room!

Impartiality

Reviews in **THE MiX** are in no way biased towards certain manufacturers. We will deliver an impartial verdict on a product whether or not a manufacturer advertises in this magazine. Our first duty is to you, the reader, and our goal is to give you the best possible advice on buying equipment. We will not hesitate in exposing sub-standard equipment.

THE MiX EDITOR'S CHOICE

Products that are judged to be outstanding by our reviewers are awarded the 'Editor's Choice' tag. In a standard review, this means that the product offers exceptional performance for the price it retails for. In group tests, there may be two awards – 'Best Performance' and 'Best Value'. The 'Best Performance' award will go to the product that offers the best performance irrespective of price, while the 'Best Value' award will go to the product that offers the best price/performance ratio.

reviews

We've got mixers, monitors, recorders, and processors on test: the dynamic Focusrite Compounder, the awesome Emagic Logic 4, the classic Eventide H3000, and lots more besides...

Emagic Logic 4 Platinum

MIDI/digital audio sequencer for Mac and PC

Price £549

For 34 built-in digital effects

Neat new interface Windows and Mac programs near-identical

Against Requires a healthy computer for optimum performance

Takes time to get to know

Verdict Logic's most significant upgrade yet, with a sparkling new user interface and lots of new features. The 'free' effects alone make it a must-have

Logic Audio has become a firm favourite among studio engineers and producers

The Logic family is Emagic's range of integrated MIDI and digital audio sequencers. It's more than a year since the last major upgrade and rumours about the changes have been buzzing like bees. Logic v4 is undoubtedly the most significant upgrade to the program since it was launched and it is replete with new features, changes and additions. Two of the most interesting are the new-look interface and the 34 built-in effects, but more on those in due course.

Overview

V4 has been developed in parallel on both Mac and PC platforms and the two versions are, to all intents and purposes, identical although, of course, there are separate provisions for audio hardware and the like. Both versions use a dongle for copy protection.

Installation on both platforms proved very easy, although it says something about the complexity and variety of computers these days when there are separate 48-page (for Mac) and 58-page (for Windows) Installation Guides. They do, however, include sections on audio cabling and troubleshooting. Both installations come on both CD and floppy disk, so you must have a floppy disk drive in order to install it. Emagic have posted a disk image on their website for G3 users, who don't have floppy disk drives, but if you don't have internet access you are advised to contact your distributor who will "provide a solution". G3s do have an ADB bus, however, so can use the dongle. iMacs don't and iMac users need a USB-to-ADB converter. G3 users may also need an update to the ATI Rage 128 graphics card to avoid redraw problems.

The documents claim that USB-to-Serial converters are not suitable for use with serial MIDI interfaces as they cannot handle the external clock rate. And USB-to-SCSI converters for hard drives are not recommended either, because of the slow throughput. Whatever, if you don't have an 'old' PowerMac, you need to check what your Mac's got and what you might need in order to install and run the software. For once, PC users seem to have the better deal.

THE MIX EDITOR'S CHOICE

Off the menu

The first thing you notice on booting is the new user interface. It's smart and hi-tech. If you don't like it, however, there is an option to revert to the version 3 look. Well, there's no accounting for taste. Windows users will also notice that the sub-menus have gone. Emagic have taken advantage of this update to reorganise the menus on both platforms, and the individual windows in the Windows version no longer have sub-menus (although those in the Mac version still do).

Instead, the main menus change according to the currently selected window and additional menus are inserted in between the Options and Windows menus. With the Score editor open, for example, there are additional Layout, Attributes and Text menus. In the Environment window, a New menu appears holding the options that were previously available

system requirements

PC

Minimum: Pentium 200, 64Mb RAM
MIDI only: Pentium 60 24Mb RAM, Win 98
Recommended: Pentium II, 128Mb RAM

Mac

Minimum: PowerMac 120MHz, 64Mb RAM
MIDI only: 68020 processor, 16Mb RAM, System 7.6.1 or later
Recommended: G3 Mac, 128Mb RAM, System 8.1

Hard drive

Sustained data transfer rate >3Mb/s
Average access time <10ms
SCSI recommended

words **Ian Waugh** main image **Gavin Roberts**

Platin PlugIn Demo AV(e) Environment
fat eq
compressor
SONY

features

- Support for 24-bit, 96kHz audio
- Up to 128 audio tracks
- 16 busses
- Renaming of audio I/O
- Scroll in play
- Track zoom
- New Environment objects
- 14-bit faders
- Improved menu
- Definable key commands
- New-look interface
- Enhanced Score facilities
- Multi-sequence editing
- 34 native effects, including:
- Fat EQ
- Compressor
- Expander
- Noise Gate
- Enveloper
- Distortion
- Overdrive
- BitCrusher
- AutoFilter
- Spectral Gate
- Tape Delay
- Stereo Delay
- Modulation Delay
- Phaser
- Ensemble
- Pitch Shifter
- PlatinumVerb
- GoldVerb
- SilverVerb
- EnVerb

from within the Environment's menu. In both versions, the Arrange page's Structure menu has been completely integrated into the main Functions menu and entries in the Options window (such as Marker and Tempo options) can be globally accessed from various windows. There's also a new global Audio menu, which offers access to the audio editor, sample editor and audio mixer.

The arrangement looks neater, but it's just as non-standard as the use of sub-menus within windows. It's probably slightly easier to use, but you do get the situation where the menus change their contents according to which window is open. The Windows version supports Microsoft's IntelliMouse, which you can use to scroll horizontally and vertically. This is often easier than using the scroll bars.

Big screen

The use of Screensets has been standardised between Mac and PC platforms and there are lock, copy and paste Screenset functions, too. Screensets are great time-savers, and if you haven't used them, do so – they can save lots of time and effort. Advanced users will rejoice to know that all Key Commands can be redefined, even the fixed Commands of older versions, and Commands appear next to their function in the corresponding menu. However, changes should be made with care, because some instructions follow standard conventions. If other people are likely to use your program, or you are likely to use someone else's, it's probably best not to mess with them.

The Windows version has acquired a whole range of new features that were already present in the Mac version, while lots of other features are new to both versions. One of the coolest is Scroll in Play. When Catch is activated, the Song Position Line will stay in the middle of the screen during playback, making it easier to see what's coming up. Nice. Then there's multi-track MIDI recording, which works in two modes. Layer mode is used to record multiple tracks without having to connect them in the Environment. Incoming MIDI events are sent to all record-enabled tracks; the original tracks contain the data and the others contain aliases. It's a quick way to build up layered sounds using several instruments, but it's just as easily done copying a single recorded track.

In Split mode, incoming MIDI data is split onto different tracks according to their MIDI channel. Use this when several players are jamming with different instruments, or to record a MIDI file from another device and split it up by channel. Again, it's a little time-saver and an alternative to Demixing by Event Channel.

Other useful things to do with tracks include zooming them individually and as a group. This is great. It means you can easily open up a track to edit with Hyper Draw for example, and you can squash down tracks which you don't want to work on at the moment, making more room for the others.

Even the non-audio parts of Logic 4 have a new look and a new feel

Heart of the machine

The Environment, the heart of Logic, has undergone several improvements as the program has developed. It is much easier to use than it once was, but it still seems to be one area that many users avoid. This is a shame, because it houses some of Logic's most powerful and interesting features. We can't say that the latest version has made the Environment easier to use, 'cause it hasn't. In fact it gives you three more toys – sorry, 'objects' – to play with.

V4 adds aliases to the Environment. They work pretty much the same as aliases in the Arrange window by taking on the features of the original object, but with properties of their own. You can create aliases of any Environment object, but faders would seem particularly useful. Aliases can be reassigned using meta events, and there's a new special fader for doing this. If this is starting to sound like a programming course, it's time to skip a couple of paragraphs. It may not be the first part of Logic you open up and investigate, but current Environment users will find the additions interesting.

New, too, are Ornaments. As their name suggests, they are display objects used to create backgrounds behind other objects and don't form part of the signal path. Finally, there are Macros. These aren't objects as such, but collections of objects. You can collect up to 100 objects in a Macro (and you can include other Macros in this), duplicate it, and connect it to other objects just like a normal object. Okay, maybe this is one for the power user.

There are also two new modes in the Transformer object. With Alternating Split the Transformer alternates incoming events between its top two cable ports, and you can create several split paths by cascading several transformers. The other mode is SysEx Mapper and this is one for the techies. It's for creating System Exclusive messages, and we'll say no more about it here. Less techy is Faders, which can send 14-bit messages – no it's not techy, honest – which means more accurate settings for pitch bend and MIDI controllers.

Finally, audio objects in the Environment now have a MIDI output port that carries all controller events produced by moving elements of the audio object's interface, such as faders, pan and sends. One of the main uses for this would be to transmit the state of the parameters to external hardware, such as motorised faders.

The Windows version now has Touch Tracks which let you assign different MIDI notes to sequences or folders, which can then be played by pressing the keys on your keyboard. You can use this to experiment with different combinations of arrangements. You could, for example, select various combinations of drums to see which ones go best with a music line, changing the combination in real-time.

The Matrix editor has been tweaked to allow multiple sequences to be displayed simultaneously. It also supports the use of colour, and Info Bars are used to provide extra information about the selected notes.

The Score editor has had a dash of colour added, too, and can turn the stave lines of the selected sequence blue. It has also been given Scissors and Glue tools, although the Scissors tool is used to divide sequences in the Score window, not to cut notes in half.

The Partbox contains new symbols, including accents and some 'jazz symbols' such as fall-offs and scoops. New parameters make it possible to create and print the full score and all parts from within one song file without having to change any settings. There are several other score enhancements – the ability to hide bar lines, add bracket space, display bar numbers, improved chord symbol alignments and new Extended Layout parameters. The Tab key can be used to step to the next note when entering lyrics.

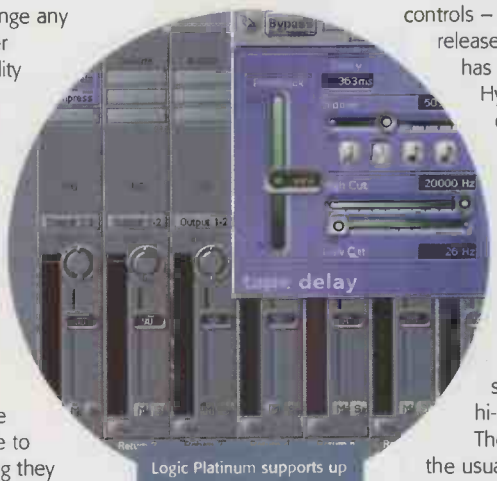
Filing system

Support for audio files has been increased, with Macs able to play Wave files and PCs able to play SDII files directly (providing they are in 16-bit 44.1kHz format). The PC can save files in AIFF format and the Mac can save them in Wave format as well as SDII and AIFF. It's recommended that when porting files to the PC you save them in Wave format from the Mac.

The Audio Configuration window is available from the global Audio menu, and you can now name the Ins and Outs to match the devices rather than using Input 1, Input 2 and so on. You can also copy settings between songs and between different devices.

If you want to switch between audio hardware, you can now try to do so without restarting Logic. A little dialog appears saying Try Launch and in many cases it will do so successfully. If it doesn't, you may need more RAM, but the drivers will switch if you restart Logic as usual. With a suitable audio card Logic Platinum supports 24-bit audio at rates up to 96kHz. It also supports up to 64 audio tracks per piece of audio hardware (32 tracks with Gold), offering up to 128 audio tracks. You would, however, need a blindingly fast system in order to achieve this.

You can now route Tracks to Busses and Busses can be routed to other Busses. Platinum offers 16 internal Busses (eight with Gold), offering lots of scope for creating audio subgroups. Output objects also have inserts for effects, allowing you to process the signal directly before the output prior to bouncing, for example.



Logic Platinum supports up to 16 busses with effect inserts, and busses can be routed to other busses

Fab effects

And now to the bit you've all been waiting for – the effects. Most software that supports digital audio includes a few built-in effects, but Emagic have taken this to extremes and laid down a challenge to every other software developer out there.

Logic Audio Platinum includes no less than 34 effects (26 with Gold). The original effects have been replaced with improved algorithms and some novel and exciting graphical interfaces. We don't have room to run through them all, so here's a taster.

The Fat EQ offers up to five parametric bands that can be activated individually, and four of them can be set to one of two filter types. This is a versatile, highly-effective EQ that can be used globally and to home in on specific frequencies for special treatment.

The Noise Gate has traditional noise gate controls – threshold, attack, hold, release and reduction – but it also has a few extras such as Hysteresis, which prevents chattering at threshold levels, a Lookahead setting, which opens the gate a fraction before a transient so you don't miss any of it, and a Sidechain function with hi and lo-cut filters, which helps isolate sounds that have been tainted with other sounds, such as a snare that contains traces of a hi-hat. Pretty versatile.

The easy-to-use Compressor has the usual threshold, attack, release, ratio and gain controls, plus an auto gain function and a knee control, which sets the angle or sharpness of the compression curve. It works great with drums and vocals. There's also an Expander with an identical set of controls (although it doesn't have a gain meter to show when the effect is kicking in). It's very easy to go OTT with this if you're not careful.

There are a couple of distortion effects, both with identical controls. Distortion can create a sort of lo-fi sound, gritty and grungy. Overdrive produces a slightly warmer, less harsh sound. For the ultimate in digital distortion, use the BitCrusher, which allows you to set the bit resolution and downsampling rate.

Delayed effect

There are three delay effects. Tape Delay simulates old tape echo units, with a neat twist, because the delay time can be set in note values of 1/16th, 1/8th, 1/4 and 1/2 notes. It uses the internal tempo of the sequencer for this (although it can't handle tempo changes) and a groove slider can be used to create triplet and dotted values. It has a circuit that simulates tape saturation and includes hi and lo-cut filter controls. Nice effect, this.

the verbs

Logic's reverbs deserve a special mention. SilverVerb is in Silver, Gold and Platinum packages, and has three main controls: predelay, reflectivity and room size. There are also lo and hi-cut and mix controls. In spite of the simplicity of the controls, the results are very good, and the effect is very easy to use. The graphic display, which looks like something out of a mad scientist's laboratory, is alas for decoration only.

GoldVerb is in the Gold and Platinum programs and consists of two sections – early reflections and reverb – with a slider to set the balance between them. There are lots more controls here, including stereo base, initial delay, spread (which can expand the stereo image), reverb time, and density. This, too, has a graphic display of the room shape that changes shape to show the number of corners the room has.

You only get PlatinumVerb with the biggy. It has the same room shape graphic, and the same early reflection and reverb controls. The early reflection section is identical, but the reverb section has additional controls – crossover, low ratio and low level controls – and is based on a dual-band algorithm. The crossover control sets the frequency at which the two frequency bands are split, and they are then processed separately.

The low ratio control determines the reverb time of the bass band and the low-level slider controls the level. The reverb time parameter controls the higher frequencies. This arrangement simulates natural reverb, in which lower frequencies generally attract less reverberation. It can be used to very positive effect by reducing the reverb on low-pitched frequencies, allowing you to increase the level of the bass and add more wet signal to the mix without making the result muddy.

files, drivers and engines

Several changes have been going on behind the scenes in versions of Logic on the way towards v4. For example, both Mac and PC versions support Yamaha's DSP Factory, not only in terms of its 16 audio tracks and 24-channel mixer but also its EQs, effects and routing system.

On the Mac, Logic includes a new audio engine supporting Direct I/O for Digidesign hardware such as Project II, which doesn't support DAE (the Digidesign Audio Engine). It also supports Steinberg's ASIO system, which promises more efficient drivers, resulting in lower latency. It also allows 16-bit and 24-bit files to be played back simultaneously (24-bit is only supported by Logic Platinum) and Windows' Wave files can also be played back directly without conversion.

Mac users can specify a port for the transmission of MMC (MIDI Machine Control) when using OMS. PC users can connect the Unitor8 MIDI interface and the Logic dongle to the same COM port. The package includes a Find Key utility, which scans the ports for the dongle and reports where it's connected – also useful in case you don't know your COM1 from your COM2.

PC Logic also now supports AMT (Active MIDI Transmission), which works with AMT8 and Unitor8 to optimise the transmission of MIDI data in order to achieve the highest timing accuracy. If you work with lots of MIDI parts you'll appreciate this, although you do need an ATM-compatible interface.

PC users who don't want to use audio for a project can launch Logic without the audio drivers by holding down Alt during booting. It conserves resources and prevents any audio bits getting in the way (just in case they cause a problem).

For wild, wacky and wonderful filter effects, the Spectral Gate opens new sonic horizons

The Stereo Delay works in a similar way, but has separate controls for the left and right channels. It also has crossfeed controls, which route each signal to the other side. The Modulation Delay is not a standard delay as such, but creates effects such as flanging and chorus, which are based on short modulated delays. There are also dedicated Chorus, Phaser, Flanger and Ensemble effects. There's a cool Pitch Shift that changes pitch by plus or minus an octave in real-time.

Strange days

There's just room to mention some of Logic's more unusual effects. The Enveloper lets you shape transients of signals. There's a little graph so you can see what you're doing, and the two most important controls are attack gain and release gain. Twiddling these emphasises or attenuates the relevant section. Increasing the attack, for example, will increase the slap, kick or volume of a sound. Reducing the attack makes sounds fade in more softly. Increasing the release boosts the reverb, which is particularly useful with drum tracks.

The Direction Mixer is a very interesting, but simple, effect. It can decode MS recordings (Middle-Side, a method of recording in stereo using omnidirectional and bi-directional microphones), change the centre position of a stereo recording by shifting it left or right, and increase the stereo spread beyond the spatial limits of the speakers. As you spread a signal to its extremes, monaural compatibility decreases and at a full spread the signal will all but vanish.

The AutoFilter is a versatile lo-pass filter capable of going into self-oscillation, complete with envelope and modulation controls. It can generate a range of filter effects such as wah, filter sweeps, and various modulations. The Spectral Gate offers independent control over the signal parts above and below a threshold level. It sounds simple, but it can produce some really wacky filter effects. It's superb on drum loops and it can make a vocal sound vocoder-like.

Finally, there's EnVerb, whose main feature is the ability to adjust the envelope of the diffuse reverb tail. Apart from a range on interesting reverb effects, you can also use it to generate reverse reverb effects. Okay, if you want to be really picky you could say that the effects don't cover all the areas that you might want – there's no de-esser, noise reduction, de-clicker, or loudness maximiser – but Logic 4 includes more effects than any other digital audio software. They're quality effects, too, and, apart from specialist processes, they should cater for the vast majority of effects most people are likely to want, and then some.

Most of the effects come with a few presets to get you started, which are selected from a drop-down menu in the effect itself. You can, of course, create your own presets, and these are stored in a Plug-In Settings folder. This in turn houses folders for each effect, and the individual presets are stored inside these. You can save and load presets for third-party plug-ins in this way, which makes a nice, convenient and uniform system for organising your presets.

A useful new function becomes apparent when you select a plug-in from the Insert slot: the program only shows those plug-ins that match the channel – mono plug-ins for mono objects, stereo for stereo objects. You can, however, override this if you wish. Another useful function is the ability to set parameters in the track Mixer to their normal default value.

Verdict

V4 gives a whole new look and more than a bit of a new feel to Logic. Some of the additions, changes and modifications may seem to fall into the minor category, but there are a lot of them (including many that we don't have room to mention) and, taken together, they increase the functionality of the program and give more power to the user.

The update majors on enhancements in the audio department, the plethora of effects in particular, and this is undoubtedly what will make existing users want to upgrade. There is still room for improvement, for example, an audition option would be useful when opening audio files, but let's not pick for picking's sake. After all, they have to leave *something* for v4.5.

Windows users particularly benefit from v4. Not only do they get all the features that Mac users have enjoyed for the past year plus a menu reorganisation, they also get all the new goodies, too. If you're an existing Windows user, this is an upgrade you simply must have. And although Mac users don't have as many changes to look forward to, the enhancements are still numerous and substantial enough to make it a must-have upgrade for them, too.

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Against Small LCD screen limiting by today's standards ⊙ No digital I/O

Verdict Simply one of best processors you're likely to encounter

For well over 20 years Eventide (or Eventide Clock Works as they were originally called) have been at the forefront of the effects processor market. They were the first company to introduce a rack-mounted harmoniser, and have continued to develop top-flight processors ever since. In the same way that Akai established an industry standard with their S-series samplers, Eventide are the undisputed leaders in the harmoniser market. While other manufacturers have concentrated on reverb or dynamics processors, Eventide have carved out a very specific market for their products, one that covers both the music and broadcast industries. The chances are that you've heard their effects on a hit record, but you're just as likely to hear them on radio or TV commercials creating effects that would previously have required a veteran of the BBC's Radiophonic Workshop.

Overview

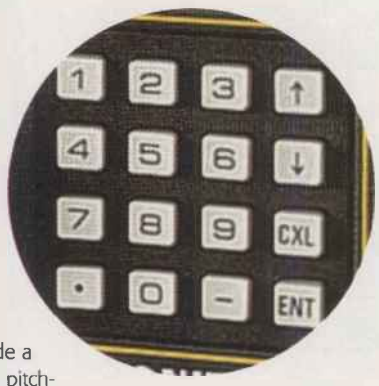
The H3000 series processors have been around for over ten years now, and although they have been superseded by the DSP4000 series (see the 'family affair' box on page 36), they are still very much alive and kicking. Walk into any professional studio and you are likely to find one version or other of the H3000 in constant use.

Eventide built a certain degree of flexibility into the H3000 range, with different models tailored for different applications. Over time, extra presets and algorithms were added to achieve the range available today. They still manufacture a broadcast-targeted unit (the H3000 B+), which features such presets as Timesqueeze for shortening or extending in real-time. There is also the D/SX model, which features the Steve Vai guitar presets but less of the studio-specific algorithms. The top-of-the-range studio unit is the H3500D/FX, which has all of the available algorithms and presets, plus the sampler card which gives up to 47.5 seconds of stereo sampling. The D/SE model is probably the most common studio unit, and is essentially an upgraded version of the original 'studio enhanced' model, adding the Mod Factory options (more about these later), and more presets from famous industry users.

On the face of it, the H3000 is a simple-looking unit, with very few front panel controls. All parameters are changed within the LCD display, including the input and output levels. Changes are made using the large data wheel, which dominates the front panel, or from the numeric keypad at the right-hand end. Paging around is achieved through a combination of the function and parameter keys in the centre of the front panel, and the four soft keys, which correspond to the parameters displayed directly above them.

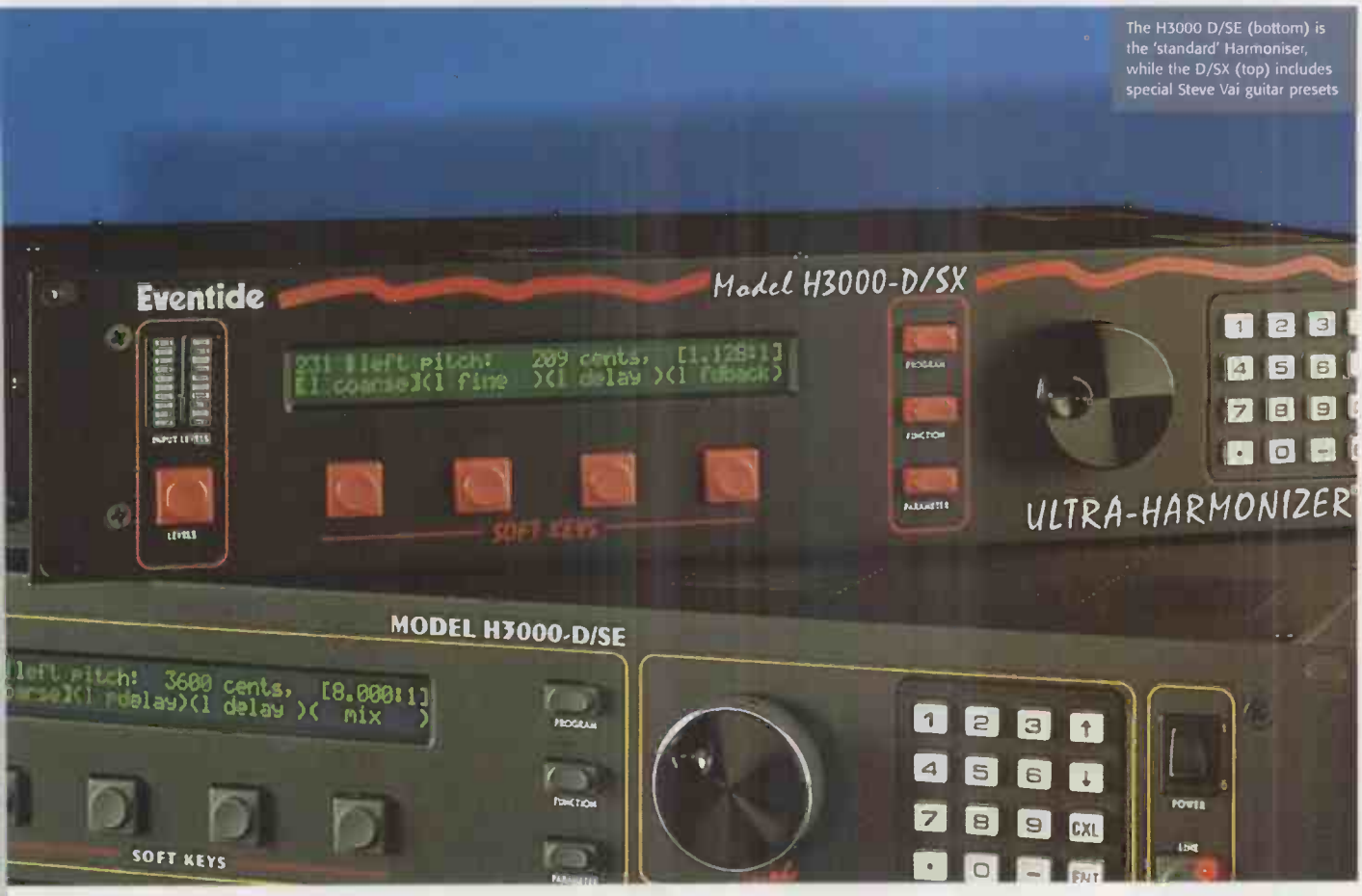
The program key is the top of the three keys in the centre of the panel, and is used to access, save and delete programs. At the far right-hand end is the power switch and the bypass, which operates a relay-controlled switch for true bypass. Round the back the H3000 is also pretty simple, with audio ins and outs via XLRs, and MIDI in, out and thru sockets.

The effects within the H3000 D/SE are based on 21 algorithms, and these are the building blocks for the programs. They include a variety of pitch-shifters (including true stereo pitch-shift), delays, reverbs, a vocoder, phaser, the sampler-



Fine-tuning
Changes to the Harmoniser's parameters can be made by either the large data wheel or the numeric keypad (above)

words **Jon Musgrave** images **Gavin Roberts**



The H3000 D/SE (bottom) is the 'standard' Harmoniser, while the D/SX (top) includes special Steve Vai guitar presets

like 'stutter' algorithm, and two 'mod factory' algorithms. One of these acts as the basis for each preset, and parameters can then also be patched to MIDI controllers, or the internal function generator for further modulation. Also, parameters can be grouped together and adjusted by one of the soft keys. The D/SE model has just under 600 presets, including a few courtesy of Bob Clearmountain, but has up to 999 user program locations, allowing you to save plenty of your own programs.

In use

In practice, the H3000 can operate on a number of different levels. Although initially appearing quite simple, within the sub menus lurk many different control parameters allowing one to develop some pretty serious effects.

Pressing the program button switches the display to the program select page. From here you can select the desired program and load it in. It is also possible to find out the algorithm used to create the preset by pressing the 'origin' soft key. Parameters are selected by their corresponding soft key, and modified using the data wheel or keypad. However, with some programs, the soft keys may also be set up to control one or more parameters at once. If this is the case, these will appear as the first page after loading, rather than the first parameters page. If more detailed editing is required, more parameters can be found within the expert pages. Furthermore, it is quite possible that parameters within the program are themselves being modulated by the function generator, or patched to a MIDI continuous controller.

Thankfully, the H3000 D/SE comes packed with presets, which can usually be easily modified to achieve the desired results. If you do want set up your own programs, these act as a good starting point. Alternatively, the 21 basic algorithm presets can be found between numbers 100 and 123.

As mentioned, the H3000 incorporates a patching system for implementing MIDI, soft functions and the function generator. This really is very easy to use. Press the function key a couple of times and select Patch. The top row of the display will show a parameter and an arrow pointing toward whatever is modulating it. Selecting Parameter allows you to scroll through the various parameters of the program, and selecting Source allows you to choose your modulation source. This can be one of the MIDI controllers, the function generator or one of the assignable soft function keys.

Parameters can be fine-tuned using the Range and Per Note keys, and if you have set up a soft function you can also set a sensitivity and polarity setting for it. If you are making use of the function generator, hitting the Funcgen button accesses a choice of waveforms, ranging from continuous sine and triangle waves to triggered and one-shot waveforms. The rate and amount are adjustable, and just to make things

specifications

I/O
Stereo balanced (XLRs), input level switchable between +4dBm & -10dBm via internal jumpers

Dynamic range
Greater then 92dB, A-weighted

Distortion
0.01% (0.007% typical) @1kHz

Frequency response
5Hz-20kHz ±1dB

Delay
1.5 seconds max

Pitch variation
3 octaves up,
3 octaves down

Size
89 x 483 x 343mm

Weight
28.6kg

family affair

Prior to the introduction of their first harmoniser in the mid-1970s, Eventide had already had some success with the Instant Phaser and the Instant Flanger. Although these units sound a little tame by today's standards, they are still very usable. The flanger must have been quite a revelation to users at the time, offering a realistic alternative to genuine tape flanging. However, it was the introduction of the H910 harmoniser that set the pace for pitch-shifting processors. It offered a variation of up to one octave up or down (continuously variable), and also incorporated a variable delay line and second output with delay. The H910 sounds slightly crude now, but still has its uses, although maybe more for applications where subtle harmonising isn't so crucial.

Following on from the H910, Eventide introduced the H949, which incorporated better delay features and more control over the blend of the feedback with the addition of EQ, and then the H969.

In the late 1980s, the introduction of the first H3000 model came as quite a revelation, incorporating both pitch-shifting and delay algorithms with reverbs and a selection of well-programmed presets. But, it took some time for the H3000 range to reach the level of the D/SE model, which incorporates many more presets but also includes good emulations of the H910 and H949.

In 1995 the first DSP4000 processors made an appearance and proved to be amazing units, offering an eight-octave pitch-shifting range, as well as a new system for patching together effects modules. The DSP4000 allows up to 40 effects modules to be joined together in one patch, and has 90 effects modules to choose from.

Eventide's latest high-end effects processor, Orville, will be available very shortly, and features 24-bit/96kHz performance and over 150 distinct effects modules.

The H3000 series has now been superseded by the even more powerful (and more sexy) DSP4500

interesting, these too can be patched to soft functions or the function generator. As you can imagine, all sorts of bizarre patching options can be achieved, and it really is possible to get in a bit of a mess if you're not careful.

In addition to the algorithms found on the original 'studio enhanced' unit, the D/SE also has two 'mod factory' algorithms. These incorporate a selection of independent processing modules such as delays, filters, pitch-shifters, envelopes, modulators and mixers. These can be patched together, and with careful use of the thresholds, allow the input signal to control the effect levels. For example, program 889 is a triggered flanger, where the input level triggers the flange effect. Similarly, 838 filter sweep is triggered by the input level.

MIDI

When it comes to MIDI, the H3000 D/SE is very well-spec'd. As well as the above-mentioned patching of controllers to parameters, it is possible to use program change data to change programs via MIDI. Obviously, with 999 possible programs, the H3000 needs some kind of bank numbering. In fact, banks 1 to 10 correspond to each 100 programs. Alternatively, you can set up a program map for allocating certain program numbers to MIDI program numbers. Another neat MIDI function is the sequencing option. Setting this to On within the function pages allows you to transmit parameter changes via the MIDI out to your sequencer. So, changes can be recorded in real-time and played back.

A few of the D/SE presets are set up to be controlled via MIDI, and these act as a useful starting point if you're planning on modulating effects this way. Also, a few presets make use of the internal wave generator to make some quite usable MIDI synth sounds. One final MIDI feature is that of data dump via sysex, for backing up patches to your sequencer.

The sounds

Eventide's harmonisers are renowned for their quality pitch-shifting programs. In fact, you will find emulations of both the H910 and H949 harmonisers on the H3000 D/SE. However, the addition of parameter modulation achieves some of the most natural-sounding, subtle pitch-shifting you will encounter. For example, program 423 Voc Doubler BC (Bob Clearmountain), is based on the Multishift algorithm, and incorporates a left pitch-shift modulated by the sample and hold waveform in the function generator. The result is a subtle pitch-shift, that when used carefully, really fattens up a vocal without sounding too processed.

However, to suggest that the D/SE is limited to harmoniser uses would be foolish. There are also great flangers and phasers, envelope filters, spinning delays, autopans, choruses, and reverbs. Check out the reverb factory-based presets for some really distinctive reverbs. Alternatively, if you're after an interesting delay, try the Band Delay algorithm modulated by the function generator to achieve a filtering delay with some pitch modulation.

For really out-there effects, the reverse shift algorithm can be quite interesting. For example, program 275 My Bloody Val seriously screws up the signal, as I'm sure you can imagine. For genuine special effects try 191 Raygun, which uses the layered shift algorithm. For a spooky effect, anything based on the String Modeller algorithm seems to do the trick, adding what sounds like a chorus of harps to the signal.

The D/SE tends to get used as a harmoniser first and foremost. Unfortunately, this means that many of the other fantastic programs get forgotten about. The chances are you're unlikely to use it as a delay unit unless you have a couple of them floating about, and this is a shame as many of its presets add fantastic dimension to a track.

Verdict

Although the H3000 series is no longer Eventide's flagship range, these units still very much hold their own within a professional studio environment. They are easy to use, and most people have their favourite presets that they use regularly. In time, the DSP4000 range or maybe the new Orville will become the more common units, but for over ten years the H3000 has been the top-flight processor of choice for many engineers and producers.

With the advent of software-based processing, bizarre effects have become far more accessible to people who could never afford an Eventide. However, most mainstream music is still mixed in traditional studios where outboard processing is the norm. The only problem is, you're unlikely to find a studio with more than one in the rack, which can be a little frustrating.

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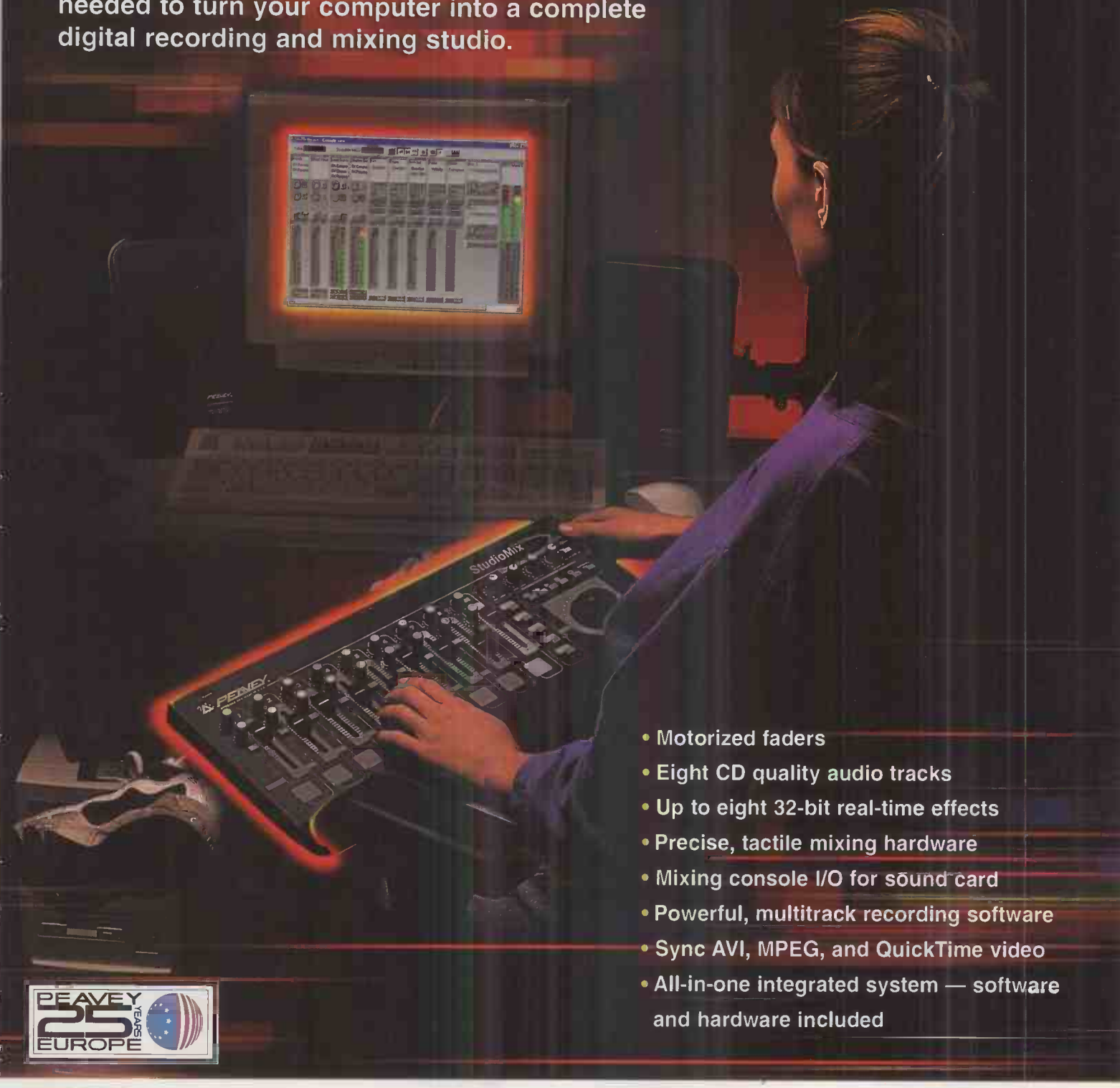

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For Well laid-out control surface › Excellent software design › Brilliant triggering feature

Against Wall-wart power supply › No MIDI LED indicator › Extreme headphone volume

Verdict A gem. Not cheap, but worthwhile for ease of use and quality of sound

One day in the future, some archaeologist will be sifting through the rubble and come across a great find. From the remains of an ancient recording facility he will discover a complete set of Alesis drum machines – from the HR16 to the DM5 – with power supplies and manuals as well. A set of timeless drum sounds, admittedly not all good, but amongst the bad ones will be the gems that have been used over and over on all kinds of projects.

Alesis have made a lot of drum modules and machines. The acclaimed SR16 was hugely popular. Its size and usability was a real bonus at the time, and how time has whizzed by, because it really was 10 years ago that this module was first available. Since then, Alesis have continued to hit the marketplace with a load of different gear – from reverbs to keyboards to multitrack digital recorders. Now, yet again, they have made a new drum machine in the acclaimed D series, but one wonders what more they can have packaged in this 1U box. Let's find out what the promisingly-titled DM Pro has to offer...

Overview

The DM Pro is actually a modular drum machine, and at first sight it looks like a cross between a Quadraverb and a Midiverb 4, so fans of Alesis' stuff will feel like they're with old friends from the outset. The front panel consists of a large LCD screen, which appears in that nice green iridescent colour, giving the user a very neat custom graphic showing drums, MIDI channels and all types of kit, along with all the other various parameters you would expect from such a unit.

You'll find a meaty-looking preview button, which is all the rage on sound modules these days, trigger and cursor buttons, and a well laid-out keypad giving nice access to the edit, global, FX and mix parameters. There is also a headphone socket next to the main volume control. Beware: there is a Marshall stack driving the headphones and it is ear-bleedingly loud.

When you have a look at the rear of the unit it may also come as a shock to see no less than 18 jack sockets, two RCA input sockets and MIDI in/out/thru along with the power supply. In fact, they couldn't have squeezed any more onto the rear panel if they tried. Why does it look like a patchbay? Well, because of the rather neat trigger system in this unit that allows the user to hook this baby up to external trigger sources such as drum pads or drum sensors and play the sounds for real. This isn't a new idea – Simmons did it in the '80s with their electronic drum kits (and, of course, Alesis have used it before on the D4 and DM5), but it is a system you don't see that often either, and one that is brilliant for getting a live feel using samples.

What's more, there are loads of trigger inputs – 14, to be exact. They are all very well-labelled, and for the most part, conform to General MIDI drum layout, with an extra two trigger slots for connecting pedals for hat and kick effects. Any trigger output can be plugged into any trigger jack and programmed to perform whatever is required. There is also the physical output stage, consisting of mono aux out, stereo main outs and six individual outputs made up of left and right main outputs, two aux outs and two solo aux outs.

The RCA aux inputs are an interesting addition. These will let you run the stereo audio output of a CD player, or whatever device you fancy, through the DM Pro's main or headphone output stage, allowing you to mix audio tracks with a current performance (or pretend you are Billy Cobham or Phil Collins).

Room to expand
With an 8Mb PCMCIA card in place, the DM Pro gives you a massive 24Mb of drum sounds to play with

words **Seb Pecchia** images **Gavin Roberts**

With 1,664 drum sounds onboard, the DM Pro has a drum set for almost every conceivable occasion

specifications

Voices
64 (expandable)

Drum kits
64

Drum sounds
1,664

User drum presets
128

Resolution
20-bit

Sample rate
48kHz

Sound ROM
16Mb

MIDI channels
16

Sample format
PCM data

Audio outputs
6 x 1/4" jacks
Headphone jack

Audio inputs
2 x RCA jacks

Trigger inputs
14 x 1/4" jacks

On the downside, the power supply invokes rage. When will manufacturers listen to users? Time and time again they make gear that either has a wall-wart, or worse, has a wall-wart with a weird new style of connector. Alesis fail on all counts here and more. Firstly, the input for the power supply is a connector that looks like a MIDI socket. Secondly, they've positioned this right next to the MIDI I/Os. Thirdly, there is a wall-wart, and lastly, the wall-wart is huge. If the poor little archaeologist finds this module in years to come the only thing it will be good for is propping up the sofa, 'cos no one will have a power supply that fits it.

In use

Well, after calming down and realising that you don't need another 24-way multicore for your new drum module, you can cut to the chase and have a play. It hooks up to our sequencer easily enough, but have a listen to the demos to get a cheesy impression of the unit's potential. Then start grooving...

Drum kit mode is at the top layer of the DM Pro's software platform. You get 64 internal kits, all of which can be edited, modified and generally customised to suit your requirements. It's really easy: select the kit, which the DM Pro will then load and preview. In practice it is easier to preview with your keyboard, because you have access to the whole kit, whereby the preview on the module only fires one sound at a time and it is a bit of a faff scrolling through the multi-layered window of the module just to hear the hats. But those of you who have their keyboard or trigger source some distance from the unit will find the preview function useful.

To select individual drums, just whack the Drum button and use the data wheel to scroll through to the relevant sound. If you want to adjust the current sound, then you can use the mix function key to gain access to the characteristics of each sound, including volume, note assignment and panning. Most kits on the review model were well laid-out, but the imaging was a bit mad, with all hats and cymbals on one side

the sounds

Drum modules specifically designed for electronic music are very popular, but with today's sampling technology, the natural energy of real instruments can be captured, and drums are an ideal application of this. The DM Pro carries a larger amount of natural drum sounds than many other modules, and it isn't a Novation or Roland analogue clone, but a great-sounding machine pretending to be a drum kit.

This box contains more sounds than you're ever likely to need. The individual kits are all well-labelled and each comes with a great selection of individual instruments, for example, four snares and kicks per kit. The impressive thing is the realism of the samples. You get that nice acoustic punch from the main drums, yet a roomy quality from the percussion, which really sounds awesome. The electronic flavours are also included and they have everything the dance remixer will ever need. There's tight hats, big snares and natural reverbs, and if you close your eyes you can picture the drummer doing it.

Presets such as Led Zeppelin don't go mental giving cheesy rock sounds, but instead have those big deep kick drums that are heaven to use, and crashes that are more motorway pile-up than a little prang on the bumper. There are also loads of percussive and special FX – not crap scratches or whistles, but triangles and sweeps, snares with long reverse gates on them, and other really interesting stuff.

By programming a groove and then just loading in different kits around it you can get the most bizarre ensemble arrangements going. Even the orchestral stuff has surprises. The Junk patches are great – just loads of samples of very user-friendly sounds. This module could definitely make the drum machine the drummer's best friend, and about time, too.

The DM Pro comes into its own when connected to a set of pads, via the 16 trigger inputs (below)

and snares and kicks on the other side, so it's worth listening hard to what is going on, as you'll want to make some changes.

The module has a comprehensive effects section onboard, and each of the 64 notes has its own send level and effects buss. There are two busses on the unit: one dedicated to just reverbs, and the other dedicated to multi-effects, consisting of overdrive, delay, pitch-shift, chorus, flange and a huge host of other stuff. The well laid-out control surface means that access to these parameters is very easy and logical. You want FX? Just hit the corresponding soft key, and you can edit the effects as well.

Basically, the DM Pro software works in a well-thought-out system of multi-layered windows. At the top, you'll find the previously-mentioned drum kit itself, then the individual drums associated with that particular kit. In total, there are 1,664 drums onboard, 1,536 of which can not be overwritten. The other 128 are user presets where you can save new kits. On the next layer, you have the sound or the original sample/multisample and its synth functions such as amplitude, pitch, filter and modulation. At the lowest level is the voice, which is the sample playback generator or the base sample around which the sound is created. All this clever stuff makes the unit easy to deal with.

The DM Pro's huge LCD screen makes operation extremely easy, though a separate LED to show MIDI activity would have been preferable to having it here

The operation is nearly faultless, but given that the screen is quite big, it was really hard to see the MIDI channel flashing, which can be inconvenient when you have wired your system and aren't getting any sound. An LED on the front indicating MIDI response would be a good addition, as it would help indicate whether you had a MIDI problem or something else.

We were able to give the triggering functions a whirl with a couple of drum pads that were knocking about. If you wish, you can use a contact pickup mounted on acoustic drums, but beware, as they are not easy to set up. Transducers have different output levels, so what works on a snare drum may not work on the kick. The mounting of the sensor is also a critical factor and must be bang-on (pardon the pun).

This is where the DM Pro lives up to its name – the triggering functions are great. If you're using acoustic drums, then this baby will eliminate false triggers caused by vibrations, crosstalk and so on. It even has a noise suppression function, which allows you to define the noise floor of your environment by plugging in a mic and then adjusting the level at which you want the trigger to work. Complex stuff, but worthy of a medal.

There are pedal functions as well, so you can use an external pedal to open/close hi hats. The DM Pro even tracks the velocity of the pedal when it is moving to give a brilliant live effect full of dynamics. Our pads were not very good, but the DM sounded amazing, and drummers as well as programmers should take a look at it.

Verdict

The DM Pro is a good dedicated drum module with some great sounds (see *The Sounds* box on this page). It is not designed purely for one type of music, but covers a nice spectrum of sounds and feels. It is easy to get up and running, and to edit to suit your own needs. It's a shame there aren't more user presets available, as with time you could really create some great-sounding kit arrangements.

The RCA inputs are an interesting addition that could prove to be quite useful, for example, for experimenting against monitor mixes with percussion or a weird kick drum sample, or a well defined bell tree to end your track.

The highlight of the unit has to be the fact that all the samples and kits can be set up to either drum pads or acoustic drums and played live – it would be nice to see it done for real with a great drummer and get their verdict on it. There is energy in this module, and its real-world applications make the slightly hefty pricetag justified.

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Mackie HR824

Active monitors

Price £1,099

For Smooth high end ⊙ Large sweet spot ⊙ Professional appearance

Against No volume control on front

Verdict Excellent quality reference monitors, easy on the ear with an extremely flat response

With the monitor war raging on both sides of the Atlantic for some years now, Mackie have done their bit to end it all by developing what could be the active monitor to take the crown: the HR824. Mackie have a reputation for doing things properly, as evidenced by examples like the development time taken on the d8b digital console. Indeed, there was a lot of press and publicity on the Mackie development techniques for the HR824s, for which they used all sorts of complicated laser measurements. Very impressive, so let's see if it has paid off...

Overview

The HR824s are a two-way, bi-amped, active monitoring system featuring time-aligned drivers and a passive radiator. Measuring 310 x 400 x 254mm, and weighing 15.2kg, the 824s are well-built and feature a 1" thick front board housing the zinc 'waveguide' that holds the drivers. Finished in black ash with a textured black front, they really look professional without going for a garish cone colour. On the right-hand side of the drivers is the power switch. Above this is a pair of LEDs. One shows that the power is on, while the other shows when an overload is occurring.

The low-frequency driver is a 222mm mineral-filled polypropylene cone held in a die-cast magnesium frame coupled with an oversized magnet. This large magnet would be unusable in a passive monitor, but using a technique that directly links the driver to a servo loop, smooth and controlled bass is generated without any fear of distortion or colouration. The high-frequency driver is a 1"(25.4mm) alloy dome tweeter with a ferrofluid cooled voice coil. Both of these drivers are mounted within the waveguide, which ensures that the high and low frequencies hit you at the same time as well as creating an undisturbed, large sweet spot.

The amplifiers are mounted on the rear of the cabinets and comprise a 150W low-frequency amplifier and a 100W high-frequency amplifier, both of which have a signal-to-noise ratio of >102dB. The crossovers are 24dB active affairs with a crossover point of 2kHz. The internal circuitry detects and ceases any overload that occurs. According to the specs from Mackie, the 824s can deliver 120dB@1m per pair. The freefield frequency response is quoted as 39Hz-20kHz, but the cutoff points are 37Hz and 22kHz. As you can see, the people at Mackie have really thought about this.

The back of the monitor hosts four switches and a input sensitivity pot. The first of the switches lets you tailor the response of the monitors to their position within the control room. The three choices are Quarter, Half, and Whole. Basically, Quarter is for when the monitors are placed in the corners of the room, Half is for when the backs are facing a wall, and Whole is for when the speakers are placed away from the walls altogether.

The second switch is a 3-position bass roll-off, selectable from 80Hz, 47Hz or 37Hz (normal). The third switch tailors the high frequency response from -2dB to 2dB with a normal setting of 0dB. The final switch is the power mode selector. This can be set to off, on or auto on. The auto on setting automatically turns the power on when a signal of -45dBu or more is present at the input.

The connections are downward facing on the amp block at the rear. These include a balanced XLR input, an unbalanced 1/2" jack input, and the usual IEC mains input. These monitors are designed to be used upright, but Mackie advise that if you do use them lying on their sides, make sure the high frequency driver is on the outside edge.

One of the unique features of the HR824s is the passive radiator located at the rear of the enclosures just behind the amplifier. Usually, the ⊙

Styling of the HR824s is restrained, in marked contrast to some other recent 'colour-domed' models

words **Sean Vincent** images **Gavin Roberts**

specifications

Size
310 X 400 X 254mm

Weight
15.2kg

Frequency response
37Hz-22kHz

LF amp:
150W per side

HF amp
100W per side

SPL
>120dB@1 metre

Crossover frequency
2kHz

five tips on buying monitors

- Think about the size you need. Compact nearfields may be all you need now, but what about the future?
- Buy the best you can afford. Next to mics, monitors are the most important link in the chain in a studio. If you can't hear what you're recording properly, its gonna sound pants.
- Take a few CDs you know really well with you to the shop to try them out. It's no good listening to the salesman's favourite CD if you don't know what it should sound like anyway.
- If possible, do A/B tests with various models to see what the differences are and how they will affect your music.
- Be careful when buying second-hand. You could get a bargain, but some faults might only show up after a few hours' use. Try them for a decent length of time before you hand over any cash.

monitor placement

Once you have bought your monitors, you need to put them in the right place. One of the most common mistakes is to balance them on the meter bridge of your desk. This may look cool, but the early sound reflections from the surface of the desk hit you a few milliseconds after the main signal and blur your image. Some engineers who have worked like this for years are used to the sound of this, but it's not a good habit to get into.

Ideally, your monitors should be mounted on solid speaker stands, which will ensure that they can't rock on their bases. If the monitor is able to move at all, when the sound leaves the box, it pushes the box around, causing the amps to work harder to drive the speakers. Even worse, you compromise the speaker itself.

Buying custom speaker stands that are up to the job can be expensive, but you can make your own very easily. If you make an MDF column with a hollow inside and then fill it with sand, you will have a very sturdy base on which to mount your monitors. *The Mix*'s studio has monitors sitting on breeze-block columns.

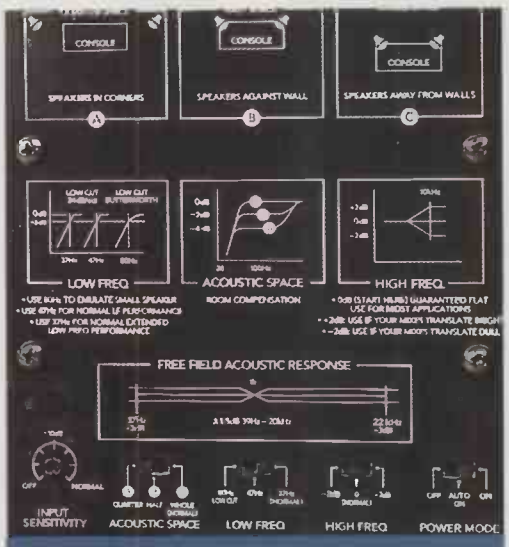
Once the monitors are on sturdy stands, you need to position them. It depends a lot on the speaker type, but with 2-driver systems that have a flat front baffle, you'd normally position them so the tweeter is slightly above ear height, and angled in towards either ear, so that you are in the sweet spot. Aim for an imaginary equilateral triangle connecting the two speakers and the listener's head and try to get the speakers at least one metre away from any big reflective surfaces (walls, high racks, and so on). Even better, use the manual's positioning instructions.

The best test is to record and mix on your new monitoring set-up and then try the finished mix out on as many other systems as possible. You will soon hear if there are any obvious problems.

air moved by the low frequency driver is forced out of a port on the front or rear of the speaker to extend the bass response, but this is a fairly inaccurate way of doing things. The port method often produces a wheezing noise as the air moves down the tube and the sound is often distorted by the process.

The passive radiator, on the other hand, works like an extra subwoofer powered by the air from the low frequency driver. This gives performance equivalent to a 10" bass driver. The radiator itself looks like an elliptical speaker with a flat honeycomb driver. This has obviously been well-researched by Mackie, because the bass response is extremely accurate and controlled.

One other reason why the sound from the Mackies seems so controlled and free of colouration is the construction of the cabinet itself. Made from high quality MDF, it incorporates a unique 'H' brace across the centre, making it extremely strong. There are no resonating parts where there shouldn't be, and any internal overspill is sucked up by the adiabatic foam (adiabatic refers to a material that turns mechanical energy into heat energy).



Using switches on the rear, you can tailor the response of the HR824s to their positioning in your control room

In use

The review 824s ended up on the Quarter setting, because of their position in the corner of the control room. The first CD into the machine was an up-tempo dance track with both high-end and low-end detail in abundance. The first thing that was apparent was the sweet spot. Mackie have made a big deal of the increased area of this ideal listening position, and so they should. The usual one square foot sweet spot was now about one square metre. The technology used to time-align the drivers obviously works, because the stereo imaging is excellent and all the high-end detail seems spot-on in terms of phasing.

The bottom end is smooth and extremely warm for such small drivers. Even when listening to some serious drum'n'bass, the sub notes were coming through loud and clear. Often you find that speakers with large cones can deliver an excellent bass volume, but the definition of the notes and timbre of the sound is very muffled and you just get one sound for all your recordings. These are different. There was detail within drum loops that just wasn't there on some other monitors. Anyone wanting to work with a lot of bass-heavy material need not bother with a sub-bass unit when using the 824s, as the quoted response goes down to 37Hz, which is lower than some sub units. This is all down to the passive radiator.

At the other end of the soundscape, things are just as good. The treble is very smooth, with no harshness at all. These won't grate on your ears after a few hours like most nearfields do. The waveguide obviously works, because the high-end detail is present even at the sharpest of angles to the speakers. This is a good thing. Often when a band is listening back to a mix in the studio, the engineer sits in the sweet spot, and everyone else gets a false impression of what has been achieved.

The 824s went to work on a mix session, where everyone was impressed with their sound. The monitoring level was quite high, mainly because these monitors sound so smooth that you just can't help thinking that they aren't loud enough – they are, though. The low-mid end of the spectrum seemed to be particularly detailed, and encourages you to bring it out in the mix. This works well on bass drums and synth bass-type of material. The 80-100Hz region was really impressive, with a warm and rounded feel. The 824s really give the impression of 'telling it like it is'.

One minor criticism is the lack of a volume control on the front of the speakers. If you're working with a digital workstation or a desk where the main output faders are the only control you have over control room levels, you can't adjust the volume while you're mixing down. Reaching around the back to the trim pot isn't really an option.

Verdict

One thing that seems obvious is that these monitors were designed to be the most accurate, no-compromise, and most reliable reference monitors possible. There appears to have been no restrictions governing size, looks, or even price. They weren't designed to fit a price point, but to be as good as possible. In this case the design brief has been fulfilled.

The amount of research and development that went into the HR824s shows that Mackie are serious about getting this product used in top-class situations. If it was all down to this review, the HR824s would be the new standard nearfield monitor. Unfortunately, it's not, and there are just too many nearfields to choose from at the moment. Then there's the price to consider. The HR824s are excellent value considering the quality, but they still cost over £1,000. But if quality and accuracy are your top priorities, then the 824s are right at the top of the pile.

More from: Mackie UK, 2 Blenheim Court, Hurricane Way, Wickford, Essex SS11 8YT
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Spirit 328 has 16 channels of digital inputs for tape returns or additional instruments. These come in two formats, both ADAT Optical and TDIF 8 channel digital audio streams.

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TMIX

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BE INSPIRED

TLAudio EQ-2

Dual parametric valve equaliser

Price £1,879
For Beautiful sound › Flexible in use › Stylish looks
Against Parting is such sweet sorrow
Verdict TL Audio have done it again – performance, versatility, looks – the EQ-2 looks like the one to beat

If there's anyone who has given valves a hefty push into the digital domain, it's TLAudio. With a range of outboard that offers something for all pockets, it's not difficult to see why they're popular in project and professional studios alike. The original Classic EQ-1 was released to critical acclaim, and established its credentials with a diverse list of end users who admired its clean signal path and warm, musical sound. So you can imagine what it took to revamp it into what we see before us – the EQ-2.

Overview

The EQ-2 is a dual parametric valve equaliser and makes up one third of the 'Valve Classics' range, which also comprises the C-1 dual compressor and PA-1 dual pentode pre-amp. Like its siblings, a raven blue paint-job adorns its functional yet stylish front panel. The 3U steel rack case makes it the odd one out size-wise, but this is needed to accommodate the 56 knobs and switches located on the bristling front panel, and the ventilation grille above. Power is delivered by an IEC cable (no wall wart to trip over) with a 230v/115v selector for all you globetrotting types. The EQ-2 employs General Electric US military specification valves giving six valve stages per channel, two in the output stage and one for each band of EQ, with solid state circuitry for the less critical parts of the signal path.

The pre-amplifier is well appointed, with mic, line and auxiliary inputs, and at the back there are two pairs of line inputs on electronically balanced XLR and unbalanced jacks. The mic inputs are also electronically balanced on XLR connectors and can provide 48v phantom power where necessary. Two front panel mounted dual sensitivity auxiliary jack inputs are also available to DI those guitars and keyboards. The mic input gain is adjustable from +16dB to +60dB, with the line input gain variable between -22dB and +22dB.

However your signal goes into the EQ-2, the pre-amp busses it on to the continuously variable 12dB/octave high and low pass filters (each with in/out switch), where the low sweeps from 30Hz to1kHz, and the high from 1kHz-25kHz. This is useful for removing unwanted frequencies in the source material, before the signal connects to an insert point to allow further signal modification as required.

Each channel in the main EQ section offers a four filter, fully parametric equaliser. Each band can be switched in or out of the circuit and there's also an overall EQ bypass switch. Each of the four bands has swept frequency, continuously variable Q (0.5 to 5) and centre-detented cut/boost knob (+/-15dB). The low and low-mid bands can be swept from 30Hz to 3kHz, while the high and high-mid bands from 1kHz through to 20kHz, providing a healthy amount of mid range overlap. The addition of peaking/shelving response switches on the high and low frequency bands adds to the flexibility of the EQ-2, allowing serious fine tuning where needed.

A variable output control gives ±15dB of gain and a two-stage LED level meter monitors the internal signal – orange for drive and red for peak. Some may think this a little basic, but the orange LED increases in brightness as drive increases, so giving a visual impression of tube activity, while the red will light with 2dB of headroom to spare. Output is via a pair of balanced XLRs or unbalanced jacks on the rear panel with accompanying +4/-10 dBu output selector. Finally, a

words **Oz Owen** images **Gavin Roberts**

CD info

track 04
Check out what the EQ-2 can do to guitar, drums, bass and synth

Plug 'em up
A wide range of input sources are catered for, from guitars and keyboards to phantom-powered mics

The original EQ-1 impressed with its clean, musical sound. The EQ-2 takes things further...

stereo coupling switch is located above the on/off switch to put the EQ-2 into full stereo equaliser mode, utilising channel A controls for both channels. As anyone who spends time matching the EQ from two mono channels knows, this is a welcome timesaver.

In use

While the EQ-2 conveys a solid, dependable, even austere appearance, encouraging perhaps a sensible approach to its use, the childish urge to shovel endless chunky bass-lines through it, red-lining all the way, proves almost too much to resist. But the EQ-2 offers so much more than mere valve coloration. Throwing in a couple of TLA's quality mic pre-amps is a bonus, making the EQ-2 a respectable front end for recording direct to tape, or patching a compressor in at the insert point just to smooth out those peaks a little further. One worthwhile inclusion would be a switch to bypass the valve stage altogether, since this would make in/out comparisons so much easier

The EQ section delivers flexibility that makes it useful for anything from gentle multi-band enhancement to stacking the filters for real sound abuse, and with an equaliser this sweet-sounding, it's possible to employ the boost much more radically than you might get away with on a lesser EQ. It is always preferable to get the right sound in the first place than to salvage something acceptable from an unsatisfactory sound source, but the EQ-2 operated with care can carve a boxy tone off a guitar without making frequencies around it sound harsh or unnatural. The EQ-2 is at its best on vocals, giving a hint of smooth, subtle warming, but it can also be overdriven into more obvious distortion if pushed. The stereo mode makes it ideal for mastering applications and with the addition of the extra peaking EQs, precise shaping of the frequency response is a breeze.

Verdict

TL Audio EQs perform well throughout the range and this flagship gem is clearly no exception. Quality EQ is like quality compression, in that the more you spend the better it gets. TL Audio have taken flexibility a step further in producing the EQ-2. The niggling omissions from its predecessor have been addressed, and the improved circuitry builds on what was already an impressive box of tricks.

Valves have become *the* studio accessory of the late '90s and many other manufacturers have jumped on the bandwagon, stuffing valves in all manner of boxes to satisfy demand from a retro-inspired public. TLAudio have gracefully refrained from such stunts, and continue to deliver quality outboard at a fair price.

More from: TL Audio Limited, Letchworth, Herts SG6 1TN Tel: 01462 680888 Fax: 01462 680999 Web: www.tlaudio.co.uk

specifications

Maximum output level
+26dBu (balanced)

Mic input
+10dBu max

Mic input noise (EIN)
127dBu

Line level input
+24dBu max

Auxiliary input
+22dBu max

Frequency response
10Hz to 40kHz (+0, -2dB)

Noise
-80 dBr, ref +4dBu

Dynamic range
>100dB

Valves
6 twin triodes

Dimensions
19" 3U

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Sonic Foundry Acoustic Mirror

DirectX reverb plug-in for PC

Price £199

For Unique effects ⊙ Allows you to create your own ambiences ⊙ Produces special effects

Against Extremely CPU-intensive ⊙ Doesn't have 'standard' reverb controls

Verdict A fascinating alternative to traditional reverbs, which can produce a range of effects that would be difficult or impossible to create any other way

words
Ian Waugh

This seems to be the year of the alternative reverb processor. Most reverbs give you a selection of parameters and let you get on with it. Some offer a small range of parameters and make the tricky settings internally so you don't have to know what the pre-reflection-low-density-delay parameter does (no, don't worry about that one, we made it up). Others let you design your own room and simulate a reverb based on that.

Well here's something completely different. Sonic Foundry's Acoustic Mirror uses acoustic responses or impulses of sonic environments that can be applied to recordings. Over 200 impulses are supplied, divided into almost 20 categories, which include bridges, churches, concert halls, microphones, outdoors, springs, stairwells, theatres, and variously-sized rooms.

Overview

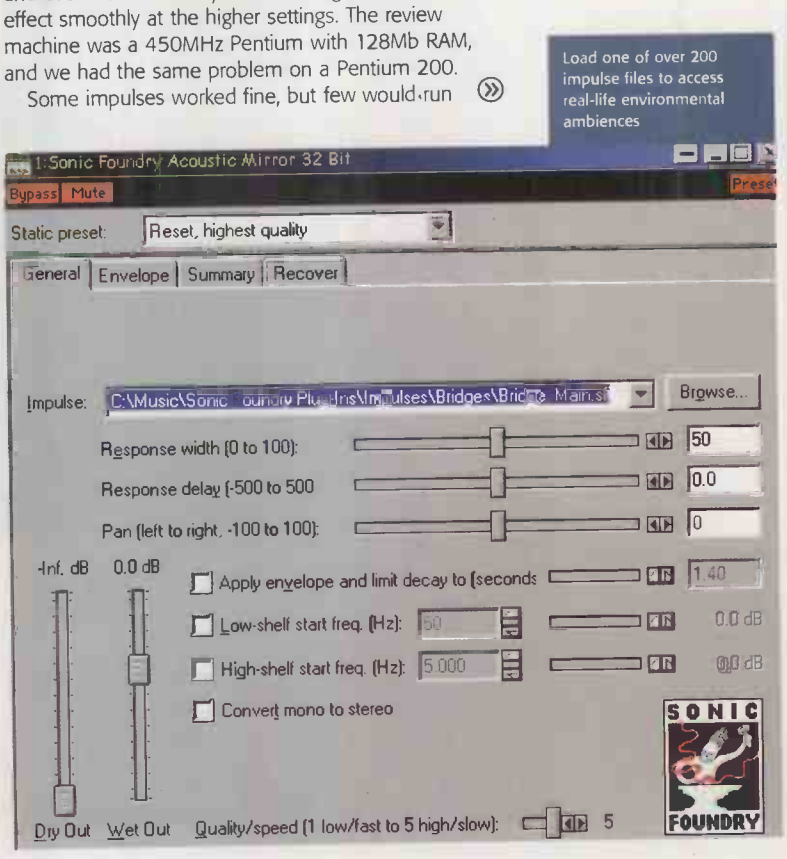
Acoustic Mirror is a DirectX plug-in and works with any digital audio program that supports DirectX. In use, you simply load an impulse file from disk and twiddle a few controls to apply it to the recording. The main controls, which will be familiar to most users, are Dry and Wet Out, where you can balance the mix of original and processed sound. Response Delay determines the delay before the effect kicks in. Response Width controls the stereo spread, which increases or decreases the stereo file. There is also a Convert Mono To Stereo function, which adds stereo realism to a mono input. This is actually very effective, and can produce convincing stereo files without adding washes of reverb to them – if you don't want it to, that is.

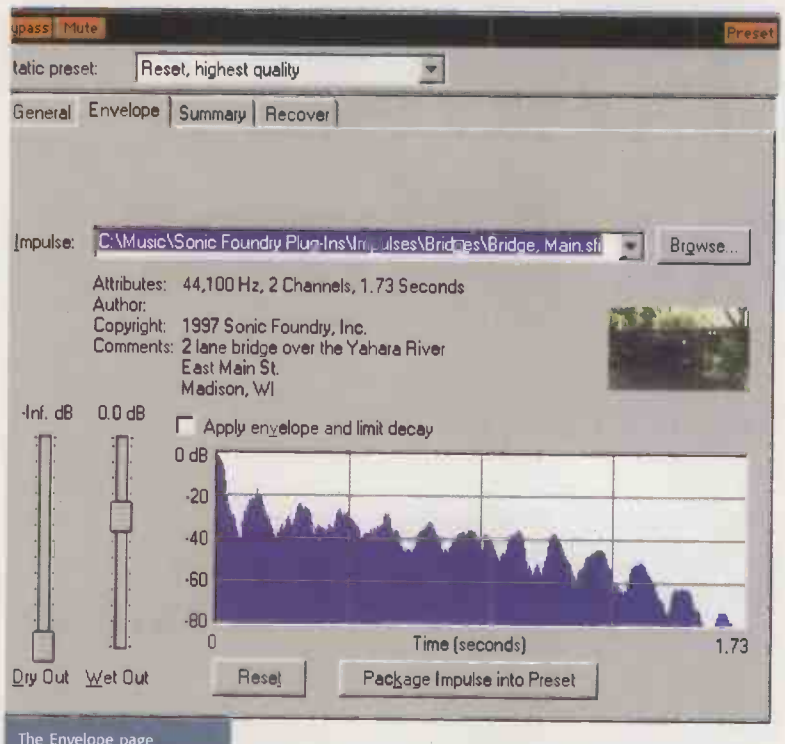
There are also a couple of EQs to twiddle with – a low shelf and a high shelf. They're fairly simple, allowing you to set the start frequency and then adjust the boost or cut. They're useful for trimming the high frequencies (or messing with the lower ones), but we suspect most users would prefer to use a dedicated EQ effect for serious adjustments.

Quality control

There is also an important Quality/speed control with a range running from 1 to 5, which is used to reduce the CPU power needed to process the audio in real-time. At this point we have to report that none of the programs we tried, including VST, Cakewalk, WaveLab and even Sonic Foundry's Sound Forge, would run the effect smoothly at the higher settings. The review machine was a 450MHz Pentium with 128Mb RAM, and we had the same problem on a Pentium 200.

Some impulses worked fine, but few would run ⊙





The Envelope page provides a graphical display of the impulse file

smoothly at a Quality/speed setting above 2. Most caused glitches and stuttering. You can improve performance in some programs by adjusting the number of playback buffers, but it's not an ideal solution.

Acoustic Mirror is one of the most heavily CPU-intensive effects we have yet come across. Applying and processing the effect off-line is fine, but while lowering the quality/speed control helps playback, it reduces the intensity of the effect, making it more difficult to hear exactly how the audio is going to be processed.

Moving on, you can apply an envelope to the impulse and limit the decay. A by-product of limiting the decay is that it requires less processing time. You can draw an envelope over the impulse graph, adding and dragging nodes around the display. You can also set the end of the impulse by dragging a red line to the required point on a graph. The ability to apply an envelope to an impulse gives added control, and can be used to add a fade to the effect.

One of the interesting things about the way the impulse files work is that you can use any old Wave file as an impulse file. Or at least, you can load a Wave into the effect and process the audio with it. If it's a sound file rather than an impulse file (more about impulse files coming up in a moment), the result is a cross between a mix and a sort of vocoded effect (where a modulator signal modulates a carrier).

You can even load a file into the host application and then load it as an impulse file into the effect and process it with itself. Very incestuous! The result is not entirely predictable. One such experiment produced a sort of ring modulation effect, while another created a heavy booming resonance. The pack includes several synth and effect-type impulses that you can experiment with. The point is, this can be used by sound sculptors as a source of new material and special effects. Very interesting.

Although there are over 200 impulses, more adventurous users will be pleased to know that they can add their own, but doing so does require a little effort. You need some portable equipment, including a playback device and loudspeaker, and a recording device with microphone. Essentially, you go to the place with the ambience you want to capture, play a test tone (these are supplied), record the resulting sound, go back to the studio, load it into a sound editor, trim the very start and end sections, load it into Acoustic Mirror, select the test tone that was used during recording and tell the program to Recover Impulse. This removes the test tone, leaving the ambience of the recording, which can be used as an impulse file. Neat, eh?

You can also record impulses of electronic equipment, and several examples are supplied, including analogue synths, flanges, sweeps and drum beats. There is also a collection of impulses of various microphones, such as condenser and dynamic, which all those Authentic Recording Devotees out there will find interesting.

Verdict

Acoustic Mirror is a fascinating and unique effect. It will be eagerly investigated by anyone involved in outside broadcasting and post production work – the ability to add an outside ambience to studio-recorded dialogue will save many an hour's slog.

For purely musical use, however, Acoustic Mirror doesn't have the sort of controls you'd expect, so traditional reverb users may not find it so easy to tweak. You can't, for example, easily adjust the size of the environment, which is a property of the impulse recording itself. Having said that, its controls are relatively few and easy to use.

If you fancy the idea of recording your own environments to apply to your music, well, nothing else can do it. And although special effects is not its primary function, it does have this impulse/wave/mixing facility, which sound designers will enjoy.

So, Acoustic Mirror is a bit more than just an ordinary reverb effect. It's probably not the first dedicated reverb effect you ought to add to your plug-in collection, and although it may not be everyone's cup of Lapsing, it will certainly appeal to the more specialised user.

The Summary page may include information about the impulse environment, as well as a picture

features

- Wet and Dry Out faders
- Stereo expansion
- Response delay
- Volume envelope
- Envelope graph
- Quality/speed controls
- Lo and hi-shelf EQs
- Impulse recovery

system requirements

- Pentium PC
- 24Mb RAM
- Windows 95/98/NT 4.0 or later
- DirectX-compatible host software

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Against Expensive
Verdict A very classy unit for recording guitar direct, or for live work

It has a resemblance to Lexicon's own MPX1, but the MPX G2 is an altogether different beast

CD info
track 05
A selection of G2 programs used on a Gibson SG guitar

With all their expertise as designers and builders of what are generally regarded as the world's finest digital reverb processors, it was perhaps inevitable that Lexicon would branch out, adapting their technology for use in areas other than studio outboard equipment. We have already seen the Lexicon Studio digital recording system, and now along comes the MPX G2, a dedicated guitar effects processor, inside which Lexicon's reverb and effects algorithms sit alongside their new trademarked Dynamic Gain analogue distortion technology, a process designed to recreate the overdriven and distorted tones produced by fuzzboxes and valve amps at full throttle.

Although this unit utilises the same effects algorithms to build its programs as some others in the Lexicon range, the actual programs on offer here are very different, in that they are optimised for guitar. Several luminaries from the world of guitar playing and recording, including Eddie Kramer, the man who recorded Jimi Hendrix, have contributed their expertise to the project. Simulations of some specific classic vintage analogue effects pedals are included, as well as recreations of some famous guitarists' signature sounds.

Overview

The G2 is designed to work in one of three modes and contains programs written for each. It can be used as a standalone unit with its outputs feeding a mixing desk or power amp, it can be used in series between a guitar and a guitar amp, or in its third mode, utilising an array of back panel connectors, it can be used simultaneously both in series between the guitar and amp, and connected to the amp's effects loop.

Physically, the G2 is very similar to Lexicon's MPX1. The main difference is the left side of the front panel display, where in place of the MPX1's input and output knobs there is a guitar jack input and a dual concentric input and output knob, complete with LEDs to show when signal is present and when clipping is occurring. In addition, there are three small rotary knobs, low, mid and high, for controlling the gain effect in a program.

Round the back is another guitar input, which is overridden by the one on the front panel, and the main stereo output, available simultaneously on both balanced XLRs and unbalanced jacks. A headphone socket is also provided, but there are no digital connections.

The next section of socketry allows the G2 to cope with being in line between a guitar and amp, at the same time as being connected to the amp's effects loop. The insert send jack sends signal to the input of a guitar amp, while there are left and right insert return jacks, (right doubling as mono) with an associated rotary level knob, which take their input from the amp's effects loops send. Returning the signal to the amp's effects loop return is taken care of by the previously mentioned main outputs.

Jack sockets are provided for both a footpedal and a footswitch and there is a full complement of MIDI in, out and thru sockets. The 'in' is a 7-pin DIN socket rather than the standard 5-pin, allowing connection of the optional R1 foot controller. A 2.5mm connector for a 9V AC supply powers up the R1, and mains power to the G2 comes in via an IEC lead, with automatic voltage switching allowing international use.

Going back to the front panel, a large display shows the number and name of the currently loaded program, as well as which of the three modes (amp input + FX loop, amp input only, standalone only) it belongs to. All information relating to setting up and editing the unit is shown in the display when the

words **Trevor Curwen** images **Gavin Roberts**

relevant switches are pressed. To the right of the display are the Tap button and A/B button, both with associated adjacent LEDs. The Tap button is for entering real-time tempo information to change the tempo of relevant delay or modulation parameters in the loaded program, while the A/B button allows morphing between selected parameters, for instance changing a rotary speaker speed from slow to fast.

A matrix of nine transparent buttons that illuminate when active consists of seven buttons that relate to (and turn on and off), the seven blocks that the programs are built from, one Bypass switch that also operates the built-in chromatic tuner, and a switch to allow external audio gear to be inserted into the unit's signal path via the rear panel insert return jacks.

A rotary encoding knob switches between individual programs and adjusts parameter values when editing, and to the right of the knob is a bank of eight buttons consisting of two cursor buttons used to scroll the parameter lists when editing and also to skip between the programs ten at a time, and six buttons to navigate around the G2's system and program editing.

Program construction

The G2 contains 300 programs, 250 of these being factory presets, and the additional 50 spaces are for storing user-edited programs. Of the factory presets, there are 100 each for the standalone and amp input + FX modes, with the remaining 50 available in amp input-only mode.

All the programs are constructed from seven blocks: gain, effect1, effect2, chorus, delay, reverb and EQ. Each of these blocks contains several different effects, one of which can be chosen. In the reverb block the possible choices are chamber, hall, plate, ambience and gate, while the gain block offers several variations of overdrive, distortion and preamp. In all, there are 76 individual effects spread across the seven blocks. Each of the effects comes with its own set of parameters that can be adjusted.

In building the programs, blocks can be combined together and routed according to a variety of options, allowing enormous flexibility. However, there is only a certain amount of DSP power available, so some effects cannot be added to a program if it already has its full quota.

Signal flow through the G2 is divided into two independent audio paths: pre-gain and post-gain. The pre-gain path has all the effects up to the gain block, while the post-gain path is for effects that come after the gain block. All the analogue dynamic gain effects are in the gain block at the end of the pre-gain path. The remaining 70 effects can be placed on either of the paths. When using the G2 with an amp, the signal is split after the gain block so that the pre-gain path feeds the amp's input, while the post-gain path is in the amp's effects loop. Two noise gates are included in the circuitry, one in each signal path, »

specifications

Factory programs
250

User memories
50

Conversion
24-bit D/A and A/D

DSP
32-bit

Frequency Response
20Hz-20kHz

Outputs
Balanced XLRs
Unbalanced jacks

Inputs
Unbalanced jacks

MIDI
In, out, thru

Size
1U rackmount

Weight
3.2 kg

MPX R1 controller

While the G2 is perfectly capable of being used purely on its own as a unit for recording guitar direct, its potential can be increased by hooking it up to a foot controller, allowing access to such things as operating the wah effect in the traditional manner. In fact, for playing live, switching between programs and real-time control of parameters it is virtually essential, making the optional MPX R1 MIDI remote controller a must-have item, and a necessary part of an integrated system.

The R1 sits on the floor and connects via its supplied 7-pin DIN cable to the MIDI out on the rear panel of the G2, allowing two-way communication between the units by way of system exclusive messages. Power is supplied down the DIN cable, and comes from a 9V power adapter connected to the remote power in socket on the G2's back panel.

There are 16 footswitches on the R1 and a rocker pedal at its extreme right, as well as a display showing program numbers and tuning indicators. Of the footswitches, two mimic the action of the front panel A/B and Tap switches, while the functions of the others includes turning individual effects within programs on and off, and switching between programs. Four different sets of ten of the G2's programs are organised to work as a customised effects rig when used with the R1, and include a vintage rig, chorus delay rig, pitch rig, and tremolo and filter effects rig.

Bought by itself, the R1 would set you back £499, but purchased with the G2 the price for the pair becomes £1,499, representing a saving of about £400 on the combined individual prices. So for anyone intending to buy the G2, it would make a lot of sense to find that extra £100 and buy the two units together.

» and there is a programmable analogue speaker simulator located between the pre- and post-gain paths.

When it comes to editing programs, the G2, in common with other Lexicon units, offers a two-tier editing system, with one mode for deep editing of all available parameters and another for quick tweaks. In edit mode, each block in a program can be edited individually. This mode is entered by pressing the edit button followed by the button corresponding to the block that is to be edited. The initial option is to change the block's active effect for another if desired, then the active effects parameters (and there's usually plenty of them) can be scrolled through with the cursor buttons and their values adjusted using the rotary knob. Pressing the switch for another block allows that one to be edited in turn, and once the whole program has been satisfactorily tailored it can be stored in a spare memory location.

The other edit mode is called Soft Row, and is a quick and easy method of accessing the most relevant parameters in any program. Regardless of what block they are in, the most important parameters for any program are gathered together in the soft row and accessed simply by pressing the soft row button and scrolling through with the cursor buttons, with values tweaked as normal by using the rotary knob. Each program comes with its own factory-set soft row parameters, but other parameters can be substituted by the user if desired.

For playing live, the R1 pedalboard is an essential companion to the G2

In use

There are a mixed bag of programs in this unit, and all can be put into a database and sorted by various categories. Some are simple single effects – programs 110-119, for example, are dry sounds from the analogue gain section that are designed to be used in the same way as an overdrive or distortion pedal before an amp.

Other programs containing a single effect are, in fact, simulations of classic effects pedals, including favourites like the Ibanez Tube Screamer, MXR Phase 90 and Dyna Comp, Mutron3, Univibe, and Vox and Crybaby wah pedals. A bunch of programs aim to simulate specific guitarists' signature sounds under thinly-disguised names. Jimmy P, Live Jimi, and Carlos S are all fairly obvious, but Brian M? Why they would want to feature a sports commentator's guitar sound is a mystery *(ho, bloody ho – Ed)*.

Amplifiers are simulated by another set of programs and, although they are not specifically-named, there are, among others, the sounds of Fenders, Marshalls, Roland JC120s, a Leslie cabinet, and even the diminutive Pignose. Ambience programs to simulate different recording spaces are present, and studio effects, such as stereo pitch shifters, are amply-represented, as are different playing styles with programs for the likes of surf music, country rock, and rockabilly. In addition, there are several programs specifically for bass, including a Bootsy Collins-style Mutron-led funkfest.

Playing a guitar through the G2 felt very natural. It responded perfectly to playing dynamics and was a lot of fun to use. Standalone mode is the one to use for direct recording, with all of the unit's processing power coming through the stereo outputs, and, as might be expected of a Lexicon, all the effects are of the highest quality, with a smooth and natural reverb applied to many of the programs.

Simulations of the classic pedals sounded pretty accurate and, in general, all the factory programs seem to be well thought-out and immediately usable. The programs using cleaner sounds were very impressive, allowing rhythm beds to be recorded with a minimum of fuss, while the overdriven sounds were some of the best simulations of valve amps to be heard anywhere, with instant tweaking of the sound available from the front panel tone knobs. However, a separate gain drive knob, rather than diving into one of the editing modes for the function, would have been very useful.

As well as playing guitar directly into the unit, we tested it out by feeding some previously recorded work into it, and the G2 responded well. Also, by turning off the gain block, the G2 doubles as a standard effects processor at mixdown, providing clean digital effects when connected to an aux send.

Verdict

As a convenient, yet still authentic-sounding alternative to recording guitar via the traditional method of miking up an amplifier, the G2 has a lot to recommend it. It is capable of a wide variety of tones and effects that can be easily tweaked to taste, and all programs come with classy Lexicon reverb if you want to use it.

The factory programs are tailor-made for specific playing styles, and so good are some of these that they actually encourage you to stretch and play things you might not have normally thought of, making the G2 a good ideas tool when inspiration is running low. And when you're not in the studio, with the routing options available when used with a guitar amp, a compact integrated system for live work can be put together using the optional R1 pedalboard (see the *MPX R1 Controller* section, left).

The G2 is expensive. There will be little change from a grand-and-a-half when buying a G2 and R1 together (£1,499), but this has to be seen in context. For a lot less money you could put together a combination of a Lexicon MPX1 for the effects and a Line6 POD for the amp simulations, but what you wouldn't be getting is the seamless integration of the two elements with specialised routing and interaction between the them, and the many programs that are usable straight out of the box. If you play and record a lot of guitar and can afford this, get it.

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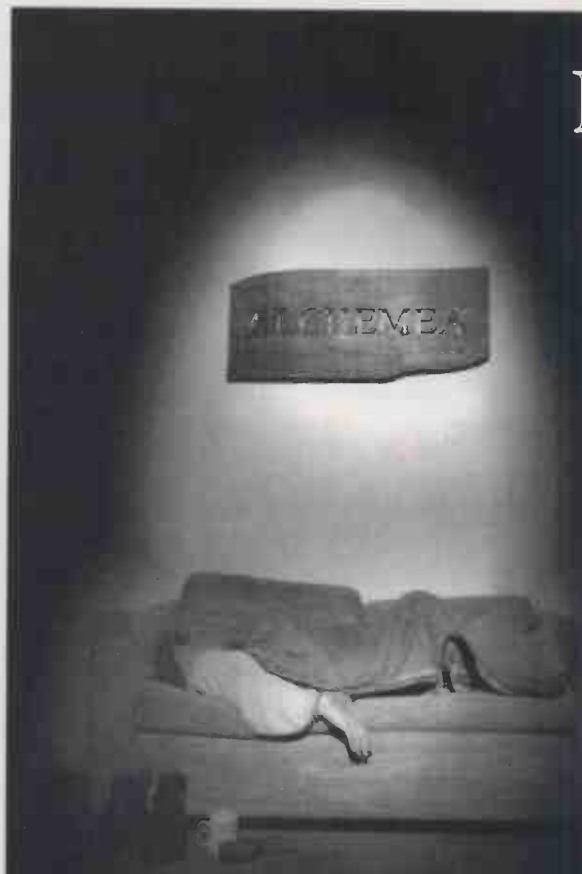

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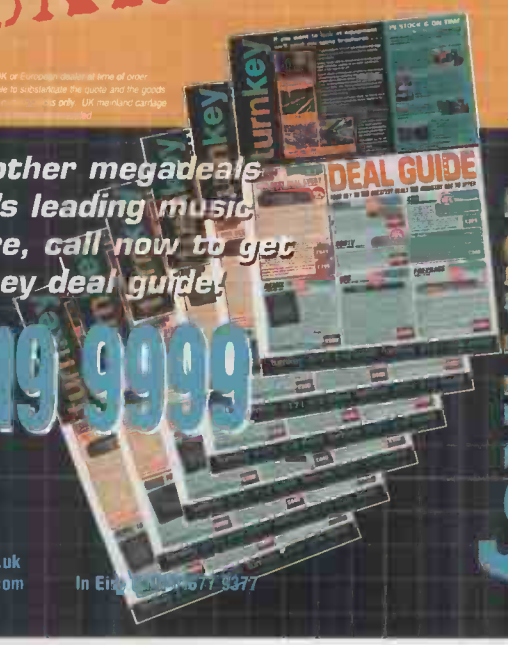

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Condenser microphone

Price £599

For Quality build and finish › Shockmount supplied › Sounds natural with crystal clarity

Against Only two patterns available › No bass roll-off on this model › Sibilants can be a problem

Verdict A great condenser at an amazing price – it looks good, it sounds better

Condenser microphones are now becoming as accessible in price and build quality as mixers and multitracks have become in the last decade. For a long time now, there's been the tried-and-tested German condensers from Neumann and Gefell, and modern technology has seen AKG, Audio Technica and others rise to fame as well. However, apart from maybe the PZM and a couple of unmentionable cheaper microphones, you would really have to spend a big wedge of cash to get a real corker.

Not so any more. Yes, you can still take out a second mortgage to buy a second-hand U67 or even a new 87, but why not have a good look at some of the cheaper large-diaphragm studio mics that have started to surface over the last few years, some of which are excellent? Although they don't always carry a prestigious name, they still serve the purpose more than adequately.

Overview

One such mic is the ADK A 51SD. Its looks can be described more as 'classic' rather than 'different looking' (and we all know which mic that classic design is based on, don't we?). It arrived in a large metal flight case, which was initially impressive, but having opened it up the impression was that the case was for a rather different mic, since the A51 didn't fit very well.

The mic itself looks very impressive too, and you'll probably just finger it for a bit before moving on *(isn't that just always the way? – Ed)*. It is of similar scale to a U87 and it even weighs like one too, which is great – it oozes good build quality from the outset. The shell is that classic mottled grey/silver and you even get a matching and very sturdy shockmount that is felt-lined so as not to scratch the mic. Nice touch.

The metal grille is of quite a tight weave and although there are conflicting views on whether or not it makes a huge difference to the sound, this grille will certainly protect the diaphragm from a bashing. The internal grille, which is even finer, will prevent flying saliva hitting the diaphragm during a late session. There are also two rather large well-recessed switches on the side of the case, one for a 10dB pad and one to choose pattern selection between cardioid (unidirectional) and omnidirectional. At this point it is worth mentioning that there are two A-51 mics available – the SD, which is on review here, and the normal A-51. The difference is that on the normal version there is no pattern selection but a bass roll-off switch instead, so don't go buying the wrong version.

In use

Having stuck the mic on a stand in the shockmount, it was time for a blast. The XLR connector fitted very firmly into the bottom of the mic, and it was run through the console preamps with nothing else in line. It is, of course, 48V phantom-powered so you'll need to turn this on after you've plugged in the mic, or run the risk of damage.

The first thing that will strike the user will be clarity, really beautiful definition and natural response. The capsule that contributes to this is a gold sputtered low micron design (that's 'high quality' to those of you that prefer it in simple terms). This, combined with the low-noise FET technology, means there is a plug-in-and-play side to the mic, which is great during long periods of work.

The characters of the polar patterns aren't incidental here, because most users will not be as concerned by the science as they will be by the sound. Nevertheless, the frequency response between the patterns isn't perfect, but both positions sound great and even Neumann mics aren't perfect, so there's no real cause for concern there.

Having had a play, we decided to use it in session with an artist called Steve Robinson, who has a knockout voice and is very critical about the sound he gets in the studio – as good a test as any. The main vocal had already been completed using a U87, so it also gave us

Minimalist mic
There's a minimum of controls on the ADK; just a 10dB pad, and a switch to select either cardioid or omni response

words **Seb Pecchia** images **Gavin Roberts**

The ADK's rugged finish and pleasing sound could make it sought-after in years to come

the opportunity to hear the difference between the two. The A-51SD was set up for backing vox, powered by a Neve 1272 mic preamp straight to ProTools with nothing in its way to start with. Steve has good mic technique, so there was no need to use a compressor/limiter. We did use a pop shield, though, just in case the old plosives got in the way. A touch of reverb was added and we were away.

The response was again very clean, with a nice warm feel given by the Neve. You really get good pick-up at around that 10kHz area providing the clarity at the top end. The bottom end wasn't bad, although it was a little woofy. It seems to take off somewhat at around the 120Hz mark, but this is not a problem as most of us don't listen to much at that low level, especially with a vocal. There was a bit of a sibilance problem though, not due just to Steve's vocal, but the response seems to be a bit zippy at times with certain phrasing. Apart from that, the mic performed well. The pad was effective in knocking out the hum from the air conditioning, and the shockmount made any foot tapping far less of a problem. Steve even eventually decided to scrap the reverb – miracle or what?

We also tried it on an acoustic guitar, with excellent results. No boom, just an accurate clean sound – just what we wanted. The comparison with the U87 was interesting; the A-51 had a sharp quality to it, whereas the U87 had all the detail but was not as squeaky-clean. The Neumann had more warmth and character, but then, that's what you pay all that money for.

Verdict

Our vocalist Steve felt very comfortable using this mic; it certainly recorded well, and with the right preamp can produce a knockout sound. It ain't a German classic, but then it isn't priced like one either. It is a quality piece of studio gear that could be a bit sought-after in years to come. It does lack the flexibility of a U87, and realistically, you'll probably use this as a cardioid mic on vox and maybe acoustic instruments. But who knows? There aren't any rules in this game.

The ADK's rugged build quality – which, it turns out, is actually aircraft-grade machined brass – is great, and will take a good kicking. If you can stretch to buying a pair, then they will make an excellent alternative to the Neumann, giving you good crisp stereo imaging and longevity.

More from: Pure Distribution, Stirling House, Kimberley Road, London NW6 7SF
Tel: 0171 328 0660 Fax: 0171 372 6370
Web: www.pure-distribution.com

specifications

Type
Condenser

Capsule
1" diameter, low micron gold sputtered

Output
XLR wiring

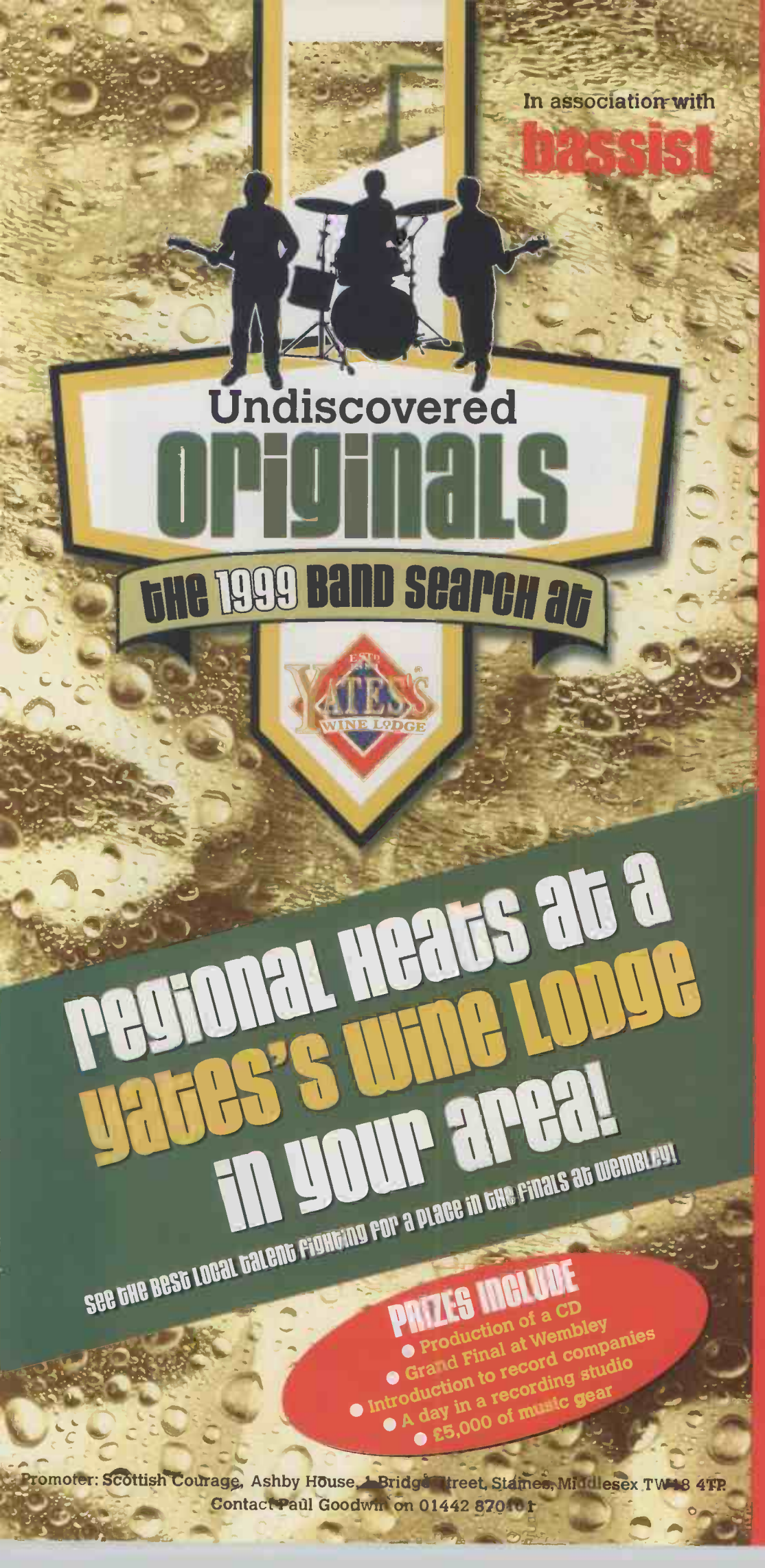
Frequency response
20Hz-20kHz

Max SPL
-140dB

Construction
Aircraft grade machined brass with scratch-resistant finish

Weight
450g

Operating voltage
48V phantom power



Promoter: Scottish Courage, Ashby House, 1 Bridge Street, Staines, Middlesex TW18 4TP.
Contact Paul Goodwin on 01442 870101

Regional Heats

JUNE 1999

Wed 23rd	Manchester (Portland Street)
Thur 24th	Bootle
Wed 30th	Coventry*

JULY 1999

Wed 7th	Southend
Thur 8th	Bristol
Tue 13th	Swinton
Wed 14th	Solihull
Thur 15th	Hanley
Wed 21st	Reading
Thur 22nd	Romford
Tue 27th	Harrow
Wed 28th	Luton
Thur 29th	Stockport

AUGUST 1999

Tue 3rd	Hull
Wed 4th	Preston
Thur 5th	Lewisham
Tue 10th	Plymouth
Wed 11th	Swindon
Thur 12th	Rotherham
Tue 17th	Carlisle
Wed 18th	Glasgow
Thur 19th	Newcastle Upon Tyne (opening soon)
Wed 25th	Derby
Thur 26th	Bolton

Regional Finals

SEPTEMBER 1999

Mon 20th	Nottingham
Wed 22nd	Leeds (Woodhouse Lane)
Thur 23rd	Liverpool (Queens Square)
Wed 29th	Croydon
Thur 30th	Swansea

OCTOBER 1999

Thur 7th	Blackpool South Shore

* Please note change of venue

DUY Shape

Waveshaping TDM plug-in

Price £528

For Exceptional detail ⊙ Constructs virtually any dynamics process ⊙ Graphic interface

Against Takes a bit of thought

Verdict A detailed sound design utility for sound sculptors and perfectionists everywhere. It's not standard kit, but it *is* clever kit

words
Paul Mac

If you read the review in issue 62 of the DUY DSPider plug-in, you'll know that DUY have their heads screwed on right. They specialise in TDM plug-ins, and have a habit of coming up with original ideas. This month's offering, Shape, is a single plug-in with a multitude of possibilities. Call it multiband dynamics and you wouldn't be far off. Call it Dynamic EQ, and you might be on to something. A dynamic enhancer? A waveshaping compressor? We'll try to explain...

Overview

DUY Shape is based on something that DUY call FDWS, or Frequency Dependent WaveShaping. How does it work? Picture your sound. Divide it up into three frequency bands: low, mid, and high. Now give each of those three bands their own dynamics processor, nothing specific, just a dynamics processor. When the signals come out of the other end, mix them all together and send them on their way. That pretty much sums up Shape, but doesn't cover the details.

First, the dynamics processors. You might recognise the dynamics transform graphics, the square, graph-like grids that take up most of the Shape window. Roland used the same sort of thing recently in the effects section of the VM-3100Pro mixer (reviewed in issue 64). DUY call it a 'Shaper', and up until now, they've only been seen in singles.

You can see from the screen shot that there isn't much to them – nothing that a bit of thought can't sort out, anyway. There's input level on the x-axis, output level on the y-axis, and a line to show how the two relate to each other. In the example below, the low band is configured as a simple compressor. You can see that everything up to the bend is left unchanged; after that the higher the level, the more the signal is attenuated. A compressor, no less!

By just changing that Shaper curve, you can build pretty much any kind of dynamics processing you like. Now you can see why putting three shapers on a signal, on three different bands, is potentially so powerful. Bass maximising, adaptive EQ, fine mastering, de-essing, noise reduction, and on, and on. You don't have to stick to the standard processes either. Don your white wig and lab coat and draw random curves for dynamics gone mad.

DUY supply some neat control methods for getting your curves into shape. Each shaper divides its curve into segments, defined by points along the curve. You can create new points, and drag the points around the screen. An Option-Click on a point erases it, and a Caps Lock-Click sends it back to the 45° (or 1:1) line.

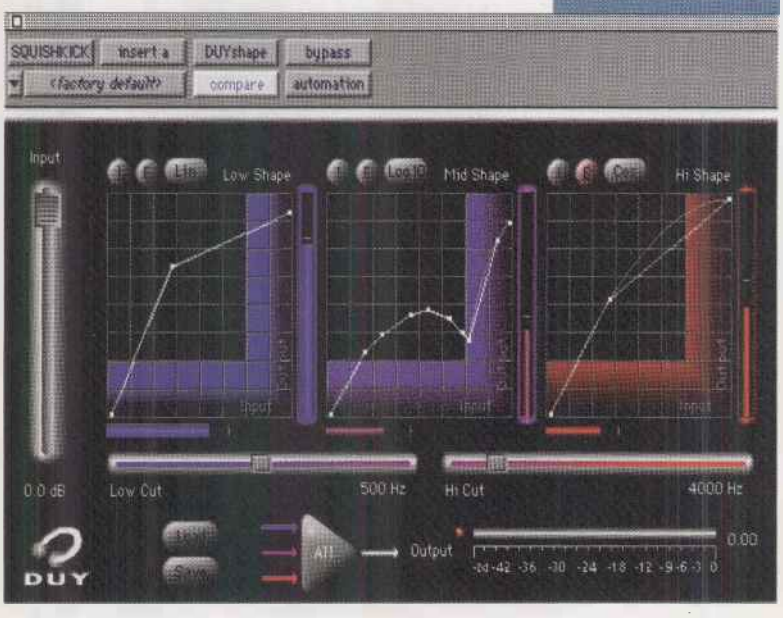
There are also eight preset shape algorithms. These are curve definitions that determine how each segment in a shaper runs from point to point. For example, if you choose the Lin algorithm, the points join up with straight lines. If you choose a Log algorithm, the points join up with a logarithmic function curve. The 'L' (Linear) button returns the entire curve to the 45° default, and the 'E' (Expand) button expands the curve to maximum energy.

Because Shape uses three shapers, one per band, there are two crossover frequencies that divide the bands. You set these on two sliding scales below the Shaper graphics. These are not full-range ⊙

CD info

track 06
Listen and marvel at the possibilities of Shape. We take a simple, dry track, effect the three different parts one by one, and slap 'em all back in the mix.

Draw just about any dynamics transform you like in each of the Shapers



specifications

Process
FDWS (Frequency Dependent WaveShaping)

Internal resolution
48-bit (noise shaping in lower 24-bits)

DSP usage
1 per plug-in

Channels
Stereo/mono

Low-cut crossover
0-1kHz

High-cut crossover
1kHz-22.05kHz

system requirements

- ProTools 3.1 or higher
- at least 1Mb additional DAE RAM

A new lease of life for your ProTools dynamics

controls, so you can't isolate a high top end and a high mid at the same time, but there is a fair amount of adjustment.

To make the frequency and curve tuning easier, there's also a Mix Box. This is a button icon that toggles around four states: three solos, one for each of the bands, and the whole mix. Metering consists of a large output meter, and individual meters for the shapers.

In use

Even if you feel totally happy with the theory, the practice will turn out to be a surprise. At first, you realise that it's not as easy as it looks. You see, within each band you can decide what happens to any input level. You can expand low levels and compress high levels, and do something else with what's in between. At first, you shape a compressor, and then wonder what else there is to do. The best move is to chuck the manual away and just have a play.

First under the influence was a kick drum. You might think that this would reduce the influence of Shape, with a solitary kick drum being a single low-frequency sound. Actually, DUY gives you the opportunity to hear more than the fundamental frequency and have a go at the harmonics that surround it. Moving the crossover points and soloing the bands gives you a great picture of the sound, and by making changes in the shapers, you can make a big difference to the character.

Things get a bit more interesting when you go for a more even spectrum. A complete drum kit gave plenty of activity in all bands. The good news is, this didn't undermine the detail. If anything, it turned out to be a new way of approaching enhancement. The most notable example was the high band, squeezed to take in the upper harmonics of the snare, and the body of the hats and cymbals. All of these were then at the mercy of a single shaper, which was then able to 'lift and separate' within this normally muddied band.

There are no major omissions, but improvements could be made. The mix button could toggle through adjacent band combinations as well as straight solos; and they could increase the range of the crossover frequencies. The various curve options are for serious detail, and in a lot of material they aren't crucial. Once you've crafted a soft knee or a hard knee, or opted for the adaptive mode, there's not much more to do.

Verdict

Shape works for virtually any source material you give it, giving more detail, more character tuning, and more control. Chucking the graphics around is easy, and mostly productive, though there is potential to disappear up your own backside. The utility functions are all there: de-essing, peak control with minimum disruption, and more As a mastering tool, it does the business as well. Enhancement and compression are its bread and butter.

DUY Shape is a new effect and a new way of approaching your sound design. The three bands of free-form dynamics lend themselves to EQ, enhancement, and much timbral tinkering. Sound sculpture is a good description. It's another lesson in throwing the manual away and using your ear; it's a reminder that audio processing is still a developing art; and it's another great plug-in from DUY.

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The Digital Mixing Revolution, Circa 2000.

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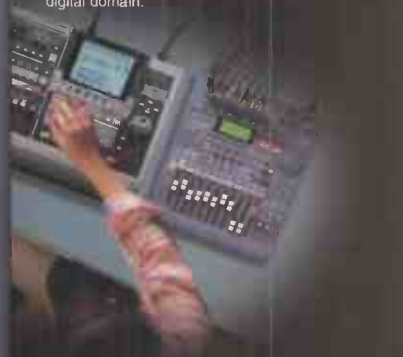
For Live Performance

The V-Mixing Stations are great for live performance, thanks to their full MIDI mixer capabilities and Scene memories—instantly changing levels of MIDI gear, acoustic instruments, and even vocals via program change messages.

For V-Studio Owners

The VM-3100 and VM-3100Pro can be used as submixers for Roland's own popular V-Studio workstations—adding additional inputs and effects while keeping signal transfer in the digital domain.



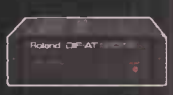
For Guitarists

With their direct hi-Z Guitar Input and powerful COSM-based guitar preamp models and guitar multi-effects, the V-Mixing Stations give guitarists a convenient, great-sounding way to enter the world of digital mixing and recording.

24-bit Sound Quality
2 Stereo Effects Processors ("Pro" Model)
Full Digital Mixing Capabilities
MIDI Mixer Functions

V-Mixer

The VM-3100Pro and VM-3100 V-Mixing Stations offer professional digital mixing capabilities and superb, noiseless 24-bit sound quality in compact and affordable desktop mixers. The VM-3100Pro can mix up to 20 channels (using the RMDB-II interface for 8) to 8 busses and also has two high-quality onboard stereo effects processors, powerful Scene memory capabilities, MIDI mixer functions, and an optional external ADAT®/Tascam® interface box, the DIF-AT. The VM-3100 model, on the other hand, gives users 12 channel/8-bus/24-bit digital mixing with an onboard stereo effects processor at an incredibly affordable price. Both models boast amazing COSM Mic Simulator capabilities, a direct hi-Z input for guitarists, and guitar multi-effects onboard, and the 3100Pro model even offers new COSM Speaker Modelling technology.



Interface Box for ADAT®/Tascam®
DIF-AT

24-Bit Digital Bi-Amplified Reference Monitors
DS-90

VM-3100 / VM-3100 Pro
V-MIXING STATION / V-MIXING STATION

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Fostex D-108

8-track hard disk recorder

Price £1,099 (Including 5.1Gb drive)
For Great locate and cue system › Professional interface options › Envelope display
Against Only one undo level › Proprietary disk format
Verdict A well thought-out bit of gear for anybody who records performances, rather than just loops

In the project studio, digital recording is where it's at. The recording world has finished grappling with emerging interfacing standards, and it's finished dealing with rushed product from R&D departments eager to beat the competition to the market. In short, it's finished with analogue recording. Don't write in, there are exceptions, and plenty of new arguments on the horizon, but in the main, the hard disk is king. That makes the Fostex D-108, a dedicated 8-track hard disk recorder and editor, a pretender to the throne.

Overview

Fostex aren't new to the hard disk recording game. In issue 61 of *The Mix* you'll find a review of the FD-8 and further afield you'll find mention of the FD-4, D-80 and D-160. Throughout this development, the basic idea behind their recorders hasn't changed too much. For example, even though the FD4 has four 'real' tracks, and the FD8 has eight, there's actually a whole bunch of other tracks hidden away that give you a storage space for more takes, ready to jump into the mix when required. The D-108 has eight real tracks and 16 of those 'additional' tracks. And cueing on the D series has more to it than just numbered locates. There's special locate points for particular functions in editing and recording that make life a little easier, like 'envelope' mode, which turns the track metering into a waveform display.

The D-108 starts life with eight unbalanced analogue ins and outs, the usual MIDI connections, optical ADAT/S/PDIF digital interfacing, and a SCSI port. The digital interfacing works by selection in the set-up menu, so you either map a stereo input or output to tracks, or use the full eight channels of an ADAT interface. There's also an E-IDE drive interface, which uses a rather neat hard drive 'caddy' system. You slot a drive into a plastic caddy, pop it into the front panel hole, and you have another hard drive. With a couple of extra options, you can have balanced analogue, and LTC timecode interfacing

Around the front, the entire button and display section lifts off the main front panel to become a wired remote control unit. You do have to spend a bit extra for a cable of decent length, but once you've sorted this out, and have the D-108 hooked up to your mixers' busses or tape outputs, it's straight down to business.

In the beginning

The D-108 system starts with a drive. If you use an E-IDE drive you always get the basic 8-track format. If you use a SCSI drive, including fixed, MO, and Zip, you get a choice between 8-track and 4-track mode. 4-track mode is for compatibility with the FD-4 machine. Fostex calls a song on the hard drive a 'program', and you can put up to 99 programs on a drive, each with a maximum of 512 events; that is, every program can keep track of a maximum of 512 separate audio files. If you think that this might be a bit limiting, there's a few points to consider.

First, if you paste a one-bar, 120bpm loop along the entire length of a three-and-a-half minute song, you'd use 105 events. That might be worrying, if it wasn't for the fact that you could then copy and paste that entire track back into exactly the same position, and reduce the

Caddy shack
The D-108 uses a neat 'caddy' system, where you can add extra hard drives to the internal 5.1 Gb drive

words **Paul Mac** images **Gavin Roberts**

For those who prefer the mixer'n'multitrack approach, the D-108 is the perfect accomplice

event count to one. If you send a whole track to or from another medium, or drive, you then optimise event usage even more. Still, it's something to consider.

The rest of the set-up stuff is global to a program, like sample rate, time signature and tempo map (if you're working in bars and beats), and synchronisation options. The rest of the globals are less permanent settings for things like pre-roll, and digital I/O. A nice touch for the bars'n'beats people is an optional metronome beep that comes out of channel 8.

Location, location, location

At the heart of most multitrack recording boxes is the locate system. This is especially true of the D-108, as the editing system is also based around locate points. Just about everything in the D-108 that has to do with timing depends on locate points. However, the studious will notice that there is no numeric keypad for dialling in locate numbers. This is because, even though there are 99 general locates, there are also a number of dedicated locate buttons dotted around the controller panel. Functions like punch-in, punch out, clipboard in/out, and start/end get their own keys.

For example, to set up a punch in/out record and do a looped rehearsal of it, you have to set-up four locate points. Use the cueing system (more on that in a moment) to find the punch in and out points, storing those positions in the appropriate buttons, then set Start and End locates as well. By using the D-108's handy auto return and play mode, activating rehearsal mode, and pressing play, the song will loop around the Start and End points, re-enacting the punch record as it passes the preset punch locates.

That's all standard stuff, but what of the clipboard locates? They define a region of audio ripe for editing. If you want to copy and paste a drum loop, just enter the loop's beginning and end in the two clipboard locates, then select the copy function. This puts a copy of that loop into the imaginary clipboard memory, where you can even preview it if so desired. To paste it, just set the Punch In point, then paste the loop from that point. You get the option to specify a number of multiple pastes as part of the procedure.

Cue the music

Having this locate system is all very well, but how do you cue the locates? The D-108 has a number of options for doing just that. First, you can do the approximate 'on the fly' locating, marking points during playback. That's fine, but there'll probably be some fine tuning to do. For that you can turn to the jog wheel, This is the dial on the right of the unit that 'scrubs' along the recording very slowly, an emulation of the old method where tape spools were moved by hand to find an exact point. The sound coming off of the D-108 jog function is a slow playback if you're winding it through a point, or a repeat of a moment when it comes to a stop. »

specifications

Tracks:
8 (plus 16 'virtual' tracks)

Recording medium:
3.5" E-IDE hard drive, or external SCSI device

Recording format:
FDMS-3

Disk capacity:
99 programs, 512 audio file events per program

Sampling frequency:
44.1kHz or 48kHz

Quantisation:
16-bit linear

Conversion:
20-bit Delta-Sigma

Crossfade:
10mS

Standard I/O:
Unbalanced phono analogue I/O, optical ADAT, S/PDIF digital I/O

optional extras

The basic D-108 can be expanded into a fully professional-spec machine with a little help from one of these units from Fostex's range of optional extras:

Model 5040 Balanced 8-8 I/O card £149

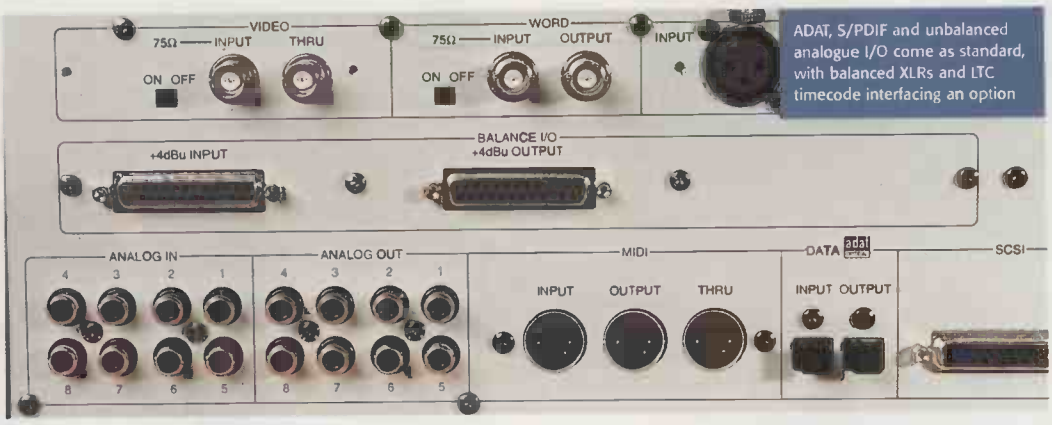
Although it's simple stuff, it does add that extra bit of professionalism. The name speaks for itself. It's a +4dBu 8-channel balanced interface on two 25-way D-type connectors. Perfect for wiring up your patchbay, or plugging straight into a console with the same connection.

Model 8345 TC/SYNC Card £582

This one's a bit more expensive, but then there's a bit more to it. This card has video reference In and Thru with a 75Ω termination switch, word clock In and Out with a 75Ω termination switch, and SMPTE timecode In and Out. There's four main settings in the D-108 for setting up the card. The Ref.TC parameter selects MTC (not the card) or LTC (the card). The 8345 Clock parameter selects the reference clock: Auto, Int, Video, or Word. The word clock output source can either be the D-108, or the card, and the Sync Preset parameter selects the sync and slave settings as a whole preset.

Hard Drive Caddy £35

This is where to stick your E-IDE hard drive. The plastic housing makes it easy to remove and replace hard drives in the D-108.



ADAT, S/PDIF and unbalanced analogue I/O come as standard, with balanced XLRs and LTC timecode interfacing an option

The D-108 has another cueing trick: Envelope mode. Once in this mode, the track meters become a half-waveform display. This is almost like editing on a computer system. The jog wheel scrolls the envelope display, so you can see and hear exactly where the locate will sit. But there's more. The preview function is an audible cue of any special locate point. For example, a preview of the clipboard in point will play one second of silence (muted), then one second of audio, starting at that locate, and then repeat it. The display shows you where the moment of 'fade in' occurs. All useful stuff.

In use

The Fostex needs a mixer. There's no input levels or internal mixing function, so in that respect the method is traditional. You need a tape path back to a console, and either tape path from the console to the D-108, or your own preference in preamps.

It's as well to remember that a program needs a sample rate and the disk needs the correct format (4-track or 8-track) because once you've started, there's no easy way back. Also, if you're working with MIDI Time Code (or even if you're not) you may need to get a tempo map started. You can do it once you've started recording, but you'd need to move existing audio according to where the first beat is. If you know your tempo, then editing with bars and beats in the display is far easier than with absolute time anyway. The internal metronome is particularly useful for getting a track started from a live instrument.

The tactile controls of the D-108 will come as a welcome surprise to those used to 'mouse control'

And that's how the review began, with live drums on to track one, and the metronome from the track eight output as a reference. This is a case of he who reads the manual first, knows how to do it. While the front panel labelling is obvious once you know how, you do need to get through the important bits in the manual before working on something you don't want trashed.

The undo/redo feature extends to the last edit, rather than, for example, the 100 undo levels that the Roland VS series has. Still, once you get started on moving audio about, the best thing to do is copy the track onto one of the virtual tracks as a back-up.

The locate system is easy to work out, and suits this machine to the ground. Cuing up punch recordings, setting pre-roll, rehearsal, and so on are all mainstays of instrument and vocal recording, rather than the cut and paste of loop based material. But the D-108 can do the cut and paste thing as well. Granted, it's not so easy as double-clicking audio in VST, but for a bit of chop and carry it's no problem at all.

The D-108 was actually great fun to use. Just sticking to tracks, record, and play at the beginning of a project is good advice for anyone, but sometimes difficult when you've got 50 plug-ins staring you in the face. The D-108 is a machine for 'played' recordings: vocals, guitars, and so on. With no extra options, it will happily sit next to a computer and lock to MTC (or generate it), so you can record all those lovely live sounds and use no more disk space and no more precious system resources. For those with a bit more to ask in the interconnection department, the options are ready and waiting.

Verdict

No one's pretending that a computer can't do everything the D-108 can do and more. The point is that if you're working with real-life musicians and you don't want the system clogged up or the players to go mad because of the latency in the sequencer, the D-108 has a role to play. And let's not forget that many people still prefer working solely with a recorder and a console.

Fostex have produced a unit that has the simplicity of a basic multitrack, with some sophisticated editing features. Eight tracks (and don't forget the 16 virtual tracks) of high-quality hard disk recording, built into a rack unit that can go wherever you go. It's not for everyone, because not everyone uses more than a couple of tracks of instruments or live vocals. But for those of you that do, the D-108 could be the perfect accomplice.

More from: SCV London, 6-24 Southgate Road, London N1 3JJ Tel: 0171 923 1892 Fax: 0171 241 3644 Web: www.scvlondon.co.uk

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Focusrite Platinum Compounder

Compressor/limiter/noise gate

Price £499

For Bass fattening function › Wide range of compression › Easy-to-adjust stereo operation

Against Noise gate's expander mode tricky to set up unobtrusively

Verdict Versatile dynamics processor with a unique set of features

Focusrite have long been known as an upmarket purveyor of high-quality signal processing equipment, but last year they launched their low-cost Platinum series, designed to put that Focusrite quality within the reach of project studio owners. The first two units in the series, the Voicemaster and the Tone Factory, are both single-channel recording preamps with a host of facilities. They are now joined by a third unit, the Compounder, a dynamics processor with two channels of compression, limiting and gating.

Overview

As with the rest of the Platinum range, this silver-faced unit has a front panel literally crowded with knobs and switches that, at first glance, look a little too close for comfort. All is well, however, as the knobs' firm action and tapered rubber caps combine to stop any unwanted movement in their neighbours when tweaked. As this unit basically has two mono channels of processing in one box, which can be linked for stereo work, it is naturally divided into two identical sections with the link controls in the middle. There are, interestingly, separate link switches for both compression and limiting.

Each mono channel consists of three individually-switchable sections: a noise gate, a compressor and a limiter, with their on/off status clearly indicated by integral red LEDs in their switches. The first set of controls, located on the left, are those of the noise gate. Noise gate it may be, but it can also function as an expander with the flick of a switch.

The difference between the two is that in gate mode any signal below the set threshold is cut, while in expander mode, that same signal would be decreased proportionately. That threshold is set by a rotary knob calibrated from -40dB to -10dB, while a second knob, release/hold, controls the way in which the signal is attenuated once it has dropped below the threshold.

The release/hold knob works in conjunction with a hold switch. Normally the release knob would set the release time, but with the hold switch engaged, a fixed, fast release time is brought in and the release knob's new function becomes to set the period of hold time before the release starts. The manual quotes a release/hold range from 100 mS to 4S.

The gate's attack time is not fully variable, but has two selectable options. The slower attack setting may give a more natural sound on sustained sounds, but a faster attack can be selected with the 'fast attack' switch. Another switch takes the place of a continuously-variable range control and allows either 15dB of reduction in the signal, or in excess of 70dB, cutting the signal to silence – a more obvious gating effect. Attenuation of the signal is metered by four green LEDs.

The final element of gate control is the key switch, which allows the gate to be controlled by any signal patched into the rear panel key input socket.

The compression section has altogether more control available than the gate, offering all the knobs and switches one would expect to see on a compressor, with a couple of extra ones for good

CD info

track 03
Drums, guitars and synths are given a dose of the Compounder

Choice connections
All inputs and outputs are available on balanced XLRs and unbalanced jacks

words **Trevor Curwen** images **Gavin Roberts**

The Compounder is capable of all the everyday compression tasks, as well as full-on effects compression

specifications

Size
1U rackmount

Channels
2

Inputs/outputs
XLR, jack

Key input
Jack

Switching
Separate switching for compression, limiting and gating

Expander/gate
Threshold, release/hold, switched attack, switched range, key input

Compressor
Hard/soft-knee, threshold, attack, release, auto attack/release, bass expansion

Limiter
Threshold (12dBu-26dBu)

Linking
Independent for compressor and limiter

measure. Like the noise gate, an extra degree of versatility is built-in to the compressor, with two modes of operation available, with compression switchable from its normal hard-knee operation to a soft-knee slope, allowing a more gradual onset of gain reduction if required.

Threshold is controlled by a rotary knob in a range from -24dB to 12dB, with the ratio adjustable (via another continuously-variable rotary knob) from a low 1.3-1, through infinity-1, right off the scale to the maximum position, intriguingly named 'over'.

Attack and release both have their own continuously-variable rotary knobs, with attack ranging from 100uS-100mS, and release from 100mS-4S. An 'auto' switch disables the release control and introduces a program-dependent attack/release circuit, which can vary the release rate to best suit the dynamics of the signal.

This compressor's unique feature is the bass filter, controlled by a rotary knob marked 'bass expand' and one switch. The knob effectively allows some of the low-frequency signals to bypass the compressor, while the 'huge' switch raises the frequency of the bass filter to increase the upper bass content and give more punch to the sound.

The thinking behind this circuitry is that in music where there is a lot of bass energy, any compressor working on it would produce a subjective reduction in the bass level by compressing the bass harder than the mid and high frequencies. With bass expand turned up, this effect is counteracted, and it could also be used to add extra bass end to the signal if required.

A proprietary inductor-based filter is used in the circuitry, featuring a large wire-wound inductor, giving, according to the manufacturers, the kind of overload characteristics associated with analogue tape or transformer-equipped vintage equipment, and consequently producing extra bass boost and harmonics.

It's most probable that this unit will be used with digital recorders, and Focusrite have accordingly fitted a limiter at the end of the signal chain to prevent any overload in following equipment. Controlled by a single rotary knob, the limiter has a threshold range from 12dBu to 26dBu, with a single red LED lighting up when it is in action.

The two channels of the compressor and limiter can be independently linked for stereo operation using the aforementioned link switches. When linked, the left-hand side channel becomes the master controller of the whole unit.

Power is supplied via an IEC socket with an integral voltage selector, and each channel has a key input jack socket. Audio line level inputs are available on either XLRs or jacks, with the sensitivity of both types of input sockets

Rubber lover
Compounder's panel is packed with controls, but their rubber finish makes operation easy

design philosophy

The essence of Focusrite's uncompromising design philosophy, is that a Focusrite only sounds like a Focusrite because all of the audio processing sections of the unit are unique Focusrite class A circuit designs and do not use any off-the-shelf VCA components. In the case of the Compounder, rather than having a single VCA performing all of the dynamic processing, each of the three stages (compression, gating and limiting) has its own gain control element, allowing the best possible gain element technology to be chosen for each particular stage.

The compressor uses a discrete class A VCA, a hybrid of high-quality transistors and amplifiers, designed to produce smooth and clear compression with virtually undetectable distortion. Standard VCA designs usually generate predominantly third-harmonic distortion, which is not particularly pleasant sounding and can colour the audio being processed. By careful circuit design, however, Focusrite have managed to control the distortion so that the Compounder produces predominantly second-order distortion, which should not be audible.

The gate and limiter sections of the Compounder both use opto-based class A circuitry to give virtually distortion-free processing. This technology utilises an optical process, based around a light-dependent resistor in this instance, which generally represents a passive and sonically neutral alternative to using VCAs, which can add distortion and colouration, even when not actually processing.

Wire-wound inductors were used in the vintage Rupert Neve EQ designs of the '60s and '70s and are generally considered to add a certain warmth to the bass end of a signal. Focusrite have drawn on this, producing their own inductor circuit design for the bass expander to extra bass boost and harmonics.

switchable between +4dBu and -10dBu. Outputs are simultaneously available on +4dBu balanced XLRs and unbalanced -10dBu jacks.

In use

Before trying out the Compounder, a read through the manual proved worthwhile. Well laid-out in five different languages, it contains all the relevant info needed to get started, no matter what your level of knowledge. The last few pages are more or less a tutorial on the use of gates, limiters and compressors, with suggestions and settings for various instruments. That being the case, working through the manual's list of applications seemed like an ideal means of testing the unit.

First off, the gate section was employed to clean up a variety of sources. The manual recommends two uses of the gate in its role as an expander, the first being general noise reduction with noisy sources like hissy cassette tapes, and the second cleaning up lead vocal tracks. When vocals are recorded, the vocal track can often suffer from recorded noise between the phrases, often caused by spill from the vocalist's headphones getting into the mic, and if this causes problems it needs to be eliminated or minimised.

In theory, the unit was capable of fulfilling this role, with its threshold set for gain reduction to begin at the end of each phrase. In practice, setting up the threshold took a bit of trial and error. It had to be set very low so that it didn't kick in in the middle of a line. Given the choice, desk automation would be the preferred choice for the job, but with careful adjustment, the Compounder minimised the spill effectively. Likewise, the cassette hiss was also taken care of, but the threshold had to be set so that no gain reduction took place on the quietest bits of the signal. For a tape with several songs, this took a little time.

Using the noise gate in its actual gating capacity rather than as an expander proved more satisfying. The manual suggests its use on overdriven guitar sounds, kick drums and to create gated reverb. With a noisy electric guitar suffering from amplifier hum and electrical buzz caused by (deliberate) proximity to a computer monitor, the gate was really businesslike, completely cutting out all the noise between chords. Judicious setting of the threshold and release controls to suit the playing style, coupled with a fast attack got the sound cutting sharply in and out as required. With playing styles requiring sustained notes, the process didn't sound quite as good, but where strings could be damped at the end of a note/chord it was very effective.

If gated reverb is your thing, then this unit can create it very easily. Reverb was fed through the unit, and the drum that triggers the reverb was fed into the key input. The gate's hold control was then used to set the reverb length. In this mode, the gate was also pretty adept at chopping up audio into rhythmic patterns, triggered from the key input. The gate also worked well on kick drum, (delightfully known as 'el bombo' in Spain, according to the manual) especially when compressed. That brings us neatly to...

The main point of the Compounder is its compressor and the bass expand feature, and the manual suggests settings for use on lead and backing vocals, kick and snare drums, bass guitar and stereo mixes. All were duly tested, and the results were universally good.

A huge range of compression is available, with a lot of control over it. The choice of soft or hard-knee allows different flavours of compression, and the large range of the ratio control allows hooligan effects compression at one extreme, with smooth-sounding, unobtrusive gain control at the other. Compression of stereo material was made very easy by having one channel's controls working for both sides, and the limiter did its job with a minimum of fuss.

The Compounder's bass expand circuitry sets it apart from other dual mono/stereo compressors

The bass expand is the Compounder's secret weapon. It really beefs up the bottom end of signals, and there is no need to turn the knob too far to get the benefit of it. In its normal mode, it boosts the real low end down around 40Hz, but with the huge switch in, the range of boost shifts up to around 100Hz, adding a real punch to the sound. This has applications in all kinds of music, but should particularly appeal to the dance crowd.

The effect does more than what turning up a standard bass EQ knob would do, and is very effective in fattening up kick drums and bass sounds. Drum loops can be tweaked very nicely, with the kick drum being brought forward with bass expand, while the top end is kept under control by the compression.

Verdict

Both previous Platinums – the Tone Factory and Voicemaster – were excellent products with extra quirks that set them apart from the crowd, and this new unit is cut from the same cloth. The Compounder is a versatile compressor able to fulfil all the workaday compression tasks, but also capable of full-on effects compression. Add to this an independent brick wall compressor and a gating facility that, although not comprehensive, is well thought-out and very usable, and you have a dynamics processor that is an incredibly useful tool in any situation.

The bass expand circuitry is the feature that sets this unit apart from other dual mono/stereo compressors on the market, and makes it the ideal choice for anyone wanting to fatten up individual low end sounds or add some beef to a complete mix. All in all, a very well thought-out product, and one that deserves to do well.

More from: Focusrite Audio Engineering, Lincoln Road, High Wycombe, Bucks HP12 3FX
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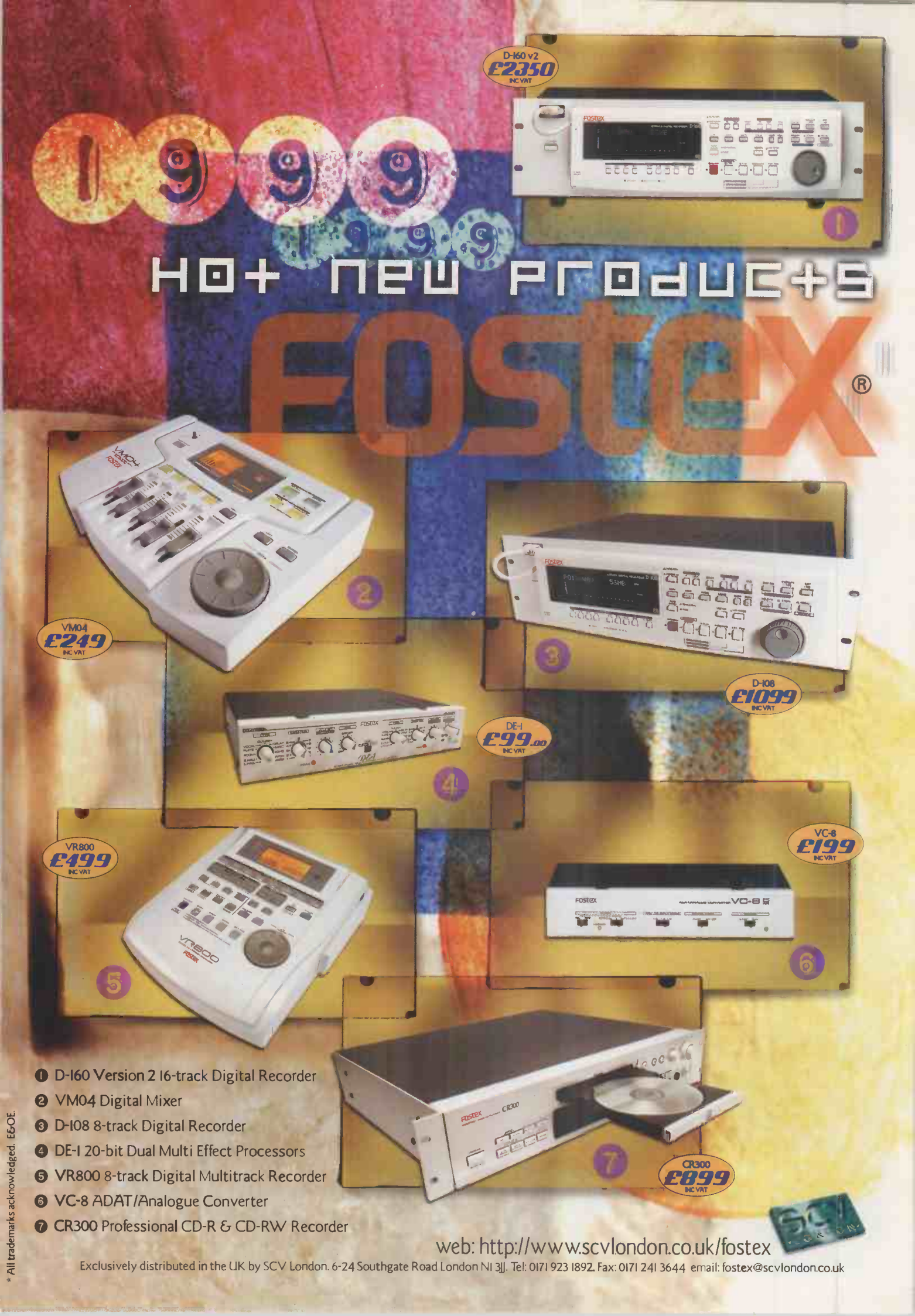
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Mackie 1604-VLZ Pro

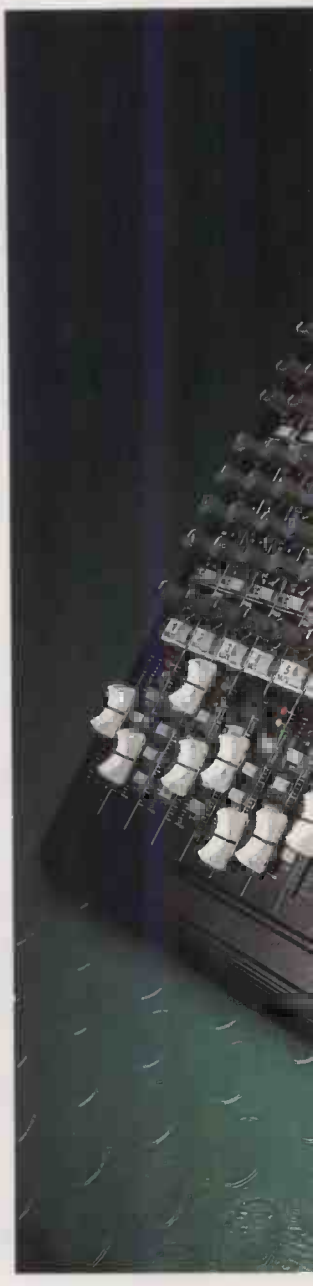
16-channel mixer

Price £873

For Good mix of facilities ⊙ Excellent-sounding mic amps ⊙ Compact size

Against No EQ bypass switch ⊙ Close faders make solo switching awkward

Verdict Compact 16-channel, 4-buss mixer with a killer sound



Mixing desks are often built to a tight budget and the general perception has been that their onboard mic preamps are not up to the quality of standalone preamps. This is one factor that has led, over the last few years, to a massive increase in the number of these units available, from the esoteric, undoubtedly high-quality products right down to the budget end of things.

So? Have any mixer manufacturers come out and said that their onboard preamps are every bit as good, and maybe better, than some of the standalone ones? Not that we've heard. Until now. In fact, Mackie's advertising campaign for their new mixer is based on their own admission that, for years, expensive outboard mic preamplifiers have yielded better sound than the preamps in any mixing desk. They now claim, however, that their new XDR design, two years and a quarter of a million dollars in development, is a quantum leap ahead of all but the most expensive mic preamps. The mixer strikes back?

Overview

Physically the 1604 is tidy and compact, with a control surface around 17" square when sitting on a table top, with all connections to the rear. However, with the use of a Phillips screwdriver, the pod housing all the connection sockets can be rotated by a little over 90° to allow the mixer to be rack-mounted, using its supplied rack ears, in a 7U space.

All the connections, bar the front panel headphone socket, are made via the back panel of the pod and include, for each of the 16 input channels, a balanced XLR mic input, a balanced jack line input that can be used unbalanced, and a jack insert point. Main outputs are on balanced jacks with another jack, complete with its own rotary volume knob, catering for a mono output, and insert points are provided for the main output. An additional stereo input/output arrangement via phono jacks is available for connecting a 2-track recorder, and the feed to control room monitors is taken care of by a couple of 1/4" jacks.

The 1604-VLZ Pro is a 4-buss desk, and the four corresponding group outputs, usually used to feed a multitrack's inputs, are on 1/4" jacks. The first eight channels on the desk have direct outputs on 1/4" jacks, which can also be used to feed a multitrack if desired. Six aux outputs are also on 1/4" jacks, and an additional eight jack sockets are provided for the four stereo returns, with the left jack of each return configured to take a mono source if nothing is connected to the right.

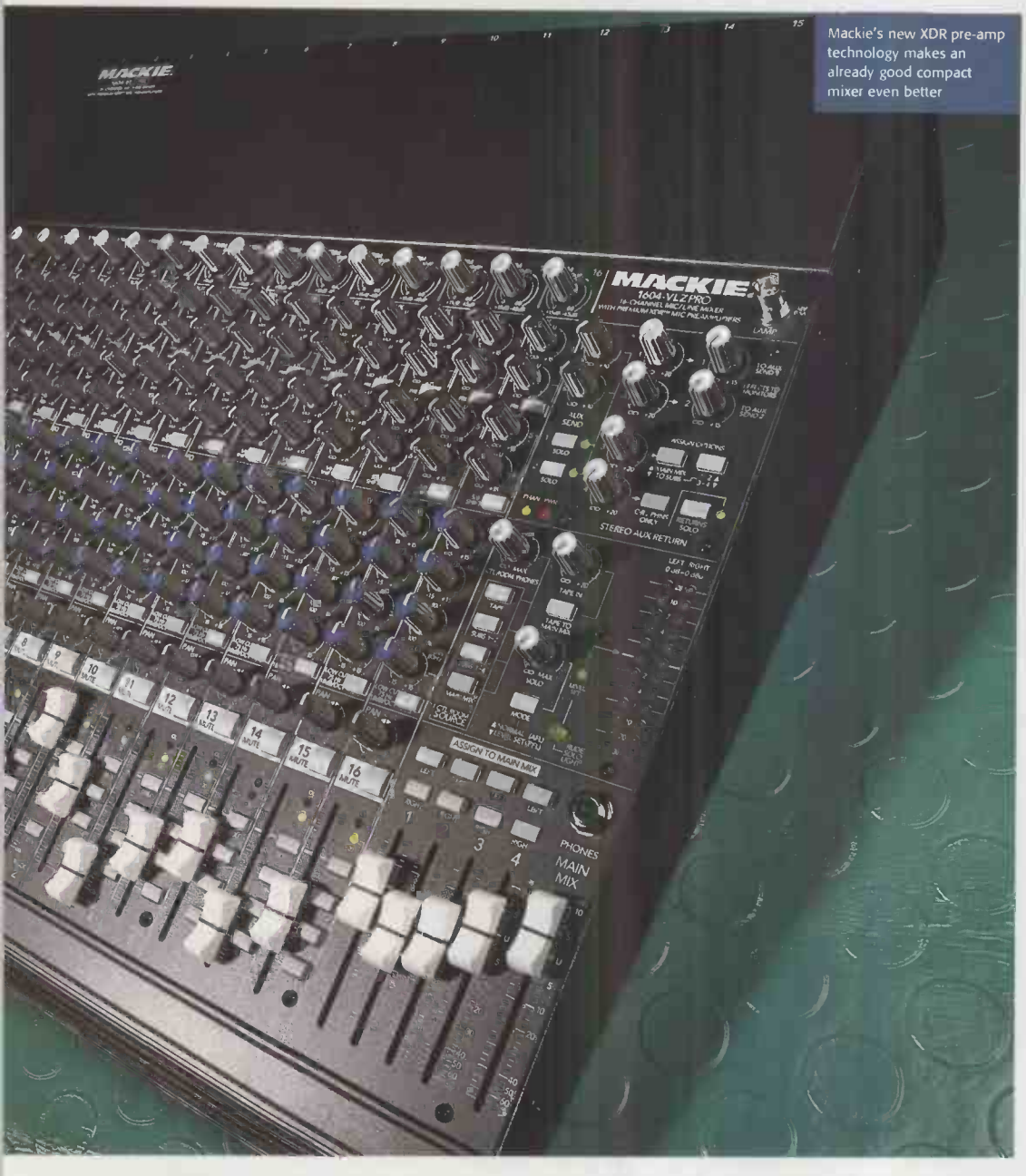
Channel strip

Looking at one of the 16 identical channel strips from top to bottom, the rotary trim control for setting the input gain of both the mic and line inputs is in the top position, allowing up to 60dB of gain.

The next section contains the auxiliary sends. There are six sends per channel, but these are shared by only four knobs, with knobs 3 and 4 being switched to access sends 5 and 6, with the 5/6 shift knob at the bottom of the section. Sends 3, 4, 5 and 6 are all configured as post-fade and as such are ideally suited as effects sends. Sends 1 and 2 are, as a pair, switchable to pre-fade if desired, allowing them to be used to feed foldback sources, be it studio headphones or stage monitors. Pre-fade in this instance is also pre-EQ, low-cut and mute settings, although internal jumpers can be soldered in place to change this to post EQ and post low-cut, with the signal remaining pre-fade and pre-mute.

The EQ section of each channel is, unfortunately, not switchable, as this would have been useful in comparing the EQ'd sound against the original. The only switch in this section is the low-cut switch, or high-pass filter, which cuts bass frequencies below 75Hz at a rate of 18dB per octave. The EQ is a fairly standard 3-band configuration with swept midrange and high and low shelving controls, with all three gain knobs having a centre detente position where the EQ is flat or

words **Trevor Curwen** images **Gavin Roberts**



Mackie's new XDR pre-amp technology makes an already good compact mixer even better

bypassed. The high EQ provides up to 15dB of cut or boost at 12kHz, while the low EQ allows the same amounts of cut or boost at 80Hz. Midrange can also be cut or boosted by up to 15dB at a centre frequency that can range from 100Hz up to 8kHz. Bandwidth, or Q, is fixed at 1.5 octaves.

Below the EQ section is the channel's pan control and its mute switch, coupled to a red LED that shows the mute status when it's not moonlighting as the channel overload indicator. Engaging the mute switch cuts all output from the channel to wherever it is routed, including the direct outs on channels 1 to 8. Routing is taken care of by three assign switches (1-2, 3-4, L-R) used in traditional fashion in conjunction with the pan control, left for odd numbered groups, right for even. The final switch on the channel is the solo switch, which can operate in two modes, either PFL or AFL (solo in place), depending on the mode selected on the desk's master section.

Master section

At the top of the 1604's output section is a 12V BNC lamp socket that will drive any standard BNC type lamp, for use in low lighting conditions, and below that is the master section for the aux sends and returns. Aux sends 1 and 2 have rotary knobs to control their output, with unity gain at the centre detente position, and 10dB of gain in a clockwise direction. The remaining four aux sends have no such control and send signal to their outputs at unity gain.

Aux sends 1 and 2 also have solo switches with associated green LEDs; these two are provided to »

XDR – the full Monty

The development of the XDR extended dynamic range mic pre-amplifier is apparently the most extensive analogue engineering project in Mackie's history. The company claim that the 1604-VLZ Pro is the first compact mixer with expensive esoteric microphone pre-amp sound onboard, and that no other company has ever spent as much time and money on a single new microphone pre-amplifier design as their R&D department did on the XDR.

The team's design brief was to match or exceed the performance of mic preamps costing in the range of $500 to $2,000, and the work was being constantly revised, with the project apparently stopping and starting several times. Rare parts were sourced from all over the world, and critical listening and evaluation tests were carried out using just about every microphone known to man, with a panel of veteran and experienced engineers drafted in to do the listening. The end result, after two years and $250,000 spent, was the XDR design, built into the 1604-VLZ Pro mixer.

Besides the sound quality, Mackie are also keen to promote some other notable features of the XDR. Apparently, the XDR is highly resistant to damage caused by routing a phantom-powered mic through a patchbay (the so-called 'hot patching'), it is very tolerant of cable-induced impedance variations, and it can also reject extremely high RF levels without compromising high-frequency response.

Total harmonic distortion is quoted as 0.0007% – apparently the lowest ever in a compact mixer – and the frequency response is flat within a tenth of a dB across the bandwidth of any known microphone, but also only 3dB down at 1Hz and 192kHz. Intermodulation distortion is also extremely low, as are noise levels.

The inclusion of eight direct outs coupled with the four group outputs allows a great deal of flexibility

» check the signal, and can operate in AFL or PFL mode, depending on the position of the master mode switch. Four rotary knobs control the level of the stereo aux returns; these go from off, through unity gain at the detente position, up to a fully clockwise position that provides 20dB of gain.

All the aux returns are automatically routed to the main mix but other options are available. Aux returns 1 and 2 can be fed, by way of a rotary knob for each, to their respectively numbered aux sends. This lets you send any effects that are connected to the aux returns – perhaps reverb or delay – to the headphone or monitor mixes connected to aux sends 1 and 2. Aux return 3 can be switched from feeding the main mix and instead feed either groups 1 and 2, or 3 and 4, useful for adding reverb to submixes. Aux return 4 can be fed to the control room monitor and headphone outputs.

Below the aux master section is the desk's metering, a stereo 12-a-side LED ladder, and the volume knob, controlling both the control room monitors and the headphones. Four switches select the source to feed these outputs with main mix, subgroups 1 and 2, subgroups 3 and 4, or the 2-track tape return selectable either singly or in any combination. Another switch, with an associated volume knob, routes the 2-track tape input to the main mix, but in doing so does not cut any output from any other channels, opening up the possibility of using this as another effects return.

In addition to the individual solo LEDs on each channel strip, there is also an unmissable large green one in this section, which flashes to remind you whenever a solo switch is engaged. The tour of the desk finishes with the single master fader and the four subgroup faders, each of which has two switches, a left and a right, to assign them to the main mix.

In use

Any mixing desk has to be evaluated on two main points: the extent of the facilities on board and the quality of sound. On the first point the1604 does well.

Many switches are of the two-tone 'liquorice allsorts' type, making it easy to see their status

This is a well-balanced desk in terms of facilities, and everything is well laid-out and easy to use. All the controls are positive, the warning lights work logically and the switches are of the two-tone 'liquorice allsorts' type, making it easy to see their status. One minor negative point, however, is that the faders are so close together that it's a bit of a squeeze to get a finger in to press the solo button with some fader positions, so you need to take care not to accidentally move the faders.

Regarding sound quality, bearing in mind the amount of development that went into the new XDR pre-amps, and Mackie's claim that they outperform much more expensive gear, one wonders how they can put 16 of them into a desk that sells for less than a grand.

However, the mic preamps do seem to be of very high quality – they are quiet, transparent and seem to let all the nuances of a microphone's performance come through, which is the whole point. No matter how expensive and sensitive a microphone is, its ultimate performance depends on how it interacts with the preamp it is plugged into – the sound is only going to be as good as the weakest link in the chain. Checked out with a selection of mics, and compared against a more upmarket desk and a good quality stand alone preamp/ recording channel, the Mackie did compare very favourably.

The other main factor contributing to the sound is, of course, the EQ, and the 1604's EQ section is well thought-out, with the high and low knobs working on the right frequencies in their respective bands for some useful top and bottom flavouring, while the wide range of frequencies covered by the midrange EQ allowed for some serious tone sculpting.

Verdict

As the heart of an 8-track recording system, or as a compact live sound mixer, the 1604 will do a fine job. The inclusion of eight direct outs coupled with the four group outputs allows a great deal of flexibility when used in a recording context, and Mackie's suggested use with an 8-track machine, whereby the first eight channels feed the tape inputs, and the other eight handle the outputs for monitoring, works well in practice.

Putting high-quality mic amps in a desk like this probably isn't going to stop people using standalone mic preamps to record individual sources – after all, many of them are used for their onboard compression and other features – but when multiple mics are being used simultaneously, as when recording drums, it's a job for a mixing desk, and with 16 decent-quality mic amps the1604 is certainly up to the job. The 1604-VLZ has always been a contender in the crowded 4-buss desk market, and this new improved version will give Mackie a big advantage over the competition.

More from: Mackie UK, 2 Blenheim Court, Hurricane Way, Wickford, Essex SS11 8YT
Tel: 01268 571212 Fax: 01268 570809
Web: www.mackie.com

specifications

Channels
16

Busses
4

Direct outputs from channels
8

I/O
XLR, 1/4" jack, RCA

Auxiliaries
6 sends
4 stereo returns

EQ
3-band, swept mids

Frequency response
20Hz-60kHz (+0dB/-1dB)
20Hz-100kHz (+0dB/-3dB)

THD
<0.005%

Size
447 x 442 x 127mm

Weight
9.1 kg

valve classics

valve warmth

users

C-1
dual valve compressor

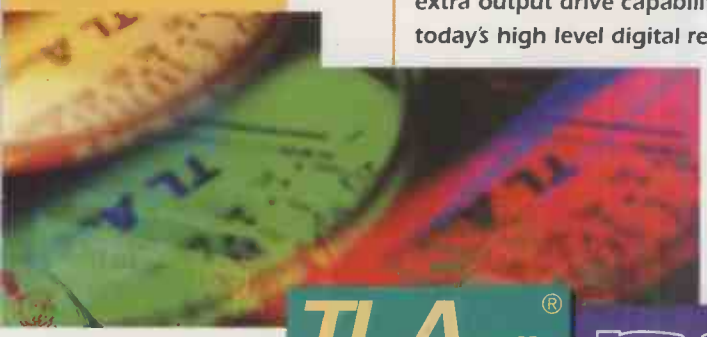
The original TL Audio Classic range products have been part of some of the most important records of recent years. Now, as part of the new 'Valve Classics' range, we have managed to develop and improve them even further. Extra features, uprated hardware and refined circuit design have given our best-sellers a new lease of life.

PA-1
dual pentode valve preamp

Each Valve Classics product now utilises US General Electric military specification ECC83 valves running at 250v DC for an even smoother, fatter sound - and the combination of tough steel chassis, 6mm milled aluminium front panel and gold plated ceramic valve bases means the units positively relish being bounced from one session or concert to the next.

EQ-2
dual parametric valve equaliser

The EQ-2 equaliser now boasts ultra-low noise bipolar op-amps and an improved ground planing system, in addition to a much requested shelving option on both LF and HF bands. The new PA-1 preamp has output level meters, improved valve stage frequency response and extra output drive capability - enabling even easier interfacing with today's high level digital recorders.



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TOBY WOOD
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"The C-1 proved its worth very rapidly, sounding clean and transparent, and without any unwelcome artefacts - it also has excellent internal dynamic range."

JON ASTLEY (Mastering Engineer - Led Zeppelin, The Who, Tori Amos)
"I had auditioned other valve equalisers for the Led Zeppelin album, but the EQ-2 came out on top since its sound suited the project so well - both Jimmy Page and I loved it for the sort of top end we wanted."

ADRIAN UTLEY (Guitarist, Writer, Co-Producer - Portishead)
"There seems to be a real buzz about TL Audio equipment at the moment, and I've encountered so many engineers and producers using TL Audio products that it just seemed to be the obvious choice."

IAN DAVIDSON
(Townhouse Studios, London)
"We own both the EQ-2 Equaliser and C-1 Compressor units and are very happy with them."

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Win!

a TC Electronic Intonator worth £999!

If you weren't down at the APRS Recording Technology show in London last month, then you'll have completely missed the TC Electronic and *The Mix* competition to win a TC Electronic Intonator pitch processor. Not to worry, we're running the same competition on this page to make sure that no reader misses out.

How do I enter?

Easy – just work out the answers to the clues in the terribly difficult crossword on this page, then send the answers on a postcard, together with your name, address, and telephone number to: Intonator Competition, *The Mix*, Future Publishing, 30 Monmouth Street, Bath BA1 2BW.

So, what is the Intonator?

The TC Electronic Intonator is a vocal intonation processor intended to reduce tedious time spent on vocal takes. None the wiser? Well, it does pitch correction, de-essing, and (in TC-speak) it's got an adaptive lo-cut filter, designed especially for vocal processing jobs.

The idea is that while all this processing is going on, the artist's personal touch is preserved so that the vocal performance loses none of the expression that makes it an individual recording. Things like tonal content, vibrato, and attack characteristics get through while, for example, the Intonator corrects the pitch of individual notes.

All this is possible because of TC Electronic's DARC chip technology, using 24-bit, 96kHz top digital audio quality. You can set the Intonator to target specific notes using an internal custom scale feature, record both dry and processed signals from the Intonator's dual analogue I/O, and dictate pitch correction in real-time using MIDI note input. The Intonator also includes Audio-to MIDI conversion. This is a sophisticated piece of technology that will fit right in to most project studio racks, and could be the answer to all of your vocal processing and recording problems. This is a competition you should definitely enter, so start working out those answers...

The Intonator has a lot in common with the crossword answers

More from: TC Electronic UK, PO Box 25767, London SW19 6WE

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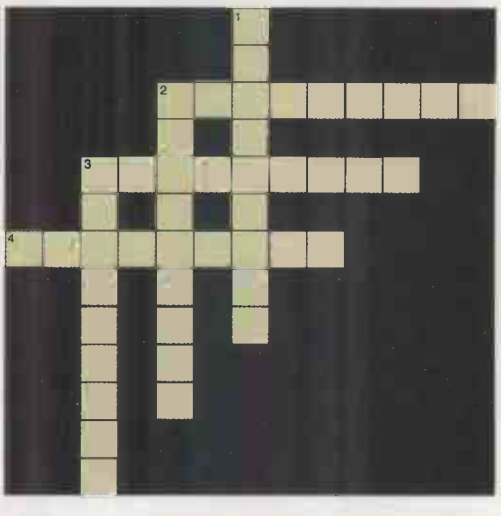
Email: tcuk@tcelectronic.com

Web: www.tcelectronic.co.uk

the rules

1. Employees of either TC Electronics or Future Publishing, or their relations, are not allowed to enter 2. One entry per reader 3. The first correct entry selected at random from entries received through the magazine and the promotion at the Recording & Technology Show will win the TC Electronic Intonator.

crossword puzzle



the clues

Across

2. Vocal Intonation Processor from TC Electronics (9)
3. Unit that preserves the artist's personal touch (9)
4. Intonation processor processing at 96 kHz (9)

Down

1. Unit that reduces tedious time spent on doing vocal re-takes (9)
2. Product introducing ATM (Audio-to-MIDI) conversion (9)
3. Unique intonation processor from TC Electronic (9)

Entry deadline: 13/8/99

Don't forget to include your name, address, and telephone number with your answers. Good luck!

new releases

All the major album releases of the month reviewed and rated, our classic sessions spot *Milestones*, plus who's in the studio doing what with whom in *Recording In Progress*...

recording in progress

Feeder are at Eden studios mixing new tracks with Al Clay producing

Al Clay: mixing Feeder

Berwick Street studios is the current home of Gatecrasher, who are self-producing tracks

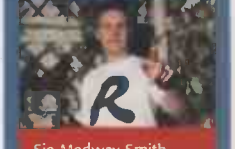
Hobotalk are at Ridge Farm working on an album with producer Dave Bottrill

Hepburn are at Eden studios with producer Mike Nocito mixing new tracks

Punk-rock legend Joe Strummer is self-producing tracks at Battery

Eden studios is host to Amanda Ghost who is recording tracks with Paul O'Duffy in the production chair

Sie Medway-Smith is working at his home studio and Milo studio on his second solo album



Sie Medway-Smith

RED HOT CHILI PEPPERS CALIFORNICATION (WEA)

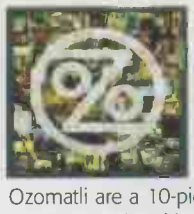
Californication is a pale imitation of 1991's *BloodSugarSexMagik*; maybe that's to do with John Frusciante, back on six strings after a six year break. A bit of re-learning required, perhaps? High points include Flea and Chad Smith's rhythm chemistry on 'Parallel Universe' and 'This Velvet Glove'. The low points, of which there are not that many, include the debut single 'Scar Tissue', which tries to be an 'Under The Bridge' for '99, and the title track, which is a weak ballad reeking of self-indulgence. There are some great funk/rock work-outs here – just don't expect another *BloodSugar*... • *Nick Serre*

Producer: Rick Rubin

Engineer: Jim Scott

Studio: Ocean Way

Verdict: Needs rejuvenation.....6/10



OZOMATLI OZOMALTI (ALMO SOUNDS)

Ozomatli are a 10-piece band from Los Angeles. Their songs are political but have an unmistakable party feel. Two of Jurassic 5 are in there, making hip hop a major ingredient, but there's also a strong Latin feel here. 'Cumbia De Los Muertos' has a cod-reggae feel, while the intro to 'Super Bowl Sundae' features positively eastern-sounding guitar work. There's flamenco-style guitar on 'Eva' and jazz sax noodlings on 'O Le Le'. The Spanish/rap vocals make for a real cross-genre feel and the overall sound is very, very funky. Get down with it now. • *Jane Bird*

Producer: T-Ray/Ozomatli

Engineer: Anton Pukshansky

Studio: NRG/Music Grinder, LA

Verdict: Shake your hips, have a good time.....8/10

VARIOUS DEFINITIVE UNDERGROUND DRUM 'N' BASS VOLUME 2 (X-ERT/RATION-L)

Definitive Underground Drum 'N' Bass Volume 2 is a collection of 30 remixes by drum 'n' bass maestro Mike Bennett, whose grasp on the d 'n' b scene gives this album a cohesiveness rarely found. And he's picked the best of the crop of underground d 'n' b. From Tacye's 'Ghost House' to Amorphic Field's 'Solace For Dawn', the varying strains of the genre all seamlessly meld under the expert ears of Bennett and other members of the X-Ert posse. Into d'n'b? This is a great introduction to the seedier side of the style. Already *au fait* with X-Ert's work? Then it's absolutely essential. • *Nick Serre*

Producer: Mike Bennett

Engineer: Various

Studio: Various

Verdict: The darkest drum 'n' bass. Ever.....8/10

VARIOUS MUSIC FOR THE YEAR 2000 PART 2 (MILLENNIUM/SRD)

Seriously progressive dance label Millennium show off signings old and new. CD1 concentrates on the last year or so, with the sublimely mellow 'Heavensairport-coffeeshoprestaurant', and the harder-edged funk of Max Reich's 'Few Hours Left'. Surge and Animal Zen also deserve mentions for their offerings. CD2 takes in 1993-96, including two great house-y techno cuts from the brilliant Head-Doctor ('Fantasma De Escobar' and 'Magic Bullet'). 'Drizzle' and '3 Prophets' by Lovegroove are cheesy trance anthems of the first degree. A perfect pre-millennium soundtrack. • *Nick Serre*

Producer: Various

Engineer: Various

Studio: Various

Verdict: Party like it's 1999.....8/10

PARADISE LOST
HOST
(EMI)

Seven albums on, Paradise Lost have found their niche of brooding, melodic synth-led rock, with elements of Depeche Mode, Gary Numan, and even Tears For Fears. Nick Holmes nods to the Matt Johnson school of delivery on 'Nothing Sacred' and 'Permanent Solution', as do Greg Mackintosh and Aaron Aedy's swirling guitars. Steve Lyon (Cure, Creatures) does a superb job and, despite an abundance of programming, keeps the live feel. 'Made The Same', in particular, is a pop/rock crossover masterpiece, lyrically and musically as hard as nails. • *Nick Serre*

Producer: Steve Lyon

Engineer: Steve Lyon

Studio: Various

Verdict: Perfect hosts.....7/10

DELERIUM
KARMA
(NETTWORK)

If you're into the funkier side of Shakespear's Sister or Enigma, then *Karma* will certainly satisfy. The bulk of *Karma* is based around ethereal female vocals (including Sarah McLachlan and Lisa Gerrard of Dead Can Dance). 'Duende' is a kind of funky-meets-ethnic session, while 'Forgotten Worlds' is a sweet ballad laced with classical nuances. Sounds weird, but there's something intriguingly hypnotic about the whole affair. Add to that a bonus CD of clever remixes, and it's an eye-opening trip into the minds of some real mavericks. • *Nick Serre*

Producer: Delerium/Greg Reely

Engineer: Greg Reely

Studio: Stack/Cryogenic

Verdict: Mental, in the best way.....7/10

<<RINôÇÉRôSE>>
INSTALLATION SONORE
(V2)

French dance mavericks <<Rinôçérôse>> have something of an experimental attitude. Pan pipes grace 'Sublimior', a Latin-esque work-out with a club sensibility. 'Le Mobilier' on the other hand, is a disco throwback done with admirable lack of irony. The tip is essentially a house/pop crossover, but the zany approach makes the sum significantly more than its parts. '323 Secondes De Musique Répétitive Avec Guitar Espagnole' is, funnily enough, exactly that. And it's damn funky. If you've been digging the latest clutch of Gallic grooves, then give this a spin. • *Nick Serre*

Producer: Johnny Palumbo

Engineer: Johnny Palumbo/Jean-Baptiste Millet

Studio: Bernard Blier, Montpellier

Verdict: More French funkiness..... 8/10

TUBE JERK
FOLD
(ILL)

Tim Wright has a knack for blending sounds that would be as equally at home in the clubs of NYC as in London's Heaven. Bass collides with strings on the slow-building 'Husk Jar', making an intoxicating brew of neo-dance elements. Other tracks take a housey route to old-skool electro, with a nod to Detroit. Tube Jerk is in no hurry to expose his gradually unfolding ideas, which, in the current climate of 'bang 'em out quick' productions, is a welcome relief. So we'll forgive what sounds like a sample of the London Underground on 'Now Can You See So Good'... • *Nick Serre*

Producer: Tim Wright

Engineer: Tim Wright

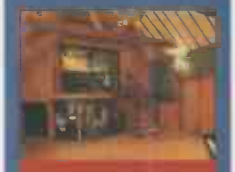
Studio: Finsbury Park, York

Verdict: Perfectly underground.....8/10

recording in progress

Sinead O'Connor is working on her new album at On-U studios with producer Adrian Sherwood

Smashing Pumpkins are holed up in their Chicago studio with producer Flood



Ridge Farm

Reflector are working on a single at Ridge Farm with Cure producer Dave Allen

Kylie Minogue is at Real World writing for her new album for Parlophone

Joe Cocker is at Battery studios mixing tracks with producer Steve Power

Space Brothers are at Mayfair mixing a new album with Paul Oakenfold producing

Steve Osborne is producing tracks for Elbow at Real World studios

Steve Power

MILESTONES

ELVIS PRESLEY
FROM ELVIS IN MEMPHIS
(RCA)

Despite his spectacular 1968 comeback, Elvis was in something of a quandary as '68 turned into '69. The legendary rock'n'roller who had, with Bill Haley and Little Richard, launched the whole genre 15 years before, was now failing to find hit '45s, then still the lifeblood of the market. He hadn't hit the UK singles Top 10, for instance, for almost five years, while his last album to reach pole position had done so way back in the pre-Beatles Summer of '62. Felton Jarvis was still Presley's trusty producer (Colonel Tom Parker, Presley's paranoid manager, kept everyone else away), but inspiration was needed, and fast. When a pal of the Pelvis suggested the 'funky new American Studios', in the slum area of North Memphis, he was initially laughed at, but then American's connection to coming songwriters was mentioned – as well as the fact that 64 chart records had been cut there in the preceding 18 months. The clincher was that another Presley friend, Martin Lacker, had started working there and had a high opinion of American's in-house producer, the abrasive Chips Moman. On January 13th 1969, Presley strolled into the best series of post-'50s sessions he would ever cut. Moman saw that Presley couldn't be shouted at and, instead, he carefully coaxed forth some phenomenal vocal performances – takes that matched the songs Chips had brought to the table: the powerful 'In The Ghetto', the snappy 'Wearin' That Loved On Look' and the epic 'Gentle On My Mind'. Although a lot of split-stereo mixing was used, Moman and Jarvis left Elvis' vocal centre-stage with the minimum of effects; the perfect way to record the voice of a music man revelling in once again being at the cutting edge. The offering topped the album charts in August as the single 'In The Ghetto' reached No.2. Now the comeback really was complete. • *Phil Strongman*

The whole of *From Elvis...* plus 32 out-takes are now available on the digitally remastered *Suspicious Minds: The Memphis 1969 Anthology* on RCA/BMG Records.

Producer: Chips Moman/Felton Jarvis

Engineer: Various

Studio: American Studios, Memphis

Freedom? George Michael's Sony case questioned the fairness of record contracts

picture Ross Halfin. Idols

The Stone Roses: their contract covered 'the world and its solar system'

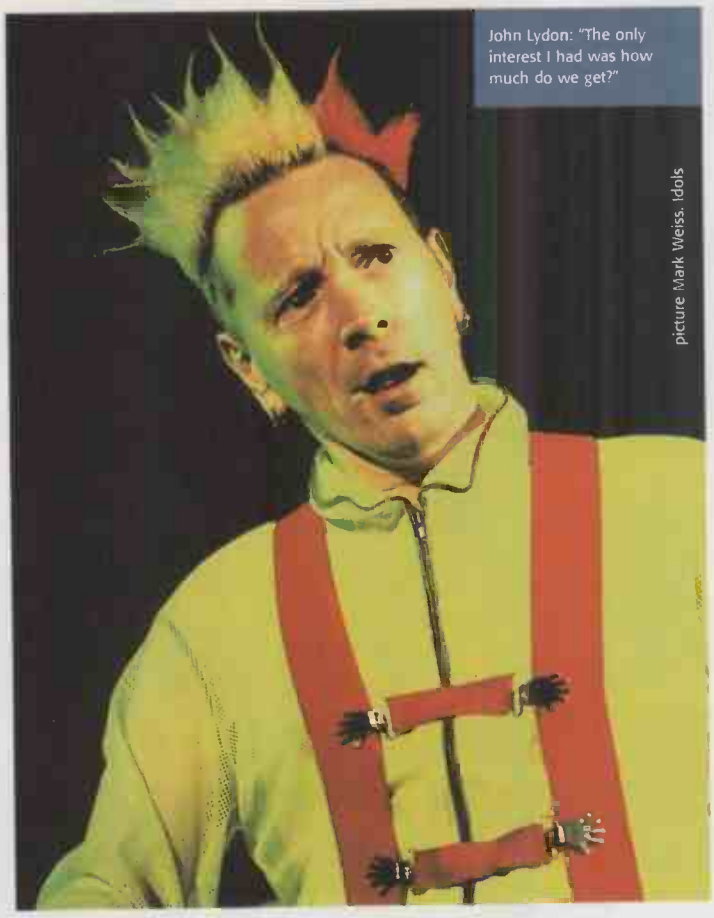
PART 1

legal aid

words **Steve Greenfield and Guy Osborn**

The legal side of the music industry can seem daunting, but it's essential to give it some thought. This month we look at the world of contracts...

The public image of law and lawyers is not a flattering one: in many ways the opposite of the rock star, the lawyer is the antithesis of hip. However, the link between the two spheres has never been so close. As the law encroaches ever further into the entertainment field, and especially the music business, it's an area that needs to be taken seriously. The industry adage of 'where there's a hit there's a writ' has never rung so true. There have been a number of actions by disgruntled band members or former members in recent years. Former Smiths Mike Joyce and Andy Rourke brought a claim against Morrissey and Johnny Marr for royalties, and, more recently, Oasis became embroiled in a legal dispute with former drummer Tony McCarroll. Similarly, former members of the group Spandau Ballet (Tony Hadley, John Keeble and Steve Norman) brought an action against fellow band member Gary Kemp. In addition to these contractual complaints, there are seemingly continual problems with both the use of uncleared samples and complaints that 'new' songs bear a striking resemblance to works that have come before. We'll investigate this area in the second part of this article next month.



John Lydon: "The only interest I had was how much do we get?"

picture Mark Weiss. Idols

picture Fabio Nosotti. Idols

In terms of contractual arrangements, for songwriters and recording artists there are a number of situations where a contract might come into existence and later prove troublesome. One of the early contracts that a composer or performer might sign is a management deal. Often this vital role may be played by someone without, initially, the relevant skill and experience (the mate who can't play, as a historical example) and may well lead to problems later on. There are a number of key issues to think about when looking at a management deal. The crucial point is that any deal is based upon 'mutual trust and confidence', and that both parties must act with good faith. Whilst management deals are of importance in the music industry, many of the basic terms are common to the two most crucial music business agreements: publishing contracts and recording contracts, so looking at these will give us a firmer understanding of the potential pitfalls involved.

Publishing contracts

Publishing contracts are simply concerned with the buying and selling of songs, or more accurately the copyright that the lyrics and music attract. In return for handing over the copyright in the works, the songwriter receives payment. And after all, this is what almost every songwriter wants – fame and, most importantly, fortune. The money may come in one of two forms. Firstly, an 'advance' (cash up front) on the signing of the deal and/or on the delivery of material. It's important to stress that this is not free money. It is exactly as it says, an advance, similar to getting a sub on your weekly wages, money today from what you should earn tomorrow.

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I know this much is true...

In the Spandau Ballet case, Gary Kemp wrote all the songs, and the other members of the band performed and recorded the songs he presented to them. As a songwriter, he would then earn publishing income from the recording and broadcasting of the songs. This difference in remuneration is potentially a cause of friction in a band, and Gary Kemp made payments out of his royalties, earned as a songwriter, to other members of the band in the interests of band harmony. However, when the band started to disintegrate, he stopped these payments and the other members of the band argued that he had contracted with them to give them a share of these royalties indefinitely. But, they had no written proof of this and argued that it was an oral agreement to do so. It is often not appreciated that oral contracts are just as enforceable as written ones. The problem, though, is proving that such a contract exists and what the contract actually said. In legal terms it is an issue of proof. Having reviewed all the evidence, and heard testimony from members of the band the judge held that there was no enforceable agreement. The moral of this is clear, and a little dispiriting. However much you might not like to think about the consequences of a future breakdown in relations, it pays to draw up clear agreements in case the worst scenario happens. While this might make perfect business sense, it does mean that an activity that begins as a means of enjoyment has to be regulated early on by the law and is a reflection of the law's involvement in many areas of everyday life where once we would not have dreamed of such a course of action.

picture Fin Costello. Redferns

Spandau Ballet: their last harmonious moment?

Any future income will have to pay back any advances before you start to be paid, so you can see at once that a publishing company is only going to pay money up front that it sees is very likely to be recouped through sales.

The role of the music publisher is to exploit the works by having them recorded by the writer or another recording artist or used in other ways such as for films, adverts, and so on. In 1974 The House of Lords had held that a publishing contract signed by a young, then unknown, songwriter Tony Macaulay was unenforcable as it was too one-sided. One of the judges observed that the publisher had no obligation to use any of the songs that Macaulay had written, denying him any opportunity to earn any royalties. This case led to some publishers putting a clause into contracts that allows unexploited material to revert back to the songwriter.

Though this sounds like a positive move for writers, the publisher can avoid this happening by merely publishing the work as sheet music, and this will then count as being exploited. There are a number of crucial elements in these type of agreements that need to be dealt with, including; the length of the deal, the obligations and commitments of both parties, royalty rates and advances and where the contract applies to. In addition the court may look at whether the composer or group received independent legal advice and whether the company in question took advantage of their stronger position.

The first legal precedent was set in the case of Tony Macaulay. He was signed as a young unknown songwriter and the dispute with his publisher that concerned contracts of this sort was the first to reach the highest appeal court (the House of Lords). The court analysed the whole contract but in particular picked up on three points, all of which must be considered by someone offered such a deal...

"Hazy conversations from 10 years ago might form the basis of later legal action by disaffected group members..."

e Fabio Nosotti. Idols

Holly: the court decided his contract was too restrictive

How long does the agreement last for? This is a fundamental. How long are you, the songwriter, committed to the publishing company? Given that it will be an exclusive agreement (so you cannot write for anyone else during the duration of the contract), the length of time you are being bound for is crucial. Of course, if everything goes well and you have a happy relationship this doesn't matter, but if things don't then you need to be fully aware of your commitment from the outset.

What material does it cover and what must the songwriter deliver? If this is your first deal, you may well have written and developed a portfolio of songs, and it needs to be clear whether the agreement extends to songs that you own that were written before the contract comes into force. It is highly likely that the publisher will want to include all your works, as these are the very songs that have led to you being offered a deal. Normal practice is to have these listed in a schedule annexed to the contract. Thus you will assign the copyright, not just in those songs written during the contract, but also those that you bring to the table.

The beauty of copyright is that it can be bought and sold and essentially you are selling these rights. The other question is whether the sale lasts for the duration of the contract (if only) or, far more likely, for the full copyright period. With this latter point, the contract can be long over but the songs still belong to the

publisher though you will still earn royalties from them.

So, what is the company obliged to do with your creations? Clearly you want them exploited so that you can earn money from them. What happens if the publisher does nothing with the works? Look to see if the copyright then reverts back to the artist if the work remains unexploited for a period.

Record contracts

"I knew very little about the intricacies of the record contracts we signed. I kept way out of it. To be honest, the only interest the band and I had was, how much do we each get?" So said John Lydon, former lead singer of the Sex Pistols in his autobiography. On the other end of the scale, George Michael's highly publicised dispute with Sony in the early 1990s put the question of the fairness of recording contracts onto the front pages. However, the George Michael case was only the last in a long line of legal disputes over contracts that had involved pop luminaries such as Holly Johnson and The Stone Roses. Though it attracted a huge amount of publicity, the George Michael case was not one of the more important decisions, as it only got as far as the High Court.

picture Mick Hutson, Redferns

Morrissey's former drummer sued and won

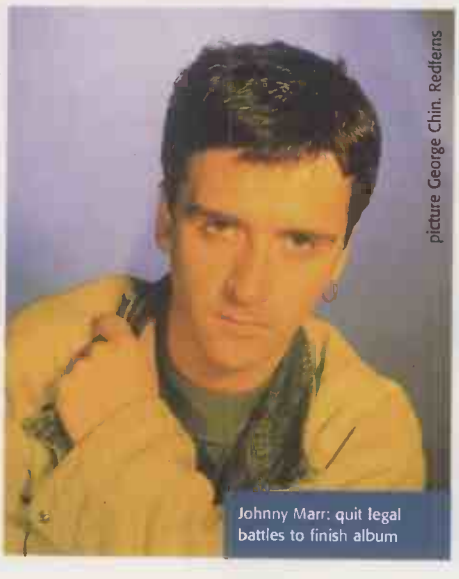
Previous cases have been heard by both the Court of Appeal and the House of Lords and these have set important precedents. The George Michael case did, however, seem to buck the trend of a longish line of cases that have gone in favour of artists seeking to free themselves from their contracts. In 1989 the Court of Appeal further extended artists' rights when considering the recording contract as well as the publishing contract signed by Holly Johnson as a member of Frankie Goes To Hollywood. The publishing and record companies had wanted to retain his services as a solo artist after the group acrimoniously broke up. The Court decided that both the contracts were too restrictive and Johnson was freed from them and allowed to sign elsewhere. Johnson's lawyers recalled one of the Judge's comments on the length of the contract; "Mr Johnson could be 70 years old and still be bound to this contract. Then, I suspect, even the Synclavier could not enhance his performance."

The courts were clearly taking a view that, as the career of a pop artist is often fleetingly brief, the contracts that are signed must not be unduly restrictive. All the cases have identified certain crucial terms within these contracts, including: the length of the contract, the territory it covers, and the obligations placed upon both the artist and the record or publishing company.

A fine example of a company trying to make sure that all angles of an artist are completely tied up could be found in the Stone Roses contract which defined the territory of the agreement as 'the world and its solar system'. Perhaps the company was anticipating a Bowie-esque Spiders From Mars scenario! Judges, though, will have little sympathy with companies who use their bargaining power to force through such absurd clauses.

Additionally, the length of recording contracts is always of concern, and this may be calculated in several ways – either through years or albums released with possibly a longstop. The record company will want to use option periods which allows it maximum flexibility. It means that their commitment is limited, but if the band is successful they have the option to continue the agreement. Occasionally, the company might attempt to tie groups in for even longer, or even indefinitely as was arguably the case with The Stone Roses, although current legal cases suggest that the longer an agreement is, the harder it is to actually enforce.

Running through all these contractual concerns is the harsh realisation that what starts out as a hobby can easily become a commercial nightmare where financial and other matters become a considerable source of friction between the group. The upshot of all of this is that, whilst it is not going to be foremost in your mind when you write material or begin to progress through the music industry, it is important to ensure that all eventualities are catered for. This should ideally be done by getting something written down. Otherwise, hazy conversations from 10 years ago might form the basis of later legal action by disaffected group members. If possible independent legal advice should be sought. Otherwise, take advantage of your Musicians' Union membership to get help. Above all, make sure you go into the music industry with your eyes open.



picture George Chin, Redferns

Johnny Marr: quit legal battles to finish album

Smith v Smith

Victorious ex-drummer Mike Joyce talks to *The Mix*...

The Mix: Tell us about your legal battles...

Mike Joyce: "There was a disagreement about what was said and what wasn't said because there were no contracts within the band. When we did split up [in 1987] it was very difficult to verify. There was a lot of word of mouth... There were times when it just seemed as though it would never end. I'm sure Johnny and Morrissey hated it as much as I hated it, but I had to get what I believed to be right. The first day in court I had a good chat with Johnny... and I thought that was weird in itself..."

What would have been the consequences had you lost?

"I would have lost everything that I own and then I would have been indebted for the rest of my life. But I believed in it so much that I couldn't let it go. I felt as though it was my right: four members of the band; publishing is shared equally between Johnny and Morrissey, fifty percent each... well, when somebody buys a record with The Smiths on there's four of us and I'm one of them. Simple as that. If somebody buys a Smiths record, they listen to *me*, they're not listening to ten percent. I just think it's a lot easier if you start off with equality – then nobody gets upset."

Did the unfair split apply to profits from touring as well?

"No, we hardly made any money from touring anyway. That just went to pay for PAs and what have you. It was the record sales that generated the money. But again that's something we need to find out from the accounts."

What advice would you give to musicians faced with a contract?

"If people won't come out with contracts that set everything in stone, then *panic*. Because if they're not doing anything untoward, then why won't they commit themselves to writing?"

picture Peter Ashworth, Idols

The Smiths, in 'happier' times: L-R: Andy Rourke, Mike Joyce, Johnny Marr, Morrissey

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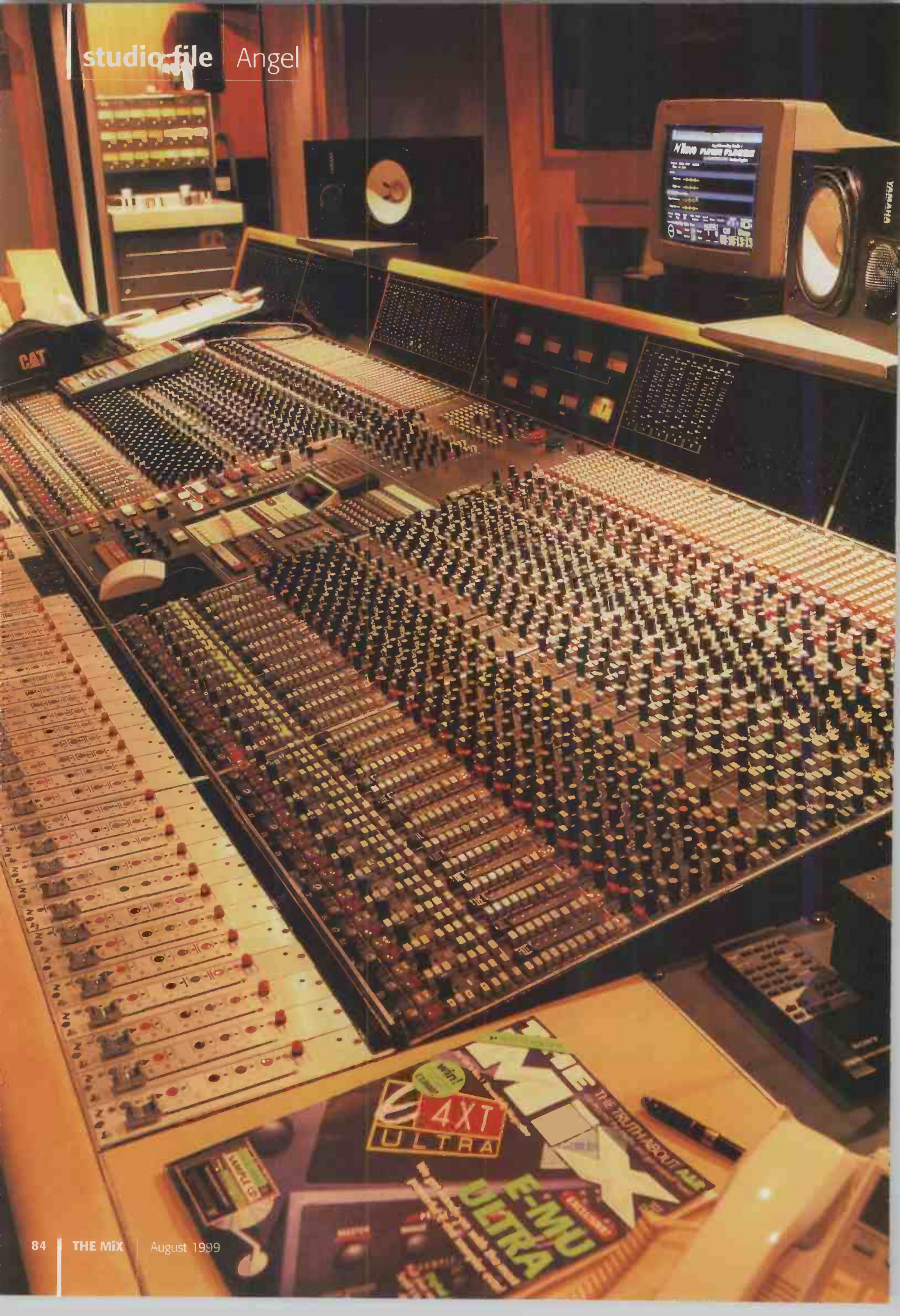
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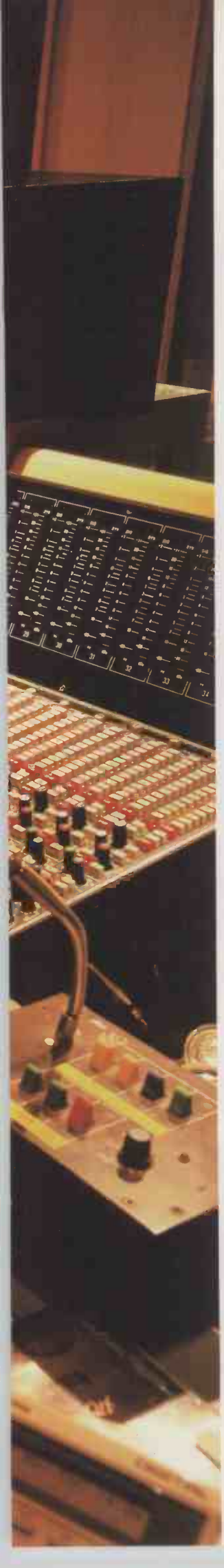


angel studios

words **Nick Serre** images **James Cumpsty**

In a converted church in the heart of Islington there is a top-flight studio complex that has played host to everyone who's anyone. Now it's the turn of *The Mix* to find an angel...

"We've always prided ourselves on the quality of the live areas here," maintains Angel recording studio's manager Gloria Luck. And it is with complete authority that she is qualified to say so. The cleverly-designed complex is housed within the United Reform church in Upper Street, and utilises the acoustic space with expertise. Add to that the breathtaking control room designs, the abundance of top-quality kit, and a team who are as committed and keen as they are talented, and it's easy to see why Angel is such a success. With its huge live areas, it is a popular choice for orchestral works, as well as TV and film scores and pop projects, with recent clients including Björk and Robbie Williams.

The ever-so-friendly team at Angel studios (just before lunch...)

Angel is owned, and was originally built in 1980 by James DeWolfe, of the DeWolfe music library company, with respected engineer John Timperley, whose credits range from Bing Crosby to Emerson, Lake And Palmer, overseeing the construction of Studio 1. Coming from an orchestral background, he was keen to keep the natural architecture intact as much as possible. This included overhauling the 1888 Speechley pipe organ, which remains the fully-working centrepiece of Studio 1. You only need to look at the detail that has gone into the design of both the live and control rooms to understand why the likes of Robbie and Björk use Angel, as well as the steady stream of film and television composers that keep the facility busy around the clock.

"In a way, I suppose, it was originally seen as a slightly strange approach to setting up a studio," confesses chief engineer Gary Thomas. It was, after all, at the time when project studios were becoming a potential threat to larger facilities, but the Angel team saw that there would be a constant requirement for top-notch live rooms with acoustics and facilities to match. "The reason John Timperley set it up like it is, is because of his orchestral upbringing," Gary continues. "But Angel also had quite a lot of straight pop stuff coming in as well. We did The Cure's *Head On The Door* album, and sessions with Siouxsie And The Banshees and Slade. Then in the late '80s record companies began reducing their budgets for rock album projects, and we found ourselves concentrating more on orchestral recording, just as it was initially intended."

With the popularity of Studio 1, 1986 saw a similar control room (recently redesigned by Recording Architecture's Roger D'Arcy) built as the basis for Studio 3. DeWolfe Music's storeroom, which was then housed in the building, was replaced by the Studio 3 live area, capable of seating a large orchestra. Both control rooms are equipped with AMS Neve consoles and racks of outboard equipment befitting a world-class facility. A mere two years ago, the team re-opened Studio 2. A smaller, yet no less professional set-up, the control room, designed by Roger Quested, is home to a 48 channel Soundtracs Jade console, and, as with

»

Studio 1 kit list

Console

AMS Neve VR60 with flying faders

Recording

Studer A800 Mk III

Ampex ATR 104 1/2" and 1/4"

Monitoring

KEF KM1

B&W 801

Yamaha NS10

Reverbs

Lexicon 480L

Lexicon 224XL

Lexicon PCM70

TC Electronics M5000

Yamaha SPX 90 MkII

Yamaha SPX 900

Compressors, gates, and EQ

Neve, Urei, Kalle, Kepex, Tubetech

Studio 2 kit list

Console

Soundtracs Jade 48 with Audiomate moving faders

Recording

Studer A800 Mk III

Ampex ATR 104 1/2" and 1/4"

Monitoring

Quested custom surround system

B&W 801

Yamaha NS10

Reverbs

Lexicon 480L

Lexicon 224XL

Lexicon LXP1

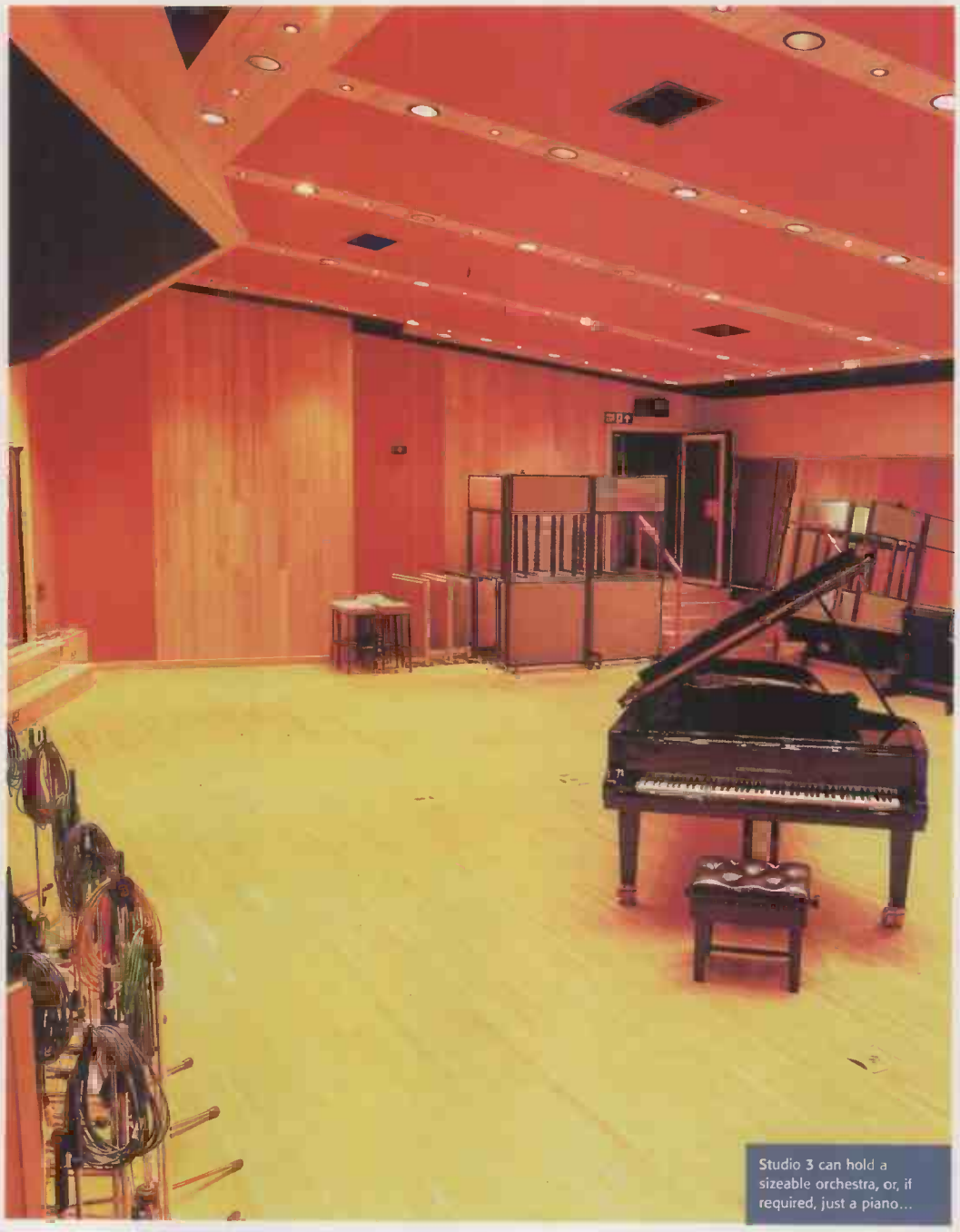
Yamaha SPX 900

Yamaha SPX 990

Alesis Quadraverb II

Compressors, gates, and EQ

Neve, Urei, Kalle, Dbx, Klein & Hummel



Studio 3 can hold a sizeable orchestra, or, if required, just a piano...

Studios 1 and 3, Studer A800 multitracks. Naturally, additional equipment can be hired in, but senior engineer Steve Price reckons that 2" analogue is still the predominant format for the kind of projects that Angel specialise in, although they have recently purchased a Radar 2 system.

"I think that Radar and other digital systems are taking off now, and many of our clients have seen their potential. But for sheer reliability and ease of use, the trusty Studers are still great." And the philosophy extends to the whole of Angel's ethos. "With the kind of work we do, people will book maybe an hour or so to record a 50-second commercial with a 60-strong orchestra. What that means is that planning is essential. They want the job done as efficiently as possible, so you have to be as prepared as you can possibly be. That covers everything from mic selection to having the outboard set up. Because when they come in, you'll have maybe 10 or 15 minutes to tweak, and then you're off!"

The notion behind the smaller Studio 2 is indicative of the Angel team's foresight and response to clients' requirements. With a live room more suited to small groups of musicians, it offers more people the flexibility to utilise Angel's facilities. Gary reiterates: "We are still keen to have bands record here, so the logical thing to do was build a studio more suited to that kind of work. The advantage being that if, for example, they want to record a grand piano, we can often use one of the bigger live rooms at some point during the session.

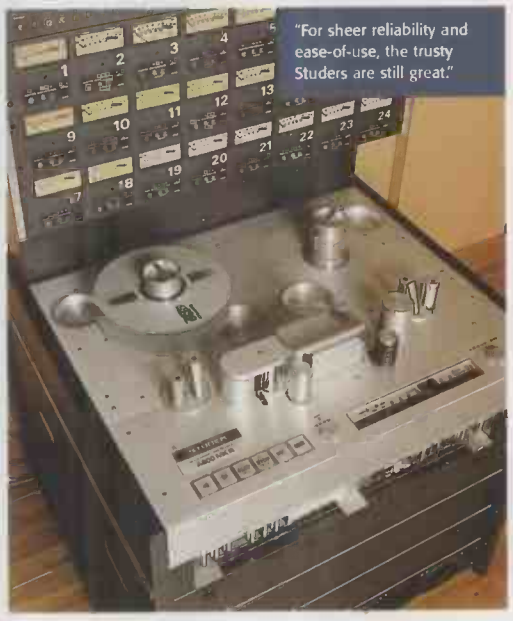
Outboard by Lexicon, Urei, and Tubetech add to Angel's highbrow status

Rather posh AMS Neve desks adorn both Studios 1 and 3

That way, even though they don't necessarily have the budget to use Studio 1 or 3, for the whole project, they can link up – using our audio and video tie lines – to one of the rooms without having to shift all their gear."

Gary speaks with sincerity, and indeed, this is the whole concept behind Angel – offering clients what they need, and responding to a studio climate that changes at an increasingly accelerated rate. Demonstrating their commitment to the long term, and ever upgrading their equipment and maintaining a friendly and talented team of engineers and administrative staff means that Angel is an increasingly popular venue for a huge range of mixing and recording projects. As Gloria Luck sums up: "Over the years we have invested a considerable amount of money, and will continue to do so. Sometimes it may appear risky, but we believe in what we do and feel that we do it well. That's why we get repeat business and ultimately great results. That pleases everyone, including us."

More from: Gloria Luck, Angel Recording Studios, 311 Upper Street, London N1 2TU
Tel: 0171 354 2525 Fax: 0171 226 9624



"For sheer reliability and ease-of-use, the trusty Studers are still great."

Studio 3 kit list

Console

AMS Neve VXS60 with flying faders/ Encore automation

Recording

Studer A800 Mk III

Ampex ATR 104 1/2" and 1/4"

Monitoring

ATC custom surround system

B&W 801

Yamaha NS10

AR18

Auratone

Reverbs

Lexicon 480L

Lexicon 224XL

Lexicon PCM70

TC Electronics M5000

TC2290 delay

EMT plates

AMS 1580 delay

Yamaha SPX 90 MkII

Compressors, gates, and EQ

Neve, Urei, Valley People, Kalle, Dbx, Drawmer, Tubetech

The gothic architecture of the United Reform church that houses Angel

recent clients

Film/ TV productions:

An Ideal Husband

Hornblower

Little Voice

The Full Monty

Romeo And Juliet

Artists:

Martine McCutcheon

José Carreras

Björk

Robbie Williams

rates

Studios 1 and 3: £155 per hour/£1,350 per day

Studio 2: £60 per hour/£650 per day

country blues

words **Douglas McPherson** images **Kevin Maunton** and **Paula Williams**

When New York blues man Eric Bibb decided he wanted a rural sound for his new album, he knew just where to find it: in a farmhouse deep in the heart of the English countryside

'Miracles occur in the strangest of places', sang Willie Nelson. So do great recording sessions. When Eric Bibb settled down to make his new album *Home To Me* in a Norfolk farmhouse he knew he had, well, come home.

"I had recorded in ambient settings before. Places like old school rooms. So I was already sold on the idea that you don't need a so-called bona fide studio to make a high quality record," says the American blues singer who travelled to Paris "as a young, adventurous musician," moved on to Scandinavia, fell in love, got married and now lives in Sweden.

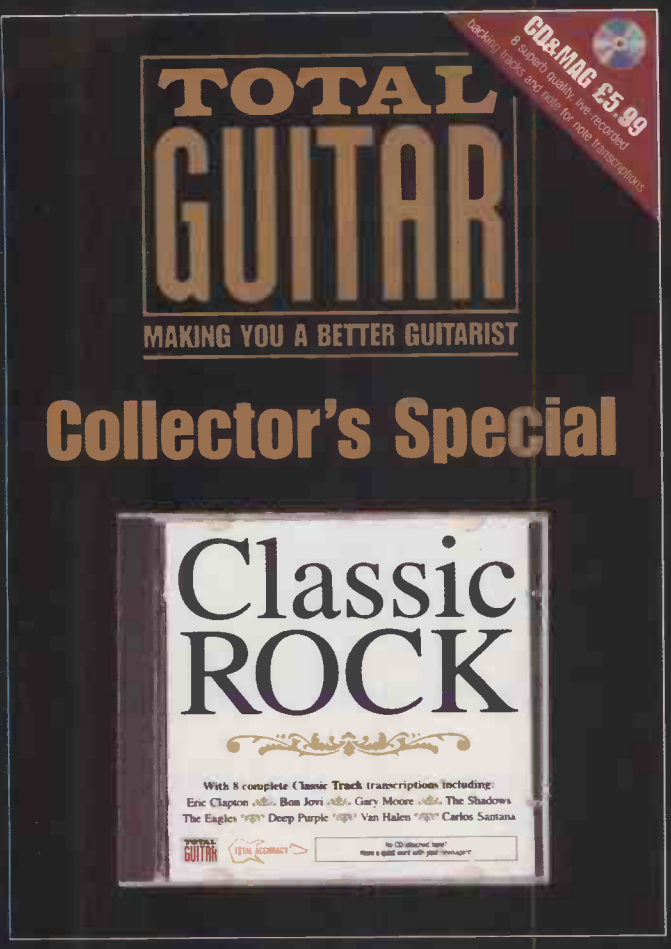
"But I have to say I'm more pleased with the album than I could have imagined. It seems to have tied up all the loose ends of my musical desires." That he ended up recording in Norfolk is due to an idea by his manager Alan Robinson that Bibb calls, "A master stroke".

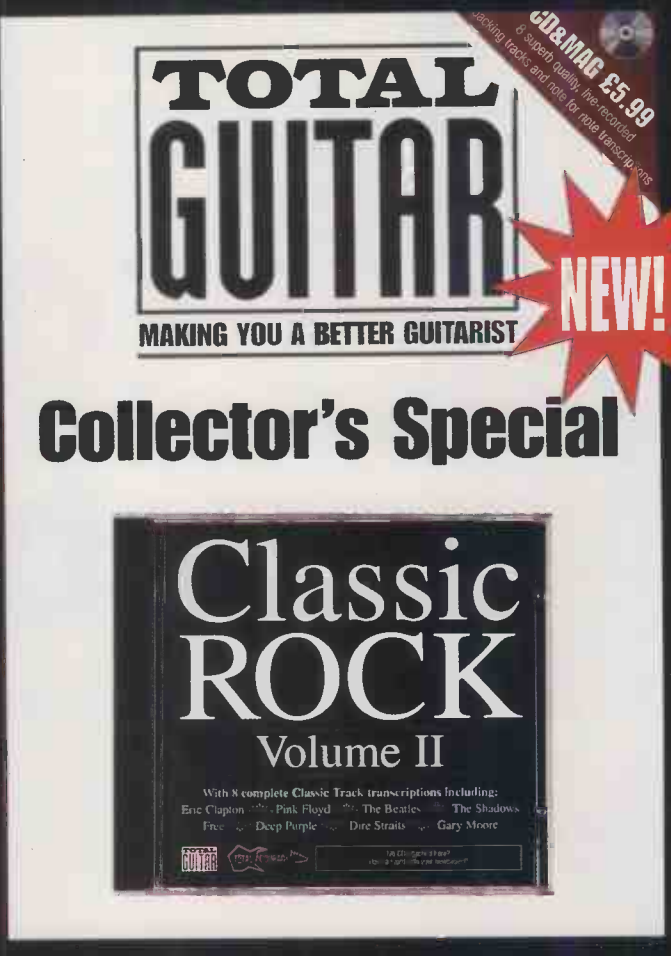
One of Robinson's friends, engineer Dave Williams, was in the process of moving out of Purley, on the Surrey borders of London, "to get away from the rat race and all the hassle." Williams had bought a farmhouse with an adjoining cottage, a second cottage, and a barn, which he planned to turn into a residential recording centre. The eventual plan is to build a studio in the barn.

Robinson's initial idea was to simply lay down some demos in the control room that Williams had temporarily established in one of the cottages, with a view to using the barn for finished tracks when it became available. With a full band, however, that proved impractical, so the decision was taken to set up in the house. Although a more permanent arrangement was later arrived at, Williams initially spanned the 25-metre distance between the control room and the house by joining together countless leads and running them through irrigation pipes borrowed from the neighbouring farm. Keeping track of all the lines was "a bit of a nightmare," says Williams. There was also a lot of running back and forth between buildings to get the mics in the right position. But it worked.

Eric's engineer Dave Williams swears by the sound of 16-track analogue

"That first demo turned into one of the tracks on the album," says Bibb. "We realised Dave Williams was really a connoisseur at that type of recording." Bibb also realised the acoustics of Dave's house were perfect for the kind of laid-back, rootsy sounds he wanted to capture. "I walked around this beautiful house, which is apparently where Lord Nelson used to court his lady friends. I came into this little red room off the kitchen and I knew I wanted to sing in that room. When »





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Dave Williams

Engineer/producer and owner of The Grange studio, Dave Williams got into the music business as a tape operator with Decca. After six months of learning the basics of studio life he became a plugger for publishers Chapel Music, which at the time handled the Stax catalogue which he worked on. His main ambitions, however, were on the creative side. He got his break when he co-produced and published 'I Will Return', a Top 5 hit for Springwater in 1971. "There was another one I'd rather not talk about because it was crap!" laughs the songsmith, refusing to be drawn on the title. "It was a major hit in Germany, but it wasn't well-written. It was just a gimmick thing that took off."

Crap or not, the cash helped Williams establish his Jigsaw studio in Purley. He continues to enjoy success as a writer. "There are two songs on the last Walter Trout album and we had a big hit in Spain about two years ago with a group called Azucar Moreno."

Dave's plan for The Grange is to use his writing, production and promotion skills in equal measure. "I'd like to find some British bands we can do the whole number on. We'd like to really develop people that need a break. The ideal thing with a studio is to split it 50/50 between in-house and hired out. I think that's the only way to make money from a studio these days because you're not governed by fashion. As long as you get a good sound it doesn't matter how you get it. "I don't want the situation where the only thing you're doing is running a studio. That can be really money-strapping because you've always got to get the latest piece of gear and all you're doing is paying the bank back for the equipment. Obviously we want the studio to be busy but we don't want it to get in the way of our way of life."

The invisible man: Dave Williams has a studio policy of non-interference

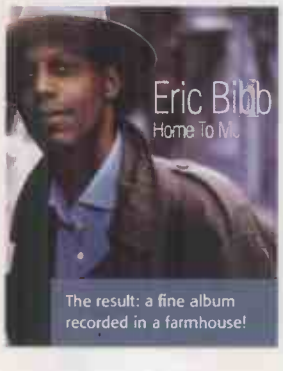
you've been in so many venues you just get a feeling for the way a room talks back to you. I went into a corner, thinking of Robert Johnson in a hotel room facing the corner to try and get that mid-range boost, and I knew the room would sound great for my guitar and vocals. It basically became my vocal booth.

"Another room became the drum room, and the lounge became a room where we did a couple of tracks as live performances, with not only ambient mics but separate mics so we could control the mix."

Commenting on the acoustics, Williams says, "I think it sounded so good because this is an old house, so none of the walls are at all parallel. With recording, one of the golden rules is non-parallel walls, and here every room is pissed. The other thing is when you build a studio and you're containing the sound, you get a lot of bass build up, so you have to put in a lot of bass trapping. In something like this the sound just goes out of the windows never to return. There's no better bass trap than an open window. So I think the natural sound of the room came through because there weren't any bad standing waves or anything."

To correct any minor problems, Williams discovered a new toy: "ASC Tube Traps, made by the Acoustic Sciences Corporation in America. I believe Sting had some when he recorded in his house. They're not generally well-known over here but in America project studios and location recording is much bigger business. I hired some for the first couple of sessions and then I bought some. If the room's a bit too reflective you just put a few in and scatter them around. We didn't use them too much in the rooms. I think we used some in the drum room. But they were very useful in the control room. You put them around your desk and it cuts out a lot of the rubbish that the room may be giving you."

> "Being an engineer is being invisible. They notice you if there's a cock-up. But hopefully most of the time they don't even notice that you're there"



The result: a fine album recorded in a farmhouse!

As well as the house's natural acoustics and Williams' technical skills, Bibb also feels the sessions benefited from having his band in residence in such green and pleasant surroundings. "I wanted this record to have a home grown feel as opposed to a chrome and glass hi-tech studio thing where everyone goes home at a certain time. That's what led us to the idea that the band should all live together in this one place where sheep are right outside the window."

"We never got outside the zone. We almost forgot we were recording. We were just making music and we happened to have somebody on hand who unobtrusively, without disturbing our flow, was able to record it. I never got the feeling, 'Oh God, it's take 90...' It was a very relaxed, just-rolling-off-us feeling."

Williams adds: "We can sleep about 10 people in the cottages so it wasn't too much intrusion upon our lives. It wasn't like everyone was in the house. But I think it helped to have everybody living together because when we weren't recording, people were able to talk about things over breakfast and dinner. They didn't get in each other's hair but the communication was there."

The cottages also gave the band space to work individually on their own parts – or just take some time out. "In a conventional studio with only one chill-out room there's only so many games of snooker they can play," says Williams. "Here they could go out on a bike, or down to the pub, or into the cottage to watch telly." But isn't there a danger in a residential situation, that

nobody knows when to stop? Not so, says Bibb. "Dave seems to have a natural knockoff time around 9 o'clock. After that his ears go and he has to rest to regain his touch. So we made that the cut-off time – and it just happened to coincide with the latest serving time for food at the local pub! So we made that our routine."

Dave reiterates the sentiment. "If you're working with a band, which is the only kind of project I really want to work on, there is a curfew. Everybody's sensible. If the feel's right you maybe keep going and start a little later the next day. But it's no good going for 24 hours," he maintains. "It's not productive. We probably did 10 hours minimum and 14, maybe 15 hours if it was going right." With a laugh, Bibb adds, "When we had the Hammond organ delivered the keyboard player was so knocked out I was woken at the crack of dawn on a couple of mornings by this great Jimmy Smith kinda vibe coming from the lounge!"

There were a couple of other distractions, too. "The house is not too far from Lakenheath," says Bibb, "So there was quite a bit of fighter plane stuff going on. I think Dave found one of those jets on one tape and we managed to get rid of it. Fortunately they seemed to do it at certain times of the day and we just avoided those times," he adds, unfazed. "We did have a pheasant on one track! It was just sitting on a fence squawking! We had to wait for somebody to chase that away." Such annoyances, however, are nothing to the benefits of having a studio away from the bustling city.

Blues traveller: New Yorker Eric now lives in Sweden

"I'd always wanted to get more room," says Williams. "I wanted a big playing area because I feel best at recording musicians together as a band. In Purley there was only one room. We did quite a lot of bands but it was always tight," he argues. "I also wanted to get out of the London madness. You haven't got the parking problems and all that hassle. It would be less convenient if it were people doing sessions but that doesn't occur so much any more. It's more bands or ProTools work," he muses. "Musicians don't get as much work as they used to."

Crucial to the success of *Home To Me* was that Bibb and Williams hit it off musically. "Dave Williams is also a songwriter," says Bibb. "He has the same kind of heroes that I have – people who write in that space where country, blues, rhythm and blues and soul mesh. I've never had that kind of rapport throughout a whole project," he enthuses. "The sound of the kick drum… He knew exactly what it should be. Usually you have a lot of musicians in the control room putting in their two cents worth, but there was very little of that. I never had to say, 'Oh, I want more top on this…' – it was just served to me. That was terrific because I never had to be in a technical mind. I could stay in this player performing mode and never have to leave it."

Recalling some less inspiring set-ups, Bibb says, "The most draggy situation is where the studio is the technicians' domain. The technical staff make you feel, 'This is a great studio, famous people have recorded here, we know what we're doing, you might know what you're doing but basically you need to depend on us.' You feel intimidated by their gear and their pedigree," he concurs. "That was completely absent from this recording. Thank God." Acknowledging the importance of putting an artist at ease in the studio Williams has some strong ideas. "The art of being an engineer is being invisible. They notice you if there's a cock up. But hopefully most of the time they don't even notice you're there," he insists.

"A lot of musicians will tell you that within the first three takes is when they get it. And that's when you have to capture it. If the engineer is continually farting about, by the time the guys have got to their peak the studio's not ready to record. Particularly with somebody like Eric," he says with sincerity. "He records so quickly it's unbelievable. So you've got to get those sounds sorted quickly." Which means getting it right in the room, not on the desk. "You'll never get it out of any outboard gear if it's duff to begin with. It's a question of walking around the room while the guy's playing, listening, finding the sweet spots and getting the mics in the right places."

Dave concedes that equipment plays a major role in the studio. "Three quarters of this album was done on 16-track analogue, from which you get a better sound than 24-track. I'll always keep the 16-track 2" for rhythm tracks particularly and then maybe complement it with something like a Radar later on," he laments. "I think the Radar system is far more user friendly for live music and I think the people that will get the most out of this place are people who want to play live and record that way. I've got nothing against ProTools," he hastens to add. "I think it can be very useful. But with someone like Eric, if the track isn't right, rather than try to chop in a series of different takes, they'll probably just do the track again."

However, he does see where ProTools could come into its own. "For certain types of bands there'll be a marrying in of ProTools, but that will be a hired-in situation." One thing is certain, even when his barn is in use, Williams will keep the lines laid to his house for sessions that demand a more intimate setting. "Eric felt comfortable here because it wasn't a studio," says Dave, and Bibb agrees: "This was so successful technically and artistically it almost demands a revisit. I'm sure we'll try out the barn and it will be great. But for some tracks I'm equally sure I'll come back to my little red room."

selected kit list

CONSOLE
Soundcraft 2400

RECORDING
MCI JH16 16-track
MCI JH16 24-track
Studer A80 1/2"
Studer B67 1/4"
Sony 2700A DAT

MONITORING
Yamaha NS10M
HHB Circle 5

OUTBOARD
Lexicon PCM70 reverb
Lexicon PCM60 reverb
Roland SRV2000 reverb
Ibanez SDR1000 digital reverb
Yamaha SPX90 multi-FX
Lexicon LXP1 multi-FX
Trident 3-band parametric EQs
Nemesis Q4D 4-band parametric EQ
Summit EQP100 EQ
Drawmer Punch Gate
Audio & Design F760 stereo compressor
Drawmer 201 gates
Urei LA4 compressors
DBX 163 compressors
DBX 263 de-essers
Roland SDE 3000 delays
Korg SDD 3000 delay
Roland SDD 320 Dimension D
Roland SRE 555 chorus echo

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Deposit £219
36 monthly payments of £55

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24 input 4 buss rack mounted mixer
3 band EQ, 4 Aux sends, 4 stereo returns

Akai S2000 with Free 32 meg — AMAZING PRICE £649.00

Interest free credit deal
Deposit £65
10 monthly payments of £58.40

Akai DPS 12-4HD	£999
Alesis Wedge	£149
Behringer MX2642A	£299
Behringer Feedback Destroyer	£99
Behringer Dualfex Pro	£79
Digitech Studio 200	£199
Digitech Studio Quad 4	£299
Emu Audity 2000	£749
Fostex FD4 & HD	£399
HHB Circle 5	£339
Korg Electribe	£349
Korg Trinity V3	£1299
Lexicon MPX 100	£199
Manantz CDR 630	£639
Novation Super Nova 16	£1099
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Roland VM3100	£ in stock
SPL Vitalizer Mk2	£379
Studio Logic SL880	£499
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	Price	Deposits	Payments	APR
Roland VS1680 and VS-CDR. Including 2.1 gig Hard drive and FX board	£2599	£319	24 x £95	0%
Akai DPS12 HD4 with FX	£999	£99	10 x £90	0%
Alesis Monitor Ones + Samson 260	£449	Interest free option available		
Alesis Adat LX20	£1199	Interest free option available		
Alesis Adat XT20	£1699	Interest free option available		
Behringer MX8000 + Adat LX20	£1999	Interest free option available		
Behringer MX8000 + Adat XT20	£2549	Interest free option available		
Focusrite Platinum Series	£call	Interest free option available		
Fostex FD4 + HD from	£399	Interest free option available		
Fostex FD8 with 2.1 HD	£749	Interest free option available		
Phillips CDR 880	£399	£40	12 x £32.97	19.9%
Phillips CDR 765	£379	Interest free option available		
Tannoy Reveals	£199	Interest free option available		
Tannoy Reveals + Samson 170	£339	Interest free option available		
Ramsa DA7	£call	Interest free option available		
Soundcraft 328	£call	Interest free option available		
Soundcraft Absolute 2	£249	Interest free option available		
Soundcraft Absolute 2 with Samson Servo 260	£449	Interest free option available		
Soundcraft Absolute Zero's with Samson Servo 170	£350	Interest free option available		
Yamaha MD8 with Behringer Vitalizer, Sennheiser Headphones and 5 mini disc	£999 Package Price	Interest free option available		
Yamaha 01v, Adat board & Fostex D90BL	£2049	Interest free option available		
Yamaha 03D	£1995	Interest free option available		
Yamaha NS10 + Samson 260	£469	Interest free option available		
Yamaha 03, Adat board + Fostex D90BL	£2899	Interest free option available		

Modules Master Keyboards

	Price	Deposits	Payments	APR
Roland SC880	£399			

Alesis DM5	£269	Interest free option available		
Alesis Nano Piano	£199	Interest free option available		
Alesis Nano Bass	£119	Interest free option available		
Emu Audity 2000	£749	Interest free option available		
Emu Proteus 2000	£749	Interest free option available		
Evolution Mk149	£99	Interest free option available		
Evolution Mk161	£129	Interest free option available		
Korg NS5R	£299	Interest free option available		
Novation Supernova 16	£1099	£99	10 x £100	0%
Novation Super Bass station	£349	Interest free option available		
Novation Drum station	£349	Interest free option available		
Studiologic SL161	£199	Interest free option available		
Studiologic SL880	£499	£49	12 x £41.23	19.9%
Studiologic SL880 with Alesis Nano Piano	£679	£79	12 x £55.10	19.9%
Studiologic SL880 with Roland SC880	£879	Interest free option available		
Roland JV2080	£ call	Interest free option available		
Roland JV1080	£829	£121	12 x £59	0%
Yamaha QY70	£369	Interest free option available		
Yahama QY700	£ call	Interest free option available		

Computer Software & soundcards

	Price
Cakewalk Homestudio	£89
Cakewalk Pro 8	£249
Cubase VST PC/Mac	£279
E-Magic Logic Gold	£349
E-Magic Logic Platinum	£529
E-Magic Audiowerks 8	£299
EMU APS	£379
Event Darla	£249
Event Gina	£399
Event Layla	£699
Midiman 2408	£199
Midiman 2044	£199
Midiman interfaces	In stock
MOTU 2408	£call
MOTU interfaces	In stock
Opcode interfaces	In stock
Rebirth RB338	£139
Recycle PC/Mac	£169
Turtle Beach Fuji	£199
Turtle Beach Pinnacle	£299
Yamaha DSP Factory	£549
Yamaha SW1000	£399

Mixers

	Price
Behringer MX2642mkII	£299
Behringer MX1602	£149
Behringer MX8000	£call
Soundcraft F1 14/2	£249
Soundcraft F1 16/2	£299
Soundcraft FX16	£699
Soundcraft Notepad	£129
Soundcraft Studio 16	£899
Soundcraft 328	£call
Yamaha 01v	£call
Soundcraft FX8	£399

Effect Processors

	Price
Alesis Nanoverb	£89
Alesis Microverb 4	£139
Alesis Midiverb 4	£179
Alesis 3630	£109
Aphex 104	£149
Aphex 108 compressor	£149
ATR 1	£699
Behringer Composer Pro	£149
Behringer Vitalizer	£99
DBX MCL	£89
DBX 266XL	£149
DBX DDP and Dig I/O	£549
DBX 286A	£199
DBX 576	£899
Digitech Studio Q4	£299
Digitech Studio 200	£199
Focusrite Platinum	£call
Focusrite Green Series	£ In stock
Lexicon MPX100	£199
SPL Vitalizers Stereo Jack	£149
SPL Goldmke	£call
SPL Transient Designer	£699
SPL Vitalizers Mk2	£379
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TC electronics finalizer 96K	£call
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TLA 5050 Pre amp/Compressor	£call
TLA 5051 Vocal Processor	£call
TLA C5013 Equaliser	£call
TLA C5021 Compressor	£call
Yamaha Rev100	£149
Yamaha Rev 500	£249
Zoom 1201	£95

Second Hand

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Alesis 3630	£79
Alesis Data Disk	£169
BBE 422A	£129
Cubase V3 PC	£199
Em-u Procussion	£199
Korg D8	£449
Korg M1r EX	£499
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Roland MC505	£599
Roland R8	£299
Roland R8m	£169
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Tascam 644	£299
Yamaha RX5	£129

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Korg Trinity V3	£1299	£299	10 x £100	0%
Korg N5EX	£599	Interest free option available		
Korg N1	£999	Interest free option available		
Korg X5D	£call	Interest free option available		
Roland RD600	£1699	£169	36 x £42.50	0%
Roland XP60 with free board	£1299	£129	36 x £32.50	0%
Roland XP80 with free board	£1429	£133	36 x £36	0%
Studiologic SL880	£499	£49	12 x £41.32	19.9%
Yamaha EX5	£1899	£189	36 x £47.50	0%
Yamaha EX7	£1299	£129	36 x £32.50	0%
Yamaha CS2x	£599	£99	10 x £60	

Sale Items

	Price	Deposits	Payments	APR
Studiologic SL990	£349			
Studiologic SL760	£299			
Novation Bass Station Rack	£199			
Mackie Ultra Mix	£1799			
Yamaha SPx990	£429			

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mac toolbox

Industry news, tips, advice, and software for Mac users, compiled by *Ian Waugh*

CD info

Track 01
Free up your RAM with App Watcher Lite, customise your view layout with CoolViews, and say goodbye to those pesky 'esses' with SPL's De-Esser

NEWS

Faster G3s

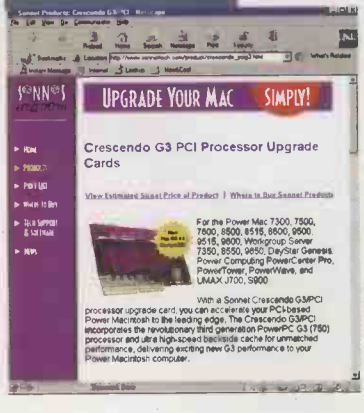
Apple have upped the speed of the G3 Macs and are now offering G3s running at 450MHz. They are on sale in the US of A, but haven't filtered through to the UK as of writing. Shouldn't be long though. More when we have it.

Talk to your Mac

Dragon Systems are to release Mac voice recognition software based on Naturally 0Speaking, which is already available for the PC. The first products are planned for both American and British English, with the first US product scheduled to ship later this year (hey – who invented the language in the first place!).

SEXY programming

If you think music software ought to be up there with the best of 'em when it comes to design, you would seem to be alone. In Apple's Fourth Annual Software Design Awards, the Best New Product winner was REALBasic and the runner-up was Disk Warrior. In the Most Innovative category the winner was Disk Warrior and REALBasic was the runner up. The runner-up in the Best Macintosh Experience category was REALBasic. Spotting a pattern here? Maybe us musicians are missing out here. Doesn't it make you wonder what sort of experience programmers have?



An upgrade for every Mac – check out the new lower-cost upgrade cards on Sonnet's website

Go faster stripes

Sonnet Technologies have reduced the price of their Mac processor upgrade cards, so if you fancy a more meaty, beaty, big and bouncy Mac, but can't run to a new one, check some of these out. There are around 20 cards in all, from the Encore 466MHz G3 with 1Mb L2 cache at £703 (yes, you could almost buy an iMac for that) to the Crescendo 250MHz G3 with 512K L2 cache at £304. You can get more information from the website (www.sonnettech.com) or from Computers Unlimited on 0181 358 9445.

Best Mac buys

Macs aren't like PCs – and a jolly good job, too, you cry! – in that it's not so easy to get a good deal on one. They're all made from the same bits and bobs and they come from the same manufacturer, so you can't save a few bob by buying from a box shifter. Well, you can try but you won't save much.

There's been much discussion about this on the web, with several people reporting that Mac resellers seem extremely reluctant to quote for kit. Emails and faxes to several of the big boys who advertise in the Mac comics produced only two replies, and one was so expensive they obviously didn't want the business.

The current most popular solution is to buy from John Lewis whose motto is "we are never knowingly undersold". What you do is this: check out the John Lewis shop to see if it can supply the gear that you want, get onto the web and check out the best prices for the kit, print out the quotes, go back to John Lewis, who will match the price and throw in a two-year on-site warranty (depending on gear bought) to boot. As of writing, one happy punter got an iMac for £856.58 when John Lewis matched the MacWarehouse (www.macwarehouse.co.uk) price, saving over £35 on the next nearest discounter and £58.75 on the online Apple Store.

This has been a public information broadcast.

The latest G3s can whizz along at 450MHz – wheeee!

USB floppy problems

Also on the web, that ribald haunt of information and opinion, is concern over some USB floppy drives and the new G3s. Some users have reported problems getting them to read disks created with older Mac operating systems and those oh-so-clever specially-formatted floppies used for copy protection. Just take care out there.

USB drivers

Speaking of USB, one of the attractions of the format is that a USB device ought to work on both Mac and PC providing there are suitable drivers for it. Which means the manufacturer needs to write two sets of drivers; not

an unreasonable task you might think, but some USB devices don't have Mac drivers. Alessandro Levi Montalcini (no, he wasn't in *The Godfather*) has developed a program called USB Overdrive consisting of a couple of extensions and a Control Panel that ought to let you run USB mice, trackballs and joysticks. It costs $20 to download.

Get it from: www.macdownload.com

Getting the 'S' out of it

If there's anything guaranteed to niggle on a vocal recording it's sibilance, pops and plosives. If you haven't got a pop shield and your vocalist isn't very hot on mic technique, then something like the SPL De-Esser (£99) may just what you need. It's one of Steinberg's plug-ins, and it comes in a multi-platform pack containing a VST-compatible version for the Mac and a DirectX version for PC users.

Most de-essers use a combination of EQ and compression to home in on the errant plosive sounds and compress or EQ them out of existence. There are usually controls to select the frequency, a threshold control and maybe one or two other twiddly bits. The SPL De-Esser is based on a different principle, and has a minimal set of controls. To whit – an S-Reduction dial, an Auto Threshold button and a Male and a Female button that are mutually exclusive. That's it!

The Male and Female buttons select the voice type. The program then looks for S frequencies and the S-Reduction control is used to set the amount of reduction. Instead of compressing the frequencies, the SPL De-Esser feeds them back into the signal, out of phase. As dedicated audiophiles will know (along with anyone who has wired up their loudspeakers incorrectly), this cancels the signal, thus removing the S frequencies.

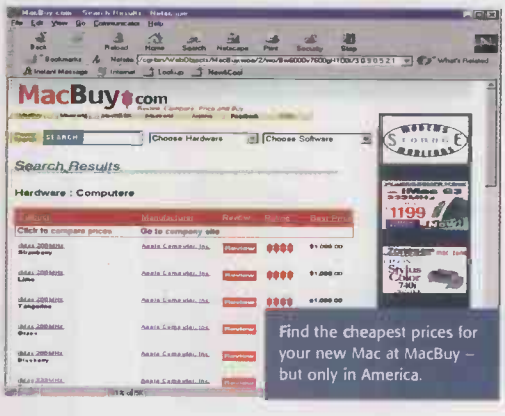
The plug-in works passably well, and it certainly reduced the 'S's' in some test files. However, as the process is automatic, you can't fidget with the frequencies to home in on them – in case you could do a better job than the processor. The result is rather like a dampening effect and if you swing the dial too high you can affect the surrounding frequencies, too. But de-essing is a bit of a tricky business at the best of times, and the SPL De-Esser ought to be able to improve most sibilant recordings.

There's a self-running tutorial of the SPL De-Esser on this month's cover CD.

More from Arbiter Pro Audio on 0181 207 5050

Buy me

Of course, it comes as no surprise that Mac prices in the USA are still cheaper than the cheapest deals you can get in the UK. And the Americans have introduced another neat idea – a website which finds the lowest prices for you. Take a look at www.macbuy.com where you can check out reviews of the current Mac range and see who is selling them the cheapest. In America, that is. Someone must be setting up a similar site in the UK. Surely. Someone? Please.



Find the cheapest prices for your new Mac at MacBuy – but only in America.

Cool views

Mac OS 8 is great, isn't it? But why, oh why, is there no facility to globally change the order of the columns? You may be happy with the default order of Name, Date Created, Size, Kind and so on, but some people prefer a different order such as Name, Size, Kind and Date. This is far more useful when looking at audio files, for example, as you can easily see what size they are without scrolling the window. As it is, you have to physically change the column order of every window you open. Unless I've missed the small print somewhere...?

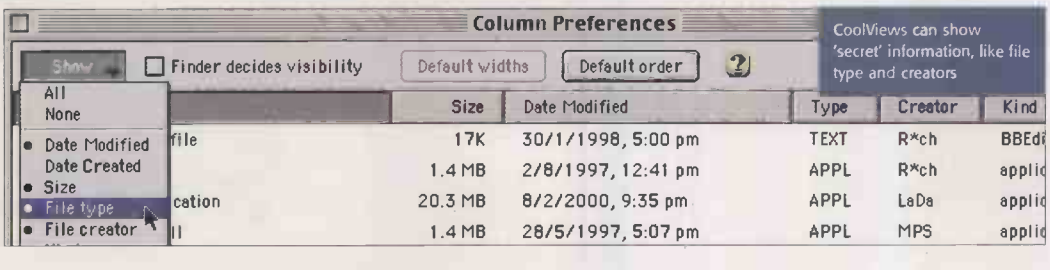
But CoolViews to the rescue. This lets you re-order columns, set global visibility preferences and display 'secret' columns – file type and creator. Now that *is* handy when looking at audio and MIDI files that won't load into your apps. Some software is fussy about what it will load and you may ignore an AIFF file if it wasn't saved with the right application. It also has a set of global views preferences and some bonus prefs which let you mess with date and time settings.

Unfortunately CoolViews only works with OS 8.0 and 8.1 – argh! – and the company has no plans to update it to run with 8.5 or later. Ah well. CoolViews is shareware, and if you have 8.0 or 8.1 you'll find it on the cover CD, or you can download it from the net.

Get it from: www.quadratic.com

Beat it!

If you're looking for some MIDI file building blocks, take a peek at this month's *PC Toolbox* column on pages 97-98.



CoolViews can show 'secret' information, like file type and creators

watch it!

Here's another little utility that you may find useful. It's AppWatcher Lite and it, er, watches the apps that are running on your Mac. You can use it to bring any app to the front, but you can also use it to kill an app. This is particularly interesting when you realise that there may be several apps running in the background that were loaded during start-up. Norton Utilities, excellent Swiss Army Knife that it is, is prone to doing this and such apps not only take up RAM, but they can also use precious CPU resources, which you definitely don't want when running digital audio software.

The Info option shows the amount of RAM allocated to an app and how much is free, and killing an app frees up the free RAM for other apps. Very useful if your 32Mb Mac has to breathe in when it bends down to tie its shoelaces.

AppWatcher Lite is shareware and costs $5. You can find a copy on this month's cover CD, or download it from: www.mauisoftware.com

See what programs are lurking in the background with AppWatcher Lite – then kill 'em!

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pc toolbox

News from the industry, advice, tips and software for PC users, compiled by *Ian Waugh*

CD info

track 01
Sample MIDI files from Heavenly Music, plus a demo of SPL's De-Esser plug-in (see page 95) are waiting for you on the CD

The sax parts in Keyfax's Jazz disk include breath controller data

NEWS

We're with you, Bill

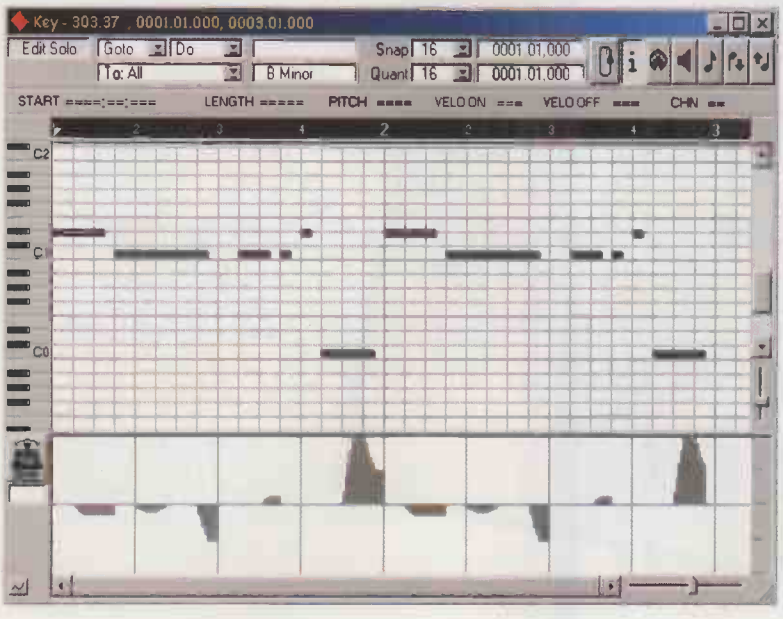
Microsoft are calling on the UK government to reduce VAT on goods bought over the internet. The UK is already well behind the USA in its use of the net, largely due to the (still) obscene cost of local telephone calls, and is falling behind Europe in the development of e-commerce. The government is working on an e-commerce bill but its proposals have already been criticised by a Trade & Industry Select Committee. However, a move like this could give it the shot in the arm it needs. We reckon Bill Gates has more chance of becoming President. But stranger things have happened...

Free net access

If you've had your ear to the ground, you will have heard rumours of ISPs offering free 0800 number access. Those in the rumour-mill include AOL, X-Stream and Tempo's screaming.net. (The Tempo service offers free internet access during the evenings and at weekends if you switch your telephone service to Localtel.)

The latest supplier to consider free net access is, believe it or not, BT. The spread of competition over the last few years has forced BT to cut the cost of their services, but they do so staunchly fighting a rearguard action. Halving the price of their ISDN Home Highway service, for example, was brought about by competition, not a desire to benefit the customer, and they were also forced to axe charges to BT Click and Wireplay.

So, although it's interesting to see BT contemplate a free 0800 number for internet access, it's not surprising to see it restricted to 48 hours at weekends only *and* to learn that it comes with a charge of £11.75 a month! Oh dear. No wonder the UK is so far behind in internet take-up.



The price of spam

Surrey businessman Adrian Paris has paid Virgin Net £5,000 in an out-of-court settlement for sending over a quarter of a million spam e-mails from his Virgin Net account. No, Adrian, this is not what is meant by e-commerce...

Techno rage

Yes, it's official! Techno and computer rage could be the next 'rage' syndrome the media latch onto, if a recent MORI poll is anything to go by. It claims that workers on technical support lines are bearing the brunt of users' frustrations with computer systems and this seems to be happening within dedicated IT departments inside large corporations as well as external support lines for business and consumer hardware and software.

The fact that in most cases, the fault is down to 'user error' rather than equipment failure doesn't seem to wash, as it's human nature to blame someone or something else when things go wrong. Good job we don't have that problem in the music business, isn't it?

Heavenly beats, cool rhythms

We've been a bit remiss in the building block department of late, so let's put that right now. Avid sequencer users will doubtless be aware of Heavenly Music. The company has a massive range of over 1,000 songs in MIDI file format and they were also instrumental (har har) in developing the MIDI file building block format – rhythms, patterns and riffs that you can use as the backbone for your music or to fill it out with toppings.

The company has recently released several new building block disks. *Cool Beats Dance Rhythms*

EZ PC music

Okay, come clean. How many of you are lurkers? How many people are reading this wondering if you really can do all this music stuff with your PC?

If you're still straddling the fence, take a butchers at *PC Music: the Easy Guide*. It answers all the basic questions about making music with a PC: what hardware you need, sequencing, hard disk recording, wave editing, plug-ins, scorewriters, using the internet, Windows' music controls, and dance music. There's also an FAQ, a glossary and a list of popular hardware and software products.

The book was written by Robin Vincent, who is PC Music Department Manager at Turnkey, so you might imagine he's answered all the dumb – sorry, searching – questions he gets asked by punters every day. The book is a very easy read in a very chatty style – a real beer and fags man is Robin – and it assumes you know nothing. If you don't know where to start, start here.

PC Music costs £9.95 from PC Publishing (Tel: 01732 770893). The author also has a website about easy PC music: www.pc-music.com

PC Music: the easiest peasiest guide to the musical things you can bend your PC to

» contains lots and lots of dance patterns. There are actually about 50 files on the disk, but each contains half-a-dozen patterns or more. When you load a file into a sequencer such as Cubase you can see the patterns, and each drum is on its own track, making it easy to mix and match drums between patterns and to mix and match patterns themselves.

He's a bit of a programmer, that Joe at Heavenly. There are some stonking patterns here, many with cute little variations. There are fills and rolls and some Latin and heavier beats thrown in for good measure. If you're looking for a backing for your latest dance tune, you could well find it here.

Cool Beats Gold contains a more varied collection of patterns, including world rhythms, jazz and funk. Again, an excellent beat-filled collection, particularly hot on Afro/Latin patterns. And again, the files contain lots of variations, so you can customise them to produce interesting patterns of your own, simply using drag and drop.

MegaBytes contains almost 100 files, what Heavenly call 'fairy dust': sweeteners or toppings that you can add to your music it give a more professional edge. The files are divided into 13 sections, and it's worth listing them all: arpeggios, bass, brass, grooves, guitars, nitrous, keyboards, orchestral, percussion, rhythms, sax riffs, sequences, and setups for GM, GS and XG.

There's a fair bit of stuff here such as harp arpeggios, sliding basses, timpani rolls and bends, and the neat bends in the sax riffs, which takes a wee bit of technique to get right. Heavenly make it sound so easy. The idea is that you add these patterns to your own music, so there may be a bit of tempo-changing and transposition to do. Quite how easily they would slot in with your work depends on the sort of music you're working on, but if you're after some toppings these are sweet stuff.

Trancemission is a collection of gates, pans, and arpeggios that you can drop into your music and fiddle with. There are also GM and GS setup files, plus a collection of test files, which tests if your equipment responds to aftertouch, expression, poly pressure and other controllers. There is also a set of utilities including some System Exclusive fades (if you don't want to use Volume or Expression, that is), a sweep, some setups and a neat file which shuts off Part 16 on a GS or XG device, which prevents note-stealing when used with a Digitech Vocalist processor.

The disks include techie bits detailing the controllers used and drum map note assignments. In all, it's an excellent collection from one of the masters of the art. If you're after some building block material, you must look at Heavenly's music. The disks are £14.95 each, and you'll find some demo files on this month's CD.

More from Heavenly Music (Tel: 01255 821039) or from the company's website: www.ortiz.demon.co.uk.

World beats, jazz and funk on the Heavenly Music *Cool Beats* disk

Twiddle this

Another master of building block files is Keyfax Software, famous for their series of Twiddly Bits disks and, more recently, for the PhatBoy controller.

We've three disks to look at here. *Vol 10 Jazz* contains guitar, organ, sax, trumpet and vibes parts. Individual files contain around 15 riffs – there around 800 riffs in all – which you can mix and match as you wish. The pieces were recorded using authentic instruments such as MIDI guitar and wind controllers. The 'Sleeve Notes' contain descriptions of the file contents, with a few hints on how you can get the best out of them.

Guitar Grooves is electric guitar. It contains over 20 files, again, each containing several riffs and, again, the idea is for you to mix and match the riffs to plug into your material. The riffs were recorded by J.J. Belle using an Axon AX-100 MIDI Guitar Controller. The inlay includes brief descriptions of the files. One thing you can certainly say about them – it's hard to believe they're MIDI files.

Modular Madness is something a little different. It was designed to emulate the sort of results you used to get with modular analogue synths. Part of the 'charm' of the old instruments was their limitations, and many an early recording has been peppered with random arpeggios, slides, drones, runs and so on. The disk contains 30 files, each containing a chord pad, a drum pattern and a dozen or more riffs.

The basic idea is to play the pad and the drums, and mute and unmute the riffs. However, each file is centred around a particular chord or chord sequence so you can cut and paste between files to create entire compositions. Of course, you can also edit any of the riffs in any way you like. It's an interesting concept and the programmer has obviously been listening to and playing with some old bits of gear. As the blurb says, you'd never find yourself playing riffs like these on a keyboard – never in a million years. The disks are £24.95 each.

More from Keyfax (Tel: 01491 413938) or from their website: www.keyfax.com

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help file

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glossary

Condenser
A type of microphone that uses the reaction of a diaphragm to change a capacitance. Condenser microphones need an applied voltage to work, some with battery, some with an external 'phantom' power supply.

Dynamic
A microphone that uses a coil (attached to the diaphragm) moving in a magnetic field to produce an alternating current proportional to the sound waves that move the diaphragm.

Duplex
The ability of a soundcard to play and record audio at the same time. 'Full duplex' means there's no loss, e.g. some soundcards operate with reduced sample rate on the output in duplex mode.

Freeware
A copyright statement attached to software. Freeware can be copied, used and distributed freely, without any infringement of copyright.

Gb
Gigabyte. A measure of hard-drive space, equivalent to 1024 megabytes (just over 700 high-density floppy disks).

Condenser microphone: Rode's NTV

the masterminds

this month's *Help File* team

NAME: Ian Waugh
OCCUPATION: computer journo
CHOSEN SUBJECTS: music software and hardware, internet, deep-fried Mars bars

NAME: Paul Mac
OCCUPATION: technical editor, *The Mix*
CHOSEN SUBJECTS: Apple Macs, digital audio, snail walking

NAME: Trevor Curwen
OCCUPATION: record producer
CHOSEN SUBJECTS: dynamics processors, vintage equipment, scuba diving

ASIO importance

Q Here follows a quote: *"If you want to live the dream of using your MIDI & digital audio sequencer for every part of the recording process then you have one enemy: Latency. ASIO drivers for VST, and now logic, cut latency right down by interfacing directly between the software and your hardware. If you're buying new I/O hardware, make sure you check whether ASIO is available."*

What does this all mean? Where can I check my system? What do I need?

Also, if it's not too much trouble, could you help me out here? I already have a PC with an AWE 64 Gold; when trying to run audio it says my card isn't fully duplex, but I know it is. Is this because I'm running the on-board MIDI synth, which uses the card's driver? What does this mean?

Nathan Taylor, via email

A In digital audio recording, latency is the delay experienced when you run an audio signal through a computer system. It causes particular problems if you try to monitor a signal you are recording through the computer. For example, a standard ASIO multimedia driver in Cubase VST has a latency of about 750 milliseconds. You can see this in VST's Audio System Setup window. If you play a sound into the program and monitor it, it will be delayed by 750ms. If you are listening to tracks playing back while recording you'll experience a 750ms delay which will throw the whole thing right off balance.

ASIO (Audio Stream In/Out) is Steinberg's software interface which communicates between soundcard hardware and music applications. If a card has an ASIO driver (and it must be written specifically for the card), the latency could drop to 40ms or even less. The Lexicon Studio ASIO drivers claim a latency of just 3ms.

However, Steinberg has just announced ASIO 2, with a feature called Direct Monitoring which allows an ASIO input to be assigned directly to an ASIO output when in record mode, which claims to reduce the latency to zero. We have yet to see ASIO 2 drivers appear, but it'll be good news when they do.

The ASIO control panel: could this provide the solution to all your duplex problems?

So, the bottom line here is that if you want minimum latency, you want a card that has ASIO drivers and will be supported by ASIO 2 drivers. Note, however, that while desirable, low latency is not always essential. If you do little recording and only use pre-recorded samples and sample loops, it's not so much of an issue.

In order to use the AWE with Cubase you need to disable the Wave Guide Synth/WG section as its driver conflicts with the digital audio system. It grabs the audio output so consequently, VST cannot play any audio parts. To disable it, run the Setup MME program and look in the Outputs box for AWE MIDI Mapper and AWE64 Wave Guide Synth/WG. Select them in turn then click on the Set Inactive button, then reboot.

If Wave Guide is disabled and you still have problems, open the Audio System Setup window, click on the ASIO Control Panel button, click on Advanced Options, and then click on the Card Option menu in the Global Settings section. Make sure the Full Duplex option here is ticked. If it still doesn't work, tick the Start Input First option. You should also make sure you have the latest drivers for the card, which are available on the Creative website (www.creativelabs.com).

Ian Waugh

Compu-live

Q I'm planning to play at some psychedelic trance parties this summer for a group of friends. All I have is a PII 266, 64Mb RAM, AWE 64 Gold soundcard, several music software packages and good computing knowledge.

All I want to do is connect my PC to a disco sound system (amplifiers, etc) to play back from the PC my own pre-prepared MP3 or different ready-made CD tracks. The whole operation will spare me time in order to take care of the kaleidoscope scenes shown from my projector.

The problem is that I'm confused and I don't know the basic principles of how to connect a PC to a simple sound system, what wires and cables are needed, and what specifications I should keep in mind that would bring no conflicts, no poor sound quality, or even damaged equipment. I'm afraid to go ahead without an expert opinion, so if you have advice I'll really appreciate it.

Dritan, Albania

A The first question is: Why on earth would you want to take your computer to a psychedelic trance party? One of the most important requirements for any live gear is reliability, and computers are not the most rugged of machines. One knock, one drop of liquid, one crash, or a little too much ambient heat, and the party's over.

Instead, why not just use a CD player or two? All your tracks or cues could be numbered tracks. MP3s are fine if you're concerned about streaming speed, or storage space, but you won't have that trouble with CD.

The only time you need to get clever is if you're running synchronised visuals, or other automated cues. In that case you'd need to introduce some kind of timecode, often from one of the many tape-based formats, a dedicated hard disk-based box, or a master source with transport control. You don't mention sync issues, so we'll assume that you're steering clear of it. Simpler is better.

They may be clever, but they sure ain't rugged

Paul Mac

Cooperative condundrum

Q I have just started recording with a Sony MDM-X4 MKII and I also have a very meagre Pentium with 16Mb RAM and a 1Gb hard drive. I would be very grateful if you could advise me on anything, software or hardware, which I could use to combine the two. I have been told that with Cubase I can use up to 64 tracks. If this is true, will it run on my computer? I am trying to set up a small studio on a very tight budget and would like to know the essentials I should have. Thank you in advance and I look forward to hearing your advice.

David Cantan, via email

A You can sync the Sony to a software sequencer using MTC (MIDI Time Code) so you can play both back at the same time, which would give you the four Sony tracks for audio, in addition to any audio or MIDI you have running on the computer. As the Sony will slave to MTC, you've got no problem. If you've got audio tracks on the computer, though, why use the Sony? Well, it can be convenient for location recording (stick a temporary mix on one track and take it round to your guitarist friend's house), and if you can't get many audio tracks on your 'meagre' computer, the MDM can supplement them.

Of course, software sequencing is much more powerful and flexible than the Sony. However, you won't get all the bells and whistles with that 'meagre' PC. To run Cubase VST or Logic, for example, we'd recommend a minimum of a 200MHz PC with 64Mb RAM. Really, you want a faster Pentium, 350-450MHz, and 128Mb RAM. And a big, fast hard disk.

That would give you more tracks, real-time effects, much better and more flexible editing and arranging facilities, and integrated MIDI sequencing, too. You'd also get at least 64 tracks to play with. You probably wouldn't be able to play them all at the same time, but you'd manage lots more than the Sony.

You don't give much specific information about your system, so it's difficult to say how it's likely to perform.

glossary

Hardware
Any part of a product that isn't data (software): electronic components, chassis, and so on.

Impedance (output)
The AC load/resistance a piece of gear's input circuit 'sees' when connected to that output. Impedance 'matching' ensures efficient transfer of power.

Interface
Anything that aids 'interconnection.' It could be a screen to a computer user, or the MIDI protocol to MIDI equipment.

MTC
MIDI Time Code. A representation of SMPTE time code within the MIDI data protocols.

Multisampling
Using multiple samples to represent a single instrument. The samples are usually selected depending on MIDI velocity and pitch.

Outboard
Term used for peripheral equipment that doesn't directly generate or record audio. Includes effects processors, preamps, interfaces, and so on.

Phase
A time relationship between two signals measured in degrees (°). If you add two identical signals together that are 180° out-of-phase, they will cancel each other out.

Sequencer
Recording, editing, and playback software. Most sequencers now include audio recording and editing as well as the usual MIDI stuff.

Sequencer: Steinberg's Cubase VST

The samples are there... honestly

But it's highly likely that it would need upgrading, and it may even be cheaper to buy a new machine rather than swapping out bits of your existing one.
For more information about using a PC for recording, browse through *Making Music With Digital Audio* (£16.95 from PC Publishing, tel: 01732 770893).

Ian Waugh

Invisible files

Q I have recently purchased your latest magazine (June 99, issue 62), but I am having difficulties reading the samples on the disk. I have a 486-66 PC running Windows 3.1 and use Fasttracker 2 for most of my work. I cannot see any files on the CD in either DOS or File Manager. Is it possible that the files are Windows 95/98 and, if so, is there any way they can be seen in Windows 3.1 or DOS?

Chris Drabble, via email

A We've checked our copies of the issue 62 cover CD and the samples are there, so you've either got a duff CD or something else is going wrong (obviously). Can you see any folders? Can you play the audio tracks? If the answer is no to both or even one of those questions it's possible that the CD is dodgy. Try it in a friend's PC. If it still doesn't work, send it to the return address printed on the back of the front cover. That leaves the 'something else'. The samples are divided amongst sub-folders inside the Samples folder. They are all WAV files, so they all have the .wav extension. Some are over eight characters long, which earlier versions of windows should just chop down to size. To check this, look in the University of Westminster folder and open the Chords folder. None of these files have character names that would cause a problem. It's possible that your application might not see the samples from a file open box. Being a PC program, it should be WAV compatible – worth checking, though. Again, checking the CD on another PC will narrow down the problem.

Paul Mac

Extra! Extra!

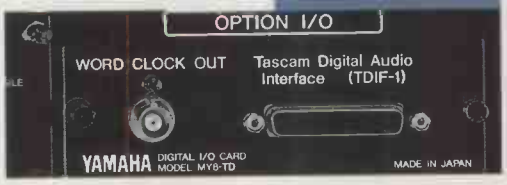
Q I'm looking for the cheapest way to get eight extra analogue inputs on my Yamaha 01v. Extra outputs aren't important.

Rob T, Via Email

A The product you're looking for is Yamaha's MY8A, which is priced at a not-unreasonable £249. Call Yamaha on 01908 366700 for further information.

Paul Mac

Last year you couldn't get an extra analogue I/O card for the Yamaha 01v – but you can now



FAQ: mega sampling

Q I want to get into sampling real instruments, such as piano and guitar (it's difficult to find a decent guitar multisample commercially). To get the best sound, I know I'm going to have to 'multisample' but how many samples do I need? Is there some secret formula to the art of multisampling?

S. Weatly, Kent

A The more multisamples, the better the sound will be. Make full use of all memory and triggering options. You should have at least two velocity triggered layers (three is much better), and try to use a new sample at least every 1/3rd of an octave. You can get away with less, but if we're talking accuracy then there's no substitute for resolution. Don't be too mathematical about it. Listen to the instrument you're going to sample, work out where the big timbral changes occur and adjust your trigger ranges accordingly. If the variation is defined more by its velocity than its pitch, go for more velocity switches and less pitch switches. Things like string changes, fret position, and the often-overlooked intended musical style make all the difference.

To get a high-quality recording of an acoustic instrument, you need a good microphone and a good preamp. The difference will be far more profound than just throwing more multisamples at the problem.

Paul Mac

glossary

Slave
When synchronising more than one machine, one must be the 'master' and the rest must be the 'slaves'. That is, the slaves receive the timecode and/or transport control from the master.

Soundcard
Describes any computer 'card' (PCI, ISO, NuBus etc) that acts as an audio interface, such as the Creative Labs SoundBlaster series, the Digidesign Audio Media III, Korg 1212I/O, and so on.

Timecode
An electronic clock used to synchronise tape machines, sequencers, effects units with event lists, and so on. SMPTE and MTC (MIDI timecode) are the most common forms of timecode.

Transport controls
Play, record, fast forward, locate, and so on. All of the buttons that control the actions of the transport (such as the mechanism of a tape machine and the actions of a sequencer).

WAV
RIFF WAVE file: A digital audio sound file standard, used mainly on the PC platform, but rapidly becoming the norm. Akai's new samplers use the WAV file format.

Waveform
The physical or mathematical nature of a sound wave. Normally refers to the common graphic representation of a sound wave, with level (dB, volts, and so on) on the x-axis, and time on the y-axis.

The Mackie D8B transport controls

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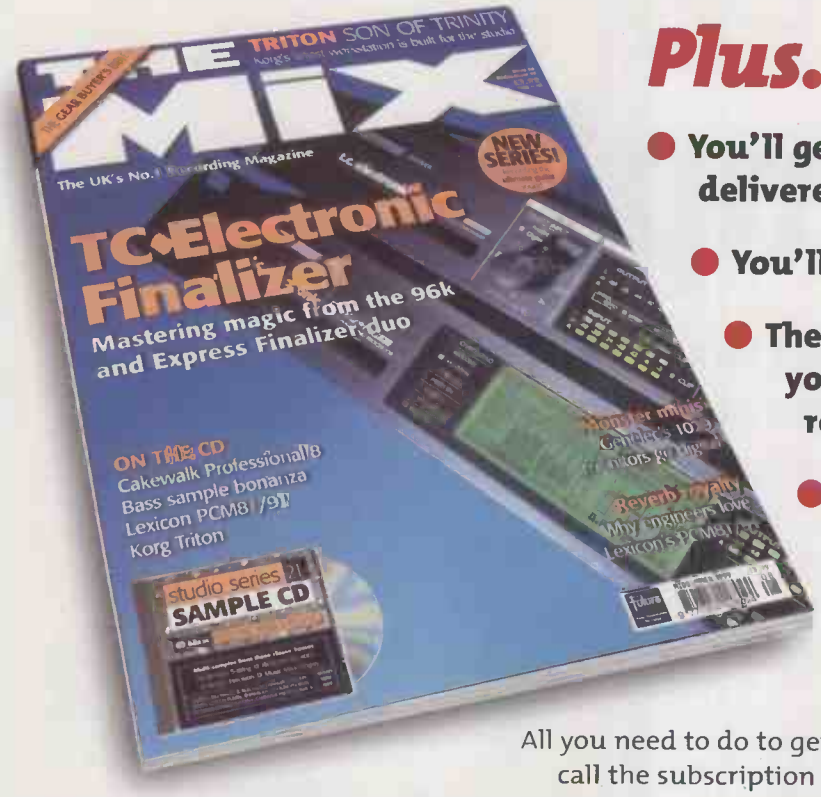

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PART 3 how to get the most from...

Samplers

Buying new equipment won't *always* solve your music production problems. In this series, *Kevin Pawsey* looks at ways to maximise the potential of your existing gear...

Whenever pro musicians, teachers and students question me about what keyboard and sound module they should buy next, they always seem slightly surprised by my answer. Even though there are some superb keyboards and modules around (I couldn't live without my Trinity, JV2080 and Supernova), I invariably inform them that the first sound source they should have is a sampler. If they have already got a comprehensive selection of modules and keyboards, then they should definitely get a sampler, even if it means selling another piece of equipment to purchase one.

The main rationale for this reasoning is that you can 'own' the sounds of virtually every keyboard or module ever produced, by sampling it. How many of us have a £1,000+ keyboard that we use just to provide one favourite sound? For example, I tend to use my Trinity just to provide string sounds; this is not the say that the Trinity cannot be used to provide other quality sounds, it is just I have yet to personally find a better string sound. By spending a similar amount of money (£1,000 - £1,500) you could purchase a dedicated sampler (see *Sampler Shopping* section on the following page) and utilise sample CDs to have access to as many synths as you require. This method also eliminates hassle if you want classic synth sounds – anyone ever come across a Prophet 5 that stays in tune?

Soft samplers like Gigasampler are now a fast and flexible alternative to standalone units

Sample basics

Even though there are many different sampler manufacturers, each with their own operating systems and structure, every sampler allows you to record a sample into its memory, manipulate and edit that sample, map the sample across a keyboard and trigger the sample from a keyboard or sequencer.

When I first started using samplers (a Roland S330 and Akai S950, back in the dark depths of time) they were mainly used to emulate acoustic instruments by mapping different pitches across the keyboard in order to reduce the 'munchkin effect' (whereby a sample will speed up and reduce in length the further up in pitch from the original the sample is played, and lower in pitch and increase in length the lower down in pitch from the original the sample is played). This is known as 'multisampling'. I quickly got bored doing this, as it took a great deal of time and most synth presets still sounded better than my efforts.

Before hard disk editing entered the realms of affordability, I would use a sampler to fly in vocal phrases (Black Box style) in order to free up more tracks on a multitrack. I tend not to do this anymore, as programs such as VST and Logic make this task a great deal easier, and offer even more control.

Where I found (and still find) a sampler to be invaluable though – and worth spending the time on multisampling 61 notes – is when I want to get a sound that synths cannot provide, especially vintage analogue equipment and some ethnic instruments that are difficult to obtain.

You can create instruments that would be otherwise hard to obtain, create new timbres, trigger loops (again, this particular role is being more frequently undertaken by audio sequencers as it is relatively simple to edit and time-stretch loops with them).

I now use my samplers (currently an Akai S2000 and E-MU E6400) to provide drum sounds and loops, bass sounds (multisampled across an octave, for example – don't waste memory sampling a bass guitar across 61 keys), create vintage, exotic and new

Musician and producer Kevin Pawsey is Head of Music Production & Technology at the Academy of Contemporary Music in Guildford (Tel: 01483 456788). He also carries out installation and training work in pro studios.

Leader of the renowned Bristol drum'n'bass scene, Roni Size is known for creating his own samples

photo: James Cumpsty

instruments, and create other loops of interest.

I would rather spend limited time creating great drum and bass instruments with a sampler than recreate a brass section using one. Physical modelling instruments such as the Korg Prophecy and Yamaha VL-70 will always produce a more accurate representation of an acoustic solo instrument, as they emulate performances under many different conditions such as air temperature, the type of material the instrument is constructed from and the performance style, whereas sampling only captures a snapshot of the instrument under one condition. If you have limited resources, then this *is* feasible on a sampler alone, and you will obtain excellent results with some careful programming, but do not expect just to turn on your sampler and play.

Synths from samplers

Once you have a sound in your sampler, you have the basis of a very powerful synthesizer. Most current samplers offer very comprehensive synthesis functions that allow you to alter the characteristics of the raw waveform data (the sample). Whereas synths generally have a restricted number of waveforms (unless they are expandable through ROM cards or, like the new Korg Triton, are capable of sampling), synthesis on a sampler has no limitations on the available number of waveforms.

The other problem with synths is that their sounds can become very clichéd. By sampling the sounds from a synth and then processing them through a sampler's synthesizer section, it is very easy to create original and classy timbres without too much work (I always respect those who can achieve excellent results with a minimum of effort).

If you were brought up on sample and synthesis-based keyboards, then you may not have had the chance to experiment with traditional analogue subtractive synthesis. Sample a saw, square or sine wave and you can process this waveform utilising the sampler's filters, low-frequency oscillators and envelope generators. You can obtain some very analogue-sounding textures using this technique, especially if your sampler has resonance or Q controls. By passing the filter through an envelope generator you can get some sweeping filter effects, and by mapping the filter section to be controlled by velocity, you can introduce real-time movement into your sounds.

Creating new instruments

With the current crop of GM-compatible modules and soundcards, it can sometimes be difficult to come up new and refreshing sounds. Most synths that use samples as the basis of their synthesis engine have their waveforms multisampled; in general, the sound appears realistic and smooth across the keyboard (have a careful listen to the raw waveforms on most synth modules – without the processing, you can »

sampler shopping

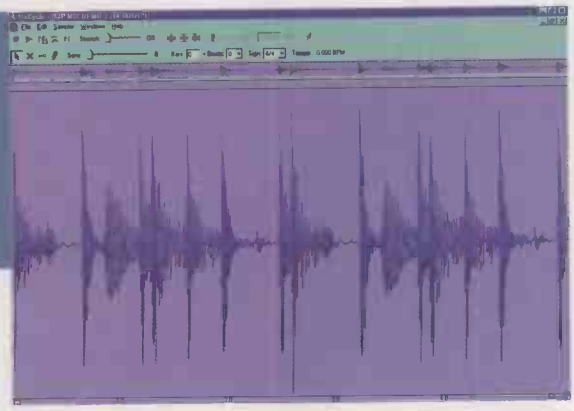
When people ask me what sampler to purchase, my answer largely depends on their personal preferences. Most samplers will allow you to record material into the RAM, map the samples across a keyboard and edit/loop the samples. The extent of these editing capabilities depends on what market a particular sampler was designed for – a pro Akai S6000 has greater editing facilities than an Akai S20 that was designed for the DJ/project studio market).

Your choice of sampler will also depend on your budget. Basically, the more cash in your pocket, the greater range of features you will be able to afford. Look for a sampler that allows you to add more RAM at a later date, as the more adventurous you get with your sampler the more memory you are likely to require. 32Mb is really a minimum, 64Mb is about right today. Most samplers use standard SIMMS, which is readily available and will not require you to sell yourself at King's Cross to pay for it.

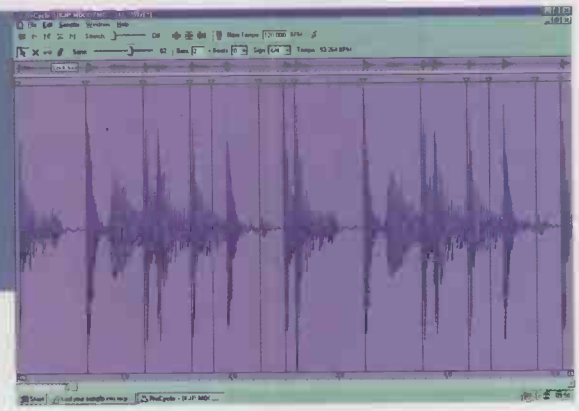
The ability to assign samples to individual outputs is a necessity if you want to use external processing on the samples. Most affordable samplers, such as the Yamaha A3000 and Akai S2000 allow you to add an optional board that provides additional outputs. Most pro samplers now come with at least eight individual outputs that can even be expanded to 16. The Akai S6000 comes with 16 outputs, configured as either analogue or ADAT optical.

Ensure you can add a hard drive to your sampler – either as an internal drive, or connected to the SCSI interface found on most samplers. To be honest, if a sampler has no SCSI onboard it may be a good idea not to waste your money. By adding a hard drive and CD-ROM, it is easy to store and retrieve samples and have access to your own sample library.

You can pick up some absolutely cracking sampler bargains at the moment, as many older models have been reduced in price.

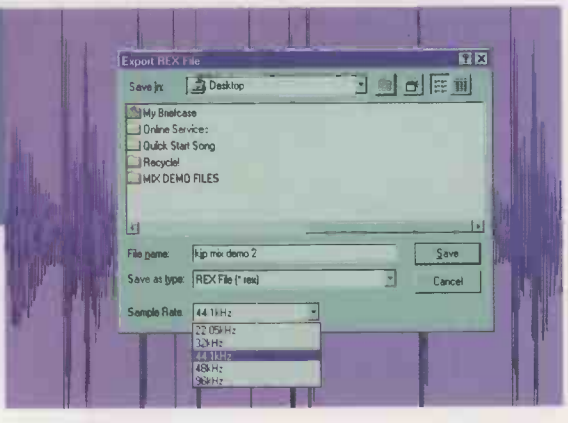


Recycle works best with samples with strong beats, such as drum and percussion loops, and bass riffs. The waveform gives an idea of where the strong beats occur; the greater the amplitude, the louder the beat



By using the SENS (sensitivity) slider, the waveform is sliced up into its component elements. Here, the first slice is a bass drum from a loop. A high SENS value means a drum loop is broken down even further; it is quite possible to find individual hi-hats

Recycle is able to transmit your sliced-up sample directly to your sampler, and supports generic dumps over MIDI and SCSI. The individual components of the drum loop, such as bass, snare and hi-hat will be ready mapped across the keyboard



Recycle allows you to export the sliced up sample as a REX file. This means that tempo changes to a sample can be instantly carried out by adjusting the tempo in Cubase without having to time-stretch

» usually hear quite clearly the loop points and where a new multisample is used).

What I enjoy doing, though, is routing the outputs of a synth to a sampler, taking a one-shot sample, and mapping it to middle C on the keyboard. I then listen to how the tonal characteristics of the sound change at the lower and upper registers of the keyboard. This is a very quick way of creating new sounds (although they're not always usable).

Another technique is to use the time-stretching capabilities that most samplers offer. Time-stretching is invaluable for matching loops with existing tempos, but it can also be used to really mess up quality sounds. Time-stretching allows you to either speed up or slow down a sample while retaining its original pitch. Try time-stretching a snare drum sample, for example, by about 15%. It can totally alter the feel of a track.

Using a computer

I actually enjoy editing samples, creating loops and playing round with time-stretching, but unfortunately this can also be very time-consuming, and a percentage of a session can be wasted creating loops and mapping sounds across the keyboard (thank you Yamaha, though, as their A3000 will automatically map new samples across the keyboard). By employing your PC or Mac, you can use dedicated utilities to assist in these processes.

My favourite piece of software to use with a sampler at the moment must be the latest version of Steinberg's Recycle. I have only had this version (1.7) for three days, but I now couldn't live without it. Recycle breaks down a sample into slices, which are usually indicators to where the beats occur within a sample. Finding loop points is an absolute doddle, and, depending on the quality of the original sample, it even allows you to break down a drum loop into its core components: bass drum, snare, hi-hats and so on. It will also map these core components across a keyboard once the file has been sent back to the sampler for playback.

Recycle allows you to send sample data from your computer to your sampler via either SCSI or MIDI. If you are thinking of using Recycle with your sampler (and once you have tried it, you'll want it) I would recommend that you invest in a SCSI card for your system – I think I must have watched a whole episode of *Eastenders* when I wanted to see what happened when you transfer sample data by MIDI.

Recycle is also able to export REX files for use in VST. This enables audio loops to be used within VST without the need to time-stretch to match tempos. Recycle cuts a sample up into many individual samples based on the 'slices'. When the tempo in VST is increased, the gaps between the samples decrease and expand when the tempo is reduced. Steinberg's Wavelab can also be used with your sampler to provide comprehensive visual editing of waveforms (again via MIDI or SCSI) and allow you to apply effects to the waveform.

Storage media

I do wonder why sampler manufacturers are still using floppy disk drives as the standard storage medium for loading and saving samples. To make the most of your sampler's potential, and to increase your »

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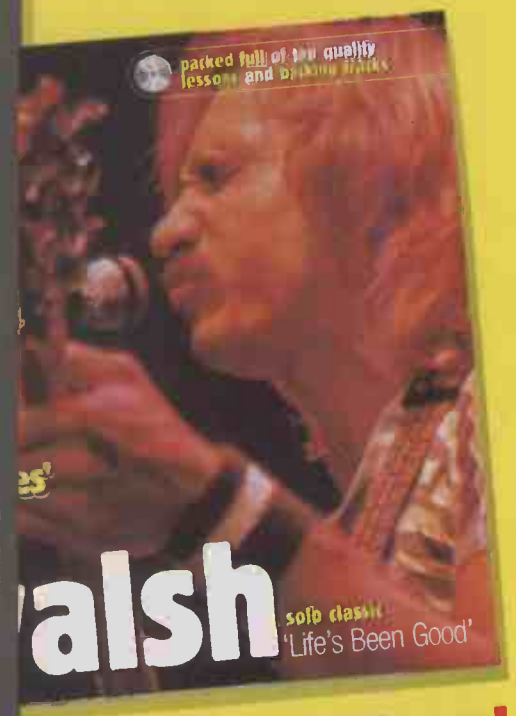

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Yamaha's A3000 will automatically map samples across the keyboard

working speed, you should really invest in a large-capacity storage medium. I have SCSI hard drives connected to my samplers, as they can store huge numbers of samples and they allow me to browse files on the drive and rapidly load sample data into the memory, whether this takes the form of multisamples, loops or single-shot samples.

The other way to achieve this is to use Flash ROM, which will retain your favourite samples in memory even when your power has been switched off; unfortunately this type of ROM is usually more expensive than two hard drives.

I also have a SCSI CD-ROM for reading sample CDs (I know people still consider them to be expensive, but how else could you get a Steinway Grand for 60 quid apart from using a sample CD?) and a SCSI 100Mb Iomega Zip drive for moving samples around. Now this may sound like overkill, but without these data storage and retrieval systems it really would be too painful to use a sampler. Samplers today can have up to 256Mb of memory, and the thought of using 77 floppy disks just to back up the memory is not so appealing.

Soft samplers

Fed up with peering at your current sampler's postage stamp-sized LCD? An interesting development in sampling is the utilisation of the processing power and visual clarity of your PC. So-called 'soft samplers' have been around for about a year, and I have tended to be slightly sceptical, as we already ask enough of our computers.

However, I must admit to being very impressed by the speed and power of systems such as the NemeSys Gigasampler (PC) and Bitheadz DS-1 (Mac). These systems use the power of the host PC to manipulate and play back the sample, your audio card to enable you to monitor the sample (the quality will depend on your chosen soundcard) and the software to enable you to see what is going on. The main advantage with Gigasampler, for example, is the sheer speed at which samples are loaded into memory (direct from hard disk) and the virtually unlimited bank size (depending on your hard disk).

In reality, software samplers do not really add anything new to the sampling experience, but they could now be a viable alternative to the 'traditional' hardware sampler. True, you will need a good spec'd PC (PII, 128Mb RAM, fast HD and a quality audio card), and at present, you cannot use Gigasampler and the audio element of VST simultaneously.

But for around £1,500, you can get the full version of Gigasampler (a cut-down version, Gigasampler LE, is now available for £149), a well-spec'd PC, an audio card like the Terratec EWS64 and a MIDI interface. If you choose this route, you'll find yourself with a sampler that has huge potential, flexibility, good visual communication and the ability to read Akai samples, and one that would give most standalone samplers in this price bracket a run for their money.

On Goldie's debut album *Timeless*, he used samplers to manipulate sounds in ways that were thought 'impossible'

Dream machine

Your sampler is an incredibly versatile machine. The only real limits on what sounds it can produce depend on your own creativity. There are so many ways to use a sampler – whether you want to create loops, acoustic imitations, original timbres or use it as a powerful synth.

Most people I see who have encountered problems getting their sampler to do what they want to do understand what a sampler does but do not know how to get it to perform. Samplers can be complex pieces of equipment, and are not as immediate as synths, which you can usually just plug in, power up and play. So no matter how badly the manual is written (this is still a problem, so take note, manufacturers) it is well worth working your way through it from cover to cover with the sampler in front of you – this will save you time in the future. Don't just stick to loops – put any sound through it and manipulate it to your heart's content. And remember, there are people out there who are willing to pay for good original sounds...

Next month: Getting The Most From Your Signal Processor

E-MU ESI-4000: snap one up while you can, but make sure it has the turbo board fitted, which gives you additional outputs, digital I/O and effects

Roland SP-808 Groovebox: the sampler for the dance contingent, it comes with built-in Zip , sequencer/ hard disk recording and loads of effects, making it easy to create complete dance tracks

Akai S6000: pricey, but very powerful, with the ability to read and write WAV files. If you don't want to reach so deep into your pockets, go for the S5000 and expand it as required

Your sampler can give you hassle-free access to vintage synth sounds

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Recording Guitars

The guitar is capable of producing an almost limitless spectrum of sounds. *Trevor Curwen* looks at the best ways to capture them in the studio...

PART 2

Over the past 40 years, various music industry 'experts' have predicted the death of the electric guitar. The most infamous of these is the hapless A&R man who declined to sign the Beatles, saying 'Guitar music is on the way out.' But going on four decades later, although it may not have the dominance it once had, the electric guitar is still one of the most widely-used instruments in pop music.

The guitar's popularity is partially due to its ability to produce a wide range of sounds and accommodate a variety of playing styles. In this series of features, we'll focus on the various methods used to record the electric guitar, and pass on a few production tips that will help you to get the best out of the instrument, whether you're recording at home or in a commercial studio, and whether you're playing the guitar yourself, engineering, or both.

In the last issue, we looked at preparation before recording and getting the sound right at source. This time, we'll cover the use of signal processing while recording, and take a look at some of the best microphone techniques to capture the sound from a guitar amp.

Effects

While it is possible (and often preferable) to record sounds dry and add effects and ambience at the mix stage, a guitarist's sound is quite often reliant on a specific effects pedal set-up, and his/her playing may be affected very heavily by that set-up.

If it's simply a case of a guitarist using a digital reverb or delay that can be easily reproduced when mixing, and they are happy to record a dry sound without it, then it is probably best to do so, as once a particular type and amount of ambience is

»

CD info

track 07
A demonstration of the variety of sounds you can obtain by placing one mic in different positions across a speaker

1. Single close mic

The simplest approach is to use one dynamic mic close to one speaker. Place the mic facing directly into the centre of the speaker, so that it is almost touching the speaker's grille cloth. Now, keeping the mic at that same distance, it can be positioned at any point along the radius from the centre of the speaker cone to the edge (see *Mic positions* diagram on facing page). Differences of position along this line will yield differences in tone. The dead-centre position will get the most direct sound – bright, powerful and punchy – while positions closer to the speaker's edge will produce a darker sound.

One way to check out these tonal variations is to bring the sound of the microphone up on a desk channel, route it to a set of headphones and, wearing these, move the mic around in front of the speaker while the guitarist is playing. If the guitarist is playing so loud that you can't hear the sound in the headphones accurately, follow the above procedure with the amp turned up full, but without anyone playing, and select the mic position from the sound of the hiss in the headphones. The mic does not have to be at right angles to the plane of the speaker, either. Angling it so that it is off-axis will also change the tonal balance – try 45° to the plane of the speaker.

2. Multiple close mics

Another approach that makes use of the different tones to be found from speaker edge to centre utilises two or three close mics pointing at different parts of the speaker. These three mics can be brought up on three desk channels and blended together in proportion to get the desired sound. With a three mic set-up, many engineers use two mics at right angles to the plane of the speaker, one of these pointing at the centre of the cone, the other at the edge of it, while the third mic is angled off-axis pointing at the cone at about halfway between the centre and the edge.

Alternatively, if there are two or more speakers in the combo or cab, the mics can be spread across more than one speaker. There is a wide variation in tone available using this method, especially if different models or types of mics are used, and there is rarely any need to reach for the EQ knobs – if you need more top you can blend in more of the toppiest-sounding mic. Engineer Alan Douglas used this method when recording Eric Clapton through a Fender Twin by putting a Shure SM57 on the centre of one speaker cone and a Beyer M88 on the centre of the other, with an Electrovoice RE20 off-centre.

3. Single mic with a little ambient sound

This approach to recording the guitar only differs from *Method 1* in the distance that the single mic is placed from the speaker. While close-miking the speaker adjacent to the grille cloth gives a very direct sound, it is at the same time a very dry sound. Placing the mic a little further out will let the sound breathe a bit, as all speakers have a 'throw' which is, roughly speaking, the distance it takes for the sound to travel and develop fully. This approach takes the throw into account, and may also add some of the sound of the room. A distance of somewhere between 6-12" is about right, and moving the mic around while wearing headphones, as in *Method 1*, will help find the best-sounding position.

4. Close mic and distant mic combination

Using one close mic and adding a second mic further away from the speaker is another approach that allows the sound to breathe a little. The second mic can still be within 6-12" of the speaker, as in *Method 3*, or it can be a few feet away in the room.

Bring the two mics up on two desk channels, and either blend them together and record them onto one track, or record each to its own track. The latter allows more flexibility at the mix stage; for example, you could pan the two tracks apart (see next issue for more on this). It's best to use a condenser if you're placing a distant mic several feet out in the room. Set it to a cardioid pattern and place it on a stand raised to a height of 5-6ft. As a starting position, angle it down towards the centre of the speaker cabinet, as this is the position from where a guitarist is most likely used to hearing his or her amp.

5. Front and back miking

This approach works well with open-backed combo amps, and requires that the amp has one mic in front and one behind it. Although mic choice and actual placement can be varied, good results may be obtained with a dynamic close on the front and a condenser at a small distance behind. Bring the two mics up on separate desk channels and blend them together to get the desired sound. The trick with this one is to move the rear mic around to find its optimum position, and there may be a case for switching it out of phase with the front mic.

Placement of the front mic relative to the speaker can be the same as in *Method 1*. The rear mic positioning allows more options, in that the mic can be moved in the lateral plane across the back of the cabinet, and in the vertical plane to a height above the floor, as well as horizontally back from the cabinet.

committed to tape or disc you are pretty much stuck with it, and it could prove difficult to sit it in the mix. This doesn't mean that the guitarist has to play without reverb or delay; it can simply be added to their headphone mix via an aux send to make them feel comfortable while playing.

In the situation where a guitarist uses spring reverb from their amp, and/or specific guitar effects pedals, it makes sense to record the effected sound, as it will be an integral part of their playing and difficult or impossible to reproduce afterwards. But you must be aware of just how effected that overall sound is. Once a sound with integral effects is recorded you are, as with recorded ambience, stuck with it, so first make sure that it suits the track. An over-the-top effect that works great in a live gig situation can quite often get a bit grating when heard over and over again on a recording, and it may benefit from a little toning down. A small amount of forethought in this direction will pay dividends later.

Dynamics processing and EQ

Compression can be used when recording electric guitars to help keep levels consistent. As with using compression in other situations, unless a specific heavily-compressed sound is definitely required, don't pile too much on, as it can't be undone later. More compression can always be added at mixdown if needed. A ratio of about 4:1 is a good starting point, with attack and release controls set to taste.

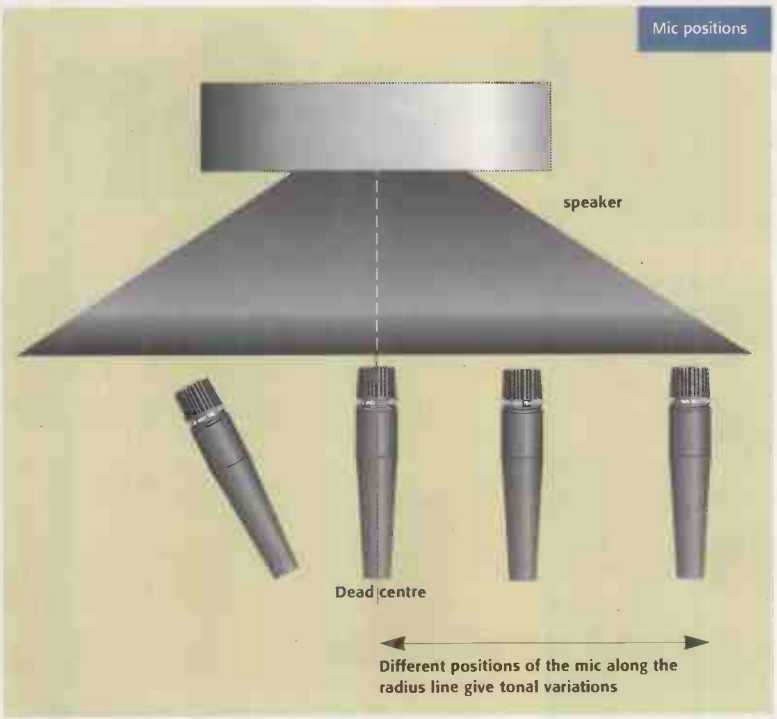
Use of such devices as noise gates and expanders when recording depends pretty much on the style of playing, and whether you can use the treatment on the part without making it sound unnatural. Sustained notes do not lend themselves to this, but power chords or sharp rhythm parts might. For example, a gate can, in fact, be used creatively to enhance a rhythm part (see next month's issue). If high-end electrical buzz from an amp is a problem, the Drawmer DF320 dual noise filter is one unit that can work unobtrusively to minimise this, using its filter section.

Ideally, a good natural sound will be obtained by the use of the right guitar and amp and some decent microphones set up in the right places, without resorting to the use of additional EQ. However, it's not always an ideal world, so some EQ can be added at the desk for extra tonal tweaks if the sound is not exactly right. But before reaching for those knobs, think about the guitar sound in the context of the track, rather than in isolation. Bear in mind that the sound will have to fit into the track alongside all the other instruments and may need some EQ tweaks at the mix stage, so it may be better to record flat than to pile EQ on EQ.

Miking up amps

When it comes to miking the speakers of a guitar amplifier, there are a whole slew of different approaches that work well. You'll need to make several choices from the outset, the first being whether to use a single mic or a multiple mic set-up, and the second being which type(s) of mic(s) to use, either dynamic or condenser, or a combination of both.

Thirdly, the position of the mic(s) relative to the speaker is a crucial factor, and this encompasses both distance away from the speaker and the part of the speaker cone that the mic is pointing at. One other useful thing to remember is that in a multiple speaker configuration, like a 4x12 cab or a combo with two speakers, it is possible that the individual speakers may vary from each other, so if you are miking one speaker only, listen to see if there is a difference and mic the best sounding one.



Probably the most common approach to miking an amp is to stick a dynamic mic, usually a Shure SM57, close to the speaker. Dynamics like the SM57, Sennheiser MD421, and Beyer M201 work well, as they can withstand the high sound pressure levels blasting out of the speaker. Bearing in mind that there is little extreme top end in the sound of an electric guitar through an amp (apart from hiss, perhaps), delicate condensers are not a real necessity, although they *can* be used in that role, particularly if a clean, glassy tone is required. A condenser would more often be used for capturing the ambient sound in the room further away from the speaker. Page 112 illustrates the most popular methods for miking up guitar amps.

These five methods of mic placement are not the only ways to record an electric guitar through an amplifier, but they are a useful introduction to the process, and can be used singly or in combination. Other options will present themselves, depending on the mics and the room available. If the sound in a room is good, try using just a condenser set to an omni pattern to pick up the overall sound. If you happen to have a PZM, try taping it inside an open-backed speaker cab and see what sound you get. It never hurts to experiment.

Next month: production tricks that will help you create interesting guitar parts, and sitting guitars in the mix.

Skunk Anansie's Ace

"Some of the sounds on the album [*Post Orgasmic Chill*] might be a combination of nine pedals in one go, and it didn't matter about the noise... to be honest, we liked it! Actually, if you listen to a couple of tracks, I specifically overdubbed the noise of a pedal all the way through! Most people are trying to get rid of noise, but we think that it's very organic."

a&r dept

Welcome to the hallowed depths of the *A&R Dept*, where *Nick Serre* and his record industry pals scrutinise your demos for signs of talent...

A&R geezer Nick Serre

a&r checklist

We receive a mountain of tapes every month, so to maximise your chances of having your demo reviewed (and, if you're really good, getting on *The Mix* CD) we need you to provide the following:

- Decent quality cassettes, preferably chrome (type II), CD or DAT.
- A kit list of the gear used to produce the demo.
- A biography of the act. We want to know all about you!
- Artwork. This can be a picture of the act, or maybe a groovy graphic.
- Lastly, and most important of all, send us extremely cool music that genuinely deserves to be going places. Not too much to ask, is it?

Unsolicited packages of hopeful demos might be accepted at the following address:

A&R Dept, The Mix,
Future Publishing,
30 Monmouth St,
Bath
BA1 2BW

RONALD NXUMALO
DEMO

I'm glad that Ronald makes it clear that he wants to get his music used in the entertainment and movie areas. 'Rubber Ting' would find a welcome home on a shoot-'em-up video game, with its hypnotic lead line and just-escaped-being-naff drum programming. Ronald's history is in live playing, and he's only been into computer-generated music since 1996. With not a great deal of kit (S950, SR16, Creative Labs soundcard), he creates a surprisingly deep sonic landscape, with some fascinating sounds emanating throughout. 'Golden Lazer' combines a kind of water drum with metallic clatterings in an unbelievably melodic way. Apparently, Ronald's brother is currently using some of this music in an animated film, and this could be a useful calling card. The best bet would probably be to hit TV and film production companies and games companies with a multimedia package including a visual element. And tell 'em that I sent you.

Verdict: You can almost see it.....7/10

More from: Ronald Nxumalo Tel: 01933 393735

REK & RUIN
SANDSTORM

Dan's got a real Euro feel to his particular blend of trance and house. It's no great surprise, then, to learn that he has spent a lot of time in Holland (while in the Navy, which he has quit to concentrate on music – good move.) Anyway, what we have on offer here is an anthemic bit of feel-good trance based around an Islamic prayer sample which Dan wrote "in two days whilst on a vodka and Red Bull binge." 'Sandstorm' has 'dancefloor smash' written all over it, with some obviously, ahem, borrowed ideas when it comes to choices of sounds. That's all well and good, and Dan has picked wisely. But there is a slight danger that the material could become dated sooner than it deserves to be. That's Dan's choice, though, and if he can keep one step ahead, he could do well. The remix version really is that, as opposed to a *different* mix, and shows some of Dan's other influences including Depeche Mode and Tori Amos (yep).

Verdict: Clever trance, get it heard soon.....8/10

More from: Dan Baines Tel: 01332 605764

BROTHER CAKE
HARD AMBIENT

'I was tentatively offered a deal with Youth's psychedelic trance label, but he wanted to remix the tunes into Goa trance. So I said 'Goa way.'" Brother Cake has a sense of cynical humour throughout his biog, and also in his inspired blend of ambient techno-meets-trance. Opener 'Care' is a mammoth workout of shifting moods, so it's kind of surprising that it was all put together on a low-key set-up comprising a Roland MV-30 and Akai SO1. Just goes to show that you don't need racks of gear to put together inspirational toonz, I guess. 'Glade' takes a more hypnotic edge, and employs some clever programming tricks, especially with the drum sounds Mesmerising. Brother Cake has already received some record company (dis)interest *("they tell me my stuff's too experimental. What the fuck do they know?" – like the attitude)*, has done some PAs at venues such as London's Heaven, and if the three tracks here are anything to go by, he certainly deserves a slice of the hypnotic trance pie.

Verdict: Experimentally wonderful.....8/10

More from: Brother Cake Tel: 0171 978 6674

JELLY FROG BRIGHT
CONCERNING HABITS AND FEELINGS

Despite only having been together a year, Jelly Frog Bright seem pretty well together as a live unit. They ain't terrible on the music front either, if a less catchy Garbage/Republica is your bag. Erica Nicholls has a good enough voice to pull off this kind of stuff, so it's a shame that she seems to shy away from really letting rip. On the other hand, it's also a pity that the other three members don't exercise a little more control. They each seem so wrapped up in their own parts that it doesn't have that 'whole' sound that can make or break what is basically a great song. Like 'My Town', a kind of 4 Non Blondes-esque ballad. The Jellies don't mention how these recordings were captured, but they certainly lack professional sparkle. There's nothing wrong with a well-captured live performance as a demo. But again, they don't mention whether that's part of their activities either. It needs to be, and hopefully that's where Erica will get an increased sense of confidence.

Verdict: Nice pop in need of sparkle.....6/10

More from: Erica Nicholls Tel: 01449 741828

SPENCER FRASER
TIME OF MY LIFE

Somewhere in the material here, there is an element of a talented songwriter at work. The vocal hook of 'Time Of My Life' is certainly not going to escape my head in a hurry. The trouble is I'm not too happy about that. Because what it also reminds me off is cheesy '80s production, replete with horrible programmed drum machine and dodgy sentimental lyrics, which Spencer doesn't convey with much conviction. Okay, that's the negative side out of the way. There's a beautiful acoustic guitar part and another great vocal hook, cleverly harmonised on 'All Loved Up'. It sounds like a kind of cross between Beautiful South and Paul Weller. Ish. Generally, Spencer's material could benefit from some live playing (especially on the drum side) and perhaps less reliance on programmed elements. The closing track, an 'unplugged' version of 'All Loved Up' demonstrates the quality of songwriting here, so, Spencer, keep 'em simple and effective.

Verdict: Tone it down.....7/10

More from: Jules Freeman Tel: 01703 611900

THE UNCONSCIOUS COLLECTIVE
DEMO

Quite a varied one, this. Lea Nicholson, alias The Unconscious Collective, has been at this music-making game for more than 30 years. The Unconscious Collective is airily described as an 'umbrella label for everything', demonstrating that Lea gets pretty diverse, if nothing else. 'Child Inside' is kind of Gary Numan in the early '90s, with soft vocals and hypnotic backings that meld into cacophony, while Lea describes 'Freedom To Roam' as "Dutch trance meets Maurice Jarre". It's probably about right. 'Kewl Turkey' is similarly dancey, perhaps a symptom of The Unconscious Collective's set-up being based solely around a PC (oh, and an old DX7). There's nothing groundbreaking here, but it is the kind of stuff that could fit unobtrusively into TV work. Either that, or Lea should hone in on one of the specific styles here and concentrate on that. If commercial success is what Lea's after, at the moment, I'm not sure which would work best.

Verdict: Bit anonymous at present.....6/10

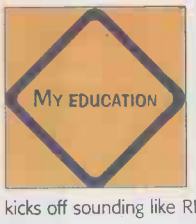
More from: Lea Nicholson Tel: 0778 865 0825

NUMBER NINE
UNDER CURRENTS

Dutch duo (Gert-Jan van der Hout and Boudewijn van der Lecq, if you really need to know their names) Number Nine make no bones about admitting that their poison is '60s rawk/pop. And they do it all with a great deal of flare (sorry, *flair*). There's a real vibrant energy at work here, which seems to have more than a little to do with the great live feel involved when guest drummer Ton Schijvens gets his oar in. What these guys have that so many lack is a sense of the whole song, as opposed to how high their own favourite part is in the mix. Welcome relief, that. Although the '60s ethos is out in force on some cuts, there's a songwriting sensibility here that could easily work in a contemporary context ('I'll Be Gone' could nearly be Suede, and 'John's Dead' nods in the general direction of Lightning Seeds). Both the guys sing on the tracks, and this could be their one possible failing. This music is crying out for a distinct voice to carry it. Apart from that, it's top stuff.

Verdict: Their time ain't up.....8/10

More from: number9@xs4all.nl



KEITH DOWNER
MY EDUCATION

Keith reckons this is a novel entry because, at 40 years old, it's his first musical effort. "All too late?" he says. "I don't give a shit, 'cos I enjoy it!" And why not? 'My Boat Will Come' kicks off sounding like REM circa *Automatic For The People*, showing off Keith's guitar playing and writing prowess to good effect. He admits that he is relatively new to straining his vocal cords and using keyboards, and it's a bit obvious. The programming seems largely redundant, perhaps because it's overdone. And the vocals lack confidence. Which is a shame, because there is evidently a competent voice in there somewhere. He's pretty self-effacing, our Keith, but he seems to realise that some live work and more effort on the vocal and keyboard elements is due. Fundamentally, though, he has a strong grasp on what goes into making a decent pop song. 'Strangers On A Train' mixes subtle vocals with lush guitars in a way that is seldom heard. So what if he's 40 years old? This is a fine piece of work.

Verdict: An education for all.....7/10

More from: K Downer, 40 Meadow Walk, Tadworth KT20

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demo of the month

MORPHIC
ILLUMINATION

Intelligent melodic pop is the order of the day here. Elements of trip hop, soul and anarchic asides make this a refreshing listen in the current climate of stagnant copyists. Matt's fine producing and arranging skills complement singer Kerry's distinctive and evocative vocal timbres, while Dan's quirky guitar parts give the whole thing the live air that sets it apart from many a studio-based project. 'Foreign Language' has hints of a reggae influence; 'All For Nothing' is more on the slick ballad tip, and again demonstrates the natural flexibility of Morphic. Matt makes impressive use of his S3000XL sampler, and never gets close to falling into the trap of using so-called fashionable sounds for the sake of it. Beautifully refreshing pop with a sweet bite.

More from: formatt@bigfoot.com

INDUSTRY VERDICTS

A strong, distinctive voice, interesting lyrics and nice weighty backings. 'All For Nothing' comes across strongest, despite sometimes sounding like Shakespear's Sister collaborating with Vangelis. I don't think the vocal hooks are strong enough for this kind of music – someone in record land might love the whole plot and fight for it, but their job would be made easier with more melodic firepower.

• Stu Lambert, Partner, Zip Dog Records

'Raise Your Hands' is a pleasantly deceptive track. I was expecting a cheesy deep house tune, but Morphic's intentions are much more subtle. The understated production and lack of anything resembling a four-to-the-floor beat really lifts the track, and there's a very strong vocal. 'RYH's' may not be commercial radio fodder in its current form, but it certainly makes interesting and accessible listening.

• Sam Winwood, A&R, Sony S2

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Korg 05R/W sound module, Evolution Pro MIDI keyboard and Macman MIDI interface £300 ono the lot or will split if necessary. All boxed with manuals and leads, very good condition. Tel matt on 0171 468 3566 days or 07801 948759 evenings

Korg M1R workstation, good condition, one drum card £250 ish. Ask nicely and I'll throw in an ST with *Cubase*. Tel Mark on 01225 769551

Korg NS5R sound module, 64-voice polyphony, 32-part multitimbral, dual FX, 1,000+ sounds and drumkits, good condition, quick sale £175. Tel Robin on 01457 866369 (Manchester)

Korg NS5R synth module, 64-voice, 32-part, 1,000+ sounds, many kits, two effects blocks, graphical editing, easy to use, memory banks, PC/Mac editor, boxed, manuals, still under warranty £195. Tel Ian on 01524 33875

Novation BassStation rack, good condition, box, manual £250. Tel Dom on 01703 574950 (Southampton) or e-mail: melville@parkrecordings51.freeserve.co.uk

Novation BassStation three months old, boxed with manual, barely touched £200 ono. Tel Jody on 07880 745431

Quasimidi Quasar extremely flexible sound module, good condition, home use only, techno board upgrade , good effects, excellent arpeggiator and sounds £500. Tel 01206 364070

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Roland JV-1080 brand new, unopened box £550. Tel Stu on 0161 624 7493

Roland JV-1080 rack synth, boxed, manuals, home use only £500. Tel 01865 873269

Roland JV-1080 Vintage Synth and Techno boards, all pristine , boxes, manuals £750 ono. Tel Shekhar on 0116 243 1833 or 07957 110872

Roland JV-2080 synthesizer module, including four brilliant cards – orch, pop, techno and world – brilliant sound quality, manuals,very good condition £1,150. Tel 0114 221 4610 (Sheffield)

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Various: Akai S950, 2Mb, pristine condition £300. Sony TCD-D10 PROII portable DAT recorder £725. Roland SPD-11 Drum unit, A1 condition £300. Neumann U87 £725. Lexicon Reflex £125. IBM Think Pad, (*Cakewalk* installed) £250. Tel 0121 776 7345

Various: Akai S1000 £390. Boss SP-202 £150. PC VST £130. Behringer MX8000 desk £690. Roland JV-2080 £690. Korg M3R module £190. JD-800 £690. CS1x £290. AN1x £395. BassStation £140. All very good condition. Tel 01252 376449

Various: Akai S1000, 4Mb, upgraded, flightcase, 200-soundisk Akai library £525. AHB System 8 mixing desk, patchbay, looms £350. Atari Mega 4, SM124 hi-res monitor, *Cubase V2* £199. Tel Vernon on 01303 257714 (Kent)

Various: Akai S2000, 32Mb, eight output expansion board £550 ono. Novation BassStation rack £150. Yamaha CS1x synth £325 ono. Mackie CR1604 mixer £395 ono. Alesis Monitor Ones £225. Sampson Servo 120 + 120W RMS, Philips CD recorder £250. Tel Malcolm on 01206 540245

Various: Akai S2000, 32Mb, Zip drive £550. Peavey DPM V3 £150. Both for £650 or exchange both for JV-1080. Tel Mark on 00 32 923 32949 (Belgium)

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Various: Akai X7000 sampler keyboard, manual included £250 or exchange for Roland DJ-70. Boss DR-5, little use, manual but no box £210. Yamaha DJX dance keyboard £200 ono. Tel 01523 722898 any time

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Various: Labgruffen 1300 £900 ono. Matrix 1000 Mosfet with built-ion crossover £390 ono. DOD studio quality three-way crossover, active £180 ono. Tel Rob on 01222 465956 or 0973 671710

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Various: Roland MC-303, mint, manual £300. Roland W-30 workstation, 16-track sequencer, sampler, stand, huge sample library £500. Tel Nick on 01949 860274

Various: Roland MKS-50 with PG-300 programmer £300. Boss Dr. Pad II drummodule £50. Boss HC-2 handclapper, new, in box and plastic wrapper, includes manual £50. Alesis HR-16 £95. Tel Emiel on 0151 283 2660 or e-mail: omiel@cableinet.co.uk

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Various: Roland SP-808 GrooveSampler, very good condition £650. Roland MC-505 £600. Neither have manuals. Tel Chris on 0370 533610

Various: Sony TCD-D7 portable DAT machine, with head cleaner, carry pouch, manuals and PSU £325. Mackie 1202VLZ mixer, 12-channel four-bus, two aux, three-band EQ, boxed with manuals and hard case £225. Boss SE-70 stereo multi-FX, full MIDI control, tuner, metronome, boxed, manuals, PSU £350. Novation BassStation keyboard, very good condition, manuals, PSU £140. Yamaha DX100 portable FM synth, very good condition, manuals, PSU £120. LA audio 4x4 stereo compressor limiter gate with sidechain £200. Tel Paul on 0181 516 9018

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Various: Yamaha A3000, 64Mb RAM, internal HD, extra outs board. Emu Orbit V2. Roland JP-8000. All home use only, cared for like children, offers for separates or all together. E-mail: david.mitchell@tmg-uk.com

Various: Yamaha A3000 V2 with 128Mb ram, I/O expansion and Zip drive, boxed with manuals and in mint condition £1,000. Mackie 1604VLZ in mint condition £450. Roland Juno 60 £295. Alesis NanoPiano, boxed with manual

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Various: Yamaha QY20, excellent condition, home use only £200. Roalnd JX-3P analogue synth, powerful sounds, good condition £200. Tel Dave on 0121 242 3940 or e-mail: david@catlight.freeserve.co.uk

Various: Yamaha SY22 synth £250 ono. Peavey SXII stereo sampler £150 ono. Both home use only, perfect condition, boxed, manuals. Tel Tom on 01703 898787 evenings

Various: Yamaha SY85 £475. Korg M1 £375. MC-303 £300. TG-500 £350. EX5R £675. Juno 6 £190. W-30 £395. Ensoniq EPS £250. Ensoniq Mirage £110. DX7 £195. Bass practice amp £30. Distortion pedal £20. Tel 01405 766295

Yamaha MDF2 MIDI filer and sequencer, boxed with manual and PSU £90. Tel Colin on 0131 319 2463 (Edinburgh)

WANTED

Alesis Studio 32 mixing console, must be mint. Tel Evan on 07957 266744 or e-mail: batrise@cf.ac.uk

Ancient stuff wanted: Atari ST version of Gajits *CM-Panion* voice creation software for elderly Roland modules. Also Hybrid Music 5000 software ROM and manual for BBC-B. Tel 01268 415157

CD-ROM SCSI for Akai S300XL sampler. Tel Tony on 01753 552266, extension 334

***Cubase* for** PC, any version with dongle. Tel 01590 670463 or 0131 622 1304

Cubase Score for Atari. Tel Brian on 01482 219510

Korg G4 Leslie simulator pedal. Tel John on 01482 587432

Mac 93, *Word 97, Logic Audio* package or either one sold separately. Also Audiowerk 8 soundcard, cash waiting. Tel Andy on 07930 395017 (London)

Mallet Kat MIDI vibes. Tel 0181 449 9698

Moog 301AX amplifier, working or non-working. Circuit diagrams also required for above. Tel Chris on 01843 594203

Music-X V2 urgently required. E-mail: rocky@cisl.ie

Novation BassStation, Yamaha CS1x, Akai S2000 (preferably with 16 or 32Mb) and Behringer MX1602 mixer. Also Zoom 1201 effects rack. Tel Andy on 01525 372942

Philips DCC170 portable recorder. Tel Alan on 01444 482336 after 8pm or at weekends

Roland MDC-1 dance module. Tel Graham on 01223 564577 (Cambridge) or 0403 474728

Roland TR-808 and TR-909. Tel Brett on 01635 847608 any time

Sampling CDs for dance, house, garage, techno and dance vocals, anything considered, reasonable, asking priced please. Tel 0116 223 2591

Yamaha A3000, Pro Mix 01, Akai S950, MC-505, cash waiting. Tel Janis on 0181 246 6807

Yamaha DX21/27, Kawai K1 MkII, Casio CZ-1000, operating info on *ReBirth V2*. Tel 01484 309617 (Yorkshire)

Yamaha EX5R will exchange for Roland JV-1080 with vintage expansion board, all boxed, mint ocndition. Tel 01523 722898. Also Gemini XLDD20 wanted

PERSONNEL

Anyone out there in South London/Surrey fancy assembling a new project? No big hassles, just ideas and a vibe. Vocalists or fellow synthesists welcome! Tel Al on 0181 942 3063 or e-mail: sonik@zetnet.co.uk

Collaborator in West Sussex wanted for assistance in setting up a PC-based home studio, must understand MIDI and be PC literate. Tel Mat on 01903 526569

Composer and producer, pop/rock, new age and more, with lots of references. Tel Jordi on 00 34 607 494380

Composer and producer with a lot of experience,. I can compose and write songs for groups and singers in various styles from country and rock to pop and dance. I write and produce music for films and broadcast, also I can record and produce other kind of music. Tel Jordi on 00 34 607 494380 or e-mail: jordipa@sumi.es

Digital analogue percussionist needs keyboard arranger as basis of serendipitously sublime sonic triumvirate embarking on magical mystery tour into pop wonderland, aboard fully chromed soul psychedelic ambient raving roots rocking trip hop, nice. Tel Martin on 01932 229569

DJ wanted to co-write and produce tech house tracks, many influences including Darren Emerson, Dave Angel, Underworld. Tel Graham on 01223 564577 (Cambridge) or 0403 474728

Drummer seeks keys to the door of evolving sonic perceptions which lies adjacent to the lounge of chromatically alchemical revolution and thus avoid transmigration through portal of passionless poop. Nice. Tel Martin on 01932 229569

Electro-surf guitar bloke seeks collaborators, influences: Man or Astro Man, Add N To (X), Trashwomen, NON, etc. Tel Matt on 0113 274 0357 (Leeds area)

Female fronted indie/dance band requires manager, producer, record company to further career, excellent vocals, songs and musicianship, promo pack available. Tel David on 01933 270930

Funky netheads wanted for stylish new underground dance music Webzine that needs readers and contributors, top Internet non-commercial music at the underground: www.underg.force9.co.uk

Italian studio owner wants to move to London. I'm looking for somebody who wants to make music and build a studio in the UK. Ask for the amazing equipment list, including big modulars, *ProTools*, etc. Tel Sven on 00 39 335 223319 or e-mail either europa.sven@pns.it or svenklick@hotmail.com

Keyboard player songwriter, studio, experience music knowledge like to join/write with commercial girl band, own equipment, committed. Write to Stu, 14 Crask Walk, N-Wood, Kirkby, Liverpool, L33 6UH

Large live band drum 'n' bass, dance, funky soul and groove, need excellent frontman to captivate audiences at usual venues, eg, Jazz Cafe. Tel Clare on 0181 455 1662

Live players wanted for new beats 'n' breaks project, 28-year-old with deals looking for keys, samples, guitars, bass, DJs, MCs and makers of sound in general. Experience preffered, long-term dedication essential. Tel Justin on 07880 555292 (London)

Male programmer, 19, seeks female vocalist, 17-22, in Daventry/Northants area, instrumental skills appreciated but not essential, influences: Talk Talk, Coldcut, Geodesic, 808 State, Wamdue, Tanita Tikaram. Tel Wisk on 07957 703588 evenings

Manager required for up-and-coming DJ/producer, Manchester area, pay based on commission, must have knowledge of dance music. Tel Shaun on 0961 990291

Programmer/jingle composer, highest quality, major credits, own studio. Tel Geraint on 07957 293734

Sound engineer seeking employment, CV available on request, London-based. Tel 0181 310 3917 or e-mail: stuart@macsound.screaming.net

Vocalist urgently needed for dedicated 80s synth covers band in South London/Surrey area. Live work soon, so there's a chance to make some cash. Transport, enthusiasm and a love of the material (Ultravox, New Order, OMD) a must and some talent would be handy too! No timewasters. Tel Chris on 01372 373386 or email: astradyne@zetnet.co.uk

Vocalist wanted lyricist preferable, for big beat/punk live and studio project, music and equipment ready, all we need is you! Tel John on 01226 732476 (Barnsley)

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Music Connect! Interactive musical exchange, bands/musicians needed to get connected in a new CD-ROM guide, send video, audio to Musiconnect, Dept FMR1, 38 Croyde Avenue, Llanrumney, Cardiff, CF3 9NB

SOUNDS

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Artists required for new record label, starting Autumn 1999, please send your demos (all styles welcome) to Evolving Plastic Records, PO Box 15, Lark Lane, L17 0HD or e-mail: evoplas@hotmail.com

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Cheeky Charas Corporation requires demos for release, all styles, no cheese please. Send to PO Box 172, Torquay, TQ2 6XY

Dance artists required, leftfield, breakbeat, techno and crossover, also female producers and vocalists making exciting, quality music, send CDs and tapes to M21, 10 Northburgh Street, London, EC1V 0AT or tel 0171 253 5860

Demos wanted for press and distribution, hardcore techno, no cheese. PO Box 172, Torquay, TQ2 6XY

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Drum 'n' bass artists wanted by record company. Please send demo and biog to TJM Records, 325 Scott Ellis Gardens, St Johns Wood, London, NW8 9RU

EDA – *FM* demoist in Dec 98, *This Is Electronic* 9-track cassette, £9 including p+p, send cheques to A Lockett, 5 Heber Street, Longton, Stoke-on-Trent, Staffs, ST3 1LA

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Frog Pocket – *You're The One For Me* limited to 50 numbered CDs, buy now or live a life of regret £8. Send cheque to John Wilson, 33 Ashgrove Street, Ayr, KA7 3BG

Label requires new talent, hard house and trance style or anything special considered, top acts already signed, demos to Marc Swan, 5 Huntingdon Gardens, Barnes, Sunderland, SR3 1VE. All demos will be given a reply. Tel 0191 522 6901

Mad Jazz presents Bad House And Techno: 45 minutes of cheesy choonz, send £3 to Michael Jarrett at 22 Voylart Road, Dunvant, Swansea, SA2 7UA, comes on cassette only, p+p included

New dance label seeks artists for compilation CDs, all types of dance music needed, send your demos to Point Recordings, 108 Clarendon Road, Hove, East Sussex, BN3 3WQ

New S E London-based studio requires various unsigned artists and bands for project, also DJs playing fresh tunes in dance for City Slickers, our new club night. Tel 0181 761 9306

One day all electronic music will sound this way. *The Liquid 9* new CD from Kal'El, MP3s available at www.cyan.dk/kalel. Go on, you know you want to!

Positive pop songwriter, singer seeks energetic, open-minded, funky-heeled, harmony vocals and musicians to create dynamic performance. Demos and photo to Noimage, PO Box 1428, c/o Brighter Visions, Swindon, Wiltshire, SN2 1ZY

Record company seeks young enthusiastic, musically minded people for promotional work. Write to Dept. M, Slave Records, PO Box 200, South Shore, Blackpool, Lancashire, FY1 6GR, demos welcome, include SAE for reply

Remergence – Nocturnal Entites, nine-track, 60-minute tape £4. Style of Orbital and The Orb. Cheques to F Woodham, 23 Edgbaston Road, Rhyl, LL18 3UP or tel 07957 749849

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This month's FUNKY JUNK advertisement missed the copy deadline because we all had more important things on our mind;

BEN ALLEN was busy shoipping Neve V3's to Bath and LA, VR's to Nashville and MTA consoles to Canada
MARK THOMPSON was busy shipping Studer multitrack machines to Belgium, France, Boston and Jamaica
HELEN RIDER was busy shipping Neumann's, AKG's AMS' and Lexicon's around the world, and **CLIVE RICHARDS** was busy shipping everything everywhere. **STEVE LANE** was busy shipping coals to Newcastle
MARC DOLLEY and **KATIE BENNETT** were busy shipping the new **BAZAAR** magazine to customers worldwide (got yours yet? Ask and it shall be shipped) and **CLAIRE McKONE** was busy on her bike
DAV WAY, RENE BRANDON, NICK HUGHES and **BERNIE** (the Boffins) were busy servicing, reparing, recapping, instaling, wiring and advising.
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His first full Soundisc release is jammed with clean 303, 808 and 909 elements and loops. A vast array of FX sweeps and fills adds the finer points to your mix after you've sorted through Darwin's acoustic drum kits, wah guitars, turntable scratches and vocoder vocals. †

HARDCORE.

FEATURING: DJ BRISK & DJ DOUGAL
(EUROPEAN HARDCORE):
All the tracks on this Soundisc release are studio crisp and ready for new and energetic re-combinations. Piles of acid lines, arpeggios, lead synths,303 sequences, kicks & claps will assure your mixes will never run out of steam. Separate elements like hi-hat, kick, snare, and FX enable you to create your own arm flailing, sweaty-grinning rhythm loops. Combined with the gently aggressive hooks and melodies on this Soundisc, you can quickly achieve that hyper-happy state. †

HEAVEN 17

(ELECTRONIC DANCE)
This ethereal Soundisc release evades easy categorisation by disregarding conventional musical genre groupings. With widely useful samples, the Heaven 17 Soundisc incorporates elements of dub, electro, ambient, house, drum & bass, techno, breakbeat, tribal, and world musical styles in an array of tempos and timbres. Powerful basslines and spacious drum loops stabilize some haunting and soulful electronic musical bits, pads, synths, and FX. Possibilities go to the holders of this Soundisc. †

SMOKE

(TRIP HOP)
Through a dark and hazy pallor, tales of adventure and sorrow are told over drinks, smoke, and music. The Smoke Soundisc is rich with the textures of this scene as well as the beats and bass to back it. Stacks of superb quick and down tempo breaks support the sultry vibes from guitars, keyboards, pads, and FX in this trip - hop lounge. Smoke curls around you like a quilt on a rainy night and fascinates your waking dreams. †

TREMOR

(DRUM'N'BASS):
Make sure you are securely strapped into your seat when you start up the first all drum & bass Soundisc because your speakers may cause violent movement in the vicinity. Genetically enhanced bass tones and riffs will simulate seismic activity but hopefully won't keep you from experimenting with the scores of fresh drum breaks and loops included.
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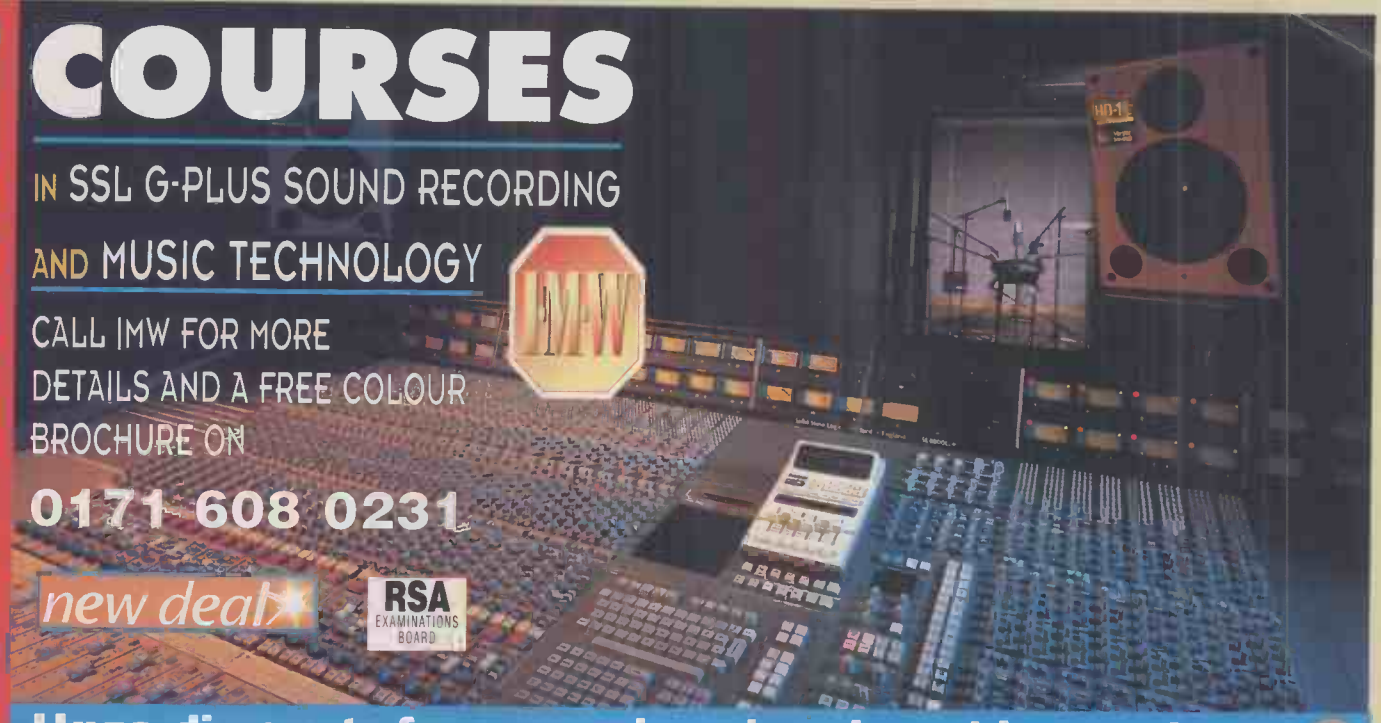

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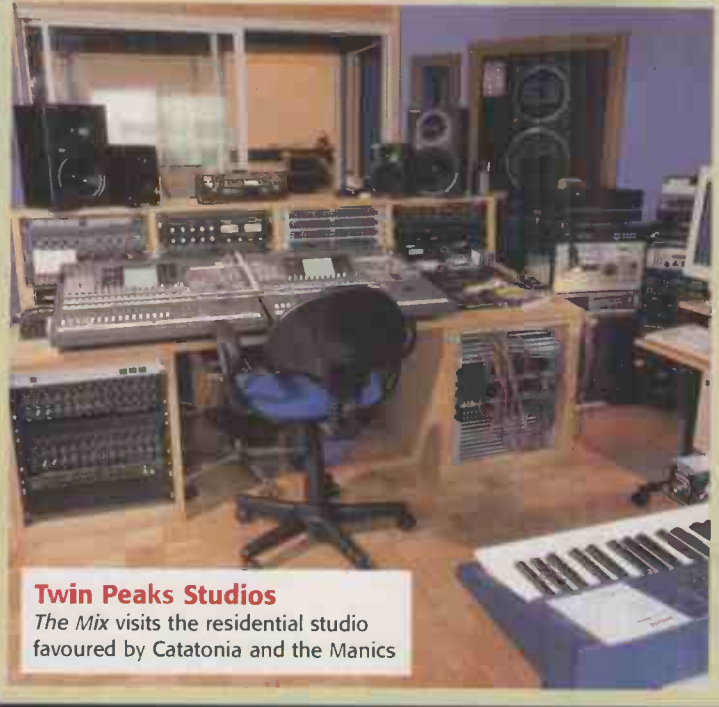

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September issue onsale 6th August

Tom Garneau

The one-time recording and mix engineer of The Artist Formerly Known As Prince shares his story with *The Mix*...

From owner of a small 8-track studio to mixing and recording for The Artist at his Paisley Park Studios complex just outside Minneapolis, Tom worked on *The Hits*, *Gold Experience*, and *Graffiti Bridge*, all platinum-sellers for The Artist. He also remixed 'Glam Slam '91', and 'Alphabet Street', as well as cuts for Boyz II Men and Hammer, and spent a total of seven years at the "amazing and challenging" Paisley Park empire. Still based in Minneapolis, Tom is now engineering and producing all over the States. *The Mix* caught up with him in Las Vegas, where he was working on a highly secret new project...

How did you get started in production, Tom?

It was a very natural progression. Like many engineers I just evolved into it. The moment I really noticed I was producing was in 1992, after doing the Moody Blues live album/video *A Night at Red Rocks with the Colorado Symphony Orchestra*. I recorded it to 72 tracks of digital at Red Rocks, a natural amphitheatre in Colorado. I took care of everything. Rented the mobile truck, booked the mix studio, went to mastering. Halfway through the mix in Vancouver, the guys said 'Sounds great, we have to go back to LA, bye!' I finished the record by myself. No producer is actually credited on the album. I think I should have gotten that credit.

How did you get involved with Paisley Park?

I started recording Minneapolis-based bands in the early '80s in my own 8-track studio. Minneapolis is very diverse, there is a rock scene, an R&B scene, a hip hop scene, and a jazz scene. I just recorded any and all bands I could for several years. In 1988 I was at an industry event at Paisley Park Studios. I found the studio manager and offered my services. He said to send a résumé and he would 'put it on the pile'. Not expecting much, I sent one in. He called the next day, a Wednesday. I was interviewed that Thursday and Friday. I was hired the following Monday. It happened very fast. Within a year I was engineering for Prince. I was on staff at Paisley Park for seven years, working with him and most of the other national artists that came to Paisley Park. That was one hell of a learning experience.

Tom Garneau reckons that The Artist Formerly Known As Prince was a demanding boss. How strange...

Was Prince/ The Artist a demanding boss to work for?

He was very demanding, but it was in a professional sense. He knew what he wanted and he wanted it accomplished fast, not being bothered by how technically difficult it might be. You sank or swam by your ability to think on your feet, adapt and get the job done. Sometimes you'd explain that something was impossible to do, but that wasn't really an issue for him. It was basically an amazing and challenging way to learn.

And what of Paisley Park as a recording facility?

Paisley Park was a world-class facility [it's no longer open to outside clients], at the level of the Oceanway's and Hit Factory's and other world-class rooms. The staff were amazing, the gear was great. It just happened to be in a corn field in Minnesota. The Prince aura and mystique was ubiquitous, but he booked studio time just like any other client. When it was booked, he went elsewhere.

Have you got any favourite bits of kit at the moment?

I have a few racks I travel with, depending on the room I'm working in. Several API EQs, Summit compressors, Apogee A/D & D/A converters, various mic pre's. Dan Kennedy's Great River mic pre's are fabulous. I love the old Neve stuff, but unfortunately I didn't buy any before prices got outrageous.

What is your proudest production?

Matt Wilson's *Burnt, White And Blue* CD. It just won the Best Independent Recording at the 1999 Minnesota Music Awards. Matt is a great talent. I also just finished the first album by a young band called Dixie And The Cannibals. It's a great record with great pop songs.

Which producers do you admire, and why?

George Massenburg is one of my heroes. His productions are sonic perfections and do not get in the way of the music. That is what I strive for.

How do you rate Prince/The Artist as a musician and producer?

I think he is an amazing musician/songwriter. I haven't been crazy about his productions of late. I'd love to hear him step back a little and use an outside producer. Ya know, he does everything in the studio and in his career, and I don't think that is always necessarily to his advantage. But, obviously, that's his choice!

Do you have a set way of producing, or is each project unique?

Each project is unique, but I see my job as that of a facilitator. Music is an art form. I try to enable the creation of that art. I try to be a springboard for an artist's ideas and goals and do what I can to help them achieve them.

What's next for you?

I had a very busy winter and spring. I'm just now slowing down a little. I'm looking forward to a summer of sailing on Lake Minnetonka and enjoying my family. After that it's back to work. I got a call from Paisley Park recently, but I'm really too busy to get involved there again. If anyone has a project they need help with I can be reached at [tgg@bitstream.net] or [www.bitstream.net/gods/tgg/] • *Nick Serre*

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